

IL – Israel

The Central Bureau of Statistics (CBS) of Israel produces an official monthly hedonic nationwide home price index starting in 1994. The Index of Prices of Dwellings is constructed using data from the Catalog of Real Estate Prices, a system through which information about purchases of dwellings is gathered by the Capital Gains Tax Bureaus throughout the country. These data on transactions include new dwellings and dwellings whose ownership changed. The sample consists of 67 urban localities which have: 1) 20,000 or more residents, 2) 5,000 or more dwellings, according to the inventory of dwellings in Israel as listed in the Municipal Taxation List, and 3) a reasonable number of transactions relative to the number of dwellings. The index excludes dwellings built by individuals, transactions performed through a group of buyers, transactions from public companies, and dwellings with no market value. The Index of Prices of Dwellings is calculated using a hedonic regression that considers the characteristics of the dwellings and adjusts for differences in their quality. We average the monthly observations (with a simple arithmetic average) to obtain quarterly observations.

In order to reflect house prices prior to 1994, we follow Dovman, Ribon, and Yakhin (2012) and splice the current Index of Prices of Dwellings with a historical monthly index from the CBS. Data on housing prices prior to 1994 is available through the Owner Occupied Housing Services Price Index. This index is a part of the CPI and until 1999 it was based on a measure of housing prices.³¹ The prices used in this index are adjusted for the quality and size of the home. We average the monthly observations (with a simple arithmetic average) to obtain quarterly observations.

We splice the series of the Index of Prices of Dwellings with the growth rates of the Owner Occupied Housing Services (OOHS) Price Index historical series. 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.

To construct the PCE deflator, we use quarterly data obtained from the OECD Economic Outlook database, which starts in 1995. To extend this OECD series, we use the growth rates from the quarterly PCE deflator series from the CBS, which spans from 1980 to the present. To extend the combined series back to 1975, we use the growth rates of the quarterly average of monthly CPI data from the CBS before 1980. We seasonally-adjust the spliced series using the BSTS model and re-base it to 2005=100.³²

We complete the Israeli data by including a personal disposable income (PDI) series, reported in *per capita* terms. To create the PDI *per capita* series we divide household disposable income by the working-age population. Annual PDI data is obtained from the CBS as net private disposable

³¹ Since 1999 the Owner Occupied Housing Services (OOHS) Price Index is based on data on renewed rent contracts.

³² The Hebrew calendar does not overlap with the Gregorian calendar. For this reason holidays in Israel fall on different Gregorian dates each year (for example, Passover typically falls in March or April). This "problem" of moving holidays for seasonal adjustment is less relevant for the quarterly data that we report.

income, rather than personal disposable income, which includes undistributed profits.³³ For 1995 to the present, we use the System of National Accounts 2008 (SNA 2008) data from the CBS. To extend the PDI series, we use the growth rates of the SNA 1968 data from the CBS to get the PDI series back to 1974 (since we lose three quarters in the interpolation process from annual to quarterly). The PDI is derived using annual data, hence we use the BSTS model to nowcast one extra annual observation, which can be jointly interpolated. Nowcasted values will be subsequently replaced as soon as the official yearly data becomes available. The smoothed series is then interpolated to a quarterly frequency using the cubic-match last procedure. The interpolated series is then divided by the working-age population to get a *per capita* series and re-indexed to 2005=100.

We obtain working-age population data at a quarterly frequency from the OECD starting in 1995. To extend the series back to 1975, we interpolate the annual working-age population series from the United Nations to a quarterly frequency using the quadratic-match average procedure. These series are spliced together using the growth rates of the interpolated historical series. We use the PCE deflator to report the PDI series in real terms. Both nominal and real measures are re-based to 2005=100.

References:

Dovman, Ribon, and Yakhin (2012): “The Housing Market in Israel 2008-2010: Are House Prices a ‘Bubble’?”

Information Resources:

Israeli Central Bureau of Statistics Data

http://www.cbs.gov.il/ts/databank/databank_main_func_e.html

Israeli Central Bureau of Statistics Methodology

http://www1.cbs.gov.il/www/price_new/a1_3_e.pdf

Acknowledgements: Itamar Caspi and Sigal Ribon from the Bank of Israel.

³³ Data on personal disposable income from the CBS is unavailable for the moment.