

HM1.2 HOUSE PRICES

Definitions and methodology

House prices capture the financial burden of purchasing a dwelling, and their development over time is measured by a (real) house price index. The evolution of rental prices can be monitored over time by the (real) rent price index. Alternatively, house prices can be compared to income (price-to-income ratio) as a measure of the affordability of owning a dwelling. If the price-to-income ratio is above (below) their long-term average, house prices are considered to be overvalued (undervalued).

Meanwhile, the OECD database on regional house price indices shows how house price developments vary across regions and cities within countries (for further discussion, see the OECD National and Regional House Price Indices Database, as well as OECD, 2020a).

Key findings

Considering developments since 2015, on average across the OECD area, the real house price index rose to 132.5 index points in the first quarter of 2021 (Figure HM1.2.1, also see OECD, 2022a, OECD, 2021a, and OECD, 2020b). Meanwhile, GDP per capita across the OECD increased on average over the 2015-2019 period – but not as fast as real house prices – before decreasing in 2020 (from 106.1 to 101.0) to return to 2015 levels.

On average, the price-to-income ratio has dramatically increased over the course of the COVID-19 pandemic, though there are big differences across countries

The price-to-income ratio brings together the developments of house prices and income and represents a main indicator of housing affordability. On average in the OECD, this ratio steadily increased from 2012 through the first quarter of 2020, prior to the onset of the COVID-19 pandemic and related lockdown measures in many OECD countries. Following a small decrease in the second quarter of 2020, the ratio increased and significantly exceeded pre-pandemic levels by the fourth quarter of 2021. This is one indication that housing has become, on average, less affordable since the beginning of the COVID-19 pandemic, as house prices have grown faster than incomes, on average; however, it is important to keep in mind that this indicator also reflects the income shocks faced by some households over the course of the pandemic. Long-term trends data for the EU can be found in the online worksheet HM1.2.1b.

The OECD average hides wide differences across countries, however. Based on the evolution between 2015 and 2019 (prior to the COVID-19 pandemic), OECD countries could be broadly grouped into two categories (see the online worksheet HM1.2.1 for country-specific results):

- *Price-to-income ratio within +/- 10 index points of the base value (100):* Australia, Belgium, Colombia, Denmark, Estonia, Finland, France, Greece, Italy, Japan, Korea, Latvia, Lithuania,

This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

New Zealand, Norway, Poland, Slovak Republic, Slovenia, Sweden, Switzerland, Türkiye, the United Kingdom and the United States.

- *Steady increase in price-to-income ratios above 110 index points:* Austria, Canada, Chile, Czech Republic, Germany, Hungary, Ireland, Luxembourg, Mexico, the Netherlands, Portugal and Spain.

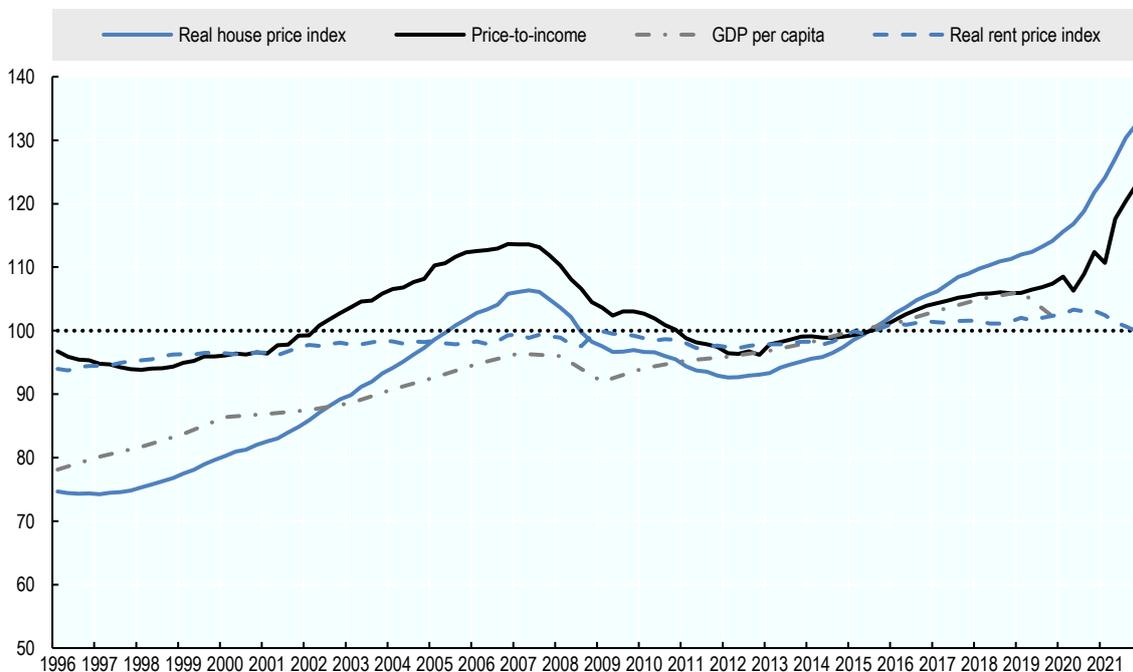
Starting in the second quarter of 2020, the price-to-income ratio experienced a brief and marked decline, on average, before picking up again from the third quarter. Another brief drop in the price-to-income ratio occurred in the first quarter of 2021, before regaining ground and accelerating at a much faster rate, gaining 10 percentage points between the first and third quarters of 2021. By the fourth quarter of 2021, the price-to-income ratio on average across the OECD had surpassed pre-COVID-19 levels, reaching its highest point since the years preceding the global financial crisis.

Again, there are considerable differences across countries. From the second quarter of 2020 until the most recently available data, including the first quarter of 2022 where available, four scenarios can be highlighted (see the online worksheet HM1.2.1 for country-specific results):

- *Steady increase in price-to-income ratios:* Austria, Belgium, Chile, Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Ireland, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden and Switzerland.
- *Decline in the price-to-income ratio, before rising to return to pre-COVID levels:* Greece.
- *Price-to-income ratio falling, before rising to above the level of Q1/2020:* Australia, Canada, France, Japan, Latvia, Lithuania, Slovenia, the United Kingdom and the United States.
- *Price-to-income ratio falling since the onset of the COVID-19 crisis:* Italy.

Figure HM1.2.1: Development of house prices, OECD average, 1996-2021

Real house price index, rent price index, price-to-income ratio and GDP per capita indexed to 2015



Note: Rent price index refers to OECD 34 countries and does not include Colombia, Estonia, Hungary and Slovenia for which data were not available over the entire period. OECD aggregate data for 2021 has been estimated based on 2020.

Source: OECD (2022a), OECD Analytical House Price Database.

House prices have increased in recent decades, with significant growth since the onset of the COVID-19 pandemic

Real house prices have continued their steady rise since around 2012 (Figure HM1.2.1), and evidence from 2020 and 2021 suggests that real house prices have continued to grow – in some countries, significantly – during the COVID-19 pandemic. Real house prices rose across the OECD, by 14% on average from 2019 to 2021.

Country-specific trends are similar (Figure HM1.2.2 – Panel A). Looking first at longer term trends, real house prices increased in 32 countries between 2005 and 2019, with Colombia, Canada, and Israel recording the largest increases (over 80%) over this period. Six countries recorded a drop in real house prices over this period, most significantly in Greece and Italy (over 20%).

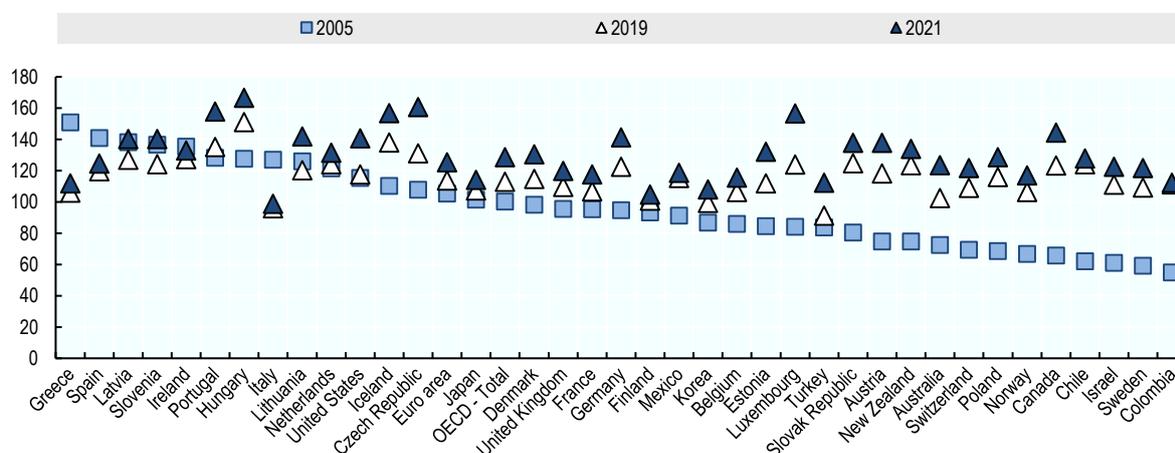
Focusing on the evolution of real house prices between 2019 and 2021 to assess the impact of the COVID-19 pandemic, real house prices rose in all countries. In several countries, the growth in real house prices between 2019 and 2021 was significant: 27% in Luxembourg, 23% in Belgium and the Czech Republic, 21% in Australia and 20% in the United States. Real house prices increased by less than 4% in Finland, Ireland, Italy, Mexico and Spain between 2019 and 2021.

In the rental market, looking first at longer term trends prior to the pandemic, rent prices increased in real terms in about 22 countries between 2005 and 2019 (Figure HM1.2.2 – Panel B). Estonia and Lithuania recorded the largest increases over this period (50% and 100%, respectively). Greece, Costa Rica and Mexico saw a drop in real rent prices since 2005 of about 25%, 20% and 11%, respectively. However, in Greece, the drop in real rent prices was smaller than that of real house prices (25% vs. -30% decline).

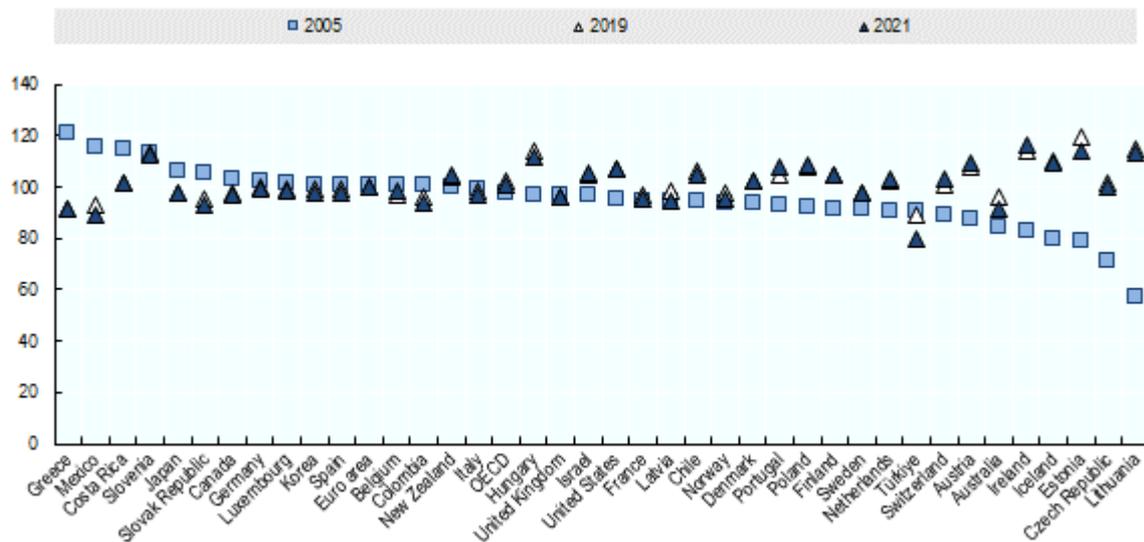
Between 2019 and 2021, rental prices declined, on average, in contrast to the dramatic growth of real house prices over this period. This may be related to caps on rent prices and other artificial rent suppression measures that were implemented in response to the COVID-19 pandemic (see PH6.1 for further discussion on such emergency support measures introduced for renters). Real rent prices declined by 5 % or more in three countries between 2019 and 2021 (Australia, Estonia and Türkiye), while remaining largely unchanged in a number of countries. Portugal recorded the highest real growth in rent prices from 2019 to 2021 (3%); yet most other countries recorded a decline amounting to between 1% and 4% (Annex HM1.2.A3).

HM1.2.2. Housing prices increased in many countries between 2005, 2019 and 2021

A. Real house price index, 2005, 2019 and 2021, 2015=100



B. Real rent price index, 2005, 2019 and 2021, 2015=100



Notes:

1. House price indices, also called Residential Property Prices Indices (RPPIs), are index numbers measuring the rate at which the prices of all residential properties (flats, detached houses, terraced houses, etc.) purchased by households are changing over time. Both new and existing dwellings are covered if available, independently of their final use and their previous owners. Only market prices are considered. They include the price of the land on which residential buildings are located (see (OECD et al., 2013[12])). For Panel A, 2005 and 2021 data were not available in several countries; as such, data for the nearest available year were used: Latvia and Lithuania (2006), Hungary, Luxembourg and Slovenia (2007), the Czech Republic (2008) and Türkiye (2010); Chile, Colombia, Greece, the Netherlands and New Zealand (2020). For Panel B, 2021 data refer to 2020 for Japan.

2. The present publication presents time series which extend beyond the date of the United Kingdom's withdrawal from the European Union on 1 February 2020. In order to maintain consistency over time, the "European Union" aggregate presented here excludes the UK for the entire time series.

3. Rent prices are deflated by Consumer price indices (CPIs). Due to data constraints, the OECD - Total for 2020 and 2021 is calculated using CPI country weights data from 2019. These can be found in the [HM1.2](#) excel file.

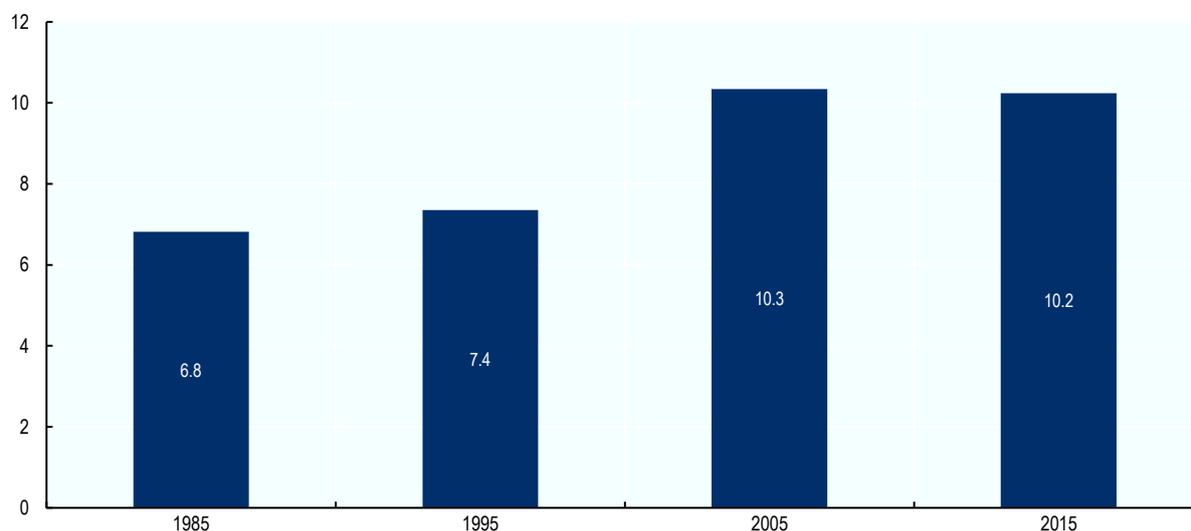
Source: Calculations based on OECD (2022a), OECD Analytical house prices indicators, https://stats.oecd.org/Index.aspx?DataSetCode=HOUSE_PRICES (accessed April 2022).

Compared to past generations, today's families pay more to buy a flat

The rising cost of housing means that young families with children – even those with median income levels – are finding it increasingly difficult to purchase a home. Based on price data from capital cities, the OECD (2019) found that a median-income couple with two children must spend significantly more to purchase a modest-sized flat than they would have 30 years ago, putting increasing pressures on household budgets and making home ownership less accessible to young families today, relative to previous generations (Figure HM1.2.3). At the same time, real interest rates have fallen considerably since 1985, moderating somewhat the impact of house price increases on housing costs.

Figure HM1.2.3: Today's families pay considerably more to buy a flat than previous generations

Number of years of annual income needed to buy a 60 square meter flat in the country's capital city or financial centre, for a median-income couple with two children



Note: Households included here concern couples with two children at median income levels. The OECD average includes Australia, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Israel, Italy, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States.

Source: OECD (2019), *Under Pressure: The Squeezed Middle Class*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/689afed1-en>. OECD Secretariat calculations based on data from EU-SILC (Europe), SLID and CIS (Canada), CPS March Supplement (United States) and LIS Data Center: Global Property Guide; OECD Residential Property Prices Indices (RPPIs).

Regional housing price indices suggest wide variation within countries, and significant increases in real house prices in some metro areas since the onset of the pandemic

National house price indices are based on house prices from across the entire country. They measure the rate at which the prices of residential properties purchased by households change over time and aim to measure pure price changes. Calculating real house price growth, i.e., controlling for national general inflation, allows for a more meaningful comparison of house price dynamics across countries.

Nevertheless, national house price indices mask considerable variation in regional and metropolitan house price levels. Since the onset of the COVID-19 pandemic, a number of metropolitan areas in the OECD recorded a surge in house price growth, notably between the fourth quarter of 2020 and the fourth quarter of 2021¹:

- *Australia*: Hobart (29.8%), Canberra (28.8%), Brisbane (27.8%), Sydney (26.7%) and Melbourne (20.0%)

¹ Data are not available for metropolitan areas for all countries, for all housing types (single-family, multi-family) or for all vintages (new housing, existing stock). Data for Australia, Korea and Lithuania reflect real house price growth for the total housing stock. Data for Canada and Ireland reflect real house price growth for single-family homes. Data for Slovenia reflect real house price growth for multi-family homes. Data for Türkiye reflect real house price growth for new homes. Data for the United States reflect real house price growth for existing single-family homes.

- *Canada*: Winnipeg (19.8%), Victoria (19.4%), Montreal (18.4%), Toronto (17.5%) and Vancouver (15.4%)
- *Ireland*: Dublin (15.1%)
- *Korea*: Seoul (12.8%)
- *Lithuania*: Vilnius (20.5%)
- *Slovenia*: Ljubljana (17.2%)
- *Türkiye*: Istanbul (60.4%), Izmir (55.9%) and Ankara (57.0%)
- *United States*: San Diego (20.6%), Dallas (21.2%), Phoenix (29.3%) and Austin (32.3%)

Where data disaggregated by dwelling type (single-family and multi-family homes) are available, in several countries, real house prices of single-family homes increased more than that of multi-family homes between the fourth quarter of 2020 and the fourth quarter of 2021 in Australia and Canada, which could reflect a shift in preferences spurred by the pandemic. However, this was not universally the case: in some metropolitan areas of Finland, Japan, Lithuania and Norway, real house price growth of multi-family homes was higher than that of single-family homes over the same period. Moreover, across OECD countries, urban residents are, on average, less satisfied with the availability of quality affordable housing relative to rural residents (OECD Affordable Housing Database, Indicator HC1.4).

The [OECD National and Regional House Price Indices Database](#) provides data on housing price developments at national and regional level in OECD countries (see OECD, 2020a and OECD, 2022b).

Data and comparability issues

The items in this indicator that reflect historical trends are (in part) based on national house price indices. The OECD Analytical House Price Database shows indices of residential property prices over time, including rent prices, real and nominal house prices, and the price-to-rent ratio and the price-to-income ratio. In most cases, the nominal house price covers the sale of newly built and existing dwellings, following the recommendations from the RPPI (Residential Property Prices Indices) manual. The real house price is given by the ratio of the nominal price to the consumer expenditure deflator in each country, both seasonally adjusted, from the OECD National Accounts Database. The price-to-income ratio is the nominal house price divided by the nominal disposable income per head and can be considered as a measure of affordability. The price-to-rent ratio is the nominal house price divided by the rent price and can be considered as a measure of the profitability of home ownership. OECD countries include in their CPI a measure of rentals for housing. However, decisions on the coverage, the adjustment for quality, the treatment of regulated rents and the design of price surveys in cases where the rental market is small or unregulated, may affect comparability of the rent price index across countries. This indicator is an index with base year 2015.

A comparison of nominal house prices levels across countries is difficult, as definitions differ across countries. For example, the level of house prices may refer to different entities (dwellings as opposed to square meters, for example), to different types of dwellings and different periodicity (monthly, quarterly, semi-annual, annual).

Sources and further reading

- Dujardin, M., A. Kelber and A. Lalliard, (2015), "Overvaluation in the housing market and returns on residential real estate in the euro area: insights from data in euro per square metre". *Banque de France, Quarterly Selection of Articles* 37, Spring.
- Eurostat (2016), NUTS – Nomenclature of territorial units for statistics, overview, <https://ec.europa.eu/eurostat/web/nuts/overview>.
- OECD (2019), *Under Pressure: The Squeezed Middle Class*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/689afed1-en>.
- OECD (2020a), "Statistical Insights: Location, location, location - House price developments across and within OECD countries," www.oecd.org/sdd/prices-ppp/statistical-insights-location-location-location-house-price-developments-across-and-within-oecd-countries.htm.
- OECD (2020b), *Housing and Inclusive Growth*, OECD Publishing, Paris, <https://doi.org/10.1787/6ef36f4b-en>.
- OECD (2021), "Building for a better tomorrow: Policies to make housing more affordable," *OECD Employment, Labour and Social Affairs Policy Briefs*, <http://oe.cd/affordable-housing-2021>.
- OECD (2022a), *Analytical house prices indicators*, OECD, Paris https://stats.oecd.org/Index.aspx?DataSetCode=HOUSE_PRICES, data extracted in April 2022.
- OECD (2022b), *National and Regional House Price Indices*, <https://stats.oecd.org/Index.aspx?DataSetCode=RHPI#>, data extracted June 2022.