

# National accounts data on land held by the household sector

## Contribution on calculating total real estate holdings in Austria

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*Statistics Austria is responsible for compiling the nonfinancial balance sheets for Austria, broken down by institutional sectors. In the past, Statistics Austria used to calculate produced fixed assets in the nonfinancial balance sheets only. Since end-2017, however, Statistics Austria has calculated nonproduced fixed assets in the form of land as well, thus adding the most significant item of nonproduced fixed assets in quantitative terms to the balance sheets. At the end of 2015 (latest reporting date for which data is currently available), private households including nonprofit institutions serving households (NPISHs) held assets in the form of land worth EUR 393 billion. Of this amount, EUR 283 billion corresponded to land underlying buildings and structures. At the same time, households owned dwellings and other buildings and structures amounting to EUR 478 billion.*

National accounts provide an integrated description of all economic activity of a nation, including the wealth of private households, using balance sheets. According to the European System of Accounts (ESA 2010), balance sheets present the value of nonfinancial and financial assets as well as financial liabilities.<sup>2</sup> Nonfinancial assets are further subdivided into produced assets (such as buildings or machinery) and nonproduced assets (such as land). While produced assets have been recorded in the national accounts for Austria for a long time, the nonproduced asset of land has only been included in the balance sheets since end-2017, even though it is considered a significant item in quantitative terms, particularly in household balance sheets.<sup>3</sup>

By definition, land is only included if it is considered an economic asset, i.e. a store of value over which ownership rights are enforced by institutional units, individually or collectively, and from which economic benefits may be derived by its owner(s) by holding or using it over a period of time (cf. ESA 2010, Annex 7.1 and SNA 2008, para. 1.46). This means that some kinds of land that do not fulfil the two criteria mentioned above, such as wasteland or deserts, are not included in the balance sheets. Any dwellings and other buildings and structures, cultivated crops, trees and animals, subsoil assets and water resources on the land or running through it are recorded in the balance sheets; however, these assets are not included under the category of land. Only the ground itself, including soil covering and associated surface water, is valued at market prices on the date to which the balance sheet relates (cf. ESA 2010, para. 7.33). The respective value excludes transfer of ownership costs, such as notary fees or brokerage fees, which are recorded as produced assets instead.

Although the ESA transmission program only requires EU Member States to report the total value of land, a well-defined classification of land is indispensable as different land uses can correspond to major differences in price. For this reason,

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<sup>2</sup> In Austria, financial balance sheets are compiled by the Oesterreichische Nationalbank (OeNB), and nonfinancial balance sheets by Statistics Austria.

<sup>3</sup> In accordance with ESA 2010, transmission at t+24 months became compulsory in 2017 for item AN.211 (land) in table 26 (balance sheets for nonfinancial assets) of the ESA transmission program for sectors S.14+S.15 (households and nonprofit institutions serving households) from reference year 1995 onward.

an international task force<sup>4</sup> elaborated an appropriate classification structure for land in accordance with ESA 2010, consisting of four categories (as well as corresponding subcategories): “Land underlying buildings and structures” – the most valuable category by far – includes land underlying dwellings and other buildings as well as land underlying structures like streets, roads, railways, other traffic areas or cemeteries. “Land under cultivation,” the second category, encompasses agricultural land, forestry land, and surface water used for aquaculture. Categories 3 and 4, which are less significant in quantitative terms, include “recreational land and associated surface water” (e.g. parks) and “other land and associated surface water” (e.g. exploitation areas and any land and surface water not elsewhere classified).

From a methodological point of view, two different approaches are generally used to determine the value of land, depending on data sources available. The direct approach obtains the value of land by multiplying each parcel of land by an appropriate price, whereas the indirect approach is based on the total real estate value, applying appropriate methods to decompose the total value into separate land and structure components. Due to the currently available data sources, Austria uses the direct method to estimate the value of land. To this end, prices and land areas are assessed at the lowest regional level possible for each land use type.

Statistics Austria’s estimation of land is based on cadastral data provided annually by the Federal Office of Metrology and Surveying (Bundesamt für Eich- und Vermessungswesen – BEV). These data contain information on the land of each cadastral community in Austria, broken down by 26 different land use types.<sup>5</sup>

The key data source to calculate land prices comprises data on individual land transactions recorded in the land register, which have been available to Statistics Austria since the reporting year 2010. More specifically, the calculations are based on all transactions of undeveloped land (amounting to approx. 20,000 to 30,000 transactions in Austria per year). As part of these transactions, the average sales price per square meter as well as the size, location and use of the land, as stated in the sales contract, are recorded. This information is used to calculate average prices, weighted by area, for building land and agricultural land at a low regional level (i.e. for each cadastral community). Additionally, depending on the number of transactions recorded, average sales prices of higher administrative levels (e.g. of municipalities or districts, taking into account population density) are imputed, if required.

Prices for forestry land and other remaining land categories (e.g. traffic areas or exploitation areas) are calculated as a percentage of the prices for building land and agricultural land as the number of transactions is too small to serve as the basis for calculating land prices. Alternative data sources – in particular the real estate price report published by the Austrian Economic Chambers – were used for the years for which transaction data were not yet available as well as for urban areas where an insufficient (and therefore not representative) number of transactions occurs.

The total value of land is calculated based on detailed regional data on land area and prices. Total values are subsequently broken down by institutional sectors, using different data sources depending on land use. Land underlying buildings and structures

<sup>4</sup> Over the course of two years, a joint Eurostat-OECD task force developed a comprehensive compilation guide on land estimation: cf. <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-14-012>.

<sup>5</sup> For a detailed description of land uses in the cadaster, see: <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20006750> [available in German only].

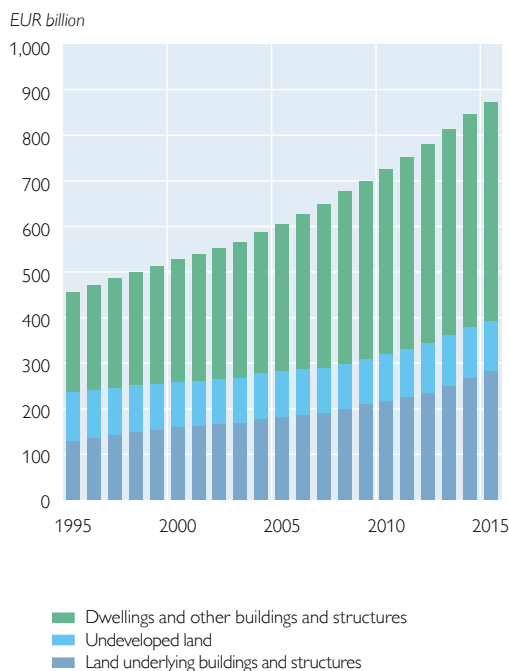
is divided up by using the Address, Buildings and Dwellings Register (Adress-, Gebäude- und Wohnungsregister – AGWR) as well as information on the size of plots of land as stated in the property register (Grundstücksverzeichnis). The AGWR contains information on, among other things, the owner(s) and use(s) of each building. Based on this information and the simplified assumption that the owner of a building and the owner of the underlying land are the same person, plots of land can then be assigned to institutional sectors. If the owner of a building is a private person according to the AGWR, the corresponding plot of land is assigned to the household sector. As a next step, the share of each sector in the total land area of each cadastral community is calculated. The resulting shares are then multiplied by the corresponding total value of land underlying buildings and structures and aggregated at the national level. For the years for which the quality of data contained in the AGWR is not yet sufficient (i.e. the years preceding 2011), sectorization is done at the aggregate level, using land-to-structure ratios (the value of land underlying buildings and structures relative to the value of the corresponding buildings and structures).

The farm structure survey, which provides data on land use broken down by the legal status of agricultural holdings, represents the main data source for assigning agricultural and forestry land to the different sectors. Full-time and part-time farms whose legal status corresponds to that of a natural person are assigned to the household sector. In addition to the farm structure survey, information on ownership (distinction between private forest, community forest, etc.) obtained from the Austrian Forest Inventory is used to categorize forestry areas. Land used for other

Chart 1

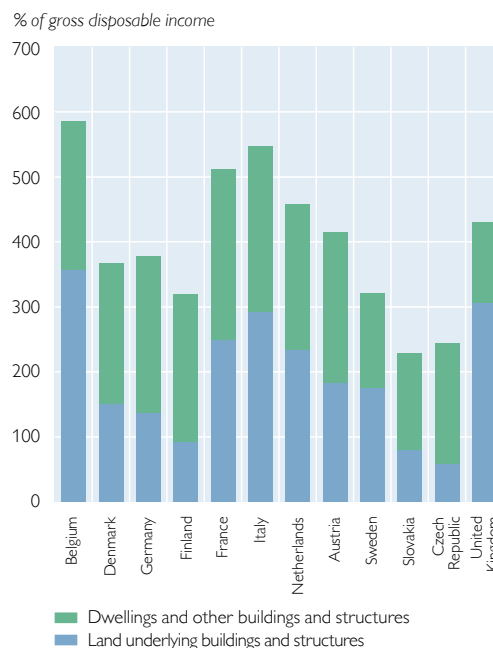
## Land and buildings held by private households

### Balance sheets for Austria



Source: Statistics Austria (Nonfinancial balance sheets). Households including NPISHs.

### Comparison across Europe for 2016



Source: Eurostat (Data on land in Austria for 2015). Countries were selected according to available data. Households including NPISHs.

purposes (e.g. traffic areas or bodies of water) usually exhibits relatively transparent ownership structures (e.g. roads may only be assigned to the general government sector), and plays a minor role for the household sector.

Assets in the form of land held by private households (including NPISHs, such as churches, trade unions, associations or non-profit foundations) increased by 66% between 1995 and 2015, while assets in the form of land underlying buildings and structures rose by 116%. Over the same period, dwellings and other buildings and structures owned by private households increased by 119%. A comparison across Europe shows that the value of land owned by Austrian households in relation to disposable income is at a similar level to that owned by households in Germany, the Netherlands and the United Kingdom.