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INVENTORY OF SOURCES AND METHODS FOR PRICE AND VOLUME MEASURES IN NATIONAL ACCOUNTS

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3 NATIONAL ACCOUNTS

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FOREWORD

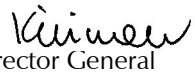
The main purpose of the compilation of national accounts aggregates at constant prices, i.e. the compilation of price and volume measures, is to provide indicators of economic activity from which the effect of price changes has been removed. This enables the analysis of the growth and development of an economy, the recording and analysis of cyclical movements and the drawing up of projections for the future. Volume indices of main national accounts aggregates are among the most important macroeconomic aggregates and essential for the assessment of past economic developments and for the drawing up economic policies.

In the European Union, national accounts data at constant prices are used also for administrative purposes, albeit not as heavily as data at current prices. According to the Stability and Growth Pact, the deficit of the general government sector of a Member State must not exceed three percent of gross domestic product and the debt must not exceed sixty percent of gross domestic product. In few exceptional cases, these reference values can be exceeded. One of such cases is a severe economic downturn defined as a negative annual gross domestic product volume growth rate or an accumulated loss of output during a protracted period of very low annual gross domestic product volume growth relative to its potential.

The Inventory of sources and methods of price and volume measures in national accounts has been drafted according to the requirements of the Commission Regulation No 98/715/EC, which demands that Member States provide the Commission (Eurostat) with a full inventory of procedures and basic statistics used to measure GDP in volume terms and its components. The structure of the Inventory follows the common structure used by all Member States. It starts with basic and general information on the compilation of price and volume measures. The second chapter briefly describes main data sources. Chapter 3 brings the description of gross domestic product compilation by the production approach and Chapter 4 the description of gross domestic product compilation by the expenditure approach. The final chapter describes the compilation of real values for other main national accounts aggregates.

We hope that the Inventory will help experts, other statisticians, and the general public to better understand the process of national accounts compilation at constant prices.

June 2010



Director General
Statistical Office of the Republic of Slovenia

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ABBREVIATIONS

CCI	Construction cost index
COICOP	Classification of Individual Consumption by Purpose
CPA	Classification of Products by Activity
CPI	Consumer price index
DRG	Diagnosis Related Groups
EU	European Union
EUR	Euro
ExPI	Export price index
FISIM	Financial intermediation services indirectly measured
GDP	Gross domestic product
HICP-EU	Harmonized consumer price index of the European Union
ImPI	Import price index
ISCED	International Standard Classification of Education
n.e.c.	not elsewhere classified
NACE	General Industrial Classification of Economic Activities within the European Union
NPISH	Non-profit institutions serving households
PPI	Producer price index
SITC	Standard International Trade Classification
SKD	Standard Classification of Activities
SPPI	Services producer price index
SURS	Statistical Office of the Republic of Slovenia
UVI	External trade unit value index
VAT	Value added tax

CHAPTER 1

GENERAL PROCEDURES

1.1 Introduction

The Statistical Office of the Republic of Slovenia (SURS) compiles price and volume measures of gross domestic product (GDP) by the production and the expenditure approach, and of other main national accounts aggregates. Comparable time series now cover the period from 1996 on.

First steps in developing the methodology for price and volume measures started in the second half of the 1980s and the first results of methodological work were published in 1992 in the publication "Methodological Basis for the Estimation of Gross Domestic Product at Constant Prices". Besides methodological description, the publication contained also the estimates of GDP by the production approach at constant 1990 prices for 1988, 1989 and 1990. The predominant method for the estimation of value added was the single indicator method, i.e. single extrapolation with mainly quantity indicators or single deflation. Methodological work then intensified in the second half of the 1990s with the introduction of many changes and improvements in the compilation. The most important were:

– In 1996, the expenditure GDP structure at constant prices was published for the first time.

– In 1998, main national accounts aggregates in real terms were published for the first time.

– In 1999, two changes were introduced. First, value added estimation at constant prices for non-market activities was done according to the input (cost) method. Second, value added of manufacturing was estimated with the output deflation method and not on the basis of the quantity production index which was the basic indicator in the whole previous period.

– In 2005, the calculation at previous year prices was introduced and data series were recalculated to new base years for the whole period from 1996 on.

– In 2007, the double deflation method was introduced for the estimation of value added in all activities and data series were recalculated using the new method from 2001 on.

– In 2009, genuine export and import price indices were used for the first time to deflate the exports part of manufacturing output, and exports and imports of goods. In addition, the services producer price index was used for the first time to deflate output of individual service activities.

– Especially after 2005 methods for the estimation of output for general government activities were gradually improved with the replacement of the input (cost) methods with theoretically more correct output methods.

All these changes led to the methodology that is used nowadays and is described in this publication. The description in the publication relates to 2007; however, for the large majority of activities and aggregates the same methods are used for all years from 2001 on. For years before 2001 and especially for the production approach, simpler methods are used relying on the single indicator method and quantity indicators to a greater extent than in years after 2000.

This publication describes sources and methods of price and volume measures in final annual national accounts. These estimates encompass the production and the expenditure approach for the measurement of GDP as well as other main national accounts aggregates. The methodology for the first and the second annual estimates is almost the same as the methodology for the final estimate. The difference is only with education for which not all data sources are available at the time when the first annual figures are prepared and simpler methods are used when compiling the first estimate.

The publication does not address the methodology for current price estimation. Only if necessary, it is briefly mentioned in relevant chapters. Otherwise, the methodology for current price estimation is described in detail in the "Gross National Income Inventory" available at http://www.stat.si/eng/tema_ekonomsko_nacionalni_bnd.asp. In

addition, this publication does not address the methodology for the compilation of supply and use tables at constant prices neither the methodology for quarterly accounts compilation.

The terms "volume estimates" and "estimates at constant prices" are used as synonyms in this publication.

1.2 Outline of the production approach

GDP by the production approach equals value added at basic prices by industries plus taxes on products less subsidies on products. Value added of industries equals the difference between output at basic prices and intermediate consumption at purchasers' prices.

Value added at constant prices for market producers is estimated as the difference between output at constant prices and intermediate consumption at constant prices. Output at constant prices is estimated separately for 100 activities at different levels of the Standard Classification of Activities (two, three, four or five-digit level); the Standard Classification of Activities is the Slovenian version of the NACE classification. For the large majority of activities output at constant prices is obtained by deflating current price value by price indices. For a limited number of activities output at constant prices is estimated with extrapolation by quantity indicators. In total, these activities amount to 6.8% of total output of the national economy, of which 42.4% is accounted for dwelling activities of households. Intermediate consumption at constant prices is mostly estimated at the two-digit level of the Standard Classification of Activities (SKD). For all activities, intermediate consumption at current prices is broken down into several components which are separately deflated by price indices.

Only for the activity P Private households with employed persons the single extrapolation of value added is used. It should be noted, however, that output of this activity equals value added and compensation of employees and no estimation for intermediate consumption is necessary.

For non-market activities of general government and non-profit institutions serving households (NPISH), two methods are used. For education and social work activities of general government the estimate of value added at constant prices is obtained in the same way as for market producers, i.e. by separately estimating output and intermediate consumption at constant prices. Output at constant prices for these activities is estimated with extrapolation by quantity indicators and intermediate consumption by deflating its components.

For all other production of general government and the production of NPISH, volume estimates of value added are derived by the input method (cost method), i.e. by summing volume estimates of compensation of employees, consumption of fixed capital and net other taxes on production.

The compilation of volume estimates of GDP by the production approach is described in detail in Chapter 3.

1.3 Outline of the expenditure approach

GDP by the expenditure approach is measured as the sum of expenditure on goods and services for final consumption and gross capital formation by units of the national economy plus exports less imports of goods and services. Final consumption is the sum of expenditure on goods and services by households, NPISH and general government. Gross capital formation is measured as the sum of expenditure on gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables.

Volume estimates of household final consumption expenditure are derived at the four-digit level (112 groups of products) of the Classification of Individual Consumption by Purpose (COICOP). Nearly all the components are estimated by deflating current price values by the corresponding consumer price index. There are a few exceptions for which quantity indicators are used; in total these products amount to 12.5% of household final consumption expenditure.

NPISH and general government final consumption expenditure at constant prices are derived as the sum of volume estimates of output and transfers in kind of market products via market producers less sales. Volume estimates of

transfers in kind of market products via market producers are derived by deflating current price values using appropriate consumer price indices, and the ratio of sales to output is assumed to be the same in volume terms as it is at current prices.

Gross fixed capital formation, changes in inventories, and acquisitions less disposals of valuables at constant prices are estimated by deflating current price values by price indices.

Exports and imports of goods at constant prices are derived at the three-digit level of the Classification of Products by Activity (CPA) using mainly genuine export price indices and genuine import price indices. Exports and imports of services are derived mainly by using European Union consumer price indices.

The compilation of volume estimates of GDP by the expenditure approach is described in detail in Chapter 4.

1.4 Balancing the production and the expenditure approach

The production approach and the expenditure approach results are equally important in determining the level of GDP at constant prices and GDP volume growth rate. In balancing the data no approach is prevailing and the difference between the two approaches is eliminated by balancing two equally important independent GDP estimates. The difference between the two approaches is usually very small (between 0.1 and 0.3% of GDP) and balancing has no particular role. In general, all items are open to changes in the balancing process but in practice the difference is usually allocated to activity K Real estate, renting and business activities and/or gross fixed capital formation, and/or exports and imports of goods by adjusting the deflators.

Any difference between GDP level by the production and by the expenditure approach is eliminated in the process of finalisation of estimates. Therefore, the practice to show or publish statistical discrepancy as the difference between GDP by the production and by the expenditure approach is not used in compiling and publishing national accounts data.

1.5 Base year and reference year

Base year is the year from which prices that are used to compile constant price estimates originate; different base years thus result in different constant price estimates even though the volume estimates at the most detailed level are the same.

In the Slovenian national accounts the base year for constant price calculation is changed every year and aggregates for each particular year are expressed in prices of the previous year, e.g. data for 2005 are expressed in prices of 2004, data for 2006 are expressed in prices of 2005, etc. Annual changing of the base year provides the most (theoretically) correct results as it uses the most up-to-date prices to aggregate the volume estimates.

Estimates of national account aggregates derived in the prices of the previous year are used with the current price data in the previous year to produce volume growth rates using the Laspeyres formula.

The weakness of the annual changing of the base year is that only data for two consecutive years are directly comparable (i.e. years with the same prices), e.g. data for 2005 at prices of 2004 are directly comparable only to data for 2004 at prices of 2004 (current price data for 2004). For constructing longer time series of comparable data, the concept of the so-called reference year is used; the reference year is the year for which data, if expressed in the form of index, equal to 100; or, if expressed in the form of value, equal to current price data.

Currently 2000 is used as the reference year and series of data are constructed in such a way that the value of an individual aggregate at current prices from 2000 (reference year) is multiplied by the original volume growth rate for a particular year compared to 2000.

The exception to the general procedure is aggregates that change signs over time as for them such a calculation provides counter intuitive results. This relates to changes in inventories, external trade balance and trading gain/loss resulting from changes in the terms of trade.

For changes in inventories and external trade balance, the compilation of values at the reference year base is based on the contribution to GDP volume growth using the following formula:

$$X_t^{REF} = X_{t-1}^{REF} + \left(cg_t * GDP_{t-1}^{REF}\right)$$

X^{REF} value of aggregate at the reference year base
cg contribution to GDP volume growth in percentage points (Chapter 1.6)
t period

The aggregate trading gain/loss resulting from changes in the terms of trade is a peculiarity as no value is presented at the reference year base in the reference year at all. Here the value at the reference year base is calculated as the difference between real gross domestic income and GDP at constant prices, both at the reference year base.

The disadvantage of reference year series is that due to different base years aggregates do not add-up to totals except in the reference year and the year following the reference year. In the Slovenian national accounts it is assumed that preserving the original volume growth rates of components and aggregates is a priority over an additive consistency. Therefore the discrepancies between the sum of components and aggregates are not eliminated.

1.6 Publication practice and revision policy

The publication practice of national accounts data at constant prices follows the publication practice of current price data. Both data sets are published at the same time and according to standard revision and publication policy:

– t + 60 days: first complete GDP estimate and main national accounts aggregates on the basis of quarterly accounts;
– t + 8 months: first complete annual accounts estimate of GDP and main national accounts aggregates;
– t + 20 months: first revision of annual accounts estimate of GDP and main national accounts aggregates;
– t + 32 months: final revision of annual accounts estimate of GDP and main national accounts aggregates.

As a rule, national publishing is done before or at least at the same time (day) as data are transmitted to Eurostat. All published data are available in electronic form on SURS's website (http://www.stat.si) in two languages, Slovenian and English. On the website all national accounts publications are available as well as all time series data of GDP and other national accounts aggregates for the period since 1995.

For the majority of national accounts aggregates SURS publishes the following constant price data:

– value at prices of the previous year;
– annual volume growth rates;
– value at the reference year base (currently 2000).

Changes in inventories and external trade balance are exceptions when publishing growth rates. For these two categories the growth rate has no economic meaning and the contribution to GDP volume growth is published instead. The contribution to GDP volume growth for all GDP components, including changes in inventories and external trade balance, is calculated using the following formula:

$$cg = \frac{\left(X_t^{P(t-1)} - X_{t-1}^{P(t-1)}\right)}{GDP_{t-1}^{P(t-1)}} * 100$$

cg contribution to GDP volume growth in percentage points
X value of aggregate
t period
P prices of a period

CHAPTER 2

MAIN DATA SOURCES

2.1 Introduction

This chapter briefly describes data sources used to compile national accounts at constant prices. These include a variety of price indices (producer price index of manufactured goods, producer price index of agricultural products, services producer price index, consumer price index, agricultural input price index, construction cost index, external trade unit value index, import price index), and quantity indicators for education, social work, transport, fishing, gas supply, insurance, floor space of dwellings and employment. More detailed description of data sources can be found on SURS's website (http://www.stat.si).

2.2 Producer price index of manufactured goods

General information

The producer price index of manufactured goods (PPI) measures changes in the level of producer prices of manufactured goods that are produced in Slovenia and sold by producers on the domestic (Slovenian) market and/or non-domestic market.

Prices which are the basis for calculating producer price indices of manufactured goods for the domestic market are those at which producers sell their products in largest quantities on the domestic market. The prices do not include value added tax (VAT) and similar deductible taxes and duties directly linked to turnover. The prices include rebates and discounts which the producer approves to the buyer. Prices which are the basis for calculating producer price indices of manufactured goods for the non-domestic market are prices at which producers sell their products in largest quantities on foreign markets. The prices do not include VAT but include rebates and discounts which the producer approves to the buyer.

Data collection

Prices are collected monthly with questionnaires that are sent to selected enterprises. Each questionnaire is prepared for the enterprise individually. The questionnaires include only the representative products selected by enterprises. Enterprises fill in prices in the questionnaires every month for the transactions during the period from the 16th of the previous month to the 15th of the current month. The calculation of the index covers around 400 enterprises which report monthly for around 2,300 products.

Reporting units give the price in the currency in which the transaction was conducted. For calculating the index, the prices that are not in EUR are converted into EUR on the basis of the reference exchange rate of the European Central Bank on the 15th (or 16th) day of the month.

Weighting and calculation

Weights are designed on the basis of the structure of sales value of manufactured goods on the domestic market and on foreign markets separately. The basic source of data is an annual industry survey for year t-2. In designing the weights, the industry survey sales data are recalculated on December of year t-1 by the producer price indices for December of year t-1 compared to the average of year t-2. Weights are changed every year.

The base period is December of year t-1. For each current month compared to the base month (December of year t-1) individual indices of particular representative goods are calculated directly from data on prices:

$$I_{t/d} = \frac{p_t}{p_d}$$

p_t price of good in the current month
p_d price of good in the base month

From individual indices aggregate indices are calculated with weighted arithmetic mean according to the following formula:

$$I_{t/d} = \frac{\sum_{i=1}^{n} \frac{p_{ti}}{p_{di}} * w_{di}}{\sum_{i=1}^{n} w_{di}}$$

$I_{t/d}$ index of groups or the total index
p_{ti} price of product i in the current month
p_{di} price of product i in the base month
w_{di} weight for product i
n number of products

Each aggregate index calculated in this way (December of the previous year = 100) is a Laspeyres' fixed type index. All indices comparing other time periods are calculated by chaining through the 2005 average.

Classification

Prices are collected according to the Nomenclature of Industrial Products (the Slovenian version of the Prodcom List) and processed and published at the three-digit level of the Standard Classification of Activities (SKD). Additionally, price indices for special groups of activities showing the dynamics of prices by end-use of products from individual activities are published: for intermediate goods industries, energy related industries, intermediate goods industries except energy, capital goods industries, consumer goods industries, durable consumer goods industries, and non-durable consumer goods industries. In addition, a special price index of construction materials which is calculated on the basis of the conversion table between the old National Classification of Activities and the SKD is published. This index covers the following SKD activities: 26.40, 26.51, 26.52, 26.53, 26.61, 26.62, 26.63, 26.64, 26.65 and 26.66.

2.3 Producer price index of agricultural products

General information

The producer price index of agricultural products shows monthly changes of prices in purchase and sale of agricultural products. It is a unit value type index. The average producer price of agricultural product is a price for one unit of individual agricultural product that the producer received at selling the agricultural product. It is calculated by dividing the value of purchased and sold agricultural product with its quantity. Prices are recorded at the first marketing stage to best indicate the actual prices received by farmers.

Prices do not include VAT, subsidies and supports which producers obtain for certain products. Manipulation costs related to the delivery of agricultural products, storage, costs of returnable packaging and other payment facilities granted to the buyer are also not included.

Data collection

Data for calculating average prices and producer price indices of agricultural products (quantities, values and average values of purchased and sold agricultural products) are collected monthly from enterprises, co-operatives and other organisations buying products directly from private producers (farmers) or selling products from own production. Data are collected for those products which represent an important share in the purchase and sale of agricultural products at the first marketing stage in the base year.

Weighting and calculation

Weights are the total value of purchase and sale of individual agricultural products in the base year. Weights for non-seasonal products are equal for each month of the year, while weights for seasonal products (vegetables, potatoes, fruits, and ornamental plants) are different, depending on the season.

The base period is the year ending in "0" or "5". Indices are calculated on the basis of monthly prices of agricultural products, using the Laspeyres formula.

Classification

For classifying products and calculating price indices the classification of the Economic Accounts for Agriculture is used.

2.4 Services producer price index

General information

The services producer price index (SPPI) measures changes in the prices of services that enterprises provide to other enterprises as buyers of services.

Prices of services which are the basis for calculating the services producer price index are transaction prices, i.e. prices the buyers (enterprises) pay for the performed services. The prices include possible subsidies received but exclude taxes paid, discounts and rebates given.

Data collection

Prices are collected quarterly. The sampling frame contains around 670 randomly selected enterprises providing services within at least one of the selected activities. Most of the prices are collected directly from selected enterprises by means of individual questionnaires (each enterprise has on the questionnaire only those services for which it reports prices in the observed period), while a part of the prices is collected from price lists published on the Internet. Enterprises fill in the questionnaire prices every quarter for the period between the first and the last day of the current quarter.

Each quarter the calculation of the services producer price index includes around 3,500 prices. Collected are the prices of services that are important for selected enterprises either in terms of the frequency of performing the service or in terms of the value of the service.

Weighting and calculation

Weights are based on structural business statistics data on turnover for 2006. In designing the weights, structural business statistics data are recalculated on the fourth quarter of year t-1 by the appropriate price index for the fourth quarter of year t-1 compared to the average of 2006. Weights are changed every year.

The base period is the fourth quarter of year t-1. For each current quarter compared to the base quarter (fourth quarter of year t-1) individual indices of particular representative services are calculated directly from data on prices:

$$I_{t/d} = \frac{p_t}{p_d}$$

p_t price of service in the current quarter
p_d price of service in the base quarter

From individual indices aggregate indices are calculated by using the simple arithmetic mean:

$$\overline{I_{t/d}} = \frac{1}{n} \sum \left(I_{t/d,i} + I_{t/d,ii} + \ \ldots + I_{t/d,n} \right)$$

$\overline{I_{t/d}}$ aggregate class/group/division index
$I_{t/d,i}$ individual index of service i in the appropriate class/group/division
n number of individual indices (services) in the appropriate class/group/division

Each average index is further on multiplied by the appropriate weight. The products are grouped higher until the total index is calculated according to the following formula:

$$I_{t/d} = \frac{\sum_{i=1}^{n} \overline{I_{t/d,i}} * w_{d,i}}{\sum_{i=1}^{n} w_{d,i}}$$

$I_{t/d}$ total index
$\overline{I_{t/d,i}}$ aggregate index of class/group/division i
$w_{d,i}$ weight of class/group/division i
n number of activities

Indices are chain linked via the index base which is the average of 2006.

Classification

Data on prices of representative services are collected for selected activities according to the SKD. Price indices are published up to the four-digit level of the SKD.

2.5 Consumer price index

General information

The consumer price index (CPI) measures changes of the level of retail prices of goods and services from the point of view of expenditure structure, which residential population intends for final consumption at home and abroad (national concept).

The basket for calculating the consumer price index contains about 660 representative products. The goods selected for the basket are goods that have the most important share in total consumption and whose changes of prices reflect best changes of prices of related products.

Data collection

Data on prices for representative goods and services are collected monthly, between the 1st and the 25th of each month in about 1,200 selected shops, marketplaces, at craftsmen and in other organisations. Some of the prices are also collected centrally and through the Internet. On average about 16,000 prices are used for calculating the index every month.

Weighting and calculation

Weights for calculating the index in a year are based on expenditure of individual products from the household budget survey as a main data source. Data from the survey are recalculated (indexed) to prices of December of year t-1. These data are supplemented and verified with other statistical and non-statistical sources. Weights are changed every year. The base period is December of year t-1.

When in a particular month all prices are collected, then first average prices are computed and then price indices. The average price of each individual product in the locality is calculated with simple arithmetic mean from prices collected in all places of observation in that locality. The average national price of each product is calculated with weighted arithmetic mean from previously calculated average prices in the locality.

From average national prices in each current and base month (December of year t-1) individual indices for each individual product are calculated. Then from individual indices using weighted arithmetic mean aggregate indices are calculated, i.e. indices of groups and the total price index according to the following formula:

$$I_{t/d} = \frac{\sum_{i=1}^{n} \frac{p_{ti}}{p_{di}} * w_{di}}{\sum_{i=1}^{n} w_{di}}$$

$I_{t/d}$ index of groups or the total index
p_{ti} average national price of product i in the current month
p_{di} average national price of product i in the base month
w_{di} weight for product i
n number of products

Each aggregate index calculated in this way (December of the previous year = 100) is a Laspeyres' fixed type index. All indices comparing other time periods are calculated by chaining through the 2005 average.

Classification

For classifying products and calculating consumer price indices the Classification of Individual Consumption by Purpose (COICOP) is being used. As a rule, indices are published at the four-digit level, except in cases when the weight of the level is below 0.1% or in cases when the level is represented by one product only.

Indices for special groups are also calculated and published, such as: goods, non-durable goods, semi-durable goods, durable goods, services, fuel and energy, seasonal goods, total index without alcoholic beverages and tobacco, total index without seasonal products, food, beverages and tobacco, total index without food, beverages and tobacco, and total index without fuels and energy.

2.6 Agricultural input price index

General information

The agricultural input price index measures the price development of goods and services used by farmers in their agricultural operations. These include goods and services currently consumed in agriculture, as well as goods and services contributing to agricultural investment.

Prices are recorded in the last marketing stage by all groups of goods and services. Prices include eventual taxes directly linked to the product (e.g. excise duties), while VAT and eventual subsidies directly linked to the product are excluded.

Data collection

Data are collected monthly from trade enterprises, production-trade enterprises (those which offer sale of their products for agricultural production as well to final consumers), service organizations which offer goods and services for agricultural production, documentation of results of other SURS's statistical surveys (consumer prices, producer prices of manufactured goods), the Chamber of Commerce and Industry, electricity distribution companies and the Veterinary Chamber of Slovenia. Selected units report on prices of their goods and services.

For calculating agricultural input price indices, mainly those goods and services with significant share in the value of intermediate consumption according to the Economic Accounts for Agriculture in the base period are selected.

Weighting and calculation

The main data source for weights is consumption values of groups of products from the Economic Accounts of Agriculture from the base year. For groups of products for which data can not be obtained from the Economic Accounts for Agriculture, and for certain products the calculation of weights is done on the basis of other sources, e. g. other statistical surveys, administrative sources, etc.

The base period is the year ending in "0" or "5". Price indices are calculated according to the Laspeyres formula.

Classification

For classifying products and calculating price indices the classification of the Economic Accounts for Agriculture is used.

2.7 Construction cost index

General information

The construction cost index (CCI) shows the development of costs incurred by the contractor to carry out the construction process. The index measures the relationship between costs at constant technology and constant input mix that are associated with the implementation of a fixed amount of construction work. It is calculated by the Chamber of Commerce and Industry of Slovenia – Construction and Building Materials Association.

Data collection

Data are collected monthly from enterprises in manufacturing, wholesale and construction. All wholesalers selling representative construction materials are included as well as all producers who produce representative construction products. The survey covers units registered within the following groups of the SKD: 45, 51.5, 51.8 (without 51.56 and 51.57), and some producers from divisions 14, 20, 24 to 29, 40 and 41 on the whole geographical region of Slovenia. Sole proprietors and units with turnover of less than EUR 2 million are excluded. The observation units are all products needed for construction of new residential buildings and civil engineering works plus labour costs for different work in construction.

Prices for representative materials, gross wages for different types of work, as well as hours worked are collected. Prices are collected without VAT, fees, taxes, discounts which are not taken into account, as well as subsidies.

Weighting and calculation

The construction cost index is made up of aggregated price indices for material costs, labour costs and other types of costs. The Laspeyres formula is used for calculation. The index for each reference period is calculated by comparing its value directly with the base period (month) value. The total index is compiled by a weighted combination of the separate indices for material costs, labour costs, transport costs and machinery costs. These are also calculated by the Laspeyres formula. Weights are calculated from the structure of works and material needed for the construction of typical residential buildings. The base period for the index calculation is December of year t-1.

Classification

Published indices are divided by 42 types of work and each type of work is divided into three levels: a) total which include data on material, labour, transport and machinery, b) material, c) transport and machinery. Some aggregated indices are also published: residential buildings, industrial construction, other construction, construction of highways, construction of bridges, and construction of other civil engineering works.

2.8 External trade unit value index

General information

The external trade unit value index (UVI) measures the development of the average value of the goods traded with the rest of the world.

Data collection

There are two data sources on external trade statistics: Intrastat or statistics relating to the trading of goods between EU Member States (data are collected with the statistical survey directly from companies liable to report for Intrastat) and Extrastat or statistics relating to the trading of goods with non-member countries (data from customs declarations are obtained from the Customs Administration).

Covered for the calculation of external trade unit value indices are all customs declarations (Extrastat) and all statistical forms (Intrastat) covered by external trade statistics according to the special trade system, except exports and imports of goods classified into section 9 of the Standard International Trade Classification (Commodities and transactions n.e.c.) and exports and imports of goods for which in Slovenia the so-called passive data protection is applied. From the covered current and base period exports and imports of goods for which in the base year the variability of unit values, measured with the coefficient of variation, exceeded the predefined limit, is also excluded.

Weighting and calculation

The unit value is the average value (not the price of a determined product) per kilogram (or quantity in supplementary unit) of all products classified under the same eight-digit code of the Combined Nomenclature. The selection of appropriate quantity (net mass in kilograms or quantity in supplementary unit) used in the calculation of the unit value of the individual product depends on both coefficients of variation (the coefficient of variation for the unit value calculated using data on kilograms and the coefficient of variation for the unit value calculated using data on quantity in supplementary unit) for this product in the base year.

For external trade unit value indices calculation at the most disaggregated level of the Combined Nomenclature data on the statistical value of exported and imported goods in EUR, data on net mass, data on quantity in supplementary unit and some other data are used. Statistical value of goods is the value of goods on the Slovenian border (insurance and freight costs are added to or subtracted from the transaction value depending on delivery terms).

External trade unit value indices are calculated by the Laspeyres, Paasche and Fisher formulas. They are published as the Fisher indices.

In the procedure of external trade unit value indices calculation various methods for data quality control and improvement of the results are used. Eliminated from calculation are those individual items of the current and base year:

– for which the data on quantity or statistical value are missing;
– whose value per kilogram (or quantity in supplementary unit) exceeds the interval "value of the first/third quartile for the unit value at the level of the eight-digit code of the Combined Nomenclature in which the commodity from the individual item is classified -/+ 2 * interquartile range"; the lower and upper limits of the interval for an individual eight-digit code of the Combined Nomenclature are calculated from exports/imports data under this code for the entire base year.

The calculation also excludes all goods classified into the same eight-digit code of the Combined Nomenclature for which the calculated unit value index at the most disaggregated level of the Combined Nomenclature is above the upper limit or below the lower limit (the limits within which the indices are believed to be still acceptable are set on the basis of experience and agree with international praxis).

Classification

At the lowest level external trade unit value indices are calculated at the level of the eight-digit code of the Combined Nomenclature. Aggregated indices are calculated and published at the section and division level of the Standard International Trade Classification (SITC). External trade unit value indices are also calculated at the section, subsection and division level of the SKD and according to Broad Economic Categories (BEC).

2.9 Import price index

General information

The import price index (ImPI) measures changes in the prices of imports. Import is every product that was not produced in Slovenia but imported from a third country or supplied from another EU Member State.

The calculation of import price index is based on prices at which importers buy products in largest quantities. Prices do not include duties and taxes on imports but they include discounts and rebates which suppliers approve to buyers.

Data collection

Import prices are collected monthly with questionnaires that are prepared for the importers individually. The sample covers around 370 Slovene importers and 1,450 products.

Reporting units give the price in the currency in which the transaction was conducted. For calculating the index, the price is converted into the national currency on the basis of the reference exchange rate of the European Central Bank on the 15th (or 16th) day of the month.

Weighting and calculation

Weights are based on the structure of the value of imported products in 2005. The basic source for weights is data that are used for calculating unit value indices for imports. In designing the weights, data on import value are recalculated to December of year t-1 by the import price index for December of year t-1 compared to the average of 2005. Weights are changed every year.

For each current month compared to the base month (December of year t-1), individual indices of particular representative goods are calculated directly from data on prices:

$$I_{t/d} = \frac{p_t}{p_d}$$

p_t price of good in the current month
p_d price of good in the base month

From individual indices aggregate indices are calculated with the weighted arithmetic mean according to the following formula:

$$I_{t/d} = \frac{\sum_{i=1}^{n} \frac{p_{ti}}{p_{di}} * w_{di}}{\sum_{i=1}^{n} w_{di}}$$

$I_{t/d}$ index of groups or the total index
p_{ti} price of product i in the current month
p_{di} price of product i in the base month
w_{di} weight for product i
n number of products

Each aggregate index calculated in this way (December of the previous year = 100) is a Laspeyres' fixed type index. All indices comparing other time periods are calculated by chaining through the 2005 average.

Classification

Import prices are collected according to the Combined Nomenclature and processed and published on the basis of the Classification of Products by Activity (CPA). Goods are classified into individual CPA activities by origin, i.e. they are classified by activity in which they were produced. Indices are published at two levels of the CPA breakdown – by section and division. The import price index is calculated for two groups of countries from which a product is imported or supplied: import price index for the euro area and import price index for the non-euro area.

Additionally, price indices for special groups of activities showing the dynamics of prices by end-use of products from individual activities at CPA class level are calculated. Activities are classified by end-use of products into four groups and two subgroups: intermediate goods, energy, capital goods industries, consumer goods industries (durable consumer goods industries and non-durable consumer goods industries).

2.10 Statistical surveys on education

For education there are several statistical surveys, all with complete coverage, providing quantity and quality indicators for different levels of education. Surveys are briefly described in the following paragraphs.

The statistical survey on kindergartens aims to collect data on the number of kindergartens, pre-school children in kindergartens and professional staff educating children in kindergartens. Covered are all public and private kindergartens.

The purpose of the statistical survey on elementary schools for youth and adults is to collect data on the number of schools, organizations, pupils and persons attending elementary schools for youth and adults, and teachers, expert personnel and other personnel educating pupils in elementary schools. The survey covers all schools and organizations providing elementary education for youth and adults.

The statistical survey on institutions, child and youth homes and other establishments for children and youth with special needs provides data on children and youth with special needs who are in residential care in centres, institutions, child and youth homes and other establishments for children and youth with special needs, and employees in these institutions. The survey covers all centres, institutions, child and youth homes and other establishments for education, training, work and protection of children and youth with special needs.

The purpose of the statistical survey on secondary education is to monitor the situation in the field of upper secondary education, both for youth and adults. It is a census of upper secondary schools, students enrolled in individual programs and teaching staff performing upper secondary school programs. Covered are all institutions, schools, centres and units performing education programs for obtaining lower and middle vocational education, upper secondary technical and professional education and general upper secondary education. Covered are upper secondary schools for youth, upper secondary schools for students with special needs and upper secondary schools for adults.

The statistical survey on instructional and professional support staff at higher education institutions and vocational colleges provides data on staff teaching or supporting the educational process and other persons in paid employment in higher education institutions and vocational colleges. Covered is all instructional staff teaching in public and private higher education institutions and vocational colleges carrying out publicly valid undergraduate and postgraduate study programs.

The purpose of the statistical survey on student enrolment in vocational colleges, universities and free-standing higher education institutions is to obtain data on students enrolled in individual higher education institutions or vocational colleges. Covered are all vocational colleges, professional higher education institutions, faculties and academies of arts which carry out publicly valid undergraduate study programs. Data on full-time enrolment are complete, while data on student enrolment in part-time studies are complete only for the first time enrolment.

The statistical survey on students' enrolment in tertiary education provides data on enrolment of students in undergraduate and postgraduate studies in vocational colleges, professional higher education institutions, faculties and academies of arts. Covered are all public and private higher education institutions carrying out undergraduate and postgraduate study programs as well as public and private vocational colleges.

The statistical survey on students graduating from vocational colleges and higher education institutions aims to collect data on the number of graduates in the current calendar year, their age and sex, the duration of their study, employment and some other data. Statistical survey covers vocational colleges and higher education institutions (public and private) performing legally valid study programs.

The purpose of the statistical survey on music schools is to establish the number of pupils attending music schools and to monitor the activity of music schools and units of music schools at elementary schools and other educational institutions. Covered are public and private music schools performing basic music and dance education.

2.11 Statistical surveys on social work

For social work there are several statistical surveys, all with complete coverage, providing quantity indicators for social work services with accommodation and social work services without accommodation.

The statistical survey on public social welfare institutions provides data on people in care living in public social welfare institutions (data on their number, age and health, on sources of their income, on reasons for their admission, on the mode of payment for care). The survey covers old people's homes, special social welfare institutions, and centres for protection and training.

The purpose of the statistical survey on centres for social work, centres and companies for vocational rehabilitation and employment of the disabled is the collection of data on users of services offered by the mentioned institutions, of data on forms of protection in them and services within the social welfare system that endangered groups of population are entitled to. Covered are centres for social work and companies for vocational rehabilitation and employment of the disabled.

The statistical survey of financial social assistance provides data on the number of recipients, the amount and funds paid. Data are provided by the Ministry of Labour, Family and Social Affairs.

2.12 Statistical surveys on transport

The statistical survey on railway transport provides data on passengers and goods carried, passenger-kilometres and tonne-kilometres, railway traffic accidents and transport of intermodal transport units. All data relate to the territory of Slovenia. The reporting unit is the Slovenian Railways company.

The statistical survey on transport of goods by road provides data on goods carried (weight, type, type of cargo/packing and whether goods are dangerous), kilometres travelled (by loaded and empty goods vehicles), degree of loading and type of transport. The survey is based on a random sample. Reporting units are business entities (legal or natural persons) owning, leasing or managing registered goods motor vehicles with at least two tonnes of load capacity both in transport for hire or reward and in transport on own account registered in Slovenia.

2.13 Other data sources

The statistical survey on marine fishing provides data on landing of fish products on the territory of Slovenia and on catch of marine animals in the fishing region of Slovenian fishermen. These data are collected from natural or legal persons dealing with marine fishing as an economic activity by fishing vessels.

The statistical survey on gas supply provides data on import, export, purchase, sale, own use and losses of natural gas and liquefied petroleum gas. The survey covers gas and liquefied petroleum gas supply companies.

For insurance and pension funding, except compulsory social security, data on the number of insurance policies and the number of insurance policy holders for different types of insurance and reinsurance are provided by the Insurance Supervision Agency of Slovenia.

Data on useful floor space of a dwelling cover the usable area of the rooms, kitchen and other auxiliary interiors, the area of enclosed terraces and verandas, and the area enclosed by fitted cupboards. Within this area, the area of garages, cellars, attics unsuitable for living and collective areas in two- and more dwelling buildings is not included. Data are obtained from statistics of building permits, issued by the administrative body.

The main data source for employees' estimate is the Statistical Register of Employment. The register is updated monthly by forms for health and pension insurance (data are provided by the Health Social Security Fund, the Pension Social Security Fund and the Employment Service of Slovenia) and different databases (the Central Population Register and the Business Register). It includes persons who pay social contributions to obligatory pension and health insurance system and are employed on the territory of Slovenia (domestic concept). They can be employed permanently or temporarily, full time or part time. It also includes persons temporary out of work due to sickness or any other reason, if social contributions for them are paid.

CHAPTER 3

GDP BY THE PRODUCTION APPROACH

3.1 Introduction

GDP at constant prices by the production approach equals value added by activities at constant prices plus taxes on products at constant prices less subsidies on products at constant prices. Value added at constant prices of activities is obtained by separately estimating output at constant prices and intermediate consumption at constant prices (double indicator method).

Methods for obtaining the estimates by activities are described in the following chapters. In each chapter, first the methods for output volume estimates are presented including the breakdown of output (stratification of output) and methods for compiling the estimates. This is followed by the similar description for volume estimates for intermediate consumption. For activities of public administration; education; health and social work; and other community, social and personal services activities chapters are further divided into chapters describing methodology used for general government producers, NPISH units and market producers.

Each chapter brings also the self-assessment of methods according to the division of methods defined in the Commission Decision (98/715/EC) on price and volume measures in national accounts, and further specified in the "Handbook on price and volume measures in national accounts", Eurostat 2001. The Commission Decision divides methods into three groups:

– A methods: most appropriate methods;
– B methods: methods which can be used in case an A method cannot be applied (acceptable alternatives);
– C methods: methods which shall not be used.

General criteria for the classification of methods into the mentioned groups are:

– the completeness of the coverage of the product/activity heading by the indicator. For example, whether the indicator covers all of the products under the heading or just a selection of them, such as only those products sold to households;
– the valuation basis of the indicator. For market output, this should be basic prices rather than, for example, purchasers' prices or input costs. For final consumption and gross capital formation this should be purchasers' prices rather than, for example, producers' prices;
– the indicator should take quality changes into account, recording them within the volume estimates rather than the price estimates;
– the conceptual consistency between the indicator and the national accounts concepts.

A method satisfying all four criteria will generally classify as an A method. If one or more criteria are not satisfied, the method will become a B method or a C method according to how far away the method is from an A method. The precise distinction between A, B and C methods depends on the product/activity and its specific circumstances.

3.2 Agriculture, hunting and forestry (A)

Output of agriculture, hunting and forestry at current prices for 2007 is estimated at EUR 1,625 million or 2.3% of total output of the Slovenian economy. About two thirds of the output of the activity is produced by individual farmers.

Output at constant prices is estimated by deflating current price values by price indices. The stratification of output and methods used are presented in Table 3.1.

Table 3.1 A Agriculture, hunting and forestry: volume estimate of output

Stratification	Method
01 Agriculture, hunting and related service activities	Table 3.2
02 Forestry, logging and related service activities	Deflation by the PPI and the UVI

Output of the activity 01 Agriculture, hunting and related service activities is broken down into seven components mainly based on data provided by the Economic Accounts for Agriculture. These components are: sales, changes in inventories, breeding stocks, feeding stuffs produced, orchard development, own-account production and direct sales, and other output. Each individual output component is separately deflated by the appropriate price index as shown in Table 3.2. A separate estimate is made for subsidies on products in this activity; subsidies on products at constant prices are estimated in the same ratio to sales at constant prices as in the previous year current price values (i.e. volume growth rate of subsidies on products is the same as volume growth rate of sales).

Table 3.2 01 Agriculture, hunting and related service activities: volume estimate of output

Stratification	Method
Sales	Deflation by the producer price index of agricultural products
Changes in inventories	Deflation by the implicit deflator for inventories of livestock for slaughter
Breeding stocks	Deflation by the producer price index of agricultural products
Feeding stuffs produced	Deflation by the producer price index of agricultural products
Orchard development	Deflation by the agricultural input price index
Own-account production and direct sales	Deflation by the CPI
Other output	Deflation by the CPI
Subsidies on products	Extrapolation by the volume growth rate of sales

Output of the activity 02 Forestry, logging and related service activities at constant prices is estimated by deflating current price value by the producer price index of manufactured goods (PPI) and the external trade unit value index (UVI), weighted with sales on the domestic market and exports.

The method used to derive the volume estimate of output for 01 Agriculture, hunting and related service activities is classified as an A method and the method used for 02 Forestry, logging and related service activities as a B method.

Intermediate consumption includes the value of goods and services consumed as inputs by the production process. For the activity of agriculture, hunting and forestry it amounts to EUR 757 million or 2.1% of total intermediate consumption at current prices.

The estimation of intermediate consumption at constant prices is done at the same activity level as the estimation of output at constant prices (Table 3.1). For the activity 01 Agriculture, hunting and related service activities, intermediate consumption is broken down into twelve components mainly based on data provided by the Economic Accounts for Agriculture. These components are: seeds and planting stock, energy and fuels, fertilizers, pesticides, veterinary services, feeding stuffs purchased, feeding stuffs produced, changes in inventories of feeding stuffs, maintenance, own-account production, other goods and services, and financial intermediation services indirectly measured (FISIM). FISIM at constant prices are compiled by the application of base year interest margin on loans and deposits to the stock of loans and deposits revalued to base year prices by the implicit deflator for domestic final consumption. All other individual components of intermediate consumption are separately deflated by the appropriate price index as shown in Table 3.3.

Table 3.3 01 Agriculture, hunting and related service activities: volume estimate of intermediate consumption

Stratification	Method
Seeds and planting stock	Deflation by the agricultural input price index
Energy and fuels	Deflation by the agricultural input price index
Fertilizers	Deflation by the agricultural input price index
Pesticides	Deflation by the agricultural input price index
Veterinary services	Deflation by the agricultural input price index
Feeding stuffs purchased	Deflation by the agricultural input price index
Feeding stuffs produced	Deflation by the producer price index of agricultural products
Changes in inventories of feeding stuffs	Deflation by the producer price index of agricultural products
Maintenance	Deflation by the agricultural input price index
Own-account production	Deflation by the agricultural input price index
Other goods and services	Deflation by the agricultural input price index
FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption

The procedure for the estimation of intermediate consumption at constant prices in forestry (SKD 02) is slightly different. It is a standard procedure as it is used for all activities at the two-digit level of the SKD (and for three activities at the three-digit level), except for 01 Agriculture, hunting and related service activities. The procedure is the following: intermediate consumption for corporations (type of accounting statements, mainly encompassing non-financial corporations) is broken down into ten components: material, energy, other material, transport services, rents, insurance services, reimbursements of business costs to employees, other services, FISIM and goods for processing. Each individual component is separately deflated by the appropriate price index (producer price index of manufactured goods for domestic market, producer price index of manufactured goods for exports, consumer price index (CPI), external trade unit value index, import price index (ImPI) and other), depending on the activity. Deflators are chosen on the basis of characteristics of activities and differ from one activity to another. Only for insurance services, FISIM and goods for processing the same deflator is used for all activities. From the sum of deflated components the implicit deflator of intermediate consumption for corporations is compiled. Finally, the implicit deflator for corporations is used to deflate intermediate consumption of the whole activity. Table 3.4 shows the structure of intermediate consumption and methods used to arrive at the volume estimate of intermediate consumption by the standard method. Table 3.28 at the end of the chapter shows deflators by activity and by type of input.

Table 3.4 Volume estimate of intermediate consumption: standard method

Stratification	Method
Material	Deflation by the PPIs, the CPIs, the UVIs, the ImPIs and implicit output deflators
Energy	Deflation by the PPIs and the CPIs
Other material	Deflation by the PPIs and the CPIs
Transport services	Deflation by the implicit output deflator of transport services, the PPIs and the CPIs
Rents	Deflation by the CPIs
Insurance services	Deflation by the implicit output deflator of insurance services
Reimbursement of business costs to employees	Deflation by the CPIs
Other services	Deflation by the CPIs
FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption
Goods for processing	Deflation by the UVI

Method used to arrive at the volume estimate of intermediate consumption can be classified as an A method as it satisfy all three criteria: first, deflation takes place product-by-product, second, domestically produced products and imported products are deflated separately, and third, genuine price data for intermediate consumption are used.

3.3 Fishing (B)

Freshwater and marine fishing is a very small industry in Slovenia. Its output at current prices is estimated at EUR 9 million or 0.01% of the total output of the Slovenian economy.

Output at constant prices is estimated by the extrapolation of current price value with quantity indicator from data on marine fishing, freshwater angling and aquaculture. The source of the indicator is the statistical survey on marine fishing, freshwater angling and aquaculture. The method used can be considered as a B method because data on fishery products are not separated into different varieties and seasons and quality adjustments are also not done.

Intermediate consumption at current prices of the fishing activity is estimated at EUR 6 million or 0.01% of the total intermediate consumption. The method for the estimation of intermediate consumption at constant prices is standard and the same as described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.4 Mining and quarrying (C)

Output of mining and quarrying represents a small part of the total output of the Slovenian economy (0.4%, EUR 279 million at current prices).

The method for the estimation of output for these activities at constant prices is deflation by the producer price indices of manufactured goods for domestic market and exports weighted with sales on the domestic market and exports. The stratification of output and methods used are presented in Table 3.5. It should be mentioned that data for the activity of Mining of coal and lignite; extraction of peat (SKD 10) includes also data for the activity of Extraction of crude petroleum and natural gas (SKD 11), and data for the activity of Other mining and quarrying (SKD 14) includes also data for the activity of Mining of uranium and thorium ores (SKD 12) and Mining of metal ores (SKD 13). These three activities (SKD 11, 12 and 13) create negligible value added and are not estimated separately. Methods used to compile output volume estimates for mining and quarrying are classified as A methods.

Table 3.5 C Mining and quarrying: volume estimate of output

Stratification	Method
10 Mining of coal and lignite; extraction of peat	Deflation by the PPI
14 Other mining and quarrying	Deflation by the PPIs

The estimate of intermediate consumption of mining and quarrying at current prices is EUR 144 million or 0.4% of the total intermediate consumption. Intermediate consumption at constant prices is estimated at the same level of the SKD as output by the standard method which is described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.5 Manufacturing (D)

Manufacturing industry is the largest and the most important industry in Slovenia. Its output is estimated at EUR 24,830 million or 34.9% of the total output produced by the Slovenian producers. The most important industries in terms of output are manufacture of fabricated metal products (SKD 28), manufacture of machinery and equipment (SKD 29), and manufacture of chemicals and chemical products (SKD 24), which together produce around one third of manufacturing output.

The compilation of output at constant prices for almost all industries of manufacturing is done by deflation by the producer price indices of manufactured goods for domestic market and for exports. Producer price indices of manufactured goods for sales on the domestic market and producer price indices of manufactured goods for exports are weighted with the ratio between sales on the domestic territory and exports. The stratification of output and methods used are presented in Table 3.6.

Table 3.6 D Manufacturing: volume estimate of output

Stratification	Method
15 Manufacture of food products and beverages	Deflation by the PPIs
17 Manufacture of textiles	Deflation by the PPIs
18 Manufacture of wearing apparel; dressing and dyeing of fur	Deflation by the PPIs
19 Tanning of leather; manufacture of leather goods	Deflation by the PPIs
20 Manufacture of wood, except furniture	Deflation by the PPIs
21 Manufacture of pulp, paper and paper products	Deflation by the PPIs
22 Publishing, printing and reproduction of recorded media	Deflation by the PPI and the UVI
23 Manufacture of coke and refined petroleum products	Deflation by the PPIs
24 Manufacture of chemicals and chemical products	Deflation by the PPIs
25 Manufacture of rubber and plastic products	Deflation by the PPI and the UVI
26 Manufacture of other non-metallic mineral products	Deflation by the PPIs
27 Manufacture of basic metals	Deflation by the PPI and the UVI
28 Manufacture of fabricated metal products, except machinery	Deflation by the PPIs
29 Manufacture of machinery and equipment n.e.c.	Deflation by the PPIs
30 Manufacture of office machinery and computers	Deflation by the PPIs
31 Manufacture of electrical machinery and apparatus n.e.c.	Deflation by the PPIs
32 Manufacture of radio, television, communication equipment	Deflation by the PPIs
33 Manufacture of medical, precision and optical instruments	Deflation by the PPIs
34 Manufacture of motor vehicles, trailers and semi-trailers	Deflation by the PPIs
35 Manufacture of other transport equipment	Deflation by the PPIs
36 Manufacture of furniture; manufacturing n.e.c.	Deflation by the PPIs
37 Recycling	Deflation by the PPIs

In the activity 15 Manufacture of food products and beverages a special estimate is made for subsidies on products in this activity. Subsidies on products at constant prices are estimated by equalizing their volume growth rate to the volume growth rate of output.

The methods used to estimate output of manufacturing at constant prices are classified as A methods; deflators are representative, valued at basic prices, and take proper account of quality.

Intermediate consumption of manufacturing at current prices is estimated at EUR 17,718 million or 43.4% of the total intermediate consumption. Intermediate consumption at constant prices is estimated at the same level as output at constant prices by the standard method which is described in Chapter 3.2 above for forestry. Methods used for measuring intermediate consumption at constant prices in manufacturing are classified as A methods.

3.6 Electricity, gas and water supply (E)

In this industry the production is mostly performed by large public enterprises. Its output is estimated at EUR 1,842 million or 2.6% of total produced output at current prices. The most important activity is the production and distribution of electricity representing 73% of output of the activity. Electricity production is measured on a net basis as all intra-industry transactions of electricity between primary production, transmission and redistribution are eliminated.

The volume estimate of output for the production and distribution of electricity (SKD 40.1) is obtained by deflating current price value by the consumer price index. In the majority of other years the producer price index of manufactured goods for domestic market and producer price index of manufactured goods for exports are used for deflation instead of the consumer price index; however, in certain years, as it is the case for 2007, results with using the producer price indices of manufactured goods are doubtful.

The method for the estimation of output for the manufacture of gas and distribution of gaseous fuels (SKD 40.2) at constant prices is the extrapolation by quantity indicator, namely by quantity of gas supply (natural gas and liquefied petroleum gas). Output volume estimate for the remaining two activities, steam and hot water supply (SKD 40.3), and collection, purification and distribution of water (SKD 41) is derived by deflation by the consumer price index.

The stratification and methods used to arrive at the output volume estimate for the activity E Electricity, gas and water supply are presented in Table 3.7.

The method used for manufacture of gas (part of SKD 40.2) can be classified as an A method and the method used for distribution of gas (part of SKD 40.2) as a B method. Methods used for all other activities (SKD 40.1, 40.3 and 41) can be classified as C methods.

Table 3.7 E Electricity, gas and water supply: volume estimate of output

Stratification	Method
40.1 Production and distribution of electricity	Deflation by the CPI
40.2 Manufacture of gas; distribution of gaseous fuels	Extrapolation by quantity of gas supply
40.3 Steam and hot water supply	Deflation by the CPI
41 Collection, purification and distribution of water	Deflation by the CPI

Intermediate consumption at current prices is estimated at EUR 988 million, which represents 2.4% of the total intermediate consumption. Intermediate consumption at constant prices is estimated at the two-digit level of the SKD by the standard method which is described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.7 Construction (F)

Construction is one of the main industries in the Slovenian economy. Its output amounts to EUR 8,397 million or 11.8% of the total output at current prices. Production in this industry is carried out by corporations and by the self-employed. The main construction activity is building of complete constructions or parts thereof (SKD 45.2), which accounts for approximately 75% of the output of construction.

Output at constant prices for construction is compiled at the three-digit level of the SKD. The method used is the deflation by construction cost indices (CCIs). For the activity 45.2 Building of complete constructions or parts thereof, current price value is deflated by construction cost indices weighted with values of construction put in place by type of activity and by type of construction. The stratification of output and methods used are shown in Table 3.8. The use of input price indices to deflate output is classified as a C method.

Table 3.8 F Construction: volume estimate of output

Stratification	Method
45.1 Site preparation	Deflation by the CCI
45.2 Building of complete constructions or parts thereof	Deflation by the CCIs
45.3 Building installation	Deflation by the CCI
45.4 Building completion	Deflation by the CCI
45.5 Renting of construction equipment with operator	Deflation by the CCI

Intermediate consumption at current prices is estimated at EUR 6,003 million or 14.7% of the total intermediate consumption. The most important inputs are material and other services which represent around 90% of construction's intermediate consumption. Intermediate consumption at constant prices is estimated for the whole activity (corresponding to the two-digit level of the SKD) by the standard method which is described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.8 Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods (G)

Output of trade at current prices is estimated at EUR 7,254 million or 10.2% of the total output of the Slovenian economy. It is composed of two parts. First, trade margin as the difference between the sale of trade goods (turnover) and the purchase value of trade goods sold, and second, the sale of non-trade goods and services as secondary output of the activity.

When compiling output at constant prices, all three elements of output are estimated separately. Turnover and the sale of non-trade goods and services are deflated by appropriate deflators (consumer price indices, import price indices, producer price indices of manufactured goods for domestic market and exports, and other). Where needed, deflators are weighted with sales on the domestic market and exports. The purchase value of trade goods sold is estimated by equalizing its volume growth rate to the volume growth rate of turnover. Such calculation implies that the volume growth rate of trade margin is the same as the volume growth rate of turnover. The stratification of output and deflators used for the deflation of turnover and the sale of non-trade goods and services are shown in Table 3.9. The method used to compile the volume estimate of trade is classified as a B method.

At current prices, intermediate consumption is estimated at EUR 3,541 million or 8.7% of the total. The most important component of intermediate consumption is other services, which contains costs of selling tradable goods. Intermediate consumption at constant prices is estimated at the two-digit level of the SKD (SKD 50, 51 and 52) by the standard method which is described in Chapter 3.2 above for forestry. The method used is classified as an A method.

Table 3.9 G Wholesale and retail trade; repair of motor vehicles, motor cycles and personal and household goods: volume estimate of output

Stratification	Method		
	non-trade products	turnover	purchase value of trade goods sold
50.1 Sale of motor vehicles	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
50.2 Maintenance and repair of motor vehicles	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
50.3 Sale of motor vehicle parts and accessories	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
50.4 Sale, maintenance and repair of motorcycles	Deflation by the CPI	Deflation by the ImPI	volume growth equals turnover volume growth
50.5 Retail sale of automotive fuel	Deflation by the CPI	Deflation by the CPI and the UVI	volume growth equals turnover volume growth
51.1 Wholesale on a fee or contract basis	Deflation by the CPI and the ImPI	Deflation by the CPI and the ImPI	volume growth equals turnover volume growth
51.2 Wholesale of agricultural raw materials and live animals	Deflation by the implicit deflator of agricultural output and the ImPI	Deflation by the implicit deflator of agricultural output and the ImPI	volume growth equals turnover volume growth
51.3 Wholesale of food, beverages and tobacco	Deflation by the CPI and the ImPI	Deflation by the CPI and the ImPI	volume growth equals turnover volume growth
51.4 Wholesale of household goods	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
51.5 Wholesale of non-agricultural intermediate products	Deflation by the PPI	Deflation by the PPI	volume growth equals turnover volume growth
51.8 Wholesale of machinery, equipment and supplies	Deflation by the ImPI	Deflation by the ImPI	volume growth equals turnover volume growth
51.9 Other wholesale	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
52.1 Retail sale in non-specialized stores	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
52.2 Retail sale of food in specialized stores	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
52.3 Retail sale of pharmaceutical and toilet articles	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
52.4 Other retail sale of new goods in specialized stores	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
52.5 Retail sale of second-hand goods in stores	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
52.6 Retail sale not in stores	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth
52.7 Repair of personal and household goods	Deflation by the CPI	Deflation by the CPI	volume growth equals turnover volume growth

3.9 Hotels and restaurants (H)

Output at current prices of hotels and restaurants amounts to EUR 1,404 million or 2.0% of the total output. The main activities are hotel services covered mainly by corporations and restaurant services with unincorporated enterprises as the most important producers.

The method used to compile output at constant prices is deflation at the three-digit level of the SKD by the consumer price index. The stratification of output and methods used are presented in Table 3.10. As it is reasonable to expect that prices for businesses and private costumers move in a similar way and that the composition of consumption is comparable, the method used can be classified as an A method.

Table 3.10 H Hotels and restaurants: volume estimate of output

Stratification	Method
55.1 Hotels	Deflation by the CPI
55.2 Camping sites and other provision of short-stay accommodation	Deflation by the CPI
55.3 Restaurants	Deflation by the CPI
55.4 Bars	Deflation by the CPI
55.5 Canteens and catering	Deflation by the CPI

Intermediate consumption amounts to EUR 701 million or 1.7% of the total intermediate consumption. Its main components are material costs and cost of other services, which represent around 72% of intermediate consumption in this industry. Intermediate consumption at constant prices is estimated for the whole activity (corresponding to the two-digit level of the SKD) by the standard method which is described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.10 Transport, storage and communication (I)

Output of this activity at current prices is estimated at EUR 5,755 million or 8.1% of the total output. The most important activities are land transport (SKD 60) with a 40.3% share, supporting and auxiliary transport activities; activities of travel agencies (SKD 63) with a 26.5% share, and post and telecommunications (SKD 64) with a 26.2% share.

Stratification of output is done at a detailed level as shown in Table 3.11. The most common method for estimating output at constant prices is the deflation by the consumer price index or the services producer price index (SPPI). For transport via railways (SKD 60.1) and for freight transport by road (SKD 60.24) the extrapolation by quantity indicator suitably weighted for passenger and freight transport is used.

In the activities 60.1 Transport via railways and 60.21 Other scheduled passenger land transport special estimates are made for subsidies on products. Subsidies on products at constant prices are estimated by equalizing their volume growth rate to the volume growth rate of output.

Methods used to derive output volume estimate for water transport (SKD 61), air transport (SKD 62), cargo handling and storage (SKD 63.1), and post and courier activities (SKD 64.1) classify as A methods. Methods used for all other activities classify as B methods.

Table 3.11 I Transport, storage and communication: volume estimate of output

Stratification	Method
60.1 Transport via railways	Extrapolation by tonne-kilometres and passenger-kilometres
60.21 Other scheduled passenger land transport	Deflation by the CPI
60.22 Taxi operation	Deflation by the CPI
60.23 Other land passenger transport	Deflation by the CPI
60.24 Freight transport by road	Extrapolation by tonne-kilometres
61 Water transport	Deflation by the SPPI
62 Air transport	Deflation by the SPPI
63.1 Cargo handling and storage	Deflation by the SPPI
63.2 Other supporting transport activities	Deflation by the CPI
63.3 Activities of travel agencies and tour operators	Deflation by the CPI
63.4 Activities of other transport agencies	Deflation by the CPI
64.1 Post and courier activities	Deflation by the SPPI
64.2 Telecommunications	Deflation by the CPI

Intermediate consumption of the activity at current prices amounts to EUR 3,415 million or 8.4% of the total intermediate consumption. The main components of intermediate consumption in this activity are costs of energy and transport services. Intermediate consumption at constant prices is estimated for the following SKD activities: 60.1, 60.2, 61, 62, 63 and 64. The method is standard and described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.11 Financial intermediation (J)

Output of financial intermediation consists not only of financial intermediation services that are directly charged to clients but also of income earned through difference in trading with deposits taking and credits giving. Therefore, an important part of output is generated indirectly, as the difference between interest receivable and interest payable (financial intermediation services indirectly measured). Financial intermediation services indirectly measured (FISIM) are an output component of the activity 65.1 Monetary intermediation and amount to EUR 714 million or approximately 30% of output of financial intermediation.

An important part of output of financial intermediation is produced by the insurance industry (EUR 670 million or 28.4% of the total output of the activity). Its output is calculated as a residuum between insurance premiums and claims, together with revenue from investment of surpluses.

The total output of financial intermediation at current prices is estimated at EUR 2,356 million or 3.3% of output produced by the economy.

Output at constant prices is compiled at different levels of activities and by different methods as shown in Table 3.12. The estimation of output for monetary intermediation (SKD 65.1), and insurance and pension funding (SKD 66) is explained below. Output of other financial intermediation (SKD 65.2) and activities auxiliary to financial intermediation (SKD 67) is deflated by the consumer price index.

Table 3.12 J Financial intermediation: volume estimate of output

Stratification	Method
65.1 Monetary intermediation	Table 3.13
65.2 Other financial intermediation	Deflation by the CPI
66 Insurance and pension funding	Table 3.14
67 Activities auxiliary to financial intermediation	Deflation by the CPI

Output of monetary intermediation (SKD 65.1) is broken down into five components: FISIM, output of the central bank, bank services and commissions, net financial services, and other business and operating leasing services. Each component is estimated separately as shown in Table 3.13. FISIM at constant prices are compiled by the application of base year interest margin on loans and deposits to the stock of loans and deposits revalued to base year prices by the implicit deflator for domestic final consumption. This can be expressed by the following formula:

(Effective margin x Stocks)/Price index	x	Base period margin/Effective margin
	=	
Stock at constant price	x	Base period margin

Output of the central bank at constant prices is estimated by the input method as the sum of value added components at constant prices and intermediate consumption components at constant prices. Value added components are estimated in the following way: gross wages and salaries are extrapolated by the number of employees with the adjustment for productivity, other labour costs are deflated by the implicit deflator for gross wages, employers' social security contributions and other taxes on production are estimated by equalizing their volume growth rate to the volume growth rate of gross wages, consumption of fixed capital is deflated by deflator composed of producer price indices of manufactured goods and the consumer price index. Intermediate consumption is broken down into four components (material, services, commissions, memberships and similar fees) which are deflated by the consumer price index.

The remaining three output components of monetary intermediation are estimated at constant prices by deflating the current price values by the consumer price index.

Table 3.13 65.1 Monetary intermediation: volume estimate of output

Stratification	Method
FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption
Output of the central bank	Input method
Bank services and commissions	Deflation by the CPI
Financial services, net	Deflation by the CPI
Other business and operating leasing services	Deflation by the CPI

Output of insurance and pension funding (SKD 66) is broken down into six components, namely life insurance, pension insurance, health insurance, non-life insurance, reinsurance and other output (Table 3.14). Volume estimates of output for the first three groups are obtained by extrapolation by the number of insurance policy holders. The volume estimate of output for non-life insurance is estimated by extrapolation by the quantity index of Laspeyres type calculated with quantity indices of non-life insurance subgroups weighted with insurance premiums receivable. Quantity indices of non-life insurance subgroups are calculated in the following way:

- number of insurance policies is used for accident insurance, motor vehicles comprehensive insurance, fire insurance, property insurance for other damage to property, motor vehicle liability insurance, and tourist assistance insurance;
- annual expenditure on insurance per capita is used for general liability insurance and other non-life insurances;
- a change in loans of the non-financial corporations is used for credit insurance.

Volume estimates of output for reinsurance is estimated by extrapolation by the composite volume growth rate of life insurance, pension insurance, health insurance and non-life insurance weighed with insurance premiums receivable. Volume estimate for other output is obtained by deflating current price value by the consumer price index.

Table 3.14 66 Insurance and pension funding: volume estimate of output

Stratification	Method
Life insurance	Extrapolation by the number of insurance policy holders
Pension insurance	Extrapolation by the number of insurance policy holders
Health insurance	Extrapolation by the number of insurance policy holders
Non-life insurance	Extrapolation by the Laspeyres quantity index of non-life insurance sub-groups weighted with premiums
Reinsurance	Extrapolation by the composite volume growth rate of life, pension, health and non-life insurance growth rates weighted with premiums
Other output	Deflation by the CPI

The method used to compile the volume estimate of FISIM is classified as a B method. It should be mentioned that the handbook does not identify a suitable A method for FISIM. The method used for estimating output of the activity 66 Insurance and pension funding is classified as a B method. The deflation by the consumer price index of monetary intermediation outside FISIM, other financial intermediation and services auxiliary to financial intermediation can be classified as a B method.

Intermediate consumption at current prices of the financial intermediation activity is estimated at EUR 952 million or 2.3% of the total intermediate consumption. At constant prices, intermediate consumption is compiled at the same level of activities as output (Table 3.12). Intermediate consumption of activities 65.2 Other financial intermediation and 67 Activities auxiliary to financial intermediation is estimated by the standard method described in Chapter 3.2 for forestry.

Intermediate consumption for monetary intermediation (SKD 65.1) is broken down into six components as shown in Table 3.15. Each component is separately deflated: costs of material, services, bank services, membership and similar fees, and other costs are deflated by the consumer price index, while non-market output of the central bank is deflated by the implicit output deflator of the central bank.

Table 3.15 65.1 Monetary intermediation: volume estimate of intermediate consumption

Stratification	Method
Material	Deflation by the CPI
Services	Deflation by the CPI
Bank services	Deflation by the CPI
Membership and similar fees	Deflation by the CPI
Other costs	Deflation by the CPI
Non-market output of the central bank	Deflation by the implicit output deflator of the central bank

Intermediate consumption of insurance and pension funding (SKD 66) at constant prices is estimated in the following way: intermediate consumption of the activity is broken down into six components (Table 3.16), which are deflated by the consumer price index, with the exception of FISIM, which are calculated in the standard way as in all other activities.

Methods used for volume estimates of intermediate consumption for all activities of financial intermediation can be classified as A methods.

Table 3.16 66 Insurance and pension funding: volume estimate of intermediate consumption

Stratification	Method
Acquisition costs	Deflation by the CPI
Material and supplies	Deflation by the CPI
Other technical charges	Deflation by the CPI
Other management costs	Deflation by the CPI
Reinsurance balance	Deflation by the CPI
FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption

3.12 Real estate, renting and business activities (K)

The total output of this industry at current prices amounts to EUR 8,628 million or 12.1% of the total output. More than half (53.1%) is estimated for other business activities (SKD 74) and approximately one third (34.5%) for real estate activities (SKD 70). These are divided into services of dwelling activities of households (EUR 2,051 million) and other real estate activities (EUR 925 million).

Volume estimates of output are prepared for activities at different levels and using different methods as shown in Table 3.17. For the majority of activities the deflation by the services producer price index or the consumer price index is done and in some cases the consumer price index is combined with some other deflator with weights being based on expert opinion. Output of dwelling activities of households is extrapolated by the quantity indicator (useful floor area of dwellings).

Table 3.17 K Real estate, renting and business activities: volume estimate of output

Stratification	Method
Dwelling activities of households	Extrapolation by useful floor area of dwellings
70.1 Real estate activities with own property	Deflation by the CPI
70.2 Letting of own property	Deflation by the CPI
70.3 Real estate activities on a fee or contract basis	Deflation by the CPI
71 Renting of machinery and equipment	Deflation by the CPI
72 Computer and related activities	Deflation by the SPPI
73 Research and development	Deflation by the CPI and index of gross average wages
74.1 Legal, accounting and auditing activities	Deflation by the SPPI
74.2 Architectural and engineering activities	Deflation by the SPPI
74.3 Technical testing and analysis	Deflation by the SPPI
74.4 Advertising	Deflation by the SPPI
74.5 Labour recruitment and provision of personnel	Deflation by the SPPI
74.6 Investigation and security activities	Deflation by the SPPI
74.7 Industrial cleaning	Deflation by the SPPI
74.8 Miscellaneous business activities n.e.c.	Deflation by the SPPI

Extrapolation by the quantity indicator (useful floor area of dwellings) used for measuring the output of dwelling services of households at constant prices can be classified as a B method as the large majority of output is created by owner-occupiers. The deflation by the consumer price index for real estate activities (SKD 70.1, 70.2 and 70.3) is classified between B and C methods. The method used to compile the volume estimate of output of renting services (SKD 71) is classified as a B method because the consumer price index only covers the consumer markets but services are supplied to both businesses and private households. For computer and related activities (SKD 72) the use of the

services producer price index to deflate output classifies as an (weak) A method. The classification of method for research and development (SKD 73) is inconclusive but it is likely to be a C method. Methods used for other business activities (SKD 74) are classified as (weak) A methods. Further improvements for SKD 72 and 74 can be achieved by separately deflating output for businesses by the services producer price index and output for households by the consumer price index.

Intermediate consumption of the activity is estimated at EUR 3,358 million at current prices or 8.2% of the total. The most important components are costs for other services, which account for approximately 65% of the intermediate consumption of the activity. Intermediate consumption at constant prices is estimated at the two-digit level of the SKD (SKD 70, 71, 72, 73 and 74) by the standard method which is described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.13 Public administration and defence; compulsory social security (L)

3.13.1 Introduction

Output of this activity at current prices is estimated at EUR 2,567 million or 3.6% of the total output created by the Slovenian economy. Almost the whole output is produced by non-market producers of the general government sector (99.4%). The rest of the output is produced by non-market producers of the NPISH sector and by market producers, each contributing approximately half to the total output value. Intermediate consumption at current prices of the activity amounts to EUR 885 million or 2.2% of the total intermediate consumption.

The estimation of output and intermediate consumption at constant prices is done separately for all three groups of producers. The method used for the general government is explained in Chapter 3.13.2, the method for NPISH in Chapter 3.13.3 and the method for market producers in Chapter 3.13.4.

3.13.2 General government

Output at constant prices of public administration, defence and compulsory social security for general government is compiled by the input method. Output at constant prices is therefore estimated in the same way as output at current prices, i.e. by the input approach as a sum of value added and intermediate consumption, both at constant prices. Methods used for individual components of value added and intermediate consumption are presented in Table 3.18.

Value added components at constant prices are mostly estimated on the basis of the quantity indicator (number of employees), only consumption of fixed capital is deflated by the implicit deflator for gross fixed capital formation. Components of intermediate consumption are deflated by the consumer price index or the construction cost index, the only exception being FISIM, which are compiled by the application of base year interest margin on loans and deposits to the stock of loans and deposits revalued to base year prices by the implicit deflator for domestic final consumption. To this activity, total FISIM for the general government sector are allocated.

Table 3.18 L Public administration and defence; compulsory social security: volume estimate of output for general government

Stratification	Method
Intermediate consumption	
Paper stationery	Deflation by the CPI
Special material and services	Deflation by the CPI
Energy, water, public utility services	Deflation by the CPIs
Transport services	Deflation by the CPI
Allowances and other travel costs	Deflation by the CPI
Current maintenance	Deflation by the CCI
Lease payments and rents	Deflation by the CPI

Table 3.18 L Public administration and defence; compulsory social security: volume estimate of output for general government (continued)

Stratification	Method
Other services	Deflation by the CPI
FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption
Value added	
Compensation of employees	
Gross wages and salaries	Extrapolation by the number of employees adjusted for productivity growth
Other labour costs	Extrapolation by the number of employees
Employers' social security contributions	The same volume growth rate as of gross wages and salaries
Consumption of fixed capital	Deflation by the implicit deflator for gross fixed capital formation
Other taxes on production	Extrapolation by the number of employees

Methods used qualify as B methods. Input methods assume that the change in the volume of inputs is representative for the change in the volume of output, which can be questionable. This is why, in general, input methods qualify as C methods. But for collective services, due to the difficulty of defining what the output is, input methods are classified as B methods.

3.13.3 NPISH

The method for measuring output at constant prices for NPISH is the same as for general government. Output at constant prices is compiled by the input method as the sum of value added at constant prices and intermediate consumption at constant prices as shown in Table 3.19. The method used to arrive at output volume estimate for NPISH classifies as a C method.

Table 3.19 L Public administration and defence; compulsory social security: volume estimate of output for NPISH

Stratification	Method
Intermediate consumption	
Goods	Deflation by the CPI
Services	Deflation by the CPI
Value added	
Compensation of employees	
Gross wages and salaries	Extrapolation by the number of employees
Other labour costs	The same volume growth rate as of gross wages and salaries
Employers' social security contributions	The same volume growth rate as of gross wages and salaries
Consumption of fixed capital	Deflation by the CPI and the PPI
Other taxes on production	Extrapolation by the number of employees

3.13.4 Market producers

The compilation of output for market producers is made in the same way as for other market producers in industries mentioned in chapters above. The constant price estimate of output is obtained by deflating current price value by the consumer price index.

For the estimation of intermediate consumption at constant prices the implicit deflator of intermediate consumption for the activity 90 Sewage and refuse disposal and similar activities is used.

Methods used for output and intermediate consumption estimate classify as B methods.

3.14 Education (M)

3.14.1 Introduction

Education is among industries with significant part of non-market production. Its total output at current prices is estimated at EUR 2,030 million or 2.9% of total output, of which 91.4% is produced by non-market producers of the general government sector. Units of the NPISH sector produce 1.4% of education output. Market producers mostly provide services of driving schools and services for adult education and their output amounts to 7.2% of the output of the activity. Intermediate consumption at current prices of the activity amounts to EUR 463 million or 1.1% of the total intermediate consumption.

The estimation of output and intermediate consumption at constant prices is done separately for all three groups of producers. The method used for the general government is explained in Chapter 3.14.2, the method for NPISH in Chapter 3.14.3 and the method for market producers in Chapter 3.14.4.

3.14.2 General government

Volume estimates of output for general government producers are compiled with the direct output method. The method is applied in three stages:

– stratification: output is defined and quantity indicators are chosen;

– quality adjustment: changes in quality are taken into account;

– weighting: the weighting pattern is defined in order to combine detailed indicators.

With the output stratification, all output of the general government sector is totally covered and completely distinguished from any non-government output. Various types of outputs are distinguished at the lowest possible level of detail (maximal homogeneity), especially when the costs are substantially different. For all types of general government output quantity indicators are produced depending on the type of products.

Adjustment for quality is mostly done on the basis of the quality of inputs and sometimes on the basis of the quality of outcomes.

Weights used to combine detailed indicators are the average cost (expenditure) per unit and sometimes the current price value of output. In the future it is expected to apply weights for all types of output.

Table 3.20 shows all elements for compiling the volume estimate of output for the general government sector in education. The detailed stratification of output including the information on weighting is presented in Table 3.21.

Table 3.20 M Education: volume estimate of output for general government

Stratification	Method/quantity indicator	Quality adjustment	Weighting
80.101 Kindergartens / broken down by type of education program	Extrapolation by number of pupil-hours	On the basis of the quality of inputs – teaching staff (number of pupils per teacher)	Not weighted by type of program – assumed that costs per program are equal
80.102 Elementary schools / broken down by type of education program	Extrapolation by number of pupil-hours	On the basis of: a) the quality of inputs (number of pupils per teacher) and b) the quality of outcomes (average mark by class level)	Not weighted by type of program – assumed that costs per program are equal
80.103 Institutions for children with special educational needs / broken down by type of education program	Extrapolation by number of pupil-hours	On the basis of: a) the quality of inputs (number of pupils per teacher) and b) the quality of outcomes (average mark by class level)	Not weighted by type of program – assumed that costs per program are equal

Table 3.20 M Education: volume estimate of output for general government (continued)

Stratification	Method/quantity indicator	Quality adjustment	Weighting
80.2 Secondary education / broken down by type of education program	Extrapolation by pupil number	On the basis of the quality of inputs – teaching staff (number of pupils per teacher)	Weighted with value of output by type of education services
80.3 Higher education / broken down by type of education program, and position in the national degree/qualification structure and field of study for higher professional schools and universities	Extrapolation by pupil number	On the basis of the quality of inputs – teaching staff (number of students per professor)	Weighted with: a) costs per student by type of course and b) value of output by type of education program
80.42 Adult and other education n.e.c. / broken down by type of subject	Extrapolation by number of pupil-hours	On the basis of: a) the quality of inputs (number of pupils per teacher) and b) the quality of outcomes (advance to higher class)	Not weighted by type of subject

Table 3.21 M Education: stratification and weighting of output for general government

Stratification	Weighting
80.101 Kindergartens	
- all-day program	Not weighted – assumed that costs are equal
- half-day program	Not weighted – assumed that costs are equal
- shorter program	Not weighted – assumed that costs are equal
80.102 Elementary schools	
- 8-year program	Not weighted – assumed that costs are equal
- 9-year program	Not weighted – assumed that costs are equal
80.103 Institutions for children with special educational needs	
- 8-year program	Not weighted – assumed that costs are equal
- 9-year program	Not weighted – assumed that costs are equal
80.2 Secondary education	
- general secondary education	Weighted with value of output
- general gymnasium programs	Not weighted – assumed that costs are equal
- professional gymnasium programs	Not weighted – assumed that costs are equal
- matura courses	Not weighted – assumed that costs are equal
- technical and vocational secondary education	Weighted with value of output
- lower vocational programs	Not weighted
- middle vocational programs	Not weighted
- technical and other professional programs and vocational technical programs and courses	Not weighted
80.3 Higher education	
- colleges (2–3-year program)	Weighted with value of output
- higher professional schools (by the ISCED classification)	Weighted with value of output
14 Teacher training	Weighted with costs
21 Arts	Weighted with costs
22 Humanities	Weighted with costs
31 Social sciences	Weighted with costs

Table 3.21 M Education: stratification and weighting of output for general government (continued)

Stratification	Weighting
32 Journalism and information	Weighted with costs
34 Business and administration	Weighted with costs
38 Law	Weighted with costs
42 Life science	Weighted with costs
44 Physical science	Weighted with costs
46 Mathematics and statistics	Weighted with costs
48 Computing	Weighted with costs
52 Engineering	Weighted with costs
54 Manufacturing and processing	Weighted with costs
58 Architecture and building	Weighted with costs
62 Agriculture and forestry	Weighted with costs
64 Veterinary	Weighted with costs
72 Health	Weighted with costs
76 Social services	Weighted with costs
81 Personal services	Weighted with costs
84 Transport services	Weighted with costs
85 Environmental protection	Weighted with costs
86 Security services	Weighted with costs
- universities (by the ISCED classification)	Weighted with value of output
14 Teacher training	Weighted with costs
21 Arts	Weighted with costs
22 Humanities	Weighted with costs
31 Social sciences	Weighted with costs
32 Journalism and information	Weighted with costs
34 Business and administration	Weighted with costs
38 Law	Weighted with costs
42 Life science	Weighted with costs
44 Physical science	Weighted with costs
46 Mathematics and statistics	Weighted with costs
48 Computing	Weighted with costs
52 Engineering	Weighted with costs
54 Manufacturing and processing	Weighted with costs
58 Architecture and building	Weighted with costs
62 Agriculture and forestry	Weighted with costs
64 Veterinary	Weighted with costs
72 Health	Weighted with costs
76 Social services	Weighted with costs
81 Personal services	Weighted with costs
84 Transport services	Weighted with costs
85 Environmental protection	Weighted with costs
86 Security services	Weighted with costs
80.42 Adult and other education n.e.c.	
Music schools and other artistic schools	
Violin	Not weighted
Viola	Not weighted
Violoncello	Not weighted

Table 3.21 M Education: stratification and weighting of output for general government (continued)

Stratification	Weighting
Contrabass	Not weighted
Flute	Not weighted
Oboe	Not weighted
Clarinet	Not weighted
Bassoon	Not weighted
Saxophone	Not weighted
Horn	Not weighted
Trumpet	Not weighted
Trombone	Not weighted
Tuba	Not weighted
Other brass instruments	Not weighted
Piano	Not weighted
Organ	Not weighted
Accordion	Not weighted
Harp	Not weighted
Guitar	Not weighted
Block flute	Not weighted
Percussion instrument	Not weighted
Diatonic accordion	Not weighted
Cither	Not weighted
Tambour	Not weighted
Ballet	Not weighted
Contemporary dance	Not weighted
Singing	Not weighted

The method used to compile output volume estimate for general government producers in education classifies as an A method. Output is stratified to a more detailed level than recommended by the handbook. Suitable quantity indicators for output extrapolation are used and quality adjustments are also done. The only weakness is weighting, which is not done for some types of education output; the method for these activities classifies as a B method. It is planned that in the future weights will be introduced for all types of output.

The volume estimate for intermediate consumption of general government producers is compiled for the whole activity by deflating current price components by the consumer price index and the construction cost index. Components and deflators are shown in Table 3.22. The method used classifies as an A method.

Table 3.22 M Education: volume estimate of intermediate consumption for general government

Stratification	Method
Paper stationery	Deflation by the CPI
Special materials and services	Deflation by the CPI
Energy, water, public utility services	Deflation by the CPI
Transport services	Deflation by the CPI
Allowances and other travel costs	Deflation by the CPI
Current maintenance	Deflation by the CCI
Lease payments and rents	Deflation by the CPI
Other services	Deflation by the CPI

3.14.3 NPISH

Output at constant prices for NPISH producers is estimated by the input method in the same way and with the same level of detail as used for NPISH producers in the activity L Public administration and defence; compulsory social security (Chapter 3.13.3, Table 3.19). The method used classifies as a C method.

It is planned that the direct output method, as used for general government output, will be implemented also for measuring output produced by NPISH.

3.14.4 Market producers

The compilation of output for market producers is made in the same way as for market producers in other industries. The constant price estimate of output is obtained by deflating current price value by the consumer price index.

For the estimation of intermediate consumption at constant prices the implicit deflator for the intermediate consumption for general government services is used.

Methods used for output and intermediate consumption estimate classify as B methods.

3.15 Health and social work (N)

3.15.1 Introduction

Also in this industry a majority of production is a non-market production. It is provided by units of the general government and NPISH and represents approximately two thirds of total output of the activity. The rest is provided by market producers and they are engaged mainly in the provision of services of homes for elderly people, out of hospital health services, dental services and veterinary services. The total output of the activity at current prices amounts to EUR 2,165 million or 3.0% of the total output. Intermediate consumption at current prices amounts to EUR 782 million or 1.9% of the total.

The estimation of output and intermediate consumption at constant prices is done separately for all three groups of producers. The method used for the general government is explained in Chapter 3.15.2, the method for NPISH in Chapter 3.15.3 and the method for market producers in Chapter 3.15.4.

3.15.2 General government

Output at constant prices of general government producers is estimated partly by the input method as the sum of value added components and intermediate consumption components, and partly by the direct output method. The input method is used for measuring output at constant prices of human health activities (SKD 85.1). The method used and the level of detail are the same as described above for general government producers in the activity L Public administration and defence; compulsory social security (Chapter 3.13.2, Table 3.18). The only difference is FISIM, which are for the general government sector in total allocated to public administration activity.

The method used classifies as a C method. A research was already done to implement the direct output method for these activities. Within this research data sources in the field of health statistics were reviewed and checked. They were carefully evaluated with regard to the suitability and appropriateness for the use in national accounts. The results of the research showed that different methods can be applied for calculating the volume estimate of output of human health activities:

- output of hospital activities (SKD 85.11) can be measured on the basis of the DRG (Diagnosis Related Groups) system which was established in Slovenia in 2003, adopted from the Australian AR-DRG system;
- for output of medical practice activities (SKD 85.12) data on the number of consultations by type of treatment, the number of occupant days by level of care and the number of health services provided by type of treatment can be used;
- for dental practice activities (SKD 85.13) the estimation of output can be done by using data on the number of health services provided by type of treatment;

– output of other human health activities (SKD 85.14) can be estimated on the basis of data on the number of health services provided by type of treatment.

The stratification of output of human health activities in the research was done at a more detailed level than described above. Table 3.23 shows the stratification in more detail even though still aggregated as there are too many types of treatment or types of health services provided to be presented in the table.

Table 3.23 85.1 Human health activities: aggregated stratification of output used in research

Stratification	Weighting
85.11 Hospital activities	
- Services to in-patient by general and specialized hospitals	Weighted with prices of DRG groups
- Hospital psychiatric services	Weighted with prices of health services provided by type of treatment
- Rehabilitation services	Weighted with prices of health services provided by type of treatment
- Nursing services and other health services in hospital	Weighted with prices of health services provided by type of treatment
85.12 Medical practice activities	
85.121 Services by general medical practitioners	Weighted with weighted capitation by age groups
85.122 Services by medical specialists	Weighted with prices of health services provided by type of treatment
85.13 Dental practice activities	Weighted with prices of health services provided by type of treatment
85.14 Other human health activities	Weighted with prices of health services provided by type of treatment

The calculation of output of human health activities at constant prices by the new direct output methods is already done in parallel with the currently used input method. However, the results of new methods are not used when compiling official GDP figures. The main obstacles are high volatility of data and not satisfactory coverage of output for some types of health services.

For measuring the general government output of social work activities (SKD 85.3) the direct output method is used. The method is applied in the same way as described above for the general government output in education (Chapter 3.14.2). Table 3.24 shows all elements for compiling the volume estimate of general government output in social work activities. The detailed stratification of output including the information on weighting is presented in Table 3.25.

Social work activities with accommodation (SKD 85.31) are mainly delivered through residential institutions to old persons, where they are permanently accommodated. Consequently the number of occupants is used which is a similar concept as the usage of the number of occupant days. For social work activities without accommodation (SKD 85.32) the number of persons receiving care is used. Methods for both activities classify as B methods.

Table 3.24 85.3 Social work activities: volume estimate of output for general government

Stratification	Method/quantity indicator	Quality adjustment	Weighting
85.31 Social work activities with accommodation	Number of occupants in old people's home and similar institutions	Indicator of the quality of inputs (number of occupants per social worker)	Weighted with value of output
85.32 Social work activities without accommodation by type of care	Number of persons receiving care by type of care	No quality adjustment	Weighted with value of output

Table 3.25 85.3 Social work activities: stratification and weighting of output for general government

Stratification	Weighting
85.31 Social work activities with accommodation	
85.311 Old people's homes	weighted with value of output
85.319 Other social work activities with accommodation	weighted with value of output
85.32 Social work activities without accommodation	
85.321 Centres for social work	weighted with value of output
85.322 Organisations for handicapped persons	weighted with value of output
85.323 Humanitarian organisations	weighted with value of output
85.324 Centres for protection and work	weighted with value of output
85.329 Other forms of social work activities	weighted with value of output

3.15.3 NPISH

Output at constant prices for NPISH producers is estimated for the whole activity and by the input method in the same way and with the same level of detail as used for NPISH producers in the activity L Public administration and defence; compulsory social security (Chapter 3.13.3, Table 3.19). The method used classifies as a C method.

3.15.4 Market producers

Output estimate at constant prices for market producers is compiled for the whole activity by deflating current price value by the consumer price index. The method used can be classified as a B method.

Intermediate consumption at constant prices is also estimated for the whole activity (corresponding to the two-digit level of the SKD) by the standard method which is described in Chapter 3.2 above for forestry. The method used is classified as an A method.

3.16 Other community, social and personal services activities (O)

3.16.1 Introduction

Activities in the SKD section O Other community, social and personal services activities are performed by corporations, self-employed, and non-market general government and NPISH units. Output of this industry at current prices amounts to EUR 2,019 million or 2.8% of the total output. The majority of output is produced by corporations; together with self-employed they create market output which accounts for approximately 70% of the total output of the activity. Intermediate consumption at current prices amounts to EUR 1,019 million or 2.5% of the total intermediate consumption.

The estimation of output and intermediate consumption at constant prices is done separately for all three groups of producers. The method used for the general government is explained in Chapter 3.16.2, the method for NPISH in Chapter 3.16.3 and the method for market producers in Chapter 3.16.4.

3.16.2 General government

Non-market services provided by general government producers are covered in the activity 92 Recreational, cultural and sporting activities. Output at constant prices is estimated by the input method as the sum of value added components and intermediate consumption components, both at constant prices. The method used and the level of detail are the same as described above for general government producers in the activity L Public administration and defence; compulsory social security (Chapter 3.13.2, Table 3.18). The only difference is FISIM, which are for the general government sector in total allocated to public administration activity.

The method used classifies as a C method. A research was already done to implement the direct output method also for this activity but the high volatility of data and not satisfactory coverage of output prevented the implementation of more theoretically correct method for compiling output volume estimate.

3.16.3 NPISH

Output at constant prices for NPISH producers is estimated for activities of membership organizations n.e.c. (SKD 91), and recreational, cultural and sporting activities (SKD 92). Output is estimated by the input method in the same way and with the same level of detail as used for NPISH producers in the activity L Public administration and defence; compulsory social security (Chapter 3.13.3, Table 3.19). The only difference is FISIM which are for the NPISH sector in total amount allocated to the activity of membership organizations (SKD 91). FISIM are estimated in the same way as for other sectors, i.e. by the application of base year interest margin on loans and deposits to the stock of loans and deposits revalued to base year prices by the implicit deflator for domestic final consumption.

The method for the estimation of output at constant prices classifies as a C method. In the future direct output methods will be tested and implemented in the compilation if they provide acceptable results.

3.16.4 Market producers

Output at constant prices for market producers is compiled at the two-digit level of the SKD. For three activities (SKD 90, 92 and 93) output at current prices is deflated by consumer price indices weighted on the basis of expert opinion. For the activity of membership organizations (SKD 91), output is deflated by the implicit output deflator for NPISH services in the same activity. The stratification of output and methods used are presented in Table 3.26.

Methods for compiling output volume estimates for 90 Sewage and refuse disposal, and 93 Other service activities are classified as B methods. The method used for the activity 91 Activities of membership organization is classified as a C method. The method used to compile the volume estimate of output for 92 Recreational, cultural and sporting activities is a C method due to inadequate stratification.

Table 3.26 O Other community, social and personal services activities: volume estimate of output for market producers

Stratification	Method
90 Sewage and refuse disposal and similar activities	Deflation by the CPIs
91 Activities of membership organizations n.e.c.	Deflation by the implicit output deflator of NPISH services (SKD 91)
92 Recreational, cultural and sporting activities	Deflation by the CPIs
93 Other services activities	Deflation by the CPIs

Intermediate consumption at constant prices is for three activities (SKD 90, 92 and 93) estimated by the standard method which is described in Chapter 3.2 above for forestry. For the activity of membership organizations (SKD 91), intermediate consumption is deflated by the implicit deflator of intermediate consumption for NPISH services in the same activity (Chapter 3.16.3). Methods used classify as A methods, except for the activities of membership organizations (SKD 91) where the method used is a B method.

3.17 Private households with employed persons (P)

Output of this activity equals gross payments to persons (housemaids, cleaning ladies, gardeners, babysitters, etc.) employed by households and the estimation for intermediate consumption is not necessary. Therefore output equals value added and compensation of employees. The share of the activity in total output is very small amounting to 0.03%.

Output at constant prices is estimated with the extrapolation of value added by the number of employees (single extrapolation method with quantity indicator). The method used is classified as a B method.

3.18 Taxes on products

Taxes on products are levied on goods and services in proportion to value or quantity and are paid when these are produced, imported or purchased by consumers. In total, taxes on products amount to EUR 4,420 million or 12.8% of GDP in 2007. By far the most important are VAT and excise duties amounting to approximately 92% of the total figure.

Taxes on products at constant prices are compiled in different ways, depending on the type of tax. So-called value type taxes are levied as a percentage of the value of a product. In this case a tax is determined by the quantity of a taxable product, the price of a taxable product and a tax rate. The second type of taxes is based on the quantity of products and the tax depends on the quantity of a taxable product and the amount of tax per unit of a taxable product.

Value type taxes are in the Slovenian national accounts at constant prices mostly estimated by deflating current price value by the consumer price index where changes in a tax rate and changes of the price of a taxable product are captured. For quantity type taxes the extrapolation with quantity indicators is used. Table 3.27 shows the stratification of taxes on products, type of taxes and methods for compiling volume estimates.

Table 3.27 Volume estimate of taxes on products

Stratification	Type of tax	Method
Value added tax	Value type	Deflation by the CPI
Excise duties on alcoholic beverages	Quantity type	Extrapolation by the volume growth rate of household expenditure for alcoholic beverages
Excise duties on mineral oils and gas	Quantity type	Extrapolation by the volume growth rate of imports of mineral oils and gas
Excise duties on tobacco and cigarettes	Quantity type	Extrapolation by the volume growth rate of household expenditure for tobacco and cigarettes
Tax on new motor vehicles	Value type	Deflation by the CPI
Tax on used motor vehicles	Value type	Deflation by the CPI
Tax on insurance premiums	Value type	Deflation by the CPI
Tax on special gaming and slot machines	Value type	Deflation by the CPI
Tax on classical games of chance	Value type	Deflation by the CPI
Special tax on gaming machines	Value type	Deflation by the CPI
Stamp duties, legal units	Value type	Deflation by the CCI
Stamp duties, households	Value type	Deflation by the CCI
Import duties and taxes	Value type	Deflation by the UVI
Agricultural levies on imports	Value type	Deflation by the UVI
Import taxes paid directly by households	Value type	Deflation by the CPI
Other import taxes and excises	Value type	Deflation by the CPI
Special taxes on overnight stays	Quantity type	Deflation by the CPI
Taxes on air pollution due to the use of mineral oils	Value type	Deflation by the CPI

VAT is calculated on a net basis and refers only to non-deductible VAT. This is defined as the difference between VAT invoiced on the products and VAT deductible by the users of these products. Non-deductible VAT at constant prices is calculated by deflation by the consumer price index according to the type of taxable product where any change in the rate of VAT is reflected. Weighting of the consumer price index is done on the basis of revenue from taxable products.

Constant price calculations for taxes on products are conducted according to A methods. Some improvements have to be made only for taxes on overnight stays. For them the method used classifies as a C method. It should be noted, however, that taxes on overnight stays represent a very small share of taxes on products (0.2% in 2007).

3.19 Subsidies on products

Subsidies on products are unrequited payments to resident market production units by institutions of general government. With subsidies on products the government supports producers regarding the level of market prices and thus directly effects and supports the production. Total figure of subsidies on products amounts to EUR 194 million or 0.6% of GDP. They are estimated for agricultural production, manufacturing of food products and beverages, and in passenger transport.

Subsidies on products are estimated at constant prices on the basis of the following equation:

$$S_0 = s_0 * p_0 * m$$

S_0 subsidy at constant prices
s_0 previous-year rate of subsidy
p_0 price in the previous year
m quantity in the current year

Previous-year rate of subsidy times output at constant prices equals subsidies at constant prices. Since the rate of subsidy usually cannot be obtained directly from legislation it is instead determined as the quotient of current price subsidies on products and current price output in the previous year. Or in other words, subsidies on products at constant prices are estimated at the same ratio to the volume of output as in the previous year's current price ratio. The exception is subsidies in agriculture, which are estimated at the same ratio to the volume of sales as in the previous year's current price ratio. The method used to arrive at the volume estimate of subsidies on products classifies as an A method.

Table 3.28 Volume estimate of intermediate consumption, standard method: deflators by activity

	Costs of material	Costs of energy	Costs of other material	Transport services	Rents	Insurance services	Reimburse-ment of business costs to employees	Costs of other services	FISIM	Goods for processing
02 Forestry, logging and related service activities	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
05 Fishing	PPI	CPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
10 Mining of coal and lignite; extraction of peat	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
14 Other mining and quarrying	UVI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
15 Manufacture of food products and beverages	ImPI, ImpD6	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
17 Manufacture of textiles	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
18 Manufacture of wearing apparel; dressing and dyeing of fur	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
19 Tanning of leather; manufacture of leather goods	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
20 Manufacture of wood, except furniture	ImPI, ImpD5	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
21 Manufacture of pulp, paper and paper products	UVI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
22 Publishing, printing and reproduction of recorded media	UVI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
23 Manufacture of coke and refined petroleum products	UVI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
24 Manufacture of chemicals and chemical products	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
25 Manufacture of rubber and plastic products	UVI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
26 Manufacture of non-metallic mineral products	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
27 Manufacture of basic metals	UVI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
28 Manufacture of fabricated metal product, except machinery	UVI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
29 Manufacture of machinery and equipment n.e.c.	ImPI, ImpD3	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
30 Manufacture of office machinery and computers	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
31 Manufacture of electrical machinery and apparatus n.e.c.	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
32 Manufacture of radio, television and communication equipment	ImPI, ImpD4	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
33 Manufacture of medical, precision and optical instruments	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
34 Manufacture of motor vehicles, trailers and semi-trailers	ImPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
35 Manufacture of other transport equipment	ImpD3	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
36 Manufacture of furniture; manufacturing n.e.c.	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
37 Recycling	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
40 Electricity, gas, steam and hot water supply	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
41 Collection, purification and distribution of water	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI

Table 3.28 Volume estimate of intermediate consumption, standard method: deflators by activity (continued)

	Costs of material	Costs of energy	Costs of other material	Transport services	Rents	Insurance services	Reimburse-ment of business costs to employees	Costs of other services	FISIM	Goods for processing
45 Construction	PPI	CPI	PPI	ImpD1	CPI	ImpD2	CPI	CCI	StM	UVI
50 Sale and repair of motor vehicles; sale of automotive fuel	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
51 Wholesale trade and commission trade	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
52 Retail trade; repair of personal and household goods	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
55 Hotels and restaurants	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
60.1 Transport via railways	PPI	CPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
60.2 Other land transport	CPI	CPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
61 Water transport	PPI	PPI	PPI	PPI	CPI	ImpD2	CPI	CPI	StM	UVI
62 Air transport	PPI	CPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
63 Supporting transport activities; travel agencies	PPI	CPI	PPI	CPI	CPI	ImpD2	CPI	CPI	StM	UVI
64 Post and telecommunications	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
65.2 Other financial intermediation	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
67 Activities auxiliary to financial intermediation	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
70 Real estate activities	PPI	PPI	CPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
71 Renting of machinery and equipment	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
72 Computer and related activities	PPI	PPI	CPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
73 Research and development	PPI	PPI	CPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
74 Other business activities	PPI	PPI	CPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
85 Health and social work	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
90 Sewage and refuse disposal and similar activities	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
92 Recreational, cultural and sporting activities	PPI	PPI	CPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI
93 Other service activities	PPI	PPI	PPI	ImpD1	CPI	ImpD2	CPI	CPI	StM	UVI

Legend:

ImpD1: implicit output deflator of transport services
ImpD2: implicit output deflator of insurance services
ImpD3: implicit output deflator of industry 28
ImpD4: implicit output deflator of industry 30
ImpD5: implicit output deflator of industry 02
ImpD6: implicit output deflator of industry 01
StM: standard method, the same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption

CHAPTER 4

GDP BY THE EXPENDITURE APPROACH

4.1 Introduction

GDP by the expenditure approach is measured as the sum of domestic expenditure on goods and services for final consumption and gross capital formation by units of the national economy plus exports less imports of goods and services. Final consumption is the sum of expenditure on goods and services by households, NPISH and general government. Gross capital formation is measured as the sum of expenditure on gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables.

This chapter presents methods for the compilation of GDP expenditure components at constant prices. For each component, the breakdown (stratification) and methods for obtaining volume estimates are shown. Each chapter brings also the self-assessment of methods according to the division of methods defined in the Commission Decision (98/715/EC) on price and volume measures in national accounts, and further specified in the "Handbook on price and volume measures in national accounts", Eurostat 2001. Types of methods and criteria for the classification are the same as for the production approach and are described in Chapter 3.1.

4.2 Household final consumption expenditure

Household final consumption expenditure amounts to EUR 17,944 million or 51.9% of GDP at current prices in 2007. It is shown according to the national concept and is calculated as household final consumption expenditure by the domestic concept less direct purchases of non-resident households on the domestic territory plus direct purchases of resident households abroad.

Household final consumption expenditure by the domestic concept consists of all expenditure of households on durable, semi-durable and non-durable goods, and on services. The compilation at constant prices is performed at the four-digit level of the Classification of Individual Consumption by Purpose (COICOP). For the large majority of expenditure, volume estimates are obtained by deflating current price values by the consumer price index (CPI). For dwelling services of households and for insurance services the extrapolation by quantity indicators is used. Expenditure on financial intermediation services indirectly measured (FISIM) at constant prices is estimated in the same way as for other sectors, i.e. by the application of base year interest margin on loans and deposits to the stock of loans and deposits revalued to base year prices by the implicit deflator for domestic final consumption. The stratification of products and methods used are shown in Table 4.1.

The deflation of household final consumption expenditure by the consumer price index classifies as an A method. The price index is an index of the price that consumers pay for observed groups of products; it takes into account quality changes and is valued at purchasers' prices including VAT. Extrapolation by quantity indicators for dwelling services and insurance services, and the method for FISIM classify as B methods.

Direct purchases of non-resident households on the domestic territory at constant prices and direct purchases of resident households abroad at constant prices are obtained by deflation by the harmonized consumer price index of the EU (HICP-EU). The method used can be classified as a B method.

Table 4.1 Volume estimate of household final consumption expenditure by the domestic concept

Stratification	Method
01.1.1 Bread and cereals	Deflation by the CPI
01.1.2 Meat	Deflation by the CPI
01.1.3 Fish and seafood	Deflation by the CPI
01.1.4 Milk, cheese and eggs	Deflation by the CPI
01.1.5 Oils and fats	Deflation by the CPI
01.1.6 Fruit	Deflation by the CPI
01.1.7 Vegetables	Deflation by the CPI
01.1.8 Sugar, jam, honey, chocolate and confectionery	Deflation by the CPI
01.1.9 Food products n.e.c.	Deflation by the CPI
01.2.1 Coffee, tea and cocoa	Deflation by the CPI
01.2.2 Mineral waters, soft drinks, fruit and vegetable juices	Deflation by the CPI
02.1.1 Spirits	Deflation by the CPI
02.1.2 Wine	Deflation by the CPI
02.1.3 Beer	Deflation by the CPI
02.2.0 Tobacco	Deflation by the CPI
02.3.0 Narcotics	Deflation by the retail price index of heroin
03.1.1 Clothing materials	Deflation by the CPI
03.1.2 Garments	Deflation by the CPI
03.1.3 Other articles of clothing and clothing accessories	Deflation by the CPI
03.1.4 Cleaning, repair and hire of clothing	Deflation by the CPI
03.2.1 Shoes and other footwear	Deflation by the CPI
03.2.2 Repair and hire of footwear	Deflation by the CPI
04.1.1 Actual rentals paid by tenants	Deflation by the CPI
04.2.1 Imputed rentals of owner-occupiers	Extrapolation by useful floor space of dwellings
04.3.1 Materials for the maintenance and repair of the dwelling	Deflation by the CPI
04.3.2 Services for the maintenance and repair of the dwelling	Deflation by the CPI
04.4.1 Water supply	Deflation by the CPI
04.4.2 Refuse collection	Deflation by the CPI
04.4.3 Sewerage collection	Deflation by the CPI
04.4.4 Other services relating to the dwelling n.e.c.	Deflation by the CPI
04.5.1 Electricity	Deflation by the CPI
04.5.2 Gas	Deflation by the CPI
04.5.3 Liquid fuels	Deflation by the CPI
04.5.4 Solid fuels	Deflation by the CPI
04.5.5 Heat energy	Deflation by the CPI
05.1.1 Furniture and furnishings	Deflation by the CPI
05.1.2 Carpets and other floor coverings	Deflation by the CPI
05.1.3 Repair of furniture, furnishings and floor coverings	Deflation by the CPI
05.2.0 Household textiles	Deflation by the CPI
05.3.1 Major household appliances whether electric or not	Deflation by the CPI
05.3.2 Small electric household appliances	Deflation by the CPI
05.3.3 Repair of household appliances	Deflation by the CPI
05.4.0 Glassware, tableware and household utensils	Deflation by the CPI
05.5.1 Major tools and equipment	Deflation by the CPI

Table 4.1 Volume estimate of household final consumption expenditure by the domestic concept (continued)

Stratification	Method
05.5.2 Small tools and miscellaneous accessories	Deflation by the CPI
05.6.1 Non-durable household goods	Deflation by the CPI
05.6.2 Domestic services and household services	Deflation by the CPI
06.1.1 Pharmaceutical products	Deflation by the CPI
06.1.2 Other medical products	Deflation by the CPI
06.1.3 Therapeutic appliances and equipment	Deflation by the CPI
06.2.1 Medical services	Deflation by the CPI
06.2.2 Dental services	Deflation by the CPI
06.2.3 Paramedical services	Deflation by the CPI
06.3.0 Hospital services	Deflation by the CPI
07.1.1 Motor cars	Deflation by the CPI
07.1.2 Motor cycles	Deflation by the CPI
07.1.3 Bicycles	Deflation by the CPI
07.2.1 Spare parts and accessories for personal transport equipment	Deflation by the CPI
07.2.2 Fuels and lubricants for personal transport equipment	Deflation by the CPI
07.2.3 Maintenance and repair of personal transport equipment	Deflation by the CPI
07.2.4 Other services in respect of personal transport equipment	Deflation by the CPI
07.3.1 Passenger transport by railway	Deflation by the CPI
07.3.2 Passenger transport by road	Deflation by the CPI
07.3.3 Passenger transport by air	Deflation by the CPI
07.3.4 Passenger transport by sea and inland waterway	Deflation by the CPI
07.3.5/6 Other transport services	Deflation by the CPI
08.1.0 Postal services	Deflation by the CPI
08.2.0 Telephone and telefax equipment	Deflation by the CPI
08.3.0 Telephone and telefax services	Deflation by the CPI
09.1.1 Equipment for the reception, recording and reproduction of sound and pictures	Deflation by the CPI
09.1.2 Photographic and cinematographic equipment and optical instruments	Deflation by the CPI
09.1.3 Information processing equipment	Deflation by the CPI
09.1.4 Recording media	Deflation by the CPI
09.1.5 Repair of audio-visual, photographic and information processing equipment	Deflation by the CPI
09.2.1 Major durables for outdoor recreation	Deflation by the CPI
09.2.2 Musical instruments and major durables for indoor recreation	Deflation by the CPI
09.2.3 Maintenance and repair of other major durables for recreation and culture	Deflation by the CPI
09.3.1 Games, toys and hobbies	Deflation by the CPI
09.3.2 Equipment for sport, camping and open-air recreation	Deflation by the CPI
09.3.3 Gardens, plants and flowers	Deflation by the CPI
09.3.4 Pets and related products	Deflation by the CPI
09.3.5 Veterinary and other services for pets	Deflation by the CPI
09.4.1 Recreational and sporting services	Deflation by the CPI
09.4.2 Cultural services	Deflation by the CPI
09.4.3 Games of chance	Deflation by the CPI

Table 4.1 Volume estimate of household final consumption expenditure by the domestic concept (continued)

Stratification	Method
09.5.1 Books	Deflation by the CPI
09.5.2 Newspapers and periodicals	Deflation by the CPI
09.5.3 Miscellaneous printed matter	Deflation by the CPI
09.5.4 Stationery and drawing matter	Deflation by the CPI
09.6.0 Package holidays	Deflation by the CPI
10.1.0 Pre-primary and primary education	Deflation by the CPI
10.2.0 Secondary education	Deflation by the CPI
10.3.4/0 Post-secondary and tertiary education	Deflation by the CPI
10.5.0 Education not definable by level	Deflation by the CPI
11.1.1 Restaurants, cafés and the like	Deflation by the CPI
11.1.2 Canteens	Deflation by the CPI
11.2.0 Accommodation services	Deflation by the CPI
12.1.1 Hairdressing salons and personal grooming establishments	Deflation by the CPI
12.1.2 Electric appliances for personal care	Deflation by the CPI
12.1.3 Other appliances, articles and products for personal care	Deflation by the CPI
12.2.0 Prostitution	Deflation by the price index of tariffs charged by prostitutes
12.3.1 Jewellery, clocks and watches	Deflation by the CPI
12.3.2 Other personal effects	Deflation by the CPI
12.4.0 Social protection	Deflation by the CPI
12.5.1 Life insurance	Extrapolation by number of life insurance policies
12.5.2 Insurance connected with the dwelling	Extrapolation by number of dwelling insurance policies
12.5.3 Insurance connected with health	Extrapolation by number of health insurance policies
12.5.4 Insurance connected with transport	Extrapolation by number of car insurance policies
12.5.5 Other insurance	Extrapolation by number of all other insurance policies
12.6.1 FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption
12.6.2 Other financial services n.e.c.	Deflation by the CPI
12.7.0 Other services n.e.c.	Deflation by the CPI

4.3 NPISH final consumption expenditure

NPISH final consumption expenditure at current prices amounts to EUR 274 million or 0.8% of GDP. It equals output compiled by the input approach less any market and similar revenue (sales).

The procedure for the compilation of NPISH final consumption expenditure at constant prices is the same as for current prices, i.e. it is estimated as output at constant prices less sales at constant prices. The compilation is done for six activities:

- L Public administration and defence; compulsory social security;
- M Education;
- N Health and social work;
- 91 Activities of membership organizations n.e.c.;

– 92 Recreational, cultural and sporting activities;
– other activities n.e.c.

For all mentioned activities, output at constant prices is estimated by the input approach as a sum of value added and intermediate consumption, both at constant prices. The procedure is described in detail in Chapter 3 (3.13.3, 3.14.3, 3.15.3 and 3.16.3). Sales at constant prices for all activities are estimated by equalizing their volume growth rate to output volume growth rate. The method used for the estimation of NPISH final consumption expenditure at constant prices classifies as a C method.

4.4 General government final consumption expenditure

General government final consumption expenditure at current prices amounts to EUR 5,990 million, which is 17.3% of GDP. It is composed of two components: individual consumption expenditure (EUR 3,594 million or 60.0% of the total) and collective consumption expenditure (EUR 2,396 million or 40.0% of the total).

The volume estimates of general government final consumption expenditure are prepared in a similar way as current price estimates. They are calculated as output less sales plus transfers in kind of market products via market producers directly to households as final consumers, all at constant prices.

The compilation of output at constant prices and sales at constant prices is performed for seven activities:

– 70.2 Letting of own property;
– L Public administration and defence; compulsory social security;
– M Education;
– 85.1 Human health activities;
– 85.3 Social work activities;
– 92 Recreational, cultural and sporting activities;
– other activities n.e.c.

For education (SKD 80) and social work activities (SKD 85.3) output is compiled by the direct output method and for other activities by the input method. Methods used are described in detail in Chapter 3 (3.13.2, 3.14.2, 3.15.2 and 3.16.2). Sales at constant prices are compiled by applying the same ratio to the volume of output as at current prices.

Transfers in kind of market products via market producers directly to households are broken down into nine components which are then separately deflated by the consumer price index. These components are: pharmaceutical products, other medical products, therapeutic appliances and equipment, out of hospital health services, out of hospital dental services, out of hospital other health services, hospital services, social care services and educational services.

According to the handbook, input methods used classify as C methods. The exception is collective services produced by public administration and defence, for which the input method can be a B method. Output methods for individual services meet criteria for A or B methods. For social transfers in kind consisting of goods and services purchased by general government from the market, deflation by the consumer price index is an A method.

4.5 Gross fixed capital formation

Gross fixed capital formation at current prices is estimated at EUR 9,571 million, which is 87.4% of gross capital formation or 27.7% of GDP. The most important aggregates are gross fixed capital formation in buildings and structures with a 55.5% share and gross fixed capital formation in machinery and equipment with a 39.4% share.

Gross fixed capital formation at constant prices is estimated by deflating current price value of individual components by price indices. Components of buildings and structures are mostly deflated by the construction cost index (CCI), and components of machinery and equipment by the producer price index of manufactured goods (PPI). Gross fixed capital formation in computers and office equipment, and medical, optical and other similar equipment is deflated by the consumer price index. Gross fixed capital formation in other product groups is deflated by the consumer price index, the construction cost index, the external trade unit value index (UVI), the agricultural input price index and the implicit output deflator. The stratification of products and methods used are presented in Table 4.2. The method used can be generally classified as a B method.

Volume estimates of gross fixed capital formation by activities are prepared at the two-digit level of the SKD. For the deflation of gross fixed capital formation in individual products, the same deflator is used for all activities.

Table 4.2 Volume estimate of gross fixed capital formation

Stratification	Method
Dwellings	Deflation by the CCI and the CPI
Non-residential buildings	Deflation by the CCIs
Construction and engineering work	Deflation by the CCIs
Passenger cars	Deflation by the CPI
Trucks, trailers and lorries	Deflation by the UVIs
Other transport equipment	Deflation by the UVIs
Metal products	Deflation by the PPI
Machinery for production	Deflation by the PPI
Machinery for special purpose	Deflation by the PPI
Agricultural and forestry machinery	Deflation by the PPI
Computers and office equipment	Deflation by the CPI
Electrical equipment	Deflation by the PPI
Electronic equipment and apparatus	Deflation by the PPI
Medical, optical and other similar equipment	Deflation by the CPI
Furniture and fixtures	Deflation by the PPI
Breeding stock	Deflation by the UVI
Orchard development	Deflation by the agricultural input price index and the CCI
Computer software, purchased	Deflation by the CPI
Computer software, produced on own account	Deflation by the implicit output deflator of the activity 72 Computer and related activities
Literary and artistic originals	Deflation by the CPI
Other intangible fixed assets	Deflation by the CPI
Land improvements	Deflation by the CCI
Transaction costs	Deflation by the CPI

4.6 Changes in inventories

Changes in inventories at current prices amount to EUR 1,363 million or 12.4% of gross capital formation or 3.9% of GDP.

The method for obtaining volume estimates of changes in inventories is the deflation by price index. Changes in inventories are first broken down into four types of inventories (finished goods, work-in-progress, raw material and supplies, trade goods), of which changes in inventories of work-in-progress, and raw material and supplies are further broken down into inventories in agriculture and inventories in other sectors. Each individual component is then separately deflated. The stratification of changes in inventories and methods used to obtain volume estimates are shown in Table 4.3. The method used can be classified as a B method.

To obtain volume estimates by activities, the same deflator is used for a particular type of inventories for all activities. The deflation by activities is done at the two-digit level of the SKD.

Table 4.3 Volume estimate of changes in inventories

Stratification	Method
Finished goods	Deflation by the PPIs
Work-in-progress – agriculture	Deflation by the implicit deflator for inventories of livestock for slaughter
Work-in-progress – other sectors	Deflation by the PPI and the CCIs
Raw material and supplies – agriculture	Deflation by the PPI of agricultural products
Raw material and supplies – other sectors	Deflation by the PPI
Trade goods	Deflation by the CPI

4.7 Acquisitions less disposals of valuables

The value of acquisitions less disposals of valuables is small, amounting to EUR 21 million at current prices, which is 0.2% of total gross capital formation.

Volume estimates of acquisitions less disposals of valuables are obtained using the consumer price index for deflating the current price value. The method used can be classified as a B method. To obtain volume estimates by activities, the same deflator is used for all activities at the two-digit level of the SKD.

4.8 Exports and imports of goods

In 2007, exports of goods at current prices amounted to EUR 19,798 million and contributed 57.3% to GDP or 82.4% to total exports of goods and services. Imports of goods at current prices amounted to EUR 21,490 million, which is 62.2% of GDP or 87.2% of total imports of goods and services.

Exports and imports of goods at constant prices are mainly estimated by deflating current price values by genuine export price indices (ExPI), which are part of producer price indices of manufactured goods, and genuine import price indices (ImPI). For some product groups with homogeneous products, current price values are deflated by unit value indices of exports and imports. For product groups for which there are neither export or import price indices nor unit value indices of exports and imports the harmonized consumer price index of the EU is used. The deflation is performed at the three-digit level of the Classification of Products by Activity (CPA).

The deflation by genuine price indices to obtain volume estimates of exports and imports of goods is classified as an A method. Other methods used to obtain volume estimates can be classified as B methods. The stratification of products and methods used are shown in Table 4.4.

Table 4.4 Volume estimate of exports and imports of goods

Stratification	Method	
	exports	imports
01.1 Crops, products of market gardening and horticulture	Deflation by the UVI	Deflation by the ImPI
01.2 Live animals and animal products	Deflation by the UVI	Deflation by the ImPI
02.0 Products of forestry, logging and related services	Deflation by the UVI	Deflation by the ImPI
05.0 Fish and other fishing products, services incidental to fishing	Deflation by the UVI	Deflation by the HICP-EU
10.1 Hard coal	Deflation by the UVI	Deflation by the UVI
10.2 Lignite	Deflation by the UVI	Deflation by the UVI
10.3 Peat	Deflation by the UVI	Deflation by the ImPI
11.1 Crude petroleum and natural gas	Deflation by the ExPI	Deflation by the UVI
13.1 Iron ores	Deflation by the UVI	Deflation by the ImPI
13.2 Non-ferrous metal ores, except uranium and thorium ores	Deflation by the UVI	Deflation by the ImPI
14.1 Stone	Deflation by the UVI	Deflation by the ImPI
14.2 Sand and clay	Deflation by the ExPI	Deflation by the ImPI
14.3 Chemical and fertilizer minerals	Deflation by the ExPI	Deflation by the ImPI
14.4 Salt	Deflation by the UVI	Deflation by the ImPI
14.5 Other mining and quarrying products n.e.c.	Deflation by the ExPI	Deflation by the ImPI
15.1 Meat and meat products	Deflation by the ExPI	Deflation by the ImPI
15.2 Processed and preserved fish and fish products	Deflation by the ExPI	Deflation by the ImPI
15.3 Processed and preserved fruit and vegetables	Deflation by the ExPI	Deflation by the ImPI
15.4 Animal and vegetable oils and fats	Deflation by the ExPI	Deflation by the ImPI
15.5 Dairy products and ice cream	Deflation by the ExPI	Deflation by the ImPI
15.6 Grain mill products, starches and starch products	Deflation by the ExPI	Deflation by the ImPI
15.7 Prepared animal feeds	Deflation by the UVI	Deflation by the ImPI
15.8 Other food products	Deflation by the ExPI	Deflation by the ImPI
15.9 Beverages	Deflation by the ExPI	Deflation by the ImPI
16.0 Tobacco products	Deflation by the HICP-EU	Deflation by the ImPI
17.1 Textile yarn and thread	Deflation by the ExPI	Deflation by the ImPI
17.2 Textile fabrics	Deflation by the ExPI	Deflation by the ImPI
17.3 Textile finishing services	Deflation by the UVI	Deflation by the ImPI
17.4 Made-up textile articles, except apparel	Deflation by the ExPI	Deflation by the ImPI
17.5 Other textiles	Deflation by the ExPI	Deflation by the ImPI
17.6 Knitted or crocheted fabrics	Deflation by the UVI	Deflation by the ImPI
17.7 Knitted and crocheted articles	Deflation by the ExPI	Deflation by the ImPI
18.1 Leather clothes	Deflation by the ExPI	Deflation by the ImPI
18.2 Other wearing apparel and accessories	Deflation by the ExPI	Deflation by the ImPI
18.3 Furs, articles of fur	Deflation by the ExPI	Deflation by the ImPI
19.1 Leather	Deflation by the ExPI	Deflation by the ImPI
19.2 Luggage, handbags and the like, saddlery and harness	Deflation by the ExPI	Deflation by the ImPI
19.3 Footwear	Deflation by the ExPI	Deflation by the ImPI
20.1 Wood, sawn, planed or impregnated	Deflation by the ExPI	Deflation by the ImPI

Table 4.4 Volume estimate of exports and imports of goods (continued)

Stratification	Method	
	exports	imports
20.2 Veneer sheets, plywood, laminboard and other panels and boards	Deflation by the ExPI	Deflation by the ImPI
20.3 Builders' joinery and carpentry, of wood	Deflation by the ExPI	Deflation by the ImPI
20.4 Wooden containers	Deflation by the ExPI	Deflation by the ImPI
20.5 Other products of wood, articles of cork, straw	Deflation by the ExPI	Deflation by the ImPI
21.1 Pulp, paper and paperboard	Deflation by the ExPI	Deflation by the ImPI
21.2 Articles of paper and paperboard	Deflation by the ExPI	Deflation by the ImPI
22.1 Books, newspapers and other printed matter and recorded media	Deflation by the ExPI	Deflation by the ImPI
22.2 Printing services and services related to printing	Deflation by the ExPI	Deflation by the ImPI
23.1 Coke oven products	Deflation by the UVI	Deflation by the UVI
23.2 Refined petroleum products	Deflation by the UVI	Deflation by the UVI
23.3 Nuclear fuel	Deflation by the UVI	Deflation by the ImPI
24.1 Basic chemicals	Deflation by the ExPI	Deflation by the ImPI
24.2 Pesticides and other agro-chemical products	Deflation by the ExPI	Deflation by the ImPI
24.3 Paints, varnishes and similar coatings, printing ink and mastics	Deflation by the ExPI	Deflation by the ImPI
24.4 Pharmaceuticals, medicinal chemicals and botanical products	Deflation by the ExPI	Deflation by the ImPI
24.5 Glycerol, soap and detergents, cleaning and polishing preparations	Deflation by the ExPI	Deflation by the ImPI
24.6 Other chemical products	Deflation by the ExPI	Deflation by the ImPI
24.7 Man-made fibres	Deflation by the ExPI	Deflation by the ImPI
25.1 Rubber products	Deflation by the ExPI	Deflation by the ImPI
25.2 Plastic products	Deflation by the ExPI	Deflation by the ImPI
26.1 Glass and glass products	Deflation by the ExPI	Deflation by the ImPI
26.2 Non-refractory ceramic goods other than for construction purposes	Deflation by the ExPI	Deflation by the ImPI
26.3 Ceramic tiles and flags	Deflation by the ExPI	Deflation by the ImPI
26.4 Bricks, tiles and construction products, in baked clay	Deflation by the ExPI	Deflation by the ImPI
26.5 Cement, lime and plaster	Deflation by the ExPI	Deflation by the ImPI
26.6 Articles of concrete, plaster and cement	Deflation by the ExPI	Deflation by the ImPI
26.7 Cut, shaped and finished ornamental and building stone	Deflation by the ExPI	Deflation by the ImPI
26.8 Other non-metallic mineral products	Deflation by the ExPI	Deflation by the ImPI
27.1 Basic iron and steel and ferro-alloys	Deflation by the UVI	Deflation by the UVI
27.2 Tubes	Deflation by the ExPI	Deflation by the ImPI
27.3 Other first processed iron and steel	Deflation by the ExPI	Deflation by the ImPI
27.4 Basic precious metals and other non-ferrous metals	Deflation by the ExPI	Deflation by the UVI
28.1 Structural metal products	Deflation by the ExPI	Deflation by the ImPI
28.2 Tanks, reservoirs and containers of metal, central heating radiators	Deflation by the ExPI	Deflation by the ImPI
28.3 Steam generators, except central heating hot water boilers	Deflation by the ExPI	Deflation by the ImPI
28.6 Cutlery, tools and general hardware	Deflation by the ExPI	Deflation by the ImPI
28.7 Other fabricated metal products	Deflation by the ExPI	Deflation by the ImPI
29.1 Machinery for the production and use of mechanical power	Deflation by the ExPI	Deflation by the ImPI
29.2 Other general purpose machinery	Deflation by the ExPI	Deflation by the ImPI
29.3 Agricultural and forestry machinery	Deflation by the ExPI	Deflation by the ImPI
29.4 Machine tools	Deflation by the ExPI	Deflation by the ImPI
29.5 Other special purpose machinery	Deflation by the ExPI	Deflation by the ImPI
29.6 Weapons and ammunition	Deflation by the ExPI	Deflation by the ImPI

Table 4.4 Volume estimate of exports and imports of goods (continued)

Stratification	Method	
	exports	imports
29.7 Domestic appliances n.e.c.	Deflation by the ExPI	Deflation by the ImPI
30.0 Office machinery and computers	Deflation by the ExPI	Deflation by the ImPI
31.1 Electric motors, generators and transformers	Deflation by the ExPI	Deflation by the ImPI
31.2 Electricity distribution and control apparatus	Deflation by the ExPI	Deflation by the ImPI
31.3 Insulated wire and cable	Deflation by the ExPI	Deflation by the ImPI
31.4 Accumulators, primary cells and primary batteries	Deflation by the ExPI	Deflation by the ImPI
31.5 Lighting equipment and electric lamps	Deflation by the ExPI	Deflation by the ImPI
31.6 Electrical equipment n.e.c.	Deflation by the ExPI	Deflation by the ImPI
32.1 Electronic valves and tubes and other electronic components	Deflation by the ExPI	Deflation by the ImPI
32.2 Television and radio transmitters, apparatus for line telephony	Deflation by the ExPI	Deflation by the ImPI
32.3 Television and radio receivers, sound or video recording	Deflation by the HICP-EU	Deflation by the ImPI
33.1 Medical and surgical equipment and orthopaedic appliances	Deflation by the HICP-EU	Deflation by the ImPI
33.2 Instruments and appliances for measuring, checking, testing	Deflation by the ExPI	Deflation by the ImPI
33.4 Optical instruments and photographic equipment	Deflation by the ExPI	Deflation by the ImPI
33.5 Watches and clocks	Deflation by the ExPI	Deflation by the ImPI
34.1 Motor vehicles	Deflation by the ExPI	Deflation by the ImPI
34.2 Bodies (coachwork) for motor vehicles, trailers and semi-trailers	Deflation by the ExPI	Deflation by the ImPI
34.3 Parts and accessories for motor vehicles and their engines	Deflation by the ExPI	Deflation by the ImPI
35.1 Ships and boats	Deflation by the ExPI	Deflation by the ImPI
35.2 Railway and tramway locomotives and rolling-stock	Deflation by the ExPI	Deflation by the ImPI
35.3 Aircraft and spacecraft	Deflation by the ExPI	Deflation by the ImPI
35.4 Motorcycles and bicycles	Deflation by the ExPI	Deflation by the ImPI
35.5 Other transport equipment n.e.c.	Deflation by the ExPI	Deflation by the ImPI
36.1 Furniture	Deflation by the ExPI	Deflation by the ImPI
36.2 Jewellery and related articles	Deflation by the ExPI	Deflation by the ImPI
36.3 Musical instruments	Deflation by the ExPI	Deflation by the ImPI
36.4 Sports goods	Deflation by the ExPI	Deflation by the ImPI
36.5 Games and toys	Deflation by the ExPI	Deflation by the ImPI
36.6 Miscellaneous manufactured goods n.e.c.	Deflation by the ExPI	Deflation by the ImPI
40.1 Production and distribution services of electricity	Deflation by the HICP-EU	Deflation by the HICP-EU
40.2 Manufactured gas and distribution services of gaseous fuels	Deflation by the UVI	Deflation by the UVI
72.2 Software consultancy and supply services	Deflation by the HICP-EU	Deflation by the HICP-EU
74.2 Architectural, engineering and related services	Deflation by the HICP-EU	Deflation by the HICP-EU
74.8 Miscellaneous business services n.e.c.	Deflation by the HICP-EU	Deflation by the HICP-EU
90.0 Sewage and refuse disposal services, sanitation and similar services	Deflation by the HICP-EU	Deflation by the HICP-EU
92.1 Motion picture and video services	Deflation by the HICP-EU	Deflation by the HICP-EU
92.3 Other entertainment services	Deflation by the HICP-EU	Deflation by the HICP-EU
93.0 Other services	Deflation by the HICP-EU	Deflation by the HICP-EU
Unallocated	Deflation by the ExPI	Deflation by the ImPI

The described method is used for volume estimates of exports and imports of goods for years from 2007 inclusive on. For years prior to 2007, another method was used: volume estimates of exports and imports of goods were prepared by deflating current price values by external trade unit value indices calculated according to the Paasche formula. The deflation was performed at the two-digit level of the Standard International Trade Classification (SITC) with the

exception of road vehicles (SITC group 78), where the deflation took place at the three-digit level. For the SITC group "Office machines and automatic data processing machines" the consumer price index was used for deflation. For this group of products substantial increases in quality are typical and the deflation by the consumer price index was considered to be a more correct method than the deflation by the external trade unit value index.

4.9 Exports and imports of services

Exports of services at current prices in 2007 amounted to EUR 4,242 million and accounted for 12.3% of GDP or 17.6% of total exports of goods and services. In national accounts exports of services are divided into two main categories: tourism (non-resident expenditure in Slovenia, 39.3% of the total) and exports of other services (60.7% of the total). Imports of services amounted to EUR 3,146 million and accounted for 9.1% of GDP or 12.8% of total imports of goods and services. In national accounts imports of services are divided into two main categories: travel services (22.3% of the total) and other services (77.7% of the total). Imports of travel services is further divided into business travel expenditure and households' expenditure (tourism).

The prevailing method for the estimation of exports of services at constant prices is the deflation by price index. Total exports of services is broken down into eleven components: transport services, construction services, communication services, financial services, insurance services, business services, personal services, government services, FISIM, general government services in the amount of 25% of import duties, and tourism services. Each individual component is separately estimated at constant prices:

– FISIM are estimated in the same way as in other parts of the system, i.e. by the application of base year interest margin on loans and deposits to the stock of loans and deposits revaluated to base year prices by the implicit deflator for domestic final consumption;
– exports of general government services in the amount of 25% of import duties is deflated by the implicit output deflator for the general government part of the activity L Public administration and defence; compulsory social security (Chapter 3.13.2);
– exports of all other services are deflated by the harmonized consumer price index of the EU.

The breakdown of services and methods used to arrive at the volume estimate of exports of services is shown in Table 4.5. The methods used can, in general, be classified as B methods.

Table 4.5 Volume estimate of exports of services

Stratification	Method
Transport services	Deflation by the HICP-EU
Construction services	Deflation by the HICP-EU
Communication services	Deflation by the HICP-EU
Financial services	Deflation by the HICP-EU
Insurance services	Deflation by the HICP-EU
Business services	Deflation by the HICP-EU
Personal services	Deflation by the HICP-EU
Government services	Deflation by the HICP-EU
FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption
General government services (25% of import duties)	Deflation by the implicit output deflator for the general government part of the activity L Public administration and defence; compulsory social security
Tourism services	Deflation by the HICP-EU

Imports of services at constant prices are compiled in a similar way as exports of services. The total aggregate is broken down into twelve components, each being separately estimated at constant prices. These components are: transport services, construction services, communication services, financial services, insurance services, business services, personal services, government services, tour operators/agencies services, FISIM, business travel expenditure and tourism services. All components except FISIM are estimated at constant prices by deflating current price values by the harmonized consumer price index of the EU. FISIM are estimated in the standard way, i.e. by the application of base year interest margin on loans and deposits to the stock of loans and deposits revaluated to base year prices by the implicit deflator for domestic final consumption. The breakdown of services and methods used to compile imports of services at constant prices are presented in Table 4.6. Methods used can, in general, be classified as B methods.

Table 4.6 Volume estimate of imports of services

Stratification	**Method**
Transport services	Deflation by the HICP-EU
Construction services	Deflation by the HICP-EU
Communication services	Deflation by the HICP-EU
Financial services	Deflation by the HICP-EU
Insurance services	Deflation by the HICP-EU
Business services	Deflation by the HICP-EU
Personal services	Deflation by the HICP-EU
Government services	Deflation by the HICP-EU
Tour operators, agencies services	Deflation by the HICP-EU
FISIM	The same interest rate as in the base year plus deflation by the implicit deflator for domestic final consumption
Business travel expenditure	Deflation by the HICP-EU
Tourism services	Deflation by the HICP-EU

CHAPTER 5

OTHER MAIN NATIONAL ACCOUNTS AGGREGATES

Other main national accounts aggregates are gross domestic income, gross national income, gross national disposable income, and gross and net saving. They are typically expressed at current prices, but they can also be expressed in real terms. As it is not possible to separate income flows into a price component and a volume component, it is not possible to calculate them at constant prices. It is only possible to deflate them by a selected price index and thus measure the change in their purchasing power. By comparing the deflated value of the income with its current price value in the base year, it is possible to determine by how much the real purchasing power of the income has changed. Income deflated in this way is described as "real income".

Real main national accounts aggregates are calculated in the following way:

	Gross domestic product at constant prices
plus	the trading gain or loss resulting from changes in the terms of trade
equals	*real gross domestic income*
plus	real primary incomes receivable from abroad
minus	real primary incomes payable abroad
equals	*real gross national income*
plus	real current transfers receivable from abroad
minus	real current transfers payable abroad
equals	*real gross national disposable income*
minus	domestic final consumption expenditure at constant prices
equals	*real gross saving*
minus	consumption of fixed capital at constant prices
equals	*real net saving*.

The trading gain or loss resulting from changes in the terms of trade is calculated as the difference between the revalued external trade balance, and the difference between the revalued exports and revalued imports with the following formula:

$$T = \frac{X - M}{P} - \left(\frac{X}{P_X} - \frac{M}{P_M} \right)$$

T	the trading gain or loss resulting from changes in the terms of trade
X	exports at current prices
M	imports at current prices
P_X	price index for exports
P_M	price index for imports
P	price index

Price index P is calculated as the arithmetic average between the price index for exports and the price index for imports (Geary formula):

$$P = \frac{1}{2}\left(P_X + P_M\right)$$

This gives the following terms of trade effect:

$$T = \left(\frac{P_X - P_M}{P_X + P_M}\right)\left(\frac{X}{P_X} + \frac{M}{P_M}\right)$$

Real primary incomes receivable from abroad, real primary incomes payable abroad, real current transfers receivable from abroad and real current transfers payable abroad are estimated by deflating current price values by the implicit deflator of domestic consumption expenditure. Consumption of fixed capital at constant prices is compiled by deflating current price value by the implicit deflator of gross fixed capital formation.

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