

NL – Netherlands

Statistics Netherlands publishes a nationwide house price index for existing, single-family dwellings dating back to 1995. The index is calculated using the sales price appraisal ratio (SPAR) method. A dwelling's appraisal value is determined by tax records and is paired with the dwelling's transaction price. The index is weighted by the value of housing stock indicated by the appraisal value in the base year of 2005. The ratio of sales price to appraisal value is recorded for all dwellings sold during the base year. This serves as the denominator for the index. For all dwellings sold during a current period, a ratio of their current sales price to base year appraisal value is determined. This serves as the numerator. The sales price and appraisal value for each dwelling are first summed and then the ratio of the sums is calculated, making it a value-weighted index. The index is reported at monthly frequency, and we average it (with a simple arithmetic average) to obtain quarterly observations.

To extend the data prior to January 1995, we splice the Statistic Netherland index with the nationwide house price index produced by the Kadaster—The Dutch Land Registry. The Kadaster index measures prices for all types of existing dwellings. Since January 1992, it is constructed using the repeat sales method. Data prior to 1992 is based on a series produced by the Netherlands' Association of Real Estate Brokers and Real Estate Experts (Nederlandse Vereniging van Makelaars, NVM) and represents the median selling price of dwellings sold exclusively by NVM agents (which on average are more expensive). The Kadaster extended its repeat sales index by interpolating the NVM data with a constant factor then splicing the resulting series. The NVM-Kadster index is reported monthly, starting in January 1976. We average the full monthly index (with a simple arithmetic average) to obtain quarterly observations from the first quarter of 1976 until the present. We then fit a BSTS model to the data, which we use to backcast observations for the four quarters of 1975.³⁷ We use the growth rates implied by the backcasted estimates and the NVM-Kadaster series to extend the current series from Statistics Netherlands back to the first quarter of 1975.

The house price series are not seasonally-adjusted by the source. We seasonally-adjust the spliced series using the BSTS model and re-base it to 2005=100. We deflate this house price series using the Personal Consumption Expenditure (PCE) deflator obtained from the OECD Economic Outlook database.

We complete the data for the Netherlands data by including Personal disposable income (PDI) reported in *per capita* terms. We used an interpolate PDI series and a working age population series from the OECD Economic Outlook database. The source of the current PDI and working age population data has changed, affecting the PDI *per capita* series in the 2012 first quarter update and all subsequent updates. Gross disposable income and consumption of fixed capital for households is collected from Eurostat. Both series are reported at a quarterly frequency and begin in 2005. Consumption of fixed capital is subtracted from gross disposable income series to produce PDI. The series is largely influenced by seasonal factors, so we use the BSTS model in state-space form to identify and systematically extract the seasonal and excessively volatile components of the data.

³⁷ Prior to the third quarter of 2012 release, backcasting was computed with an AR(2) model.

To extend the PDI series back to 1975 we use the net disposable income series from the OECD Outlook 86 database, which is reported at an annual frequency. We interpolate to a quarterly frequency using the quadratic-match average method. The resulting quarterly growth rates are used to extend the Eurostat series. Current working age population data is now obtained from the OECD Main Economic Indicators database. It is reported at a quarterly frequency and begins in the first quarter of 2000. We use the quarterly growth rates of the discontinued working age population series from the OECD Outlook 90 database to extend the series to the first quarter of 1975.

To compute the PDI *per capita* series we divide the PDI by the working-age population. We deflate this series with the PCE deflator to obtain PDI *per capita* in real terms. Both nominal and real measures are re-based to 2005=100.

References:

van der Wal, ter Steege, and Kroese (2006): "Two Ways to Construct a House Price Index for the Netherlands: The Repeat Sales and the Sales Price Appraisal Ratio."

Information Resources:

Statistics Netherlands Data

<http://www.cbs.nl/NR/rdonlyres/A49D8542-26EC-40FD-9093-82A519247F4B/0/MethodebeschrijvingPrijnsindexBestaandeKoopwoningene.pdf>

Kadaster Data

<http://www.kadaster.nl/window.html?inhoud=/english/>

Nederlandse Vereniging van Makelaars (NVM) Data

http://nieuws.nvm.nl/over_nvm/english.aspx

Eurostat Data

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database