

The Residential Property Price Index (RPPI): A Quality-Adjusted Index

The purpose of the Residential Property Price Index (RPPI) is to measure the quality-adjusted change in the average level of prices paid for residential properties sold in Malta.

The RPPI sub-indices are published according to the dwelling type, whilst the HPI distinguishes between new and existing dwellings.

Legislation

Regulations (EU) [2016/792](#) and [2023/1470](#) of the European Parliament and of the Council.

Periodicity

Quarterly

Statistical Population

All dwellings purchased by households in the residential property market.

Time Coverage

2015 - 2024

Base Period

2015

Method

During the COVID-19 period, several countries experienced a low number of property sale transactions. Eurostat instructed the affected EU member states to adapt the HPI methodology to ensure the continued reliability of the index. Meanwhile, the data sources for transactions data were forthcoming with more detailed information. These two factors generated a motivation to produce a quality-adjusted index.

Old Methodology (Up to 2022)

The index is a Laspeyres-type index that is chained on a yearly basis using the fourth quarter of the previous year as the linking period. The index is produced with 2015 = 100. The old methodology involved the compilation of a separate index based on the median price for each dwelling type. In the absence of quality characteristics for transacted dwellings, the stratification method resulted as the best option. The separate sub-indices are aggregated into the overall index with weights representing the relative transaction volume of each of these submarkets. Weights are representative of the year t-1, based on data on household expenditure on transacted dwellings that belong to the index target population.

New Methodology (2023 onwards)

The index is compiled using the rolling-time-dummy (RTD) method, where the result for each reference period is based on a rolling window of time periods, in this case quarters. Rolling-time-dummy (RTD) is a hedonic method used by a number of countries to compute their official house price indices. The optimal length of window is worked out for each property type. Then the separate sub-indices are constructed for the three main residential property types: apartments, maisonettes, and houses, which are aggregated into the overall index. The weights represent the relative transaction volume of each of the three submarkets. Outliers are detected using Cook's Distance and the data is checked for persistent outlier transactions that can influence results. These are identified and removed.

Principal Variables

The principal variables used in price modelling are the purchase price, total floor area, dwelling sub-types and geographical location, amongst others. In the hedonic regression, these were tested for each property type and the non-significant variables were eliminated.

The index was revised from 2023 Q1 onwards. The Splicing technique was used to compensate for the break in series when linking with the old index, allowing the index's continuity.

This project was supervised by Ms Miriam Steurer, an expert who is also engaged by Eurostat to work on Commercial Real Estate Statistics.

Principal External Users

Government departments, Eurostat, NSO statistical domains, economic analysts, researchers and the wider public.