

Joint Eurostat/OECD 2019 questionnaire on the methodology underlying capital stocks data in national accounts

Country: Austria

Date: August 2019

Information regarding Gross Fixed Capital Formation (GFCF) compilation

This information sheet presents metadata provided by the country for publication by Eurostat. It informs on the methods and sources used to compile GFCF under the [European System of Accounts 2010](#) (ESA 2010). While the questionnaire has a common structure, the level of detail of replies differs from one country to another and, therefore, only available country replies are shown here.

For easier cross-country comparison, users of GFCF data are invited to consult the tabular presentation of metadata on estimation of capital stocks by asset type, industry and institutional sector:

[Capital Stock Metadata in Tabular Format](#)

N111. Dwellings

Question 1. What is/are the main source/s to estimate GFCF in dwellings in your country, and which are the products or assets included under this asset category? Please specify if sources differ across industries and/or institutional sectors.

The main data sources for the estimation of GFCF in dwellings are housing construction statistics on completed dwellings and prices per square meter.

Question 2. What is the length of the GFCF series for dwellings? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differ across industries and institutional sectors.

GFCF series is published from 1995 onwards. For the purpose of estimating capital stocks longer GFCF series are available from 1976 onwards.

Question 3. Are costs of ownership transfer included in GFCF? How do you define them and treat them in the estimation of capital stocks of dwellings (e.g. treated equally to GFCF, or specific average service life/depreciation profile for these costs)?

Costs of ownership transfer are included in GFCF. These are defined according to chapter 5.10.3.5. of the inventory of methods. In the estimation of capital stocks of dwellings they are equally treated to GFCF, i.e. the same depreciation profile is applied.

Question 4. What price indices do you use to deflate GFCF in dwellings, and how do you construct these indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Construction output price index for residential buildings, see:
http://www.statistik.at/web_en/statistics/Economy/Prices/construction_output_price_index/index.html.

N1121. Buildings other than dwellings

Question 1. Do you have specific GFCF series for detailed asset categories (e.g. office buildings, industrial buildings, public buildings, etc.)? Are your GFCF series broken down by industry and/or institutional sector? If your answer is yes to any of these questions, please describe and provide the link to available data and relevant documents.

GFCF in other buildings and structures (AN.112) is broken down by industry and institutional sector, but not by detailed asset categories. Only for S.13 there is a further split of AN.112 into non-residential buildings (AN.112201), roads and bridges (AN.112201) and other underground construction (AN.112203).

Question 2. What is/are the main source/s to estimate GFCF in buildings other than dwellings in your country? Please specify if sources differ across industries and/or institutional sectors.

GFCF in other buildings and structures is estimated according to chapter 5.10.3.1. of the inventory of methods. It is derived as the residual from total GFCF in construction minus GFCF in dwellings.

Question 3. What is the length of the GFCF series? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differs across assets within this asset category, industries and institutional sectors.

GFCF series of other buildings and structures is published from 1995 onwards. For the purpose of estimating capital stocks GFCF series date back to 1976 and for the public sector (state non-market production), GFCF time series go back to 1954.

Question 4. Are costs of ownership transfer of buildings other than dwellings included in this GFCF series? How do you define them and treat them in the estimation of net capital stocks of buildings other than dwellings (e.g. treated equally to GFCF, or specific average service life/depreciation profile for these costs)?

Costs of ownership transfer are included and the same depreciation profile as for other buildings and structures is applied.

Question 5. What price indices do you use to deflate GFCF in buildings other than dwellings, and how do you construct these indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries/institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Construction output price index for other buildings and civil engineering, see:
http://www.statistik.at/web_en/statistics/Economy/Prices/construction_output_price_index/index.html.

N1122. Other structures

Question 1. Do you have specific GFCF series for detailed asset categories (e.g. roads, railways, bridges, etc.)? Are your GFCF series broken down by industry and/or institutional sector? If your answer is yes to any of these questions, please describe and provide the link to available data and relevant documents.

Only for S.13 there is a further split of other structures (AN.1122) into roads and bridges (AN.112201) and other underground construction (AN.112203)

Question 2. What is/are the main source/s to estimate GFCF in other structures in your country? Please specify if sources differ across industries and/or institutional sectors.

See answer under N1121.

Question 3. What is the length of this GFCF series? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differs across assets within this asset category, industries and institutional sectors.

See answer under N1121.

Question 4. Are costs of ownership transfer of other structures included in this GFCF series? How do you define them and treat them in the estimation of net capital stocks of other structures (e.g. treated equally to GFCF, or specific average service life/depreciation profile for these costs)?

See answer under N1121

Question 5. What price indices do you use to deflate GFCF in other structures, and how do you construct these indices? **How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.**

Construction output price index for other buildings and civil engineering, see:
http://www.statistik.at/web_en/statistics/Economy/Prices/construction_output_price_index/index.html.

N1123. Land improvements

Question 1. Does GFCF in other buildings and structures (N112) reported in questionnaires 0102 (GDP identity from the expenditure side), 0302 (Capital formation) and 2200 (Cross-classification of gross fixed capital formation (GFCF) by industry and by asset (transactions)) include land improvements (N1123)?

Yes, land improvements are included in other buildings and structures (AN.112).

Question 2. What is/are the main source/s to estimate the value of GFCF in land improvements in your country? Please specify if sources differ across industries and/or institutional sectors.

Data derived from the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) show federal investment in land improvement and protection from natural disaster (avalanches, high flooding).

Question 3. Are costs of ownership transfer of land included in land improvements (N1123) and hence in the aggregate asset category other buildings and structures (N112) that you report in the national accounts questionnaires 0102, 0302 and 2200?

Yes.

Question 4. What price indices do you use to deflate GFCF in land improvements, and how do you construct these indices? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Construction output price index for other buildings and civil engineering, see:
http://www.statistik.at/web_en/statistics/Economy/Prices/construction_output_price_index/index.html.

N1131. Transport equipment

Question 1. What is/are the main source/s to estimate GFCF in transport equipment in your country?

GFCF in transport equipment is calculated via a commodity flow approach (data sources for calculation of domestically available supply: SBS, short term statistics, ITGS). GFCF in cars is estimated via a price x quantity approach. Main data sources are car registration statistics and statistics on prices for first time registered cars (so called Eurotax list).

Question 2. Do you have specific GFCF series for detailed asset categories (e.g. motor vehicles, ships, railway locomotives, aircrafts, etc.)? Are your GFCF series broken down by industry and/or institutional sector? If your answer is yes to any of these questions, please describe and provide the link to available data and relevant documents.

GFCF is broken down by industry, institutional sector and asset category.

Question 3. What is the length of these GFCF series? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differ across assets within this category, industries and institutional sectors.

GFCF series is published from 1995 onwards. For the purpose of estimating capital stocks, longer GFCF series are available from 1976 onwards.

Question 4. What price indices do you use to deflate GFCF in transport equipment, and how do you construct these indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries/institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Price index for producer durables, see:
http://www.statistik.at/web_en/statistics/Economy/Prices/price_index_on_producer_durables/index.html.

Wholesale price index, see:

http://www.statistik.at/web_en/statistics/Economy/Prices/wholesale_price_index/index.html.

Industrial output price index, see:

http://www.statistik.at/web_en/statistics/Economy/Prices/industrial_output_price_index/index.html.

For passenger cars: price index derived from car registration statistics and car prices by model.

ICT equipment (N1132): computer hardware (N11321) + telecommunications equipment (N11322)

Question 1. What is/are the main source/s to estimate GFCF in computer hardware (N11321) and telecommunications equipment (N11322) in your country? Do you have specific GFCF series for detailed assets within these categories (e.g. data processing machines, peripheral equipment, storage units, etc.) in different industries and/or institutional sectors?

GFCF in ICT equipment is also calculated via a commodity flow approach (data sources for calculation of domestically available supply: SBS, short term statistics, ITGS).

Question 2. What is the length of GFCF in computer hardware and telecommunications equipment? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differ across detailed assets within these asset categories, industries and/or institutional sectors.

GFCF series are published from 1995 onwards. For the purpose of estimating capital stocks, longer GFCF series are available from 1976 onwards.

Question 3. What price indices do you use to deflate GFCF in computer hardware and telecommunications equipment, and how do you construct these indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Price index for producer durables, see:

http://www.statistik.at/web_en/statistics/Economy/Prices/price_index_on_producer_durables/index.html.

Industrial Output price index, see:

http://www.statistik.at/web_en/statistics/Economy/Prices/industrial_output_price_index/index.html.

Other machinery and equipment and weapons systems (N110): Other machinery and equipment (N1139) + weapons systems (N114)

Question 1. What is/are the main source/s to estimate GFCF in other machinery and equipment and weapons systems in your country? Do you have specific GFCF series for detailed assets within these categories (e.g. electrical equipment, weapons, etc.) in different industries and/or institutional sectors?

GFCF in other machinery and equipment is also calculated via a commodity flow approach (data sources for calculation of domestically available supply: SBS, short term statistics, ITGS). GFCF in weapon systems is calculated on the basis of military expenditures recorded in government finance statistics.

Question 2. What is the length of GFCF in other machinery and equipment and weapons systems? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differ across assets within each asset category, industries and/or institutional sectors.

GFCF series is published from 1995 onwards. For the purpose of estimating capital stocks, longer GFCF series for other machinery and equipment are available from 1976 onwards. Time series for GFCF in weapons systems is estimated back until 1980.

Question 3. What price indices do you use to deflate GFCF in other machinery and equipment and weapons systems, and how do you construct these indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Price index for producer durables, see:

http://www.statistik.at/web_en/statistics/Economy/Prices/price_index_on_producer_durables/index.html.

Import price index, see:

http://www.statistik.at/web_en/statistics/Economy/Prices/import_price_index/index.html.

Cultivated biological resources (N115)

Question 1. What is/are the main source/s to estimate GFCF in cultivated biological resources in your country? Do you have specific GFCF series for detailed assets within these categories (e.g. orchards, crops, dairy cattle, etc.) in different industries and/or institutional sectors?

GFCF in cultivated biological resources is calculated by using various agriculture statistics (for a detailed description, see chapter 5.10.3.4. of the inventory on methods).

Question 2. What is the length of GFCF in cultivated biological resources? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differ across products within this asset category, industries and/or institutional sectors.

GFCF series is published from 1995 onwards. For the purpose of estimating capital stocks, longer GFCF series are available from 1976 onwards.

Question 3. What price indices do you use to construct volume measures of cultivated biological resources, and how do you construct these indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Agricultural price index, see:

http://www.statistik.at/web_en/statistics/Economy/Prices/agricultural_prices_indices/111566.html.

Research and development (N1171)

Question 1. Do you estimate GFCF in R&D by detailed R&D asset type? If yes, please specify the detailed R&D asset breakdown.

R&D is broken down into own-account and purchased R&D as well as into basic research, applied research and experimental development.

Question 2. What is/are the main source/s to estimate GFCF in research and development (R&D)? Please describe briefly the architecture of your estimation method and specify if these differ across different R&D assets (if a breakdown is available), industries and/or institutional sectors.

Own-account R&D is valued at total production costs (plus a mark-up for net operating surplus/mixed income - except for non-market producers). The main data sources are R&D statistics and administrative data for own-account R&D in sector S.13. Purchased R&D is estimated by means of SUT for R&D sold in the market based on SBS, BoP statistics, short term statistics and R&D statistics (for a detailed description see chapter 5.10.3.6. of the inventory on methods).

Question 3. What is the length of GFCF in R&D in your country? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if these differ across assets within this category, industries and institutional sectors.

GFCF in R&D is available from 1995 onwards. For the purpose of estimating capital stocks, GFCF is estimated back until 1981.

Question 4. What price indices do you use to deflate GFCF in R&D and how do you construct these price indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Input method. No explicit quality adjustment.

Mineral exploration and evaluation (N1172)

Question 1. Do you estimate GFCF in mineral exploration and evaluation by detailed asset type? If yes, please specify the detailed asset breakdown.

No GFCF.

Computer software and databases (N1173)

Question 1. Do you produce separate estimates of computer software? Tick all boxes that apply:

Purchased software.

Question 2. What is/are the main source/s to estimate GFCF in computer software and databases? Please describe briefly the architecture of your estimation method and specify if these differ across types of software (see previous question), industries and/or institutional sectors.

GFCF in software is composed of purchased software and own-account production of software. The estimation of GFCF in own-account production of software is based on employment statistics by means of a supply side approach. Purchased software is derived from SUTs based mainly on SBS and an estimation of the secondary production of software (for a detailed description see chapter 5.10.3.7. of the inventory on methods).

Question 3. What is the length of this GFCF series? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if this differ across assets within this category, industries and institutional sectors.

GFCF series is published from 1995 onwards. For the purpose of estimating capital stocks, longer GFCF series are available from 1976 onwards.

Question 4. What price indices do you use to deflate GFCF in computer software and databases and how do you construct these price indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Output price index for business services, see:
http://www.statistik.at/web_en/statistics/Economy/Prices/output_price_index_for_busines_services/index.html.

Consumer price index:
http://www.statistik.at/web_en/statistics/Economy/Prices/consumer_price_index_cpi_hcpi/index.html.

Entertainment, literary and artistic originals (N1174)

Question 1. Do you estimate GFCF in entertainment, literary and artistic by detailed asset type? If yes, please specify the detailed asset breakdown.

GFCF in entertainment, literary and artistic originals is broken down into the categories literature, TV, film, composers and musicians.

Question 2. What is/are the main source/s to estimate GFCF in entertainment, literary and artistic originals? Please describe briefly the architecture of your estimation method and specify if these differ across detailed products within this asset category, industries and institutional sectors.

The main data sources are data from collecting societies, reports of the Austrian Broadcasting Corporation (ORF) and data from the association for film and music industry. Estimation methods are described in detail in chapter 5.10.3.8. of the inventory on methods.

Question 3. What is the length of GFCF in entertainment, literary and artistic originals? If long GFCF series are available (previous to 1995), how do you estimate historical data? Please, describe additional sources and/or methods, and specify if this differ across assets within this category, industries and institutional sectors.

GFCF series is published from 1995 onwards. For the purpose of estimating capital stocks, longer GFCF series are available from 1976 onwards.

Question 4. What price indices do you use to deflate GFCF in entertainment, literary and artistic originals and how do you construct these price indices? How do you account for quality improvements? Do you use specific price indices for detailed asset categories? Do these price indices differ across industries / institutional sectors? If they are available, please provide links to and/or relevant documents and metadata on their construction.

Consumer price index (assuming that the prices of originals developed according to sales prices for books, films, etc.), see:

http://www.statistik.at/web_en/statistics/Economy/Prices/consumer_price_index_cpi_hcpi/index.html.