



DE – Germany

The *Deutsche Bundesbank* produces an annual, nationwide house price index for existing, terraced houses. Terraced houses are defined as single-family properties with a living space of approximately 100 square meters. Only dwellings that meet comfortable living standards in medium to good locations are included. Data is obtained through BulwienGesa AG: BulwienGesa AG, in turn, draws its data from different sources: Association of German Real Estate Agents (Immobilienverband Deutschland-IVD), Chambers of Industry and Commerce, Surveyor Committees, Building and Loan Associations, Research Institutions, their own surveys, newspaper advertisements, etc. The mix-adjusted method is used to construct the index. Dwellings are categorized by type and location. Dwellings are aggregated according to construction statistics, which are taken from the 1998 micro census for data up to 2004 and the 2002 micro census for data starting in 2005. However, since we choose to focus only on terraced houses, no aggregation across property type is made. Prices from each city are weighted by population data from 2005. Data prior to 2005 is weighted using population data from 2000. The nationwide aggregate draws data from 100 cities from the former Western Germany and 25 cities from the former Eastern Germany (all of Berlin is classified as part of Eastern Germany since 1995). This index is reported at an annual frequency and begins in 1995.

To extend the data, we use one index produced by the *Bundesbank*. For 1975-1989, we use an annual house price index for new terraced houses in West Germany (including only a group of 50 cities). This series goes back to 1975. However, because the designation of new and existing dwellings was not formally introduced until 1990, the inclusion of existing dwellings in this index cannot be completely ruled out. New dwellings in this series of West Germany for new terraced houses are aggregated based on each dwelling's estimated construction cost. Cities are weighted according to population data, using the same vintages of population data as the aggregate series for all of Germany. We splice the annual series for all of Germany with the growth rates of the two longer series for West Germany, and then interpolate the resulting series using the quadratic-match average method to obtain a consistent quarterly series for German house prices.

The house price series are not seasonally-adjusted by the source. We seasonally-adjust the spliced and interpolated series using the BSTS model and re-base the series to 2005=100. Since the primary data is released annually, at least four quarters would elapse if we waited for the *Bundesbank* official data publication. To avoid this lag and make the public release of the data more timely, we nowcast the spliced annual series for Germany one period ahead using a simple AR (2) model. The nowcasting method used has changed, affecting the 2012 first quarter update and all subsequent updates. We now use the BSTS model to add one extra yearly observation that can be jointly interpolated. The quarterly estimates obtained using interpolated nowcasts will be subsequently replaced as the official annual data becomes publicly available.

We deflate this house price series using the Personal Consumption Expenditure (PCE). The PCE series for Germany is obtained from the OECD Economic Outlook database. It is reported at a quarterly frequency and begins in the first quarter of 1991. We use the growth rates of the West Germany PCE deflator, obtained from the OECD Economic Outlook database, to extend the German PCE deflator to the first quarter of 1975.

We complete the German data by reporting Personal disposable income (PDI) on a *per capita* basis. We used initially the extended and interpolated quarterly PDI and working age series for Germany from the OECD Economic Outlook database. The source of the current PDI and working age population data has changed. This affects the PDI series for the 2012 first quarter update and all subsequent updates. Net disposable income is collected from the *Bundesbank*. The series is reported at a quarterly frequency and begins in 1991. The measure of net disposable income published by the *Bundesbank* includes changes in equity in pension fund reserves. To maintain consistency across countries, we subtract this component. Data on equity and pension fund reserves (from 1999-present) is obtained from Eurostat; this is extended using data from the OECD Economic Outlook database. To extend the net disposable income series back to 1975, we use the net disposable income series for West Germany published in the OECD Outlook database 88. Both PDI come seasonally adjusted from the source. Current working age population data is now obtained from the OECD Main Economic Indicators database. Working age population is reported at a quarterly frequency and begins in the first quarter of 2005. 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. We divide the household disposable income by working-age population to create nominal PDI *per capita*. We use the PCE deflator to express the series in real terms. Both nominal and real PDI measures are rebased to 2005=100.

References:

Hoffman and Lorenz (2006): “Real Estate Price Indices in Germany: Past, Present and Future.”

Information Resources:

Deutsche Bundesbank Data

http://www.bundesbank.de/Navigation/EN/Statistics/Time_series_databases/Macro_economic_time_series/macro_economic_time_series_node.html

BulwienGesa AG Data

<http://www.bulwiengesa.de/index.php?id=start&L=1>