

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

Country: Sweden

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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 assets under this category are as follows:

- New built: One- and two-dwelling buildings, multi dwellings buildings, weekend/holiday homes.
- Reconstructed: One- and two-dwelling buildings, multi dwellings buildings, weekend/holiday homes.

The calculations of dwellings are based on monthly data of number of apartments commenced and completed. This data is reported to the local government and forwarded to Statistics Sweden. In addition, data is also collected on construction costs. They are gathered in a comprehensive SCB-survey to construction companies. The survey contains data on newly constructed multi-dwelling buildings and collectively built one- and two-dwelling buildings. Information is given on ground costs, building costs and total production costs. Construction costs are distributed with the aid of a construction cost profile, based on the data supplied on beginning and end of the projects, so that the costs incurred each quarter can be calculated.

The NA-calculations are separated into two main categories; one and two family houses and multiple-occupancy buildings, respectively. The material is also broken down by owner category, i.e. rented and owner-occupied dwellings. Reconstruction of one and two family houses is compiled by the help of information from an annual Statistics Sweden sample survey for household finances, HEK. Reconstruction of dwellings in multiple-occupancy buildings is compiled by the help of information on

construction costs for different owner categories and tenant categories from an annual inquiry from Statistics Sweden; the revenues and expenditure survey for multi-dwellings, IKU.

Tenant-ownership rights in multiple-occupancy buildings, here abbreviated as BRF, is object to a special treatment in this calculation. A holder of a tenant's right of ownership does not own his apartment, but holds a share in a tenant-owners' association, BRF. The holder however, buys his apartment to ordinary and high market prices, at least in the metropolitan areas. The holder also has the right to reconstruct and change the inner contents of his apartment, i.e. replace all kitchen equipment. This is quite often the case when apartments change holders. Therefore an extra investment value is added for BRF-apartments.

For the calculation of construction of secondary homes used as weekend/holiday homes the annual change in the number of holiday homes in the Taxation Register is collected. From the SCB-survey on construction the total expenditures per permanent house are collected. Construction costs for secondary houses are reduced in relation to construction costs for permanent houses. The relation is based on the relations in size between secondary and permanent houses plus an extra addition for machinery equipment. The results give a share of 67 percent of the costs of a permanent house. Of the total number of holiday homes about 25 percent are subject to reconstruction every year. Construction periods extends normally over two years. These shares are set in discussions with the construction organisation.

Regarding investments of primary municipalities total investment expenditure for the dwellings is obtained directly from the investment accounts of the annual accounts (RS). Purchases of machinery and equipment and purchases of land, buildings and technical structures are deducted from total investment. Investments in dwellings are then calculated residually."

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.

The time series for dwellings extends back to 1993. An aggregate series for all construction extends back to 1980.

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)?

The cost of ownership transfer is a separate type of capital and is accounted for as GFCF. Costs of ownership transfers are calculated for owner-occupied houses, i.e. one and two family houses and weekend/holiday homes, multiple-occupancy buildings and agricultural- and forestry properties. Costs of ownership transfers include apart from real estate agents' fees also stamp duties and fees for mortgages (pantbrev). The calculation uses data from SBS on real estate agents' income and data from the Swedish Financial Management Authority on stamp duties. The stamp duty paid in conjunction with the acquisition of real estate is also included in the costs of ownership transfers.

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.

Data is collected on construction costs. They are gathered in a comprehensive SCB-survey to construction companies. The survey contains data on newly constructed multi-dwelling buildings and collectively built one- and two-dwelling buildings. Information is given on ground costs, building costs and total production costs. The survey on construction costs does not cover individually built detached houses, but only collectively built. Therefore a mark-up for the difference in constructions costs between collectively built and individually built objects are applied. The mark-up is set after discussions with the construction organisation to an adjustment by 24 percent. This covers the fact that individually built detached houses on average are larger and contain higher quality materials and machinery equipment. The indices are quality adjusted with a quality index for multi-dwelling buildings and collectively built one-and two-dwelling buildings.

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.

Buildings and other structures broken down by industry and institutional sector. Insurance financed construction is estimated separately.

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.

The source for GFCF in building other than dwellings is the structural business statistics (SBS).

Central government investments in other buildings and structures are calculated from the source Basis of central government net lending, UFS, which is compiled by the Financial Management Authority (ESV) and grouped in accordance with the national accounts definitions. Regarding investments of primary municipalities total investment expenditure is obtained directly from the investment accounts of the annual accounts (RS). Purchases of machinery and equipment and purchases of land, buildings and technical structures are deducted from total investment. Building investment, which comprises buildings and structures both purchased and produced for own account, is therefore calculated residually. Purchases of existing buildings are excluded in order to record only new own account investments during the year. Investments are grouped according to the relevant COFOG and activity. Data on investment for the county councils are also obtained from the annual accounts (RS).

Investments in other buildings and structures of other types of local authority are based on investments accounts from the annual accounts (RS) of municipal associations and the annual accounts of the Swedish Association of Local Authorities and Regions. This annual accounts also gives a breakdown by different activities. NPISH, are divided into two separate units with different sources; the Church of Sweden and other NPISH organizations. The Church of Sweden belonged until 1 January 2000 to the Government. Both groups are covered by surveys. The church survey is comprehensive and the NPISH survey is a random sample survey. The NPISH survey gives information about acquisitions and

disposals of buildings and machinery. As an effect of non-response, the survey is also supplemented by taxation data from The Swedish Tax Agency. Investments by NPISH organizations are distributed into 32 NACE industries.

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.

The time series for buildings other than dwellings extends back to 1993.

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)?

Yes, costs of ownership transfer of buildings other than dwellings are included in GFCF divided on industry; agriculture, forestry, property management.

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.

Price indices used to deflate buildings other than dwellings and other structures are among others calculated from construction cost indices for several goods and services. Also, data from the Swedish Transport Administration and the Swedish Board of Agriculture. A total of about 20 indices are calculated to deflate different asset categories and industries.

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.

Detailed GFCF series is available for 2 types of capital:

- Roads Sector S.11, industry A01 and A02; Sector 1312, COFOG 1451, industry H52A and sector 1313, OFOG 1451, industry H52A.
- Railways sector 1312, COFOG 0453, industry H52A.

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.

The quarterly investment surveys and the structural business statistic (SBS) are the main sources for annual investment estimates of market production. Central government investments are collected from the Financial Management Authority and local government from the Annual Accounts. NPISH, are divided into two separate units with different sources; the Church of Sweden and other NPISH

organizations. Both groups are covered by surveys. The church survey is comprehensive and the NPISH survey is a random sample survey. As an effect of non-response, the survey is also supplemented by taxation data from The Swedish Tax Agency.

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.

The time series extends back to 1993.

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)?

Costs of ownership transfers of other structures are included in the series for total costs of ownership transfers.

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.

Data on price index for roads comes from the Swedish transport administration. Price indices used to deflate railways are calculated from construction cost indices for several goods and services

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, it includes agricultural land improvements but not land improvements in forestry. Forest land and woodland improvements are included in cultivated biological resources.

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.

Land improvements (AN.1123) in Sweden concern draining of agricultural and forest land and woodland improvement like soil preparation in order to improve regeneration after felling. Data is received from the Swedish Forest Agency and the Swedish Board of Agriculture.

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?

All costs of ownership transfer of buildings and land are estimated together and allocated to dwellings (N111).

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.

The price index used is average production price for agricultural buildings from the Swedish Board of Agriculture.

N1131. Transport equipment

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

Data from the national vehicle register by the Swedish Transport Agency and price statistics from the trade organization for cars, BIL Sweden is used in the motor vehicle model to estimate GFCF in motor vehicles. The register differentiates newly registered vehicles between natural and legal persons which is used to differentiate between GFCF and household consumption. The data differentiates financially leased and owned personal vehicles which are thus estimated separately. GFCF in railroad equipment is covered by the Investment Survey. Aircraft and ship investments are estimated with Statistics Sweden's international trade statistics.

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.

There are specific series for GFCF in owned motor vehicles, financially leased motor vehicles, railway locomotives, ships, off-shore platforms and aircrafts, though none are published separately. Within the motor vehicle model personal vehicles, trucks and buses are estimated separately. Motor vehicles are estimated by industry and institutional sector. Ships are separated between fishing vessels and other large ships, which are allocated to product A03 and H50 respectively. All other series are identified as belonging to a single product.

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.

The time series for transport equipment extends back to 1993. An aggregate series for all machinery and weapons systems extends back to 1980.

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.

GFCF in cars are deflated with the CPI for cars while GFCF in trucks, buses, ships, of-shore platforms, railway locomotives and airplanes are deflated with indices for domestic supply.

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?

The ICT investments are calculated according to the value of the product group computers and communication equipment in every NACE industry. In more detail, investments in computers consist of the sum of product groups: computers and peripheral equipment and office machinery and equipment. Communication equipment consists of: communication equipment, instruments and appliances for measuring, testing and navigation, optical instruments and photographic equipment and installation of industrial machinery and devices.

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.

The time series for ICT equipment extends to 1993.

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.

GFCF in ICT equipment is deflated using the index for domestic supply for each product group separately.

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?

Central government investments in machinery are calculated from the source Basis of central government net lending, UFS, which is compiled by the Financial Management Authority (ESV) and grouped in accordance with the national accounts definitions of an economic life of one year or more and a significant level of value (different limits for different authorities). Investments in machinery for

the social security sector are investments relating to the activities of the Swedish Pension Agency and is collected by ESV and made available to Statistics Sweden.

For county councils data on investment expenditure in medical technical equipment and other inventories are obtained from the county councils annual accounts. Investment expenditure for the five hospitals classified within the county councils is calculated from the SBS. Investments are grouped according to the relevant COFOG and activity.

Investments in machinery for other types of local authority are based on investments accounts from the annual accounts (RS) of municipal associations and the annual accounts of the Swedish Association of Local Authorities and Regions. This annual accounts also gives a breakdown by different activities.

NPISH investments of machinery are divided into two separate units with different sources; the Church of Sweden and other NPISH organizations. The church survey is comprehensive and the NPISH survey is a random sample survey. GFCF is covered from information about acquisitions and disposals of machinery and other buildings and structures, adjusted by taxation data from The Swedish Tax Agency.

Data on investments in weapon systems are provided by the Swedish National Financial Management Authority (ESV). Detailed series on different weapon systems exist but are not published."

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.

The time series for other machines and equipment and weapons systems extends back to 1993.

Series on weapon systems exist from 1993 and onwards. Data from ESV are available for these years.

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.

The investments in other machinery and equipment is deflated separately for each product group depending on what kind of good it is. The index for domestic supply of each product group is used. To deflate weapon systems, new indices are constructed by weighting existing indices on Swedish prices on products (ITPI) determined to best represent military investments, using weights provided by ESV on the same products. Two indices are constructed, used to deflate two categories of military systems.

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?

N115 is broken down into three assets. 1. Livestock, draught animals and dairy cattle. GFCF is allocated to industry NACE 01 and sectors S11 and S14. 2. Race horses, GFCF allocated to NACE 93 and sectors S11. 3. Fruit trees, GFCF allocated to NACE 01 and sectors S11 and S14. The main source is the Swedish Board of Agriculture.

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.

The GFCF series start in 1993. 2. the GFCF series of fruit trees are estimated using a number of reports provided by the Swedish Board of Agriculture and Swedish University of Agricultural Sciences.

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.

There is no breakdown of indices by sector or by industry. There is a breakdown of indices by assets where the price indices for livestock and race horses are calculated at the Swedish Board of Agriculture and for fruit trees the consumer price index (CPI) is used.

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 GFCF is divided in two asset types; own account R&D and sold (bought) R&D.

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.

For more detailed information, please see the GNI documentation for Sweden.

In short, the approach used to measure own account R&D involves summing up the costs incurred in the course of production. The source for the current cost and capital expenditures is the Frascati survey on R&D. The measurement of the output is the sum of current cost, i.e. compensation of employees and payments for intermediate consumption. Purchased R&D is based on SBS-figures of R&D-production that is sold. These figures are then used together with data on exports/imports of R&D to arrive at an estimation of purchased R&D, i.e. production-side figures are used together with trade statistics to arrive at use-side estimations of investments in purchased R&D.

The main source for R&D in general government is the Frascati survey carried out by Statistics Sweden on a biennial basis. For the years in between the surveys, the method to estimate R&D differs between subsectors. Each year, the Swedish National Financial Management Authority makes an estimation of R&D based on central government public accounting data. The methodology differs from the Frascati survey, but the yearly change is applied to the last Frascati survey to estimate central government R&D.

For local governments the method differs somewhat. For the County council we use the estimate from the survey. Due to low response rate for municipalities, the growth rate from the survey is applied to an earlier benchmark (with a satisfactory amount of respondents) to estimate the R&D. For the years when no survey is available we use, for the County councils, the growth rate in expenditure for R&D according to the County councils annual accounts. That growth rate we then apply on figures from year t-1. For the Municipalities we apply a price indices (TPI 71.12 M72) on figures from year t-1 to estimate GFCF, implying zero growth in fixed prices in those years. R&D of municipalities are however quite low (125 mSEK in 2017).

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.

R&D-totals are separately available back to 1980 but a breakdown of the two asset types are only available back to 1993 and before that only as part of bigger aggregates. R&D from the Frascati survey is available from 1964 for central government and the business sector. For local governments, the Frascati survey is available from 1993. For earlier years the growth rate of central government is used to estimate local government R&D back to 1964.

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.

PPI 71.12 excluding architects for both own-account and purchased R&D. The same index is also used for the general government. A number of methods is used to as far as possible control for changes in quality, more information is included in the attached PPI quality declaration. Further information is also available in the same document under documentation.

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.

Sweden estimates GFCF in mineral exploration and evaluation as a specific asset type, divided on two industries within mining and quarrying; iron ore, other minerals and exploration.

Question 2. What is/are the main source/s to estimate GFCF in mineral exploration and evaluation? Please describe briefly the architecture of your estimation method and specify if these differ across detailed assets within this asset category, industries and/or institutional sectors.

The main source is the Geological Survey of Sweden which ask for the costs for mineral exploration and evaluation in a survey covering companies within mining and quarrying.

Question 3. What is the length of GFCF in mineral exploration and evaluation? 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.

The time series extends to 1993.

Question 4. What price indices do you use to deflate GFCF in mineral exploration and evaluation 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.

GFCF in mineral exploration and evaluation is deflated by a construction cost index measuring the costs for exploration and evaluation. This price index is used for both industries within mining and quarrying.

Computer software and databases (N1173)

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

Estimates of GFCF in computer software is available for a) own account software and b) 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.

For more detailed information, please see the Swedish GNI documentation.

In short, GFCF in own account software is estimated using a sum-of-cost method where the number of (using a broad classification) IT-specialists/computer specialists are multiplied by the share of average time spent on software development and their average wage. This is then adjusted for the difference between wage related costs and the production value in the IT-sector to arrive at an estimate of production value/GFCF. Please note that this is a somewhat simplified explanation, further information is as mentioned above available in the GNI documentation.

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 in computer software is separately available back to 1980. Before that its only available as a part of bigger investment aggregates. For historical data, i.e. time periods before the implementation of the calculation method described above, investments were estimated using other relevant aggregates as indicators to bridge the periods and extend the investment series for previous years.

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.

Both asset types are deflated using PPIs, more specifically J58.29 for own-account software and J62 for purchased. A number of methods is used to as far as possible control for changes in quality. More information is included in the attached PPI quality declaration. Further information is also available in the same document under documentation, i.e. the documentation for quality adjustment of ICT products - methods and applications in the Swedish Price Index in the producer and import price index.

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.

The model for GFCF in originals separate film and tv originals from other artistic originals. These are allocated to product J591 while all other originals are allocated to product R90.

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.

For estimating GFCF in originals, Statistics Sweden uses the first calculation model recommended by the 2004 GNI committee. It estimates GFCF in originals by measuring the income from copyright material during the calendar year. The estimate is then adjusted for salaries and other costs. A large number of sources are used including statistics over book royalties, library reimbursements, music royalty payments, and cinema income. Many sources cover income both from Swedish and foreign works, these are then adjusted for the proportion of Swedish works. Royalty income from abroad are also included. As noted above film and TV originals are allocated to product J591 while all others are allocated to product R90."

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.

The time series for originals extends to 1993.

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.

The price index used is wage index for industry R90-92.