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# NATIONAL ACCOUNTS
# VOLUME ESTIMATES INVENTORY

# (ESA 2010)

**WP2, deliverable D2.3-Annex to the final technical report**

**June 2025**

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# Abbreviations

| | |
|---|---|
| AN | Classification of assets |
| CCI | Construction cost index |
| CIF | Cost, insurance, freight |
| CN | Combined nomenclature |
| COICOP | Classification of individual consumption according to purpose 2018 |
| CPA | Statistical classification of products by activity, version 2.1 |
| CPI | Consumer price index |
| CSB | Central Statistical Bureau of Latvia |
| ECOICOP | European classification of individual consumption according to purpose |
| ESA 2010 | European System of Accounts 2010 |
| EU | European Union |
| Eurostat | Statistical office of the European Union |
| EUVI | Export unit value index |
| FISIM | Financial intermediation services indirectly measured |
| FOB | Free on board |
| GDP | Gross domestic product |
| GNI | Gross national income |
| GFCF | Gross fixed capital formation |
| GVA | Gross value added |
| HFCE | Household final consumption expenditure |
| HPVM | Handbook on price and volume measures in national accounts |
| HICP | Harmonised index of consumer prices |
| ICD | International classification of diseases |
| ImM | Import indices matrix |
| IPI | Import price index |

| | |
|---|---|
| ISCED | International standard classification of education |
| ISCO | International standard classification of occupations |
| IUVI | Import unit value index |
| NA | National accounts |
| NACE | Statistical classification of economic activities, revision 2 |
| NPISHs | Non-profit institutions serving households |
| OOHPI | Owner-occupied housing price index |
| PIM | Perpetual inventory method |
| PPI | Producer price index |
| QNA | Quarterly national accounts |
| SPPI | Service producer price index |
| SRS | State Revenue Service |
| SUT | Supply and use tables |
| UN | The United Nations |
| VAT | Value added tax |

# Chapter 1: Introduction

1.0.1. The Central Statistical Bureau of Latvia (CSB) compiles the annual national accounts for Latvia. According to the laws of the Republic of Latvia, regulations of the Cabinet of Ministers, and the CSB's own regulations, the CSB operates under the supervision of the Ministry of Economics. CSB is the leading institution for performing and coordinating statistical work in the country.

1.0.2. The annual national accounts figures, both at current prices and constant prices, are compiled following the European System of Accounts 2010 (ESA 2010) as defined in Regulation (EU) No 549/2013 of the European Parliament and the Council of 21 May 2013[1]. Additionally, the requirements of Regulation (EU) 2023/734 of the European Parliament and the Council of 15 March 2023[2], which amends Regulation (EU) No 549/2013, are followed.

1.0.3. For the development of volume and price methodology in national accounts (NA) statistics, the following manuals and handbooks are used:

- Eurostat Handbook on Price and Volume Measures in National Accounts, 2016 edition[3] (hereafter – HPVM)
- Eurostat Manual of Supply, Use and Input-Output Tables, 2008 edition[4]
- United Nations Handbook on Supply, Use and Input-Output Tables with Extensions and Applications[5].

1.0.4. The basic principles for estimating national accounts aggregates at constant prices are as follows (see chapter 1.3 of the HPVM):

> *"Price and volume measures have to be constructed for each aggregate of transactions in products within the accounts so that*
>
> $$\textit{value index} = \textit{price index} \times \textit{volume index}$$
>
> *Each and every change in the value of a given flow must be attributed either to a change in price or to a change in volume or to a combination of the two*
>
> *Price component should include only changes in price*
>
> *All other changes should be reflected in changes in volumes*
>
> *The volume index can be broken down into the following three components: changes due to changes in the quantity of the products, changes due to changes in the characteristics of the products (quality) and changes due to compositional changes in an aggregate (for example shifts between markets with different prices, shift from or to higher quality products)."*

1.0.5. For aggregating elementary indices, volume indices are aggregated using the Laspeyres formula and price indices using the Paasche formula.

[1] Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts in the European Union

[2] Regulation (EU) 2023/734 of the European Parliament and of the Council of 15 March 2023 amending Regulation (EU) No 549/2013 on the European system of national and regional accounts in the European Union and repealing 11 legal acts in the field of national accounts

[3] https://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/ks-gq-14-005

[4] https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-013

[5] https://unstats.un.org/unsd/nationalaccount/capdev/resources/details?ResourceType=handbook&ResourceID=36

1.0.6. In national accounts, methods for prices and volumes are classified into A/B/C categories, as described in HPVM chapter 1.4:

> ***A methods:*** *most appropriate methods;*
>
> ***B methods:*** *those methods which can be used in case an A method cannot be applied; and*
>
> ***C methods:*** *those methods which shall not be used.*

1.0.7. This classification helps identify the methods used in Latvia for price and volume estimation and guides potential improvements. Various factors, such as insufficient data granularity, can prevent achieving the quality levels of A/B methods.

1.0.8. In Latvia, the development of price and volume methodology and improvements in compilation processes can be divided into three main stages:

- **Before 2023:** For gross domestic product (GDP) from the production approach, the single indicator method was predominantly used, i.e., output and intermediate consumption both were deflated by a price index for output or extrapolated in the base year by a volume index for output. Volume estimates of GDP from expenditure approach were compiled independently from GDP from the production approach. Statistical discrepancy between two GDP approaches were recorded in the GDP indicator from expenditure approach - changes in inventories.
- **In 2019:** The methodology for calculating supply and use tables (SUT) in volume terms was developed through Eurostat grant project. For estimating SUT at previous year prices, Latvia chose to use the "H-Approach" method (see paragraphs 1.0.10 to 1.0.31 for more details).
- **In 2023:** For the first time, annual GDP estimates at previous year prices at period t+21 months were compiled within the SUT framework, which ensures that the gross value added (GVA) at previous year prices is calculated using the double deflation method that is preferred method according to the ESA 2010. Whereby GVA in previous years' prices is derived by deducting intermediate consumption in previous years' prices from total output in previous years' prices. In addition, the constant price time series from 2019 onwards were revised, integrating the same methods from SUT results at previous year prices into GDP results.

1.0.9. This inventory on volume estimates describes the current data sources and methods used in compiling NA figures in volume terms. The previous methods, i.e., methods used for timeseries before year 2019, are briefly described in Annex 1of this inventory.

1.0.10. **Outline of the "H-Approach" method**

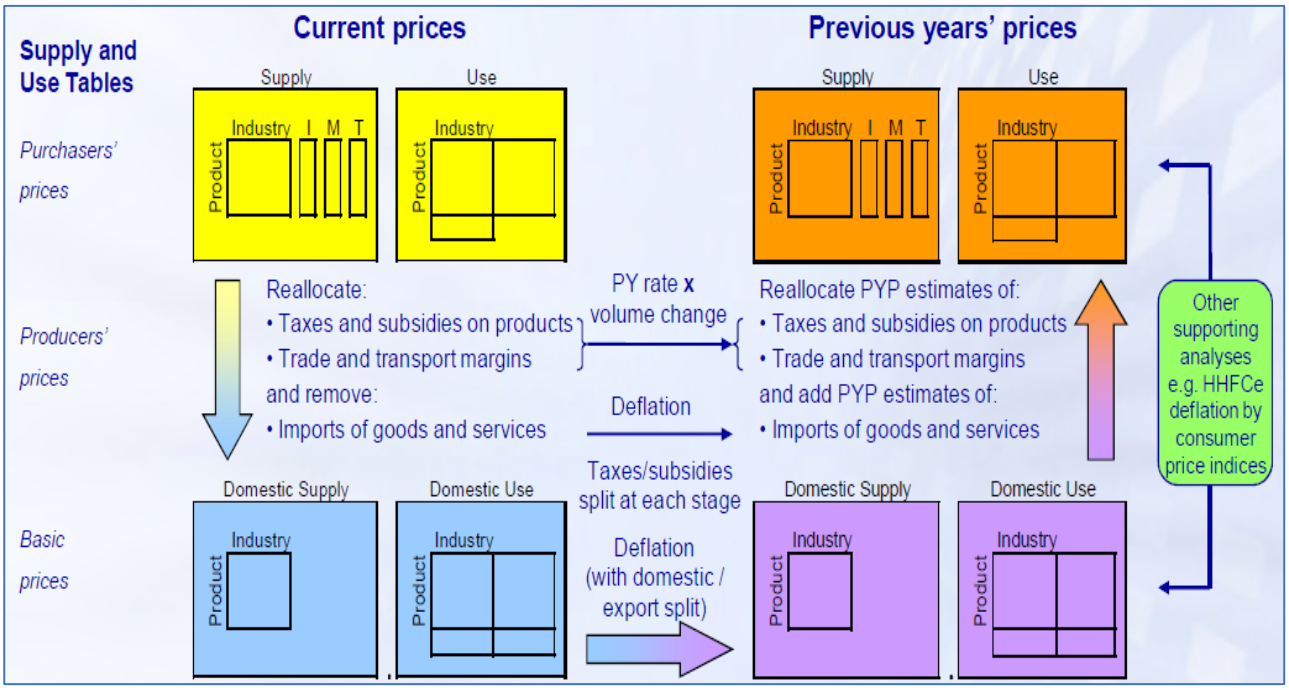
1.0.11. Latvia for compilation annual estimates of GDP at current and previous years' prices uses SUT framework where balanced results of GDP at both prices are achieved. Latvia for estimation SUT at previous years' prices uses "H-Approach" method.

1.0.12. This method is described in "UN Handbook on Supply, Use and Input-Output Tables with Extensions and Applications" (see Figure 1.1):

> "*On the left-hand side of the "H", the current price data are presented, whilst the right-hand side of the "H" presents the volume data in previous years' prices. In the middle, the joins through the deflation connection are shown*"[6].

[6] UN Handbook on Supply, Use and Input-Output Tables with Extensions and Applications

Figure 1.1 An overview of the compilation schematic linking SUTs in current prices and in volume terms – "H-Approach" [7]




1.0.13. In Latvia, the compilation of SUTs at current prices and in volume terms is organized through a sequential approach, i.e., firstly is obtained balanced current price SUTs at purchasers' prices and then SUTs are deflated, resulting in balanced SUTs in volume terms. In final step other supporting analysis is made, e.g. household final consumption expenditure deflation by consumer price indices and comparing with results obtained through "H-Approach". After analysing the results adjustments are made if necessary to obtain more qualitative results at current and in previous years' prices.

1.0.14. *Step 1*

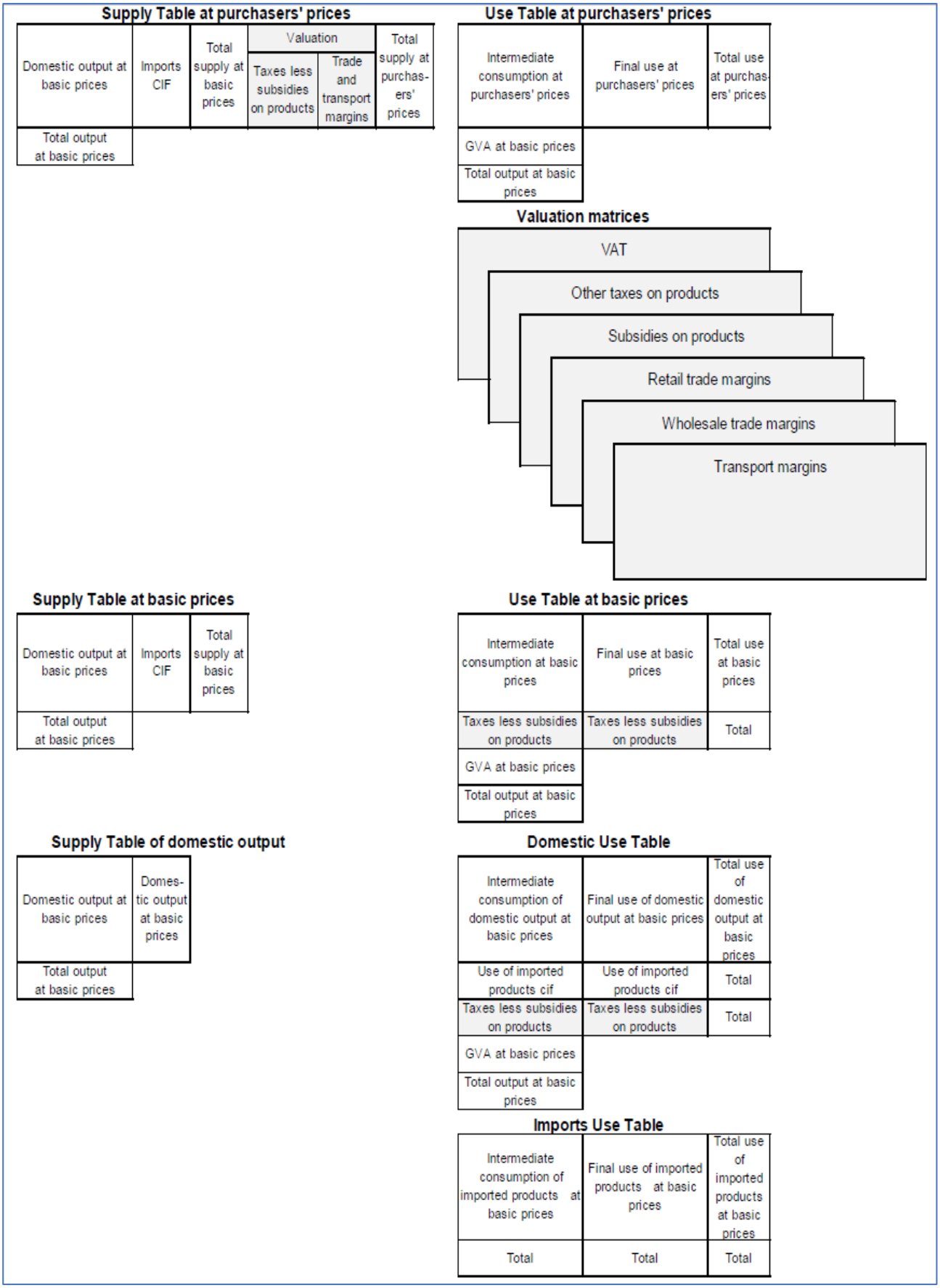
1.0.15. The balanced current price SUTs at purchasers' prices are obtained (i.e., top left-hand side of Figure 1.1). Then a set of additional tables/layers (i.e., middle of the left-hand side of Figure 1.1) are separated to decompose SUTs at current prices from purchasers' prices to basic prices:

- SUTs at purchasers' prices;
- valuation matrices:
  - taxes on products,
  - subsidies on products,
  - trade margins,
  - transport margins;
- SUTs at basic prices;
- domestic use table at basic prices;
- imports use table at basic prices.

1.0.16. The compilation of each of these matrices and tables in schematic way is provided in Figure 1.2. In practice, all valuation layers are more detailed depending on the availability of data sources. For example, the valuation layer "taxes on products" comprises multiple sub-layers based on the type of tax, such as value added tax, excise tax on alcohol, excise tax on tobacco, etc.

[7] Data source: "UN Handbook on Supply, Use and Input-Output Tables with Extensions and Applications"

Figure 1.2 Simplified SUTs system [8]

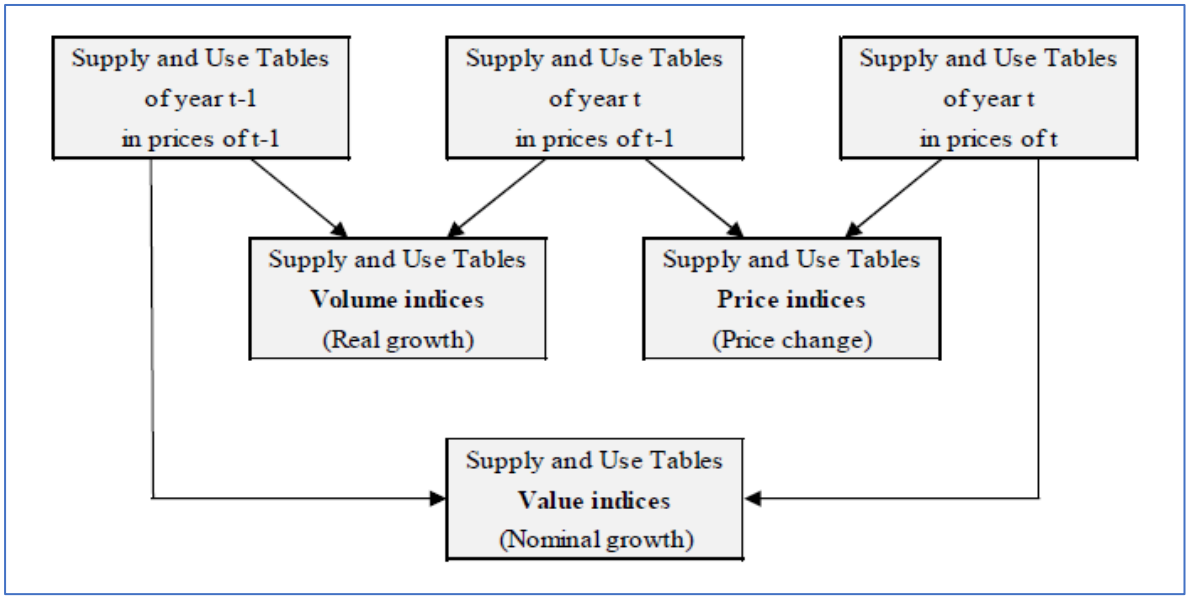



[8] Data source: "UN Handbook on Supply, Use and Input-Output Tables with Extensions and Applications"

1.0.17. At this stage, tables for imported goods and services and domestically produced goods and services at basic prices in the current prices (i.e. bottom of the left-hand side of Figure 1.1) form the first step in the "deflation" phase for compiling SUTs in volume terms.

1.0.18. In addition, for each SUT layer separately, is created a "six pack" of tables (see Figure 1.3). The "six pack" of tables is based on identities between SUTs in current prices and in volume terms.

Figure 1.3 Link between SUTs in current prices and in volume terms [9]




1.0.19. *Step 2*

1.0.20. The domestic use table at basic prices is deflated using appropriate price deflators (or use of volume indicators) and they are applied across each product in both the supply table and use table allowing for the separation of domestically consumed market output products and exported products:

- goods and services consumed domestically (intermediate consumption and final domestic consumption expenditure of market output products) are deflated using producer price indices,
- goods and services exported are deflated using export price indices.

1.0.21. The same approach is used for the imports of goods and services when applying import price indices.

1.0.22. The above step results in SUTs at basic prices in previous years' prices (i.e. bottom of the right-hand side of Figure 1.1). And as the SUTs in current prices in purchasers' prices and in basic prices are already balanced, the above step results in balanced SUTs at basic prices in previous years' prices.

1.0.23. *Step 3*

1.0.24. The deflation of the valuation matrices for trade margins, transport margins, taxes and subsidies on products is performed by applying volume change of the products related (i.e. middle of the right-hand side of Figure 1.1).

1.0.25. Trade margins at previous years' prices is calculated by applying a proxy for the estimation of the volume index of the trade margin on a product, based on the assumption that the volume

[9] Data source: "UN Handbook on Supply, Use and Input-Output Tables with Extensions and Applications"

change of trade margins equals the volume change of the underlying product flow, i.e. margin-to-sales ratios are constant in previous year's prices.

1.0.26. For the transport margins at previous years' prices similar assumption is applied as for trade margins, i.e. the assumption that the volume change of transport margins equals the volume change of the transported products.

1.0.27. Taxes (subsidies) on products affect the price of a product and not the volume and therefore for deflation is applied a requirement that the volume index of the value including tax (subsidy) of a product equals the volume index of the value excluding tax (subsidy), i.e. the volume index of the tax is equal the volume index at basic prices of the product on which the tax (subsidy) is applied.

1.0.28. *Step 4*

1.0.29. In the final step the compilation of SUTs at purchasers' prices in previous years' prices (i.e. top of the right-hand side of Figure 1.1) is performed by adding the SUTs at basic prices and the valuation matrices in previous years' prices obtained in the previous steps.

1.0.30. As the calculations of SUTs at previous years' prices starts with balanced SUTs at purchasers' prices in current prices, each transitionary step creates a balanced matrix. Therefore, the resulting SUTs in previous years' prices both at basic prices and at purchasers' prices are also balanced.

1.0.31. At this stage, additional plausibility checks are performed. For example, the use of household final consumption expenditure in volume terms using consumer price indices, i.e. confrontation of the resulting implicit price indices from the SUTs at purchasers' prices with observed purchasers' price indices like the consumer price indices. The re-evaluation and adjustment of earlier estimates is performed if necessary. Any adjustments resulting from the additional plausibility checks are incorporated in a balanced manner and improves plausibility and quality of the results.

1.0.32. **Outline of the production approach**

1.0.33. GDP from the production approach is calculated as the value added plus taxes on products minus subsidies on products.

1.0.34. Value added is determined by subtracting the value of intermediate consumption from the value of output of goods and services. Output refers to the total products created during the reference year, while intermediate consumption consists of the value of goods and services used during production.

1.0.35. Both output and intermediate consumption are deflated at product level using the Statistical classification of products by activity (CPA).

1.0.36. For output estimate the split – market output, non-market output and output for own-final use - is used. Market output and output for own final use mainly is deflated using producer price indices (PPIs), but for those products where PPIs are not available, other alternative indices such as consumer price indices (CPIs) or volume indices are used. If none of indices are available, then indices calculated by input method are used. For non-market output mostly indices calculated by input method are used.

1.0.37. Intermediate consumption is split between use of domestically produced products and imported products and then deflated accordingly with domestic price indices or import price indices.

1.0.38. Value added in volume terms is determined as the difference between output in volume terms and intermediate consumption in volume terms.

1.0.39. Taxes on products added to the total value added include taxes paid at the sale of products, such as value added tax (VAT), customs duties, and excise duties.

1.0.40. All taxes on products are categorized into two basic types: taxes based on the value of products and taxes based on the quantity of products. For deflating taxes on products based on quantities of products, additional information on quantity changes is collected. For example, for excise tax on alcohol, data from the State Revenue Service on changes in the quantities of alcohol released for consumption in territory of Latvia compared to the previous period is used. For taxes on products which are based on the value of the products (for example, VAT), the value at previous years' prices is calculated from volumes, i.e. the volume index of the tax equals to the volume index of the product on which the tax is applied.

1.0.41. Subsidies on products are calculated at detailed level of products considering that the volume index of the subsidy must equal the volume index at basic prices of the product for which the subsidy is applied.

1.0.42. **Outline of the expenditure approach**

1.0.43. Gross domestic product from the expenditure side at current and constant prices is calculated by summing final consumption expenditure, gross capital formation, exports of goods and services and minus imports of goods and services.

1.0.44. Estimates at previous years' prices at first are acquired from SUT in CPA classification. As households final consumption expenditures are compiled in Classification of individual consumption according to purpose (COICOP) the bridge tables from CPA and COICOP classification are used. The results at previous years' prices are evaluated in COICOP classification by comparing SUT results of price indices with harmonised indices of consumer prices (HICPs), if necessary SUT results are adjusted.

1.0.45. Final consumption expenditure by government and non-profit institutions serving households equals output minus all sale of market production, minus own account production and plus social transfer in kind.

1.0.46. Final consumption products related to non-market output is mainly deflated using price indices calculated by input method, i.e. the same indices as for non-market output. Health services are deflated using additional information on diagnosis related groups, costs for treatments and other relevant factors. Education services are deflated with volume indices using information of changes of number of pupils or students educated against previous period. The social transfers in kind are treated in similar way as final consumption expenditure of households, both results from basic prices with transformation to purchaser's prices are validated with the results which are acquired deflating social transfers in kind with CPIs.

1.0.47. The first results of gross fixed capital formation (GFCF) at constant prices are received from SUT at previous years' prices results. After that the results are analysed in Classification of assets (AN), for example acquired price index from SUT for GFCF in dwellings are analysed by comparing with consumer price index of the "Acquisition of dwellings" (the component of the owner-occupied housing price index).

1.0.48. Changes in inventories are split between domestically produced or acquired products and imported products and then deflated accordingly with domestic price indices or import price indices similarly as it is done for intermediate consumption.

1.0.49. Acquisition less disposals of valuables have negligible impact on GDP. For deflating these products appropriate PPIs by products are used.

1.0.50. Exports and imports of goods are deflated by CPA using export PPIs of goods or export unit value indices (EUVIs) and import price indices (IPIs). Estimations of exports and imports of

goods is performed in the SUT framework, considering breakdown of exports and imports of goods into Euro area[10], Intra EU Extra euro area[11] and Extra-EU[12].

1.0.51. Deflation of export of services depend on availability of relevant price indices. Mainly service producer price indices (SPPIs) are used, if for some products is not available SPPI then CPIs is used. The last choice of index is index calculated by input method (the same index as for output).

1.0.52. Deflation of import of services depend on availability of relevant price indices. If the IPI is available, it is used to deflate the import. If the IPI is not available, relevant importer countries' indices are acquired from the statistical office of the European Union (Eurostat) database and the United Nations (UN) statistical database. These indices are then adjusted for exchange rate impacts.

1.0.53. **Balancing the production and the expenditure approach**

1.0.54. The balancing process is a crucial and integral part of the methodology used for compiling national accounts statistics. This process aims to maximize the use of the diverse range of information collected and utilized in calculating the national accounts.

1.0.55. The goal of the balancing process is to produce a fully articulated and balanced set of accounts. This includes a single, definitive estimate of GDP at both current and constant prices, along with component series across the three measures that are entirely consistent with this estimate.

1.0.56. Latvia for compilation annual estimates of GDP at current and previous year prices uses SUT framework where balanced results of GDP at both prices is achieved. Latvia for estimation SUT at previous prices uses "H-Approach" method. The SUTs at purchasers' prices and at basic prices in current prices and in volume terms are compiled and balanced sequentially. The detailed description is provided in paragraphs 1.0.10 to 1.0.31.

1.0.57. **Base year and reference year**

1.0.58. The indicators at constant prices are expressed at prices of the previous (base) year and prices of the reference year (chain-linked).

1.0.59. To calculate GDP and its aggregates at the previous years' prices the actual prices of the previous calendar year are used as a base and the "annual average" method is applied where each current year is calculated at the average prices of the previous year.

1.0.60. To make the calculations, various deflators are used. Both price indices and volume indices are used as deflators. The following price indices are used: domestic producer price indices, export producer price indices, services producer price indices, consumer price indices, construction cost index, price indices of agricultural products, export unit value indices, import price indices. The following volume indices are used: change in number of employees and change in natural indicators (e.g., in removals, passenger number, freights, etc.).

1.0.61. To calculate GDP at the prices of the reference year (currently reference year is 2020) the indices calculated from the GDP aggregates at the prices of the previous (base) year are used. The chain-linking is executed using annual overlap method – volume estimates at the average prices of the previous year are used.

1.0.62. Chain-linked volumes are not additive, and it means that the data series are not aggregated by calculation levels (e.g., total gross value added is not equal to the sum of gross value added of all economic activities).

[10] EU Member States and Institutions of the euro area
[11] EU Member States and Institutions not belonging to the euro area
[12] Non-member countries and international organisations non- resident in the EU

1.0.63. **Publication practice and revision policy**

1.0.64. The publication schedule for national accounts data follows the requirements of the ESA 2010 Transmission Programme. Annual and quarterly national accounts data are directly aligned. This means that quarterly national accounts data are fully adjusted to annual data once the annual data are available.

1.0.65. Annual national accounts data are disseminated via the official statistical portal (https://stat.gov.lv/en/statistics-themes/economy) and are provided to Eurostat each year by September 30, in compliance with the T+21 months deadline. The published data are available in both Latvian and English. Before the T+21 months deadline, preliminary annual national accounts data estimates are provided with a T+2 months deadline (estimated as the sum of four quarters) and semi-final estimates with a T+9 months deadline, based on methods applied to quarterly national accounts data for both current and constant price estimates.

1.0.66. For most national accounts aggregates, the CSB publishes following constant price data:

- data estimated at previous years' prices and
- calculated chain-linked volume data at reference year prices (currently reference year is 2020).

1.0.67. Exceptions include GDP income approach estimates (available only at current prices) and other estimates that fluctuate between negative and positive values, such as changes in inventories, acquisition less disposals of valuables, and net exports of goods and services, for which chain-linked constant price estimates are not calculated.

1.0.68. The CSB also publishes the following indices:

- volume indices of gross domestic product (currently reference year is 2020),
- gross domestic product deflator and gross value added deflators by economic activity, according to the Statistical classification of economic activities (NACE).

1.0.69. The CSB regularly publishes in advance dissemination calendar with all planned annual accounts data dissemination dates (https://stat.gov.lv/en/calendar?activeTab=pending&Themes=%22125%22).

1.0.70. Within the revisions policy framework, the CSB follows the guidelines of the harmonised European revision policy[13] of national accounts regarding the timing and depth of revisions. Three kinds of revisions are identified:

- routine revisions,
- major revisions
- benchmark revisions

1.0.71. Major revisions go beyond routine revisions and usually influence all national accounts data series or at least a large part of them. Examples include the integration of results from work on Gross national income (GNI) action points or reservations set by Eurostat to countries within GNI verification cycle, or other revisions caused by changes in methods and/or sources.

1.0.72. Similarly, benchmark revisions also go beyond routine revisions and influence the entire national accounts data series. Benchmark revisions are implemented in years ending in "4" or "9". During benchmark revisions, all chain-linked data are recalculated to a new reference year. For example, during the 2024 benchmark revision, the reference year for chain-linked data was set to 2020.

[13] https://ec.europa.eu/eurostat/data/data-revision-policy

# Chapter 2: Main sources and methods

2.0.1. In Chapter 2 is provided detailed description of main data sources:

- Producer price indices (see paragraphs 2.0.2 to 2.0.17);
- Service producer price indices (see paragraphs 2.0.18 to 2.0.29);
- Harmonised index of consumer prices (see paragraphs 2.0.30 to 2.0.53);
- Construction cost index (see paragraphs 2.0.54 to 2.0.66);
- Owner-occupied housing price index (see paragraphs 2.0.67 to 2.0.90);
- Wholesale and retail trade (see paragraphs 2.0.91 to 2.0.92);
- Input method price indices (see paragraphs 2.0.93 to 2.0.120);
- Export unit value indices and import price indices (see paragraphs 2.0.121 to 2.0.134);

and general description of methods for the treatment of quality changes (see paragraphs 2.0.135 to 2.0.148).

2.0.2. **Producer price indices (PPIs)**

2.0.3. *General information*

2.0.4. Producer price index in industry is an indicator characterizing price fluctuations of industrial production in a set period of time. PPI measures the average price development of goods and related services sold on the domestic market and/or outside the domestic market.

2.0.5. PPIs in industry are used for the calculation of volume index of industrial production, for estimation of gross domestic product at constant prices, as well as for economic analysis and international comparisons.

2.0.6. *Data collection*

2.0.7. The data are collected monthly from economically active enterprises if their main or secondary activity in compliance with NACE section is Mining and quarrying (NACE B), Manufacturing (NACE C), Electricity, gas, stream and air conditioning supply (NACE D) or Water supply, sewerage, waste management and remediation activities (NACE E) and the number of employees in the enterprise is 20 or more, or net turnover in the preceding year exceeds EUR 430 thousand. Enterprises with as large as possible share of product sales in the respective industrial activity at NACE class level are included in the sample.

2.0.8. Prices are recorded for products and industrial services sold on the domestic market as well as for exported products and industrial services.

2.0.9. Information on industrial producer prices is obtained from statistical surveys on prices for defined item representatives of goods (services) in specially selected enterprises (targeted sample). Price statistics surveys 'Reports on industrial producer prices' (1-RC (monthly) and 2-RC (annual)) are used for data collection, as well tariffs approved by the Public Utilities Commission.

2.0.10. Enterprises indicate the actual producer price (excluding the VAT and excise tax) for which a specific product (service) was sold on the 15$^{th}$ day of the reporting month. If there are no sales transactions on this day, price on the day closest to it, is recorded. If a homogeneous group of goods (services) is selected as an item representative, the average monthly prices are indicated.

2.0.11. The list of enterprises involved in price recording is reviewed every year and enterprises with unstable production operations are excluded, while enterprises playing a significant role in the respective industrial activity are included in the sample. The list of item representatives of goods (services) is also updated on regular basis.

2.0.12. *Weighting and calculation*

2.0.13. The weights refer to the value of production sold two years before the reporting period. Prices of December of the previous year serve as a base for price comparisons. The PPIs in industry weighting system and base prices are updated annually. In order to ensure the symmetry of weight and price base periods, the weights applied to the calculation of PPIs in industry for the year T are recalculated into the prices of December T-1.

2.0.14. The PPI is calculated by applying a Laspeyres-type formula, which compares the value of the 'basket' of item representatives in the reference period with its value in the base period. Prices of December of the previous year serve as the basis for price comparisons.

$$i_i^t = \frac{p_i^t}{p_i^0} * 100,$$

$i_i^t$ – the price index of *i* good in the current month *t*, compared to the period *0;*

$p_i^t$ – the price of good in the current month *t;*

$p_i^0$ – the price of good in the base month *0*.

2.0.15. Individual product indices are combined using Laspeyres type formula and base period weights to obtain higher level indices by NACE classes, groups, divisions, and sections, and the total industry. All representative items have product weights at the lowest level of aggregation.

$$I_i^t = \sum_i w_i^t * i_i^t,$$

$I_i^t$ – the index of aggregate or total index in the period *t*, compared to the period *0 (base month);*

$\mathrm{w_i^t}$ – the share of the product *i*;

$i_i^t$ – the price index of *i* good in the current month *t*, compared to the period *0.*

2.0.16. *Classification*

2.0.17. PPIs in industry are calculated according to sections, divisions, groups, and classes of NACE, as well as five main industrial groupings (intermediate consumption goods, means of production, consumer durables, consumer non-durables, energy).

2.0.18. **Service producer price indices (SPPIs)**

2.0.19. *General information*

2.0.20. Services producer price indices measure the change in prices of services provided for enterprises or institutions during a set period of time against the base period.

2.0.21. SPPIs are used for the estimation of gross domestic product at constant prices, as well as for economic analysis and international comparisons.

2.0.22. *Data collection*

2.0.23. Data are collected quarterly from economically active enterprises with 4 or more employees or annual turnover larger than EUR 100 thousand, and with the main or secondary activity corresponding to the NACE section: Transportation and storage (NACE H), Information and Communication (NACE J), Real estate activities (NACE L), Professional, scientific and technical activities" (NACE M except of NACE 70.1, 72 and NACE 75), Administrative and support service activities (NACE N).

2.0.24. For the SPPIs calculation transaction prices, model prices, list prices or hourly charge-out rates are used, and depending on the sector – either prices for services or hourly labour costs

are used. The price based on clearly specified, representative service/product and prices are followed over time with due attention to quality change. Prices of services include all discounts and recharges received by purchasers. Prices exclude value added tax, whereas include subsidies, if received. Hourly labour costs are presented by gross wage per hour and per employee.

2.0.25. *Weighting and calculation*

2.0.26. In SPPIs calculations Laspeyres-type formula is used. SPPIs are calculated comparing prices in the reference quarter with base period prices (4$^{th}$ quarter of the previous year). Indices are calculated starting from the NACE class level up to groups or divisions.

2.0.27. The weights are produced once a year – starting with calculations for the first quarter of the reference year. Weights are calculated based on administrative data and information from the structural business statistics survey "Complex report on activities" (1-annual). The weights used in SPPIs calculations in the reference period correspond to enterprises turnover (T-2 years) of specific kinds of activity, and to ensure the symmetry of weight and price base periods, the weights applied to the calculation of SPPIs for the reference period are recalculated into the prices of 4$^{th}$ quarter of the previous year.

2.0.28. *Classification*

2.0.29. Data are compiled according to NACE.

2.0.30. **Harmonised index of consumer prices (HICP)**

2.0.31. *General information*

2.0.32. Harmonised index of consumer prices covers the consumption expenditure of the household sector.

2.0.33. The HICP reflects changes in the prices of consumer goods and services in a specified period of time. The HICP measures changes of the average level of prices of goods and services that households consume (the fixed consumer basket).

2.0.34. The HICP is pure price index. It does not reflect the changes in consumption patterns, brands, and does not reflect the effect of outlet and service provider substitution.

2.0.35. Index values and rates of change refer to the 'final monetary consumption expenditure' of the whole household sector of Latvia.

2.0.36. The HICP covers the whole resident population of the country, including persons living in institutional households (social care institutions, children's homes, prisons, etc.). The HICP does cover expenses of non-resident travellers.

2.0.37. The consumer price survey is conducted in Riga and 10 other towns. Using population weights survey data are generalized on all country: on both urban and rural territories.

2.0.38. The HICP covers the prices paid for goods and services in monetary transactions. The HICP excludes illegal goods and services, gifts, expenditure on the owner-occupied housing, expenditure on gambling and lotteries as well as interest and credit charges.

2.0.39. *Data collection*

2.0.40. In 2025, the HICP "basket" contains 542 goods and services the prices of which are recorded regularly. Approximately 2 thousand various trade and services outlets are surveyed. In total, about 24.5 thousand prices are observed each month.

2.0.41. Specifications for goods and services under observation are kept unchanged during the whole year.

2.0.42. The prices of all goods and services, except for the prices of fuels for transport, are recorded every month from 4th to 20th date. Fuels for transport prices are recorded from 1st to 25th date.

2.0.43. The prices of all goods and services, except for the prices of fuels for transport, are recorded every month from 4th to 20th date. Fuels for transport prices are recorded from 1st to 25th date. Qualitative goods with price discounts offered to all consumers are also taken into account in price collection. The prices of goods are used to calculate the HICP of the month in which they were observed, whereas the prices of services are used to calculate the HICP of the month in which the consumption of the service at the price recorded can commence.

2.0.44. To ensure adequate representation of goods and services, which require larger share of household expenditure, in the overall HICP, the weights representing the proportion of expenditure on each individual commodity to the total household expenditure are computed.

2.0.45. The weights used for index calculation are annual average weights derived mainly from the National Accounts and Household Budget Survey. Additional sources used to calculate the weights include administrative data, branch statistics data, as well as information provided by enterprises and retailers. The weights reference period for the year 2025 is the year T-1. The weights are updated annually and price–updated to December T-1.

2.0.46. The outlets, from which prices are collected, are chosen to represent the existing trade and services network, and usually they are based on the three main criteria: popularity among consumers, significant turnover from consumer sales and availability of goods and services included in the HICP basket. The sample of price recording places is regularly updated. If a shop is closed down or liquidated, it is replaced by another shop of an equal significance. The sample also includes open markets.

2.0.47. *Weighting and calculation*

2.0.48. At first, the average price of products and services collected in localities is calculated. It is calculated as simple arithmetic mean of the prices of goods and services surveyed. From all the average prices collected in localities, the average price for the whole country of each product and service is calculated using population weights.

2.0.49. Afterwards, the price index of each good and service (lower-level price index) is calculated. Price indices of lower aggregation levels are calculated as the ratio of arithmetic mean prices in the comparison and reference periods.

2.0.50. For the calculation of higher level (commodity group) price indices and the overall HICP a Laspeyres-type formula that expresses the weighted arithmetic mean value of the lower-level price indices is used:

$$I^{T/0} = \sum_{J} w_J^0 * I_J^{T/0}$$

$I^{T/0}$– the overall HICP in the period T, compared to the period 0 (the reference period);

$w_J^0$– the share of the product j in the consumer basket in the reference period;

$I_J^{T/0}$– the price index of the product j in the period T, compared to the period 0 (the reference period).

2.0.51. The reference period used in the HICP calculations is the average value of 2015 (2015 = 100). If December of each year is the linking month, then price index in month m in year G is calculated as follows:

$$I_0^{m,G} = I_0^{Dec,0} * \left( \prod_{g=1}^{G-1} I_{Dec.g-1}^{Dec.g} \right) * I_{Dec,G-1}^{m,G}$$

$I_{Dec,G-1}^{m,G}$– the latest link in the chain (price index in the month of the comparison year, compared to the December of the previous year);

$I_0^{Dec,0}$– the link of the chain, which is calculated from historical data by moving from December as reference period to the average value of the year.

2.0.52. *Classification*

2.0.53. All goods and services in the HICP basket are grouped according to the European Classification of Individual Consumption by Purpose (ECOICOP). The data are published at the level of ECOICOP groups, classes and subclasses.

2.0.54. **Construction cost index (CCI)**

2.0.55. *General information*

2.0.56. The Construction Cost Index aims to reflect average trends in the prices of construction resources. The CCI is input price index; it presents price changes for the main types of resources invested in the construction. The CCI does not include overheads, contractor's profit indicators and efficiency changes, which is a part of output price index and presents price changes for the completed construction objects.

2.0.57. *Data collection*

2.0.58. Data are collected monthly from construction enterprises and trade enterprises. The survey covers economically active statistical units with the main kind of economic activity belonging to NACEs from 41.10 to 43.99 (section F), NACE 46.73, NACE 46.74 and NACEs from 47.52 to 47.54. The list of construction enterprises is selected by means of purposive sampling, choosing NACE F enterprises with the highest value of own account construction work in the previous year. The criterion for the sample of trade enterprises is their turnover (more than EUR 100 thousand) and specialization. Prices of building materials are collected excluding VAT. Building enterprises provide purchase prices and trade enterprises provide sale prices of building materials. Maintenance and operational costs of machinery and mechanical appliances are provided as costs per hour for machinery lease. Hourly gross labour remuneration of workers employed in construction broken down by main professions (bricklayers and workers of related professions, concrete workers and workers of related professions, carpenters and builders, workers carrying out finishing works (roofers, plasterers, sanitary technicians and others), painters and workers of related professions, electricians, asphalt layers, auxiliary workers of road building and construction of artificial structures, assemblers, welders).

2.0.59. The prices of building materials submitted by enterprises for the calculation of PPIs in industry and IPI are also used for the CCI calculations. Additionally, registered consumer prices of building materials are used in calculations.

2.0.60. *Weighting and calculation*

2.0.61. The approach of the unified model is used for the calculation of the CCI. Representative construction projects (models) are selected for the prevalent construction types in the country. Each model contains a set volume of expenditure on building materials, labour force and construction equipment. Every year in January weights reflecting value and structure of own

account construction work done in previous year by construction enterprises which are used in calculation of construction cost index are revised.

2.0.62. 11 unified models are included in the CCI calculation, arranged in the following groups:

- Residential buildings;
- Non-residential buildings;
- Civil engineering structures (incl. transport facilities and underground main pipelines).

2.0.63. For the calculation of the CCI, a Laspeyres-type formula is applied. The price comparison (base) period is December of the previous year. For the calculation of the CCI for construction models, cost structure of resources at the prices of December of the previous year is used. Once the CCI has been calculated for each unified construction model, the total index of construction costs is calculated. For the calculation of the total CCI the value of own account construction work performed in the previous year is used in breakdown by type of buildings and civil engineering structures.

2.0.64. *Classification*

2.0.65. The total CCI and indices by constructions groups (Residential buildings; Non-residential buildings; Civil engineering structures (incl. transport facilities and underground main pipelines)) with breakdown by type of resource: building materials, labour remuneration of construction workers, maintenance and operational costs of machinery and mechanical appliances are available.

2.0.66. For the total CCI breakdown by main type of building materials groups (finishing materials for walls and ceiling; floor coverings; plumbing equipment and meters; plumbing devices; metal, metal products; pipes; precast reinforced concrete and concrete products, building mortar, bricks; sawn timber, building materials from wood; mineral materials; window and door blocks; insulation materials and roof coverings; electrical materials) is also available.

2.0.67. **Owner-occupied housing price index (OOHPI)**

2.0.68. *General information*

2.0.69. The owner-occupied housing price index measures the changes in the transaction prices of dwellings new to the household sector as well as prices of goods and services that households acquire in their role as owner-occupiers.

2.0.70. The OOHPI is a price index covering new dwellings, existing dwellings that are new to the household sector, other services related to the acquisitions of dwellings, major repairs and maintenance, insurance connected with the dwelling and other services associated with ownership of dwellings.

2.0.71. This index meets the requirements of the HICP and is built based on the net acquisitions approach.

2.0.72. The OOHPI measures the changes in the transaction prices of dwellings new to the household sector as well as prices of goods and services that households acquire in their role as owner-occupiers.

2.0.73. The OOHPI is a price index covering new dwellings, existing dwellings that are new to the household sector, other services related to the acquisitions of dwellings, major repairs and maintenance, insurance connected with the dwelling and other services associated with ownership of dwellings.

2.0.74. The OOHPI covers all transactions in which households are indicated as buyer or recipient of the services and legal entity, municipality or government as seller or service provider. The

OOHPI includes also purchases of dwellings and other goods and services connected with purchase or ownership of the dwelling made by households – non-residents within the economic area of Latvia.

2.0.75. The OOHPI excludes transactions between legal entities, municipalities and government, as well as deals engaging legal entity as a buyer and household as a seller.

2.0.76. The OOHPI does not cover transactions with commercial areas, outhouses, saunas, garages, cellars, gazebos and other structures unfit for human occupancy.

2.0.77. *Data collection*

2.0.78. The main data source used to obtain information is the State Unified Computerized Land Register, as well as separate surveys that were made to calculate sub-indices.

2.0.79. The weights reflect structure of the acquisition of dwellings and other goods and services that households acquire in their role as owner-occupiers in the year T-2. The weights are revised every year and recalculated into the prices of the 4th quarter of the previous year.

2.0.80. *Weighting and calculation*

2.0.81. The OOHPI is a Laspeyres-type price index. The OOHPI is based on the "net acquisitions" approach. To calculate the new dwellings and existing dwellings new to households' indices, all transactions are stratified into the groups (strata). The group index is calculated as geometric mean of transaction prices ratio between comparison and reference periods.

2.0.82. In order to adjust structural (qualitative) dwelling transaction differences between the comparison and reference periods, a hedonic regression method is used within each group. By the method based on the most significant price determinants a dwelling hypothetical value is calculated.

$$Ln_{(transaction\ price)} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_i x_i$$

$i = 1, \dots, n$

$Ln_{(transaction\ price)}$– a natural logarithm of transaction price;

$x_i$ – the price factors;

$\beta_i$ – the regression coefficients (factor impacts);

$\beta_0$ – the constant.

2.0.83. The factors having the greatest impact on the dwelling price and taken into account in the OOHPI calculations of new dwellings and existing dwellings new to households are geographical location of the property, property size (area) and availability of amenities.

2.0.84. For the calculation of higher level price indices and the OOHPI a Laspeyres-type formula that expresses the weighted arithmetic mean value of the lower level price indices is used:

$$I^{T/0} = \sum_J w_J^0 * I_J^{T/0}$$

$I^{T/0}$– the OOHPI in the period *T*, compared to the period 0 (reference period);

$w_J^0$– the price index *j* expenditure share of total expenditures related to acquisition of dwellings and goods and services related to ownership of dwellings in a reference period;

$I_J^{T/0}$– the price index *j* in a period *T*, compared to the period 0 (reference period).

2.0.85. The price reference period used in the price calculations is the 4th quarter of the previous year. To calculate price changes in a longer time period, the price indices of each year are chained in one dynamic series with the same reference period.

2.0.86. The reference period of the OOHPI is the year 2015, expressed by 100 index points (2015 = 100). The price indices are used to calculate the price changes over the previous quarter, corresponding quarter of the previous year or any other time period.

2.0.87. *Classification*

2.0.88. Structure of owner-occupied housing price Index:

- O.1. Owner-occupiers housing expenditures
- O.1.1. Acquisitions of dwellings
- O.1.2. Ownership of dwellings

2.0.89. Acquisition of dwellings includes:

- purchase of new dwellings;
- self-built dwellings and major renovations;
- existing dwellings new to households;
- other services related to the acquisition of dwellings;

2.0.90. Ownership of dwellings includes:

- major repairs and maintenance;
- insurance connected with the dwelling.

2.0.91. **Wholesale and retail trade**

2.0.92. Wholesale and retail trade margins at previous years' prices is calculated by applying a proxy for the estimation of the volume index of the trade margin on a product, based on the assumption that the volume change of trade margins equals the volume change of the underlying product flow i.e. margin-to-sales ratios are constant in previous year's prices. The calculation is performed in SUT framework using "H-Approach" method. The wholesale margins and retail trade margins are calculated separately.

2.0.93. **Input method price indices**

2.0.94. According to HPVM in cases where price indices from PPIs or SPPIs are not available, in situations where price measurement does not seem possible or feasible, prices of inputs (e.g. the price of labour or a weighted average of prices of intermediate inputs) can be considered as an approximation for the price of the output.

2.0.95. In Latvia, input method price indices are developed based on national accounts data and incorporating other available data sources if necessary. For obtaining input method price index the cost components of output:

- intermediate consumption,
- compensation of employees,
- consumption of fixed capital,
- other taxes on production less other subsidies on production,
- net operating surplus/mixed income

are deflated separately and then summed. More detailed description for each component is provided in paragraphs below.

2.0.96. *Intermediate consumption*

2.0.97. Deflation of intermediate consumption is made at purchasers prices at product level (CPA two-digit level) and taking into account breakdown by industries (NACE two-digit level) and institutional sectors. Deflators used are the same as for deflation of intermediate consumption in SUT framework by "H-Approach" at basic prices for products obtained from domestic producers, i.e. market output deflators.

2.0.98. *Compensation of employees*

2.0.99. The calculation of compensation of employees at previous year's prices is carried out using the volume extrapolation method, based on skill levels (1-digit ISCO classification by occupation), hours worked, average monthly earnings per skill level, and the number of employees.

2.0.100. According to the Handbook on Price and Volume Measures in National Accounts, the volume extrapolation method is considered an A method if the data are sufficiently detailed and reflect the skill levels of employees—using the occupational classification according to the mandatory 1-digit ISCO classification—and if the "hours worked" indicator is available for extrapolation.

2.0.101. Compensation of employees consists of two components: wages and salaries (both in cash and in kind), and employers' social contributions. The extrapolation of both components must be closely aligned, as they pertain to the same labour input.

2.0.102. Therefore, no separate calculation is performed for wages and salaries and employers' social contributions; instead, the calculation is done jointly for the total compensation of employees at the level of institutional sectors at three-digit level, and residents of institutional sectors at two-digit level – and at the NACE section level (alphabetical letters level).

2.0.103. The following data sources are used for the calculation:

1) Labour statistics information is acquired by compiling data submitted by merchants, state and local government budgetary institutions, foundations, associations and funds with quarterly CSB questionnaires (reports) on their activities questionnaires 2-darbs, 2-darbs-pašvaldības, and 2-darbs (īsā) and administrative data.

   Questionnaire 2-darbs (īsā) is submitted by individual merchants, foundations, associations and funds employing 10–99 people.

   Questionnaire 2-darbs-pašvaldības is submitted by local governments and municipal institutions.

   All other statistical units included in the sample submit statistical report questionnaire 2-darbs.

   Administrative data are acquired from the reports on employees submitted by employers to the State Revenue Service: report on state social security compulsory payments from employee income, income tax and business risk state duty during the reference month, report regarding the employment income, personal income tax and state mandatory social insurance contributions of the payers of the income tax for seasonal farm workers, and micro-enterprise tax declaration,

2) Monthly information from the State Revenue Service (SRS) on jobs by major occupational groups. From this source, the following are used in the calculation:

   - average number of hours worked per job for each major occupational group,
   - average hourly wage rate per occupational group.

2.0.104. From the aggregated labour statistics at institutional sectors and NACE levels, the following data are obtained:

- compensation of employees for all employees combined,
- total number of hours worked for all employees combined,
- number of employees by major occupational groups,

and the following indicators are then calculated:

- average number of hours worked per employee per year,
- average hourly compensation per employee.

2.0.105. Since labour statistics data do not provide information on hours worked and hourly rates by each occupational group, coefficients are calculated using SRS data for each occupational group relative to the average indicators for number of hours worked and hourly wage rate.

2.0.106. Subsequently, the following are calculated at the institutional sector and NACE level:

- number of hours worked per employee by major occupational group, considering the coefficient calculated from the SRS data,
- hourly compensation per employee by major occupational group, considering the coefficient calculated from the SRS data.

2.0.107. The average number of hours worked (hourly compensation per employee) per year for the relevant group of professions divided by the average number of hours worked (hourly compensation per employee) per year for all groups of professions.

2.0.108. As a result, compensation of employees at previous year's prices is

$$W_{PYP} = \sum N_n * h_n * r_{n-1}$$

where:

$W_{PYP}$ – compensation of employees at previous year's prices,

$N_n$ - number of employees in the reference year,

$h_n$ - number of hours worked by one employee in the reference year,

$r_{n-1}$ – previous year's hourly compensation per employee.

2.0.109. Price index:

$$\frac{\text{compensation of employees in the reference year}}{\text{compensation of emloyees at previous year's prices}} = \frac{\sum N_n * h_n * r_n}{\sum N_n * h_n * r_{n-1}}$$

2.0.110. Quantity index:

$$\frac{\text{compensation of emloyees at previous year's prices}}{\text{compensation of employees in the previous year}} = \frac{\sum N_n * h_n * r_{n-1}}{\sum N_{n-1} * h_{n-1} * r_{n-1}}$$

2.0.111. *Consumption of fixed capital*

2.0.112. Consumption of fixed capital at constant prices is directly obtained from the perpetual inventory method (PIM) model. PIM produces estimates at both current and constant prices. Deflators for consumption of fixed capital are the same as those used to deflate gross fixed capital formation.

2.0.113. *Other taxes on production*

2.0.114. In industries where input method price index is needed the other taxes on production is negligible (less than 0.2% from output at current prices) and therefore it does not have a

significant impact on the results. The price index for other taxes on production is set to 1 meaning that there are no price changes for other taxes on production.

2.0.115. *Other subsidies on production*

2.0.116. In industries where input method price index is needed the other subsidies on production is negligible (close to 0% from output at current prices) and therefore price index for other subsidies on production is set to 1 meaning that there are no price changes for other subsidies on production.

2.0.117. *Net operating surplus/mixed income*

2.0.118. The net operating surplus for NACE 68a (owner-occupied dwellings and associated land) is calculated as follows:

- As NACE 68a estimates at current prices is based on user cost method where net operating surplus is estimated as 2.5% of the average value of the net stock of owner-occupied dwellings and the land associated with them,
- to derive the net operating surplus in constant prices, a price index from the PIM estimates relevant to dwelling stocks is used as the deflator.

2.0.119. Net operating surplus for the government sector and the NPISHs sector at current prices is zero and therefore no calculation methods at constant prices are needed.

2.0.120. In market sector industries where input method price index is needed the net operating surplus/mixed income price index is set to 1, i.e. it is assumed that there are no price changes for net operating surplus/mixed income in these industries as other methods are not yet introduced.

2.0.121. **Export unit value indices (EUVIs) and import price indices (IPIs)**

2.0.122. *General information*

2.0.123. The export unit value and import price indices characterise changes in the price level of goods in the country's exports and imports within the reporting period against the base period. Price index is acquired by comparing strictly defined prices of goods in reference month as compared to the same prices of goods in base period. The unit value index is a 'price' index that measures average value changes in a cluster of heterogeneous units. Therefore, it may be influenced by changes both in the composition of this cluster and in individual prices.

2.0.124. The average unit value is obtained by dividing the value of positions of exported goods (in monetary terms) with the respective amount of the goods (weight, volume, etc.)

2.0.125. Foreign trade price indices are indicators describing price dynamics of exported and imported goods. These indices are used for calculating the gross domestic product at constant prices, as well as for the purposes of economic analysis.

2.0.126. *Data collection*

2.0.127. In order to calculate the EUVI and IPI, foreign trade information on the previous year is analysed, selecting those codes of the Combined Nomenclature (CN) on the lowest 8-digit level where during a year the export value at FOB prices[14] or import volume at CIF prices[15] in the country altogether exceeds 0.01% of total export or import value and during the year

[14] FOB price – price of a good, which is made up by value of a good, including costs of transportation and insurance to the border of export country.

[15] CIF price – price of a good, which is made up by value of a good, including costs of transportation and insurance to the border of import country.

export/import activities have been recorded for at least 8 months. Items with large fluctuations of the average monthly prices are not included in the sample.

2.0.128. Enterprises with the largest share based on value in the respective CN code are involved in import prices survey. For further price collection enterprises select goods (item representatives) that are imported regularly and in large amounts.

2.0.129. For the calculation of EUVIs and IPIs the CSB foreign trade statistical database and the submitted statistical report forms on the prices of imported goods (1-IC, 2-IC) and corresponding industrial producer price indices of heterogeneous groups of export goods are used. In total, EUVI and IPI samples includes at least 70 % of the total volume of CN items in Latvian exports and imports.

2.0.130. *Weighting and calculation*

2.0.131. For the calculation of EUVI and IPI a Laspeyres type formula is applied. Indices are calculated starting from the lowest level. As weights the export/import volume in the terms of value of the previous year is used according to sections and divisions of the CPA. Prices of December of the previous year or average unit values are used as the basis for price comparison.

$$i_i^t = \frac{p_i^t}{p_i^0} * 100,$$

$i_i^t$ – the price index of *i* good in the current month *t*, compared to the period *0;*

$p_i^t$ – the price of good in the *current* month *t;*

$p_i^0$ – the price of good in the base *month 0*.

$$I_i^t = \sum_i w_i^t * i_i^t,$$

$I_i^t$ – the index of aggregate or total index in the period *t*, compared to the period *0 (base month);*

$w_i^t$ – the share of the product *i*;

$i_i^t$ – the price index of *i good* in the current month *t*, compared to the period *0.*

2.0.132. *Classification*

2.0.133. Data are published according to CPA classification and Classification of main industrial groupings.

2.0.134. Data acquisition and processing is based on CN and NACE classifications, and Nomenclature of countries and territories for the external trade statistics of the Community and statistics of trade between Member States.

2.0.135. **General description of methods for the treatment of quality changes**

2.0.136. In national accounts, quality changes present a significant challenge when measuring pure price movements over time. According to ESA 2010, changes in product characteristics should be treated as volume changes rather than price changes. To ensure that price indices reflect only pure price changes, both producer and consumer price statistics apply various methods to adjust for quality differences, missing data, and product replacements.

2.0.137. *Producer price statistics*

2.0.138. Treatment of Missing Prices. When a price is temporarily unavailable, the most recently observed price is carried forward. Alternatively, imputation methods are used based on the price index of similar products within the same class and market segment. For the PPI, both "hot deck" and "cold deck" methods are applied:

- the hot deck method is used when data on other products from the same company is available;
- the cold deck method is applied when such internal data is missing, using information from similar products of other companies as a substitute.

2.0.139. Selection of Replacement Items. Replacement items are typically introduced at the end of the year, alongside the inclusion of new products. If a product becomes permanently unavailable during the year, a suitable replacement is selected that closely matches the characteristics of the original item.

2.0.140. Adjustments for Quality Differences. To account for quality changes, methods such as bridged overlap, direct price comparison, and quantity adjustment are employed.

2.0.141. Introducing New Products. New representative items are selected annually based on the results of a dedicated survey conducted at the end of the year.

2.0.142. Seasonal Items. For seasonal products with temporarily missing prices, the last recorded price is carried forward until new data becomes available.

2.0.143. *Consumer price statistics*

2.0.144. Treatment of missing prices. Main reasons of missing price: product is not available at store; store is closed for technical reasons; product is not available due to seasonality. In the event of temporary missing prices, a price is imputed by using the average price movement of all available product offers belonging to the same elementary aggregate which are not imputations themselves.

2.0.145. Selection of replacement items. Product replacements are made if there is information that product will not be available on the market or during the annual sample update. The new item is selected based on the assortment of store and representativity of the item in general. Each year the item specifications are reviewed and updated if necessary to reflect the current situation in the market.

2.0.146. Adjustment for quality differences:

- for fruit, vegetables, clothing, footwear, audio recordings, books in rapidly changing market direct comparison is the primary (most often used) quality adjustment method;
- for other product categories, mostly the bridged overlap in case of major changes and direct comparison in case of minor changes is used;
- quality adjustment according to fuel efficiency of a car is used for new motor cars;
- for quality adjustments of 3–5-year-old cars supported expert judgement based on age and mileage coefficients in case of minor changes is used. In case of major changes, the bridged overlap is used;
- for quality adjustments of 9–11-year-old cars direct comparison with weighted average is used;
- here are no automatic quality adjustment procedures for any product group.

2.0.147. Introducing new products. CPI basket is reviewed and undated annually to ensure that the target sample remains representative of the target universe over time. New products are added if relevant.

2.0.148. Seasonal items. Seasonal products are treated according to the requirements of the

2.0.149. Commission Implementing Regulation (EU) 2020/1148 of 31 July 2020 laying down the methodological and technical specifications in accordance with Regulation (EU) 2016/792 of the European Parliament and of the Council as regards harmonised indices of consumer prices and the house price index. Representative price during the season period is used for estimation of the first out of season price. To estimate the prices of out-of-season products starting from the second out-of-season period either counter-seasonal estimation method or all-seasonal estimation method is used.

# Chapter 3: Methodologies used by products (production approach)

3.0.1. In Chapter 3 is provided description of methodologies used for deflation of such GDP production approach aggregates as:

- market output (see paragraphs 3.0.1 to 3.0.9);
- output for own final use (see paragraphs 3.0.10 to 3.0.15);
- non-market output (see paragraphs 3.0.16 to 3.0.21);
- intermediate consumption (see paragraphs 3.0.22 to 3.0.25).

3.0.2. Further in Chapter 3 is provided detailed methodologies used for deflation at product level for each CPA in most detailed structure available (see Sections from 3.1 to 3.20).

3.0.3. In turn, methodologies used for other GDP production approach aggregates such as gross value added, and taxes and subsidies on products are provided in Chapter 5:

- gross value added (that is a difference between output of goods and services at basic prices and intermediate consumption at purchasers' prices) is described in Section 5.1.
- taxes and subsidies on products (that are GDP aggregates that provides transition from gross value added to GDP) are described in Section 5.2.

3.0.1. **Market output**

3.0.2. Market output includes products that are sold or intended to be sold on the market.

3.0.3. Market output includes:

- products sold at significant prices,
- products exchanged through bartering,
- products used for payments in kind (like employee compensation),
- products supplied within the same organization for further use,
- products added to inventories for future sale or use (including natural growth and unfinished structures).

3.0.4. Economically significant prices are those that greatly influence how much producers want to supply and how much buyers want to purchase. These prices occur when:

- producers are motivated to adjust supply to make a profit or at least cover costs,
- consumers can choose whether to buy or not based on the prices.

3.0.5. Prices that are not economically significant are usually set to raise some revenue or to reduce excess demand when services are provided for free.

3.0.6. For deflation of market output all available price indices by products are collected. Deflation of market output is done in SUT framework at product level (CPA classification two-digit level or more detailed for some CPA), i.e. for each industry (NACE classification two-digit level) their primary and secondary products produced are deflated separately. Total market output of each NACE constitutes from the sum of value of products in previous years' prices in particular NACE.

3.0.7. Furthermore, since the output includes products intended for both domestic consumption and export, the dataset of market output is divided into two parts and deflated separately using domestic PPIs and export PPIs accordingly. If the PPI is not available for one of the markets, then a general PPI is used, which is the same for both markets. The final price index for market output in national accounts is formed as a result of separately deflated markets.

3.0.8. If PPI is not available then second choice of index to use is CPI, next choice is extrapolation of volume indicators, the last choice is use of index calculated by input method.

3.0.9. A detailed description of the deflators used for calculating the volume of market output and the evaluation of A/B/C method is provided in in Sections below, under each corresponding CPA category.

3.0.10. **Output for own final use**

3.0.11. Output produced for own final use refers to goods or services that are produced and then used by the same institutional unit that created them, rather than being sold. This includes items retained either for own final consumption or for capital formation by the same unit.

3.0.12. Products retained for own final consumption are produced by the households sector and it includes:

- agricultural products produced by households for own use
    - CPA 01, CPA 02, CPA 03 (see Section 3.1),
    - CPA 10, CPA 11 (see Section 3.3);
- owner-occupied dwelling services:
    - CPA 68a (see Section 3.12);
- household services provided by employing paid staff:
    - CPA 97 (see Section 3.20);

3.0.13. Products used for own capital formation can be produced by any sector and it includes:

- own-account research and development:
    - CPA 72 (see Section 3.13);
- own-account entertainment, literary, or artistic originals:
    - CPA 58, CPA 59, CPA 60 (see Section 3.10),
    - CPA 90 (see Section 3.18);
- own-account software:
    - CPA 62 (see Section 3.10);
- other own account produced assets:
    - CPA 01 (see Section 3.1),
    - CPA 16, CPA 22, CPA 23, CPA 25, CPA 26, CPA 27, CPA 28, CPA 29, CPA 30, CPA 31, CPA 32 (see Section 3.3),
    - CPA 41 (see Section 3.6);
- major improvements to dwellings by households:
    - CPA 41 (see Section 3.6);
- construction of single dwellings by households for own use:
    - CPA 41 (see Section 3.6);
- mineral exploration and evaluation:
    - CPA 09 (see Section 3.2)) – note: this has negligible value in Latvia's economy.

3.0.14. According to ESA 2010, paragraph 3.45, output for own final use is valued at the basic prices of similar products sold on the market. Therefore, when price information is available, the volume of output for own use is deflated using the same price indices as those applied to market output.

3.0.15. A detailed description of the deflators used for calculating the volume of output for own final use and the evaluation of A/B/C method is provided in the Sections below, under each corresponding CPA category.

3.0.16. **Non-market output**

3.0.17. Non-market output means goods and services that are provided for free or at very low prices that don't reflect their real economic value. These are usually produced by the general

government or non-profit institutions serving households (NPISHs). Examples of NPISHs include trade unions, political parties, churches, charities, and professional associations.

3.0.18. The value of non-market output at current prices is calculated by adding up the costs of production (input for production). This includes:

- intermediate consumption (goods and services used in production),
- consumption of fixed capital (depreciation),
- compensation of employees (wages),
- production taxes minus production subsidies.

3.0.19. There are two types of non-market output:

- individual services – such as health care, education, culture, and social protection;
- collective services – such as defence, public safety, and general government services.

3.0.20. According to the Handbook on Prices and Volumes, the input methods can be used for collective services. The input method is classified as B method, if the volume of each input is calculated separately and quality changes of the inputs are taken into account, in particular of compensation of employees. For individual services the preferred methods are those that measure output by output indicator method.

3.0.21. In Latvia, the output indicator method is used to deflate output in education and health services in general government sector. For other services in the general government and NPISHs sector, the input method is used.

3.0.22. **Intermediate consumption**

3.0.23. Intermediate consumption includes the value of goods and services consumed as inputs by a production process (excluding the use of fixed assets) and it consists of the use of domestically produced products and imported products.

3.0.24. Intermediate consumption is deflated in SUT framework at product level (CPA classification two-digit level) for each industry (NACE classification two-digit level) at basic prices and then transition to purchasers' prices are made based on "H-Approach" that is described more detailed in Chapter 1 paragraphs 1.0.10 to 1.0.31. Domestically produced products and imported products are deflated separately using the same indices as for market output for domestic consumption and the same indices as for imports accordingly. Market output indices are described in Sections below (see Sections from 3.1 to 3.20). Import indices are described in Chapter 4 Section 4.6. Total intermediate consumption of each NACE constitutes from the sum of value of products in previous years' prices in particular NACE.

3.0.25. Taking into account the deflating method performed for intermediate consumption in volume terms it is considered that this method belongs to the category of A method according to HPVM except cases where the market output index or import index used for deflating intermediate consumption is in a lower category. Then it is considered as category of B or C method depending to which category used indices belongs.

## 3.1. CPA A – Products of Agriculture, Forestry and Fishing

3.1.1. The constant price estimate of market output and output for own final use for products of agriculture, hunting and related services (CPA 01) is obtained by deflating current price value by the producer output price index from Agricultural Economic Accounts. The deflation method is classified as A.

3.1.2. Market output and output for own final use at constant prices for products of forestry, logging and related services (CPA 02) is estimated by the extrapolation of current price value with

quantity indicator from data on inventoried forest felling stock volume ($m^3$). The approach employed is considered as a B method since information on forestry products is not divided into distinct varieties and seasons, and quality modifications are also not performed.

3.1.3. Market output and output for own final use at constant prices for fish and other fishing products, aquaculture products, support services to fishing (CPA 03) is estimated by the extrapolation of current price value with quantity indicator from data on fish catch (tonnes). The approach employed is considered as B method since information on fishery products is not divided into distinct varieties and seasons, and quality modifications are also not performed.

3.1.4. The deflators and stratification used for each CPA product are presented in Table 3.1.

Table 3.1 Methods used for deflation of market output and output for own final use for CPA A

| CPA | CPA heading | Market output and output for own final use | Evaluation A/B/C method |
|---|---|---|---|
| **01** | Products of agriculture, hunting and related services | PPI | A |
| **02** | Products of forestry, logging and related services | Volume indicator (m3) | B |
| **03** | Fish and other fishing products; aquaculture products; support services to fishing | Volume indicator (tonnes) | B |

## 3.2. CPA B – Mining and quarrying

3.2.1. Output estimates at constant prices for all products in this section are calculated by deflating current price values using the PPI of other mining and quarrying products (CPA 08). For CPA 08, this deflation method is classified as A method.

3.2.2. Production of CPA 05 and CPA 07 products do not exist in Latvia.

3.2.3. Production of CPA 06 and CPA 09 products is negligible in Latvia. For deflation of CPA 06 and CPA 09 products the PPIs of CPA 08 are used, the category is considered belonging to B method, as the PPI of CPA 08 is less suitable and does not fully reflect the price changes of those products.

3.2.4. The output for own final use exists only for CPA 09 for product mineral exploration and evaluation. The output for own final use in CPA 09 in Latvia is negligible and is deflated using the domestic PPI, which corresponds to method B.

3.2.5. The deflators and stratification used for each CPA product are presented in Table 3.2.

Table 3.2 Methods used for deflation of market output and output for own final use for CPA B

| CPA | CPA heading | Market output for domestic use and output for own final use | Market output for export | Evaluation A/B/C method |
|---|---|---|---|---|
| **05** | Mining of coal and lignite | – | – | – |
| **06** | Extraction of crude petroleum and natural gas | Domestic PPI of CPA 08 | Export PPI of CPA 08 | B |
| **07** | Mining of metal ores | – | – | – |
| **08** | Other mining and quarrying products | Domestic PPI | Export PPI | A |
| **09** | Mining support services | Domestic PPI of CPA 08 | Export PPI of CPA 08 | B |

## 3.3. CPA C – Manufactured products

3.3.1. The deflation of market output at constant prices for almost all products of manufacturing is done by deflation by the PPIs of manufactured products for domestic use and for exports separately and at CPA two-digit level.

3.3.2. Market output of tobacco products (CPA 12) and coke and refined petroleum products (CPA 19) in Latvia is negligible.

3.3.3. Output for own final use exist in CPA 10, CPA 11, CPA 16, CPA 22, CPA 23, CPA 25, CPA 26, CPA 27, CPA 28, CPA 29, CPA 30, CPA 31, CPA 32.

3.3.4. The deflators and stratification used for each CPA product are presented in Table 3.3.

Table 3.3 Methods used for deflation of market output and output for own final use for CPA C

| CPA | CPA heading | Market output for domestic use and output for own final use | Market output for export | Market output | Evaluation A/B/C method |
|---|---|---|---|---|---|
| **10** | Food products | Domestic PPI | Export PPI | – | A |
| **11** | Beverages | Domestic PPI | PPI | – | A |
| **12** | Tobacco products | – | – | CPI | B |
| **13** | Textiles | Domestic PPI | Export PPI | – | A |
| **14** | Wearing apparel | Domestic PPI | Export PPI | – | A |
| **15** | Leather and related products | Domestic PPI | PPI | – | A |
| **16** | Wood and of products of wood and cork, except furniture; articles of straw and plaiting materials | Domestic PPI | Export PPI | – | A |
| **17** | Paper and paper products | Domestic PPI | Export PPI | – | A |
| **18** | Printing and recording services | Domestic PPI | Export PPI | – | A |
| **19** | Coke and refined petroleum products | – | – | CPI | B |
| **20** | Chemicals and chemical products | Domestic PPI | Export PPI | – | A |
| **21** | Basic pharmaceutical products and pharmaceutical preparations | Domestic PPI | PPI | – | A |
| **22** | Rubber and plastics products | Domestic PPI | Export PPI | – | A |
| **23** | Other non-metallic mineral products | Domestic PPI | Export PPI | – | A |
| **24** | Basic metals | Domestic PPI | Export PPI | – | A |
| **25** | Fabricated metal products, except machinery and equipment | Domestic PPI | Export PPI | – | A |
| **26** | Computer, electronic and optical products | Domestic PPI | PPI | – | A |
| **27** | Electrical equipment | Domestic PPI | Export PPI | – | A |
| **28** | Machinery and equipment n.e.c. | Domestic PPI | Export PPI | – | A |

| CPA | CPA heading | Market output for domestic use and output for own final use | Market output for export | Market output | Evaluation A/B/C method |
|---|---|---|---|---|---|
| **29** | Motor vehicles, trailers and semi-trailers | Domestic PPI | Export PPI | – | A |
| **30** | Other transport equipment | Domestic PPI | PPI | – | A |
| **31** | Furniture | Domestic PPI | Export PPI | – | A |
| **32** | Other manufactured goods | Domestic PPI | Export PPI | – | A |
| **33** | Repair and installation services of machinery and equipment | Domestic PPI | PPI | – | A |

## 3.4. CPA D – Electricity, gas, steam and air conditioning

3.4.1. Market output of electricity, gas, steam and air conditioning (CPA D) is deflated at CPA three-digit level. Latvia follows gross recording method for these products. For CPA D the deflation method is classified as A.

3.4.2. The deflators and stratification used for each CPA three-digit level product are presented in Table 3.4.

Table 3.4 Methods used for deflation of market output for CPA D

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **35.1** | Electricity, transmission and distribution services | PPI | A |
| **35.2** | Manufactured gas; distribution services of gaseous fuels through mains | PPI | A |
| **35.3** | Steam and air conditioning supply services | PPI | A |

## 3.5. CPA E – Water supply; sewerage, waste management and remediation services

3.5.1. Market output of water supply, sewerage, waste management and remediation services (CPA E) almost for all products are deflated using PPIs. The deflation is done at CPA two-digit level. There is available PPIs for domestic use products for CPA 36, CPA 37, CPA 38, but for exported part PPI of total CPA is used if there is not available price indices related to export. For CPA 39 neither PPI nor volume indices are available, therefore, the index from the input method is used for deflating products in CPA 39.

3.5.2. The deflators and stratification used for CPA product are presented in Table 3.5.

Table 3.5 Methods used for deflation of market output for CPA E

| CPA | CPA heading | Market output for domestic use | Market output for export | Market output | Evaluation A/B/C method |
|---|---|---|---|---|---|
| **36** | Natural water; water treatment and supply services | Domestic PPI | PPI | – | A |
| **37** | Sewerage services; sewage sludge | Domestic PPI | PPI | – | A |

| CPA | CPA heading | Market output for domestic use | Market output for export | Market output | Evaluation A/B/C method |
|---|---|---|---|---|---|
| **38** | Waste collection, treatment and disposal services; materials recovery services | Domestic PPI | PPI | – | A |
| **39** | Remediation services and other waste management services | – | – | Input method price index | C |

## 3.6. CPA F – Constructions and construction works

3.6.1. The market output of construction and construction works at current prices is compiled at CPA two-digit level. However, deflation is performed using the total construction cost index (CCI) without breaking it down to CPA two-digit level. The CCI shows price changes for the main types of resources invested in construction.

3.6.2. The "actual price" and "model pricing" methods are complex, and have not been implemented currently, so the CCI is used instead. The use of input price indices to deflate output is classified as a C method.

3.6.3. The deflators and stratification used for CPA product are presented in Table 3.6.

Table 3.6 Methods used for deflation of market output for CPA F

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **41** | Buildings and building construction works | CCI | C |
| **42** | Constructions and construction works for civil engineering | CCI | C |
| **43** | Specialised construction works | CCI | C |

3.6.4. The output for own account major improvements of dwellings by households and own account single dwellings houses produced by households are deflated using component of OOHPI O.1.1 “Acquisition of dwellings” by part related to self- builders and major renovations.

## 3.7. CPA G – Wholesale and retail trade services; repair services of motor vehicles and motorcycles

3.7.1. Market output of CPA G mainly consists of wholesale and retail trade margins. A trade margin is the difference between the sales price and the purchase price of a good that is being traded. The trade margin can be seen as the price the buyer pays for the trade service although there is no direct transaction. Therefore, wholesale and retail trade is treated differently than other market output.

3.7.2. For the trade margins at previous years’ prices the assumption that volume of margins follows the volume of sales of underlying product is applied, i.e. margin-to-sales ratios are constant in previous year’s prices.

3.7.3. The deflation is performed at CPA two-digit level in the SUT framework. For every entry of the use table, if applicable, the trade margins in volume terms is estimated as:

$$TR_{t/t-1} = TR_{t-1/t-1} \times VI_{flow}$$

where

$TR_{t/t-1}$ = trade margin t in prices of t − 1

$TR_{t-1/t-1}$ = trade margin t − 1 in prices of t – 1

$VI_{flow}$ = volume change of the underlying product

3.7.4. The method applied is considered as a B method since difference between sales and purchases are not deflated separately.

3.7.5. The deflators and stratification used for CPA product are presented in Table 3.7.

Table 3.7 Methods used for deflation of market output for CPA G

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **45** | Wholesale and retail trade and repair services of motor vehicles and motorcycles | The volume of margins follows the volume of sales (SUT) | B |
| **46** | Wholesale trade services, except of motor vehicles and motorcycles | The volume of margins follows the volume of sales (SUT) | B |
| **47** | Retail trade services, except of motor vehicles and motorcycles | The volume of margins follows the volume of sales (SUT) | B |

3.7.6. For other parts of CPA G that are not related to trade margins, the deflators to obtain market output at previous years 'prices as follows:

- for repair of motor vehicles and motorcycles (part of CPA 45) CPI is used and it is considered as B method;
- for sales on a fee or contract basis (part of CPA 46) no separate calculations are made and therefore it is considered as C method.

3.7.7. CPA 47 as such does not have any other services than trade margins.

## 3.8. CPA H – Transportation and storage services

3.8.1. For better presentation of transportation and storage services (CPA H), it is grouped into three service groups:

- transportation services,
- warehousing and support services for transportation,
- postal and courier services.

3.8.2. In addition, transportation services are further divided into passenger transportation services and freight transportation services.

3.8.3. **Transportation by land, water and air (accordingly CPA 49, CPA 50, CPA 51)**

3.8.4. To obtain market output at previous years' prices for each product at CPA two-digit level, more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price or volume indices.

3.8.5. Passenger transport services are broken down into the following product detail levels:

- transport via railways,
- other land transport,
- water transport and
- air transport.

3.8.6. For passenger rail transport services (CPA 49.1) volume indicator method based on passenger-kilometres is used as neither SPPI nor CPI data are available. It is considered as B method. For all other passenger transport services CPIs are used and the category for those CPA also are considered as B method.

3.8.7. The deflators and stratification used for passenger transport services are presented in Table 3.8.

Table 3.8 Methods used for deflation of market output for passenger transport services

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **49.1** | Passenger rail transport services, interurban | Volume indicator (passenger-kilometres) | B |
| **49.3** | Other passenger land transport services | CPI | B |
| **50.1 + 50.3** | Passenger water transport services | CPI | B |
| **51.1** | Passenger air transport services | CPI | B |

3.8.8. Freight transport services are broken down into the following product detail levels:

- transport via railways,
- other land transport,
- transport via pipelines (transported product - petroleum),
- transport via pipelines (transported product – natural gas),
- sea and coastal water transport,
- inland water transport
- air transport.

3.8.9. For freight land transport services (CPA 49.2 and CPA 49.4) SPPIs are used, and the category for them are considered as A method.

3.8.10. For freight transport via pipelines (CPA 49.5) and sea and coastal freight water transport services (CPA 50.2), volume indicators are used: tonnes for transported petroleum and cubic meters for transported natural gas, tonnes for water transport services, as neither SPPI data nor volume indicators for which the distance is considered (e.g., kilometres) are available. For inland freight transport (CPA 50.4) the volume indicator applied for CPA 50.2 is used. The category for all these CPA are considered as C method.

3.8.11. For freight air transport services (CPA 51.2) CPI is used. It is considered as C method.

3.8.12. The deflators and stratification used for freight transport services are presented in Table 3.9.

Table 3.9 Methods used for deflation of market output for freight transport services

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **49.2** | Freight rail transport services | SPPI | A |

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **49.4** | Freight transport services by road and removal services | SPPI | A |
| **49.5 (petroleum)** | Transport services via pipeline (petroleum) | Volume indicator (tonnes) | C |
| **49.5 (natural gas)** | Transport via pipeline (natural gas) | Volume indicator ($m^3$) | C |
| **50.2** | Sea and coastal freight water transport services | Volume indicator (tonnes) | C |
| **50.4** | Inland freight water transport services | Volume indicator of CPA 50.2 (tonnes) | C |
| **51.2** | Freight air transport and space transport services | CPI | C |

3.8.13. For market output of freight transportation that is recorded as transport margins in SUT framework at current prices (transport services of newly produced goods that forms part of the difference between the basic price and the purchasers' price of a good), to obtain the market output at previous years' prices the assumption that the volume change of transport margins equals the volume change of the transported products is applied. In Latvia transport margins are related only to CPA 49. The largest transport margins by value at current prices are related to CPA 49.4 (approximately 99.5% from total domestic transport margins and approximately 23% from net turnover (the main component of the market output) of CPA 49.4). Transport margins at current prices for CPA 49.4 are obtained using tonne-kilometres and therefore the use of volume indicator in SUT framework for obtaining transport margins at previous' years prices is also treated as use of tonne-kilometres. The category is considered as B method.

3.8.14. **Warehousing and support services for transportation (CPA 52)**

3.8.15. To obtain market output at previous years' prices for CPA 52, more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price or volume indices.

3.8.16. Warehousing and support services for transportation are broken down into the following product detail levels:

- warehousing and storage services,
- services incidental to land transportation,
- cargo handling services,
- services incidental to water or air transportation,
- other transportation support services.

3.8.17. For all CPAs of the warehousing and support services (except CPA 52.22 and CPA 52.23) SPPI is used. It is considered as A method.

3.8.18. For services incidental to water transportation (CPA 52.22) and for services incidental to air transportation (CPA 52.23), the number of employees of market producers in NACE 52 is used as the volume indicator. This is classified as C method, because it reflects an input measure (labour) rather than directly measuring the output or service provided, making it less precise for capturing the actual volume of services.

3.8.19. The deflators and stratification used for warehousing and support services are presented in Table 3.10.

Table 3.10 Methods used for deflation of market output for CPA 52

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **52.1** | Warehousing and storage services | SPPI | A |
| **52.21** | Services incidental to land transportation | SPPI | A |
| **52.24** | Cargo handling services | SPPI | A |
| **52.22** | Services incidental to water transportation | Volume indicator (number of employees) | C |
| **52.23** | Services incidental to air transportation | Volume indicator (number of employees) | C |
| **52.29** | Other transportation support services | SPPI | A |

3.8.20. **Postal and courier services (CPA 53)**

3.8.21. To obtain market output at previous years' prices for CPA 53, more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price or volume indices.

3.8.22. Postal and courier services are broken down into the following product detail levels:

- postal services under universal service obligation,
- other postal and courier services.

3.8.23. For both postal services under universal service obligation (CPA 53.1) and for other postal and courier services (CPA 53.2) SPPIs are used, and the category for them are considered as A method. Therefore, deflation method of CPA 53 is also considered as A method.

3.8.24. The deflators and stratification used for postal and courier services are presented in Table 3.11.

Table 3.11 Methods used for deflation of market output for CPA 53

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **53.1** | Postal services under universal service obligation | SPPI | A |
| **53.2** | Other postal and courier services | SPPI | A |

## 3.9. CPA I – Accommodation and food services

3.9.1. The output of accommodation, and food and beverage serving services at constant prices is deflated at the two-digit level using CPIs. The deflation method of CPA 55 and CPA 56 is considered as A method and therefore also the deflation method of CPA I is considered as A method.

3.9.2. The deflators and stratification used for CPA I are presented in Table 3.12.

Table 3.12 Methods used for deflation of market output for CPA I

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **55** | Accommodation services | CPI | A |
| **56** | Food and beverage serving services | CPI | A |

## 3.10. CPA J – Information and communication services

3.10.1. CPA J includes a wide range of products, such as publishing services, motion picture services, programming and broadcasting services, computer services, and information services.

3.10.2. To obtain market output at previous years' prices for publishing services of books, periodicals and other publishing services (CPA 58), more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price indices. For CPA 58.1 and for CPA 58.2 SPPIs are used. The deflators of CPA 58.1 and CPA 58.2 belongs to the category of A method and deflation of CPA 58 is considered also as A method.

3.10.3. The market output for motion picture, video and television programme production services, sound recording and music publishing (CPA 59) and market output for telecommunications services (CPA 61) are deflated using CPIs. This deflation approach for both CPAs is classified as B method.

3.10.4. For programming and broadcasting services (CPA 60), the price index is estimated using the input method. This is considered as C method, as the more accurate model pricing method, which would better reflect the actual output and services provided, is not applied.

3.10.5. The market output for computer programming, consultancy and related services (CPA 62) and market output for information services (CPA 63) are deflated using SPPIs. This deflation approach for both CPAs is classified as A method.

3.10.6. In CPA J there is also recorded output for own final use for products of entertainment, literary or artistic originals (in CPA 58, CPA 59 and CPA 60) and own-account software products (in CPA 62). The output for own final use is deflated with the same price indices as market output.

3.10.7. The deflators and stratification used for CPA J are presented in Table 3.13.

Table 3.13 Methods used for deflation of market output and output for own final use for CPA J

| CPA | CPA heading | Market output and output for own final use | Evaluation A/B/C method |
|---|---|---|---|
| **58.1** | Publishing services of books, periodicals and other publishing services | SPPI | A |
| **58.2** | Software publishing services | SPPI | A |
| **59** | Motion picture, video and television programme production services, sound recording and music publishing | CPI | B |
| **60** | Programming and broadcasting services | Input method price index | C |
| **61** | Telecommunications services | CPI | B |
| **62** | Computer programming, consultancy and related services | SPPI | A |
| **63** | Information services | SPPI | A |

## 3.11. CPA K – Financial and insurance services

3.11.1. For better presentation of financial and insurance services (CPA K), it is divided in four parts:

- financial intermediation services indirectly measured (FISIM),
- financial intermediation outside FISIM (directly charged fees and commissions by financial intermediaries),
- insurance, reinsurance and pension funding services, except compulsory social security,
- services auxiliary to financial services and insurance services

3.11.2. **Financial intermediation services indirectly measured (FISIM) (part of CPA 64)**

3.11.3. FISIM output constitutes a significant part of the total CPA 64 output in Latvia. For instance, in 2022, it accounted for 52% of the total CPA 64 output.

3.11.4. The data sources used, and methods applied to obtain FISIM at previous years' prices is considered as B method as the method used relies on readily available data—such as stocks of loans and deposits—which can be deflated to base period prices using a general price index. In contrast, the A method requires detailed transaction-level data and specific interest rate spreads, which is not available.

3.11.5. The deflator for market output of CPA 64 (only FISIM) is presented also in Table 3.14. The detailed description of the method used is provided below.

Table 3.14 Methods used for deflation of market output CPA 64 (only FISIM)

| CPA | Product heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **64 only FISIM** | FISIM | Stocks of loans and deposits deflated using a general price index | B |

3.11.6. FISIM at previous years' prices are calculated in accordance with ESA 2010, Chapter 14.14. FISIM production in volume terms is calculated as follows:

$$\text{FISIMvol} = \frac{\text{Average stocks of loans and deposits}}{\text{Price index}} * \text{Previous year average margin} \quad (1)$$

where,

price index is an implicit price deflator for domestic final demand (P.3 + P.5), for FISIM on domestic loans and deposits, as well as for exported FISIM, but for imported FISIM on loans and deposits Import Price index is used.

3.11.7. FISIM on loans and deposits is calculated for:

- Deposit-taking corporations except the central bank (S.122), and Other financial intermediaries, except insurance corporations and pension plans (S.125), using aggregated data on loan and deposit stocks by sector.

3.11.8. FISIM are also compiled by institutional sectors:

- For General Government (S.13) and
- Financial Corporations (S.12).

3.11.9. The data sources used for estimating FISIM at constant prices are the same as those used for the estimation of FISIM at current prices. Data on stocks of loans and deposits by resident MFIs (S.122 and S.125) to residents are obtained from the monthly balance sheet reports of monetary financial institutions, the monthly report of banks in liquidation, and surveys conducted by the CSB — namely, '1-līzings' and '1-FP'.

3.11.10. Meanwhile, the data required for calculating FISIM at constant prices in the context of resident MFIs to non-residents and non-residents to residents are provided by the Latvijas Banka, which is responsible for calculating FISIM exports and imports for Balance of Payments purposes.

3.11.11. Implicit price deflator which is applied for loans and deposits issued by resident MFIs to residents and non-residents (domestic use as well for export use) is calculated using the following formula:

$$\text{Implicit price deflator} = \frac{\text{(P.3+P.5) at current year prices}}{\text{(P.3+P.5) at previous year prices}} \quad (2)$$

where,

P.3 is Final Consumption expenditure, but P.5 is Gross Capital formation (GDP from expenditure approach aggregates).

3.11.12. However, for non-resident MFI issued loans to the residents (imported FISIM) another deflator – overall import price index is used.

3.11.13. FISIM estimation at previous year prices for the average stocks of loans are calculated as:

$$\text{FISIM}_{\text{loans}} = \frac{\text{Average stocks of loans}}{\text{Price deflator}} * \text{Previous year average margin} \quad (3)$$

where,

- Average stocks of loans issued by resident MFIs (S.122 + S.125) to residents at the end of the reporting period;
- Average stocks of loans issued by resident MFIs to non-residents at the end of the reporting period;
- Average stocks of loans issued by non-resident MFIs to residents at the end of the reporting period.

3.11.14. The average margin for the previous year on loans issued to residents by resident MFIs (S.122 + S.125) is calculated using the following formula:

$$Previous\ year\ average\ margin_{resident\ to\ resident} = \frac{Resident\ MFI\ \ (S.122 + S.125)\ interest\ incomes\ from\ the\ loans\ of\ non{-}MFI}{Resident\ MFI\ \ (S.122 + S.125)\ average\ deposits\ from\ the\ issued\ loans\ to\ non{-}MFI} - IIR \quad (4)$$

where,

- IRR is previous year average internal reference rate ;
- non-MFIs are resident institutional units in Latvia that receive loans from MFIs; These include households, non-financial corporations, general government; NPISH, and financial sector subsectors other than S.122 and S.125;
- interest incomes from the loans and average deposits from the issued loans refers to previous year values.

3.11.15. Conversely, the Previous year average margin for resident MFI issued loans to non-resident and non-residents MFI issued loans to residents is calculated using the following formula using previous year values of exported and imported parts of FISIM and relevant previous year average stocks of loans:

$$\text{Previous year average margin}_{\ import} = \frac{FISIM_{import}}{Average\ stocks\ of\ loans} \quad (5)$$

$$\text{Previous year average margin}_{\ export} = \frac{FISIM_{\ export}}{Average\ stocks\ of\ loans} \quad (6)$$

3.11.16. FISIM estimation at previous year prices for the average stocks of deposits are calculated as:

$$\text{FISIM}_{\text{deposits}} = \frac{\text{Average stocks of deposits}}{\text{Price Deflator}} * \text{Previous year average margin} \quad (7)$$

where,

- Average stocks of deposits accepted by resident MFIs (S.122 + S.125) from resident non-MFIs at the end of the reporting period ;
- Average stocks of deposits accepted by resident MFIs from non-residents at the end of the reporting period;
- Average stocks of deposits accepted by non-resident MFIs from residents at the end of the reporting period;
- Price deflator used is the same as used for stocks of loans: Implicit price deflator (see formula (2)) for domestic use and export and overall import price index for imported part;
- Previous year average margin (resident to resident) is the same margin as used for loans (see formula (4)), previous year margin for FISIM imported and exported part is calculated using formulas (8) and (9).

3.11.17. Conversely, the Previous year average margin for resident MFI issued loans to non-resident and non-residents MFI issued loans to residents is calculated using the following formula using previous year values of FISIM and previous year average stocks of deposits:

$$\text{Previous year average margin}_{import} = \frac{FISIM\ import}{Average\ stocks\ of\ deposits} \quad (8)$$

$$\text{Previous year average margin}_{export} = \frac{FISIM\ export}{Average\ stocks\ of\ deposits} \quad (9)$$

3.11.18. The FISIM values obtained in volume terms in the final step of the calculation, similarly to FISIM at current prices, are allocated across user sectors. This ensures that the produced and imported FISIM in volume terms is either consumed in the domestic market or exported — resulting in a balanced outcome.

3.11.19. **Financial intermediation outside FISIM (part of CPA 64)**

3.11.20. For the directly charged financial intermediation services, the CPI representing CPA 64.1 is applied. This index is used to deflate the values, as it covers approximately 80% of all products within CPA 64. The use of the CPI index for these products qualifies as A method. However, since it does not cover the entire range of CPA 64 products, the applied method is downgraded to B method.

3.11.21. The deflator for market output of CPA 64 (except FISIM) is presented also in Table 3.15.

Table 3.15 Methods used for deflation of market output CPA 64 (except FISIM)

| CPA | Product heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **64 except FISIM** | Financial intermediation (except FISIM) | CPA | B |

3.11.22. **Insurance, reinsurance and pension funding services, except compulsory social security (CPA 65)**

3.11.23. Output and output at constant prices for products of Insurance reinsurance and pension funding services, except compulsory social security services (CPA 65) is estimated by the extrapolation of current price value with quantity indicator (number of signed contracts).

3.11.24. An exception is made for the output of State Funded Pension Schemes. The output of State Funded Pension Schemes at current prices is calculated using the sum of costs approach, where output is equal to intermediate consumption, as this is the only type of costs associated with this product. Therefore, the output is deflated with price index estimated for intermediate consumption of NACE 65.

3.11.25. For non-life insurance the number of policies is available in split by product (Accident insurance, Health insurance, Land vehicle insurance, Railway rolling stock insurance, Aircraft insurance, Ship insurance, Goods in transit insurance, Property insurance, Transport ownership liability insurance, Aircraft ownership liability insurance, Ship ownership liability insurance, General liability insurance, Credit insurance, Suretyship insurance, Insurance against miscellaneous financial losses, Legal expenses insurance, Assistance insurance) and type of purchaser (private or legal persons). The product split represents a suitable volume indicator' breakdown for non-life insurance to qualify method used as B method. For life insurance and private pension plans these methods are classified as C methods according to HPVM.

3.11.26. For non-life insurance, the number of policies is available broken down by product type—including accident insurance, health insurance, land vehicle insurance, railway rolling stock insurance, aircraft insurance, ship insurance, goods in transit insurance, property insurance, transport ownership liability insurance, aircraft ownership liability insurance, ship ownership liability insurance, general liability insurance, credit insurance, suretyship insurance, insurance against miscellaneous financial losses, legal expenses insurance, and assistance insurance—as well as by type of purchaser (private or legal persons).

3.11.27. This detailed product breakdown provides a suitable product stratification for non-life insurance estimation in volume terms, allowing the applied method to be classified as B method.

3.11.28. For life insurance and private pension plans, the available data and applied methods do not meet the same criteria. Therefore, according to HPVM, these are classified as C method.

3.11.29. The deflators and stratification used for each CPA 65 product are presented in Table 3.16.

Table 3.16 Methods used for deflation of market output for CPA 65

| CPA | Product heading | Method/indicator | Comments | Evaluation A/B/C method |
|---|---|---|---|---|
| **65** | State Funded Pension Schemes | CPI | | C |
| **65** | Private pension plans | Volume indicator (number of signed contracts) | | C |
| **65** | Domestic life insurance companies | Volume indicator (number of signed contracts) | Additionally, in order to divide domestic life insurance companies from foreign life insurance companies branches, the received premium ratio is used: (the number of signed contracts * received premium ratio) | C |

| CPA | Product heading | Method/indicator | Comments | Evaluation A/B/C method |
|---|---|---|---|---|
| **65** | Foreign life Insurance companies branches | Volume indicator (number of signed contracts) | | C |
| **65** | Domestic non-life insurance companies | Volume indicator (number of signed contracts split by products) | Additionally, in order to divide domestic non-life insurance companies from foreign life insurance companies branches, the received premium ratio is used: (the number of signed contracts * received premium ratio) | B |
| **65** | Foreign non-life Insurance companies' branches | Volume indicator (number of signed contracts) | | B |

3.11.30. **Services auxiliary to financial services and insurance services (CPA 66)**

3.11.31. To calculate CPA 66 at previous year prices, its output is deflated using the CPI of CPA 64. Using the CPI related to CPA 64 for deflating CPA 66 is considered an approximation, as this price index does not directly represent CPA 66 products. Therefore, the deflation method applied is classified as C method.

3.11.32. The deflator used for market output of CPA 66 is presented in Table 3.17.

Table 3.17 Methods used for deflation of market output for CPA 66

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **66** | Services auxiliary to financial services and insurance services | CPI of CPA 64 | C |

## 3.12. CPA L – Real estate services

3.12.1. For better presentation of real estate services (CPA L), it is divided in two parts:

- market output of real estate services,
- dwelling services of owner-occupiers (output for own final use).

3.12.2. **Market output of real estate services (CPA 68)**

3.12.3. The market output of real estate services (CPA L) consists of three different types of products:

- buying and selling services of own real estate (CPA 68.1);
- rental and operating services of own or leased real estate (CPA 68.2);
- real estate services on a fee or contract basis (CPA 68.3).

3.12.4. Deflation of market output of rental and operating services of own or leased real estate (CPA 68.2) is based on the SPPI, and it is classified as A method. CPA 68.2 at current prices represents approximately 70% of the market output of total CPA 68 at current prices.

3.12.5. For market output deflation for CPA 68.2 and CPA 68.3 (that represents together approximately 30% of the market output of total CPA 68 at current prices) there are no price

or volume indices available and therefore SPPI from CPA 68.2 is used. The category considered is C method.

3.12.6. As for all three CPAs at three-digit level the same price index for deflation is used, the necessity of weighting price indices is not necessary as it would not impact the result.

3.12.7. The deflators and stratification used for market output of CPA L are presented in Table 3.18.

Table 3.18 Methods used for deflation of market output for CPA L

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **68.1** | Buying and selling services of own real estate | SPPI of CPA 68.2 | C |
| **68.2** | Rental and operating services of own or leased real estate | SPPI | A |
| **68.3** | Real estate services on a fee or contract basis | SPPI of CPA 68.2 | C |

3.12.8. **Dwelling services of owner-occupiers (output for own final use) (CPA 68a)**

3.12.9. For owner-occupied dwelling services (CPA 68a), the user cost method is applied for calculations both at current prices and at constant price terms. The deflation method is based on input method approach, where each input component is calculated separately, and the total output is derived as the sum of these costs. Detailed description of data sources and methods used to obtain input method price indices is provided in Chapter 2 in paragraphs 2.0.93 to 2.0.120.

3.12.10. The method used for CPA 68a is classified as B method, as it incorporates volume indicators related to the stock of owner-occupied dwellings.

3.12.11. The deflator used for output for own final use of CPA 68a is presented in Table 3.19.

Table 3.19 Methods used for deflation of output for own final use for CPA 68a

| CPA | CPA heading | Output for own final use | Evaluation A/B/C method |
|---|---|---|---|
| **68a** | Dwelling services of owner-occupiers | Input method price index | B |

## 3.13. CPA M – Professional, scientific and technical services

3.13.1. CPA M includes a wide range of products and output volume calculations in this section are carried out based on data availability.

3.13.2. To obtain market output at previous years' prices for legal and accounting services (CPA 69), more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price indices. For CPA 69.1 and for CPA 69.2 SPPIs are used. The deflators of CPA 69.1 and CPA 69.2 belongs to the category of A method and deflation of CPA 69 is considered also as A method.

3.13.3. To obtain market output at previous years' prices for services of head offices and management consulting services (CPA 70), more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price indices. For CPA 70.1 volume indicator - number of employees - is used. This is classified as C method, as a price index based on the input method in not implemented. For CPA 70.2 SPPI is used and it is classified as A method.

3.13.4. For architectural and engineering services and technical testing and analysis services (CPA 71) and advertising and market research services (CPA 73), SPPIs are available and therefore are used in calculation of market output at constant prices. It is considered that category for both CPAs is A method.

3.13.5. For other professional, scientific and technical services (CPA 74) and veterinary services (CPA 75), CPIs are used, and it is considered that category for both CPAs is A method.

3.13.6. For scientific research and development services (CPA 72), deflation of market output is carried out using a price index estimated via the input method. Since this service is largely dependent on both labour and purchased goods and services, these inputs have a significant impact on the final price and therefore, the input method approach is classified as B method.

3.13.7. In CPA M there is also recorded output for own final use for research and development products (in CPA 72). The output for own final use is deflated with the same price index as market output, i.e. with input method price index.

3.13.8. The deflators and stratification used for CPA M are presented in Table 3.20.

Table 3.20 Methods used for deflation of market output and output for own final use for CPA M

| CPA | CPA heading | Market output and output for own final use | Evaluation A/B/C method |
|---|---|---|---|
| **69.1** | Legal services | SPPI | A |
| **69.2** | Accounting, bookkeeping and auditing services; tax consulting services | SPPI | A |
| **70.1** | Services of head offices | Volume indicator (number of employees) | C |
| **70.2** | Management consulting services | SPPI | A |
| **71** | Architectural and engineering services; technical testing and analysis services | SPPI | A |
| **72** | Scientific research and development services | Input method price index | B |
| **73** | Advertising and market research services | SPPI | A |
| **74** | Other professional, scientific and technical services | CPI | A |
| **75** | Veterinary services | CPI | A |

## 3.14. CPA N – Administrative and support services

3.14.1. CPA N includes a variety of services, such as rental and leasing, licensing of intellectual property, employment services, travel agency activities, security services, building and landscape services, and office administration.

3.14.2. To obtain market output at previous years' prices for rental and leasing services (CPA 77), more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price indices. For CPA 77.1 and for CPA 77.32 SPPIs are used. The deflators of CPA 77.1 and for CPA 77.32 belongs to the category of A method. Other services within of CPA 77 are deflated using volume indicator (number of employees) is used, and it is considered as C method, as actual rental prices, model prices, or CPI data are not available or not used.

3.14.3. For travel agency and tour operator services (CPA 79), the CPI that is based on travel package prices is applied to all products within CPA 79. This method is classified as B method, since

the output of travel agency services must be evaluated differently from that of tour operators, i.e. should be based on the principles for margin scheme.

3.14.4. To obtain market output at previous years' prices for services to buildings and landscape (CPA 81), more detailed product level data on net turnover (the main component of the market output) at current prices is used as weights for price indices. For CPA 81.1 CPI is used and it is considered as B method. For CPA 81.2 SPPI is used and it is considered as A method. For CPA 81.3 volume indicator (number of employees) is used and it is considered as C method.

3.14.5. For employment services (CPA 78), security and investigation services (CPA 80) and office administrative, office support and other business support services (CPA 82), SPPIs are used, and it is considered that category for all these CPAs is A method.

3.14.6. The deflators and stratification used for CPA N are presented in Table 3.21.

Table 3.21 Methods used for deflation of market output for CPA N

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **77.1** | Rental and leasing services of motor vehicles | SPPI | A |
| **77.32** | Rental and leasing services of construction and civil engineering machinery and equipment | SPPI | A |
| **77 other** | Rental and leasing services (except CPA 77.1 and CPA 77.32) | Volume indicator (number of employees) | C |
| **78** | Employment services | SPPI | A |
| **79** | Travel agency, tour operator and other reservation services and related services | CPI | B |
| **80** | Security and investigation services | SPPI | A |
| **81.1** | Combined facilities support services | CPI | B |
| **81.2** | Cleaning services | SPPI | A |
| **81.3** | Landscape services | Volume indicator (number of employees) | C |
| **82** | Office administrative, office support and other business support services | SPPI | A |

## 3.15. CPA O – Public administration and defence services; compulsory social security services

3.15.1. CPA O consists mainly of non-market services and are classified as collective services.

3.15.2. The value of non-market output at constant prices is calculated using the input method approach, where the cost components of output are deflated separately and then summed.

3.15.3. Detailed description of data sources and methods used to obtain input method price indices is provided in Chapter 2 in paragraphs 2.0.93 to 2.0.120.

3.15.4. For collective services, due to the difficulty of defining what the output is, input methods are classified as B methods.

3.15.5. There is negligible part of market products in CPA O. Market output is deflated by the same index as for non-market output, i.e. input method price index. It is classified as B method for this CPA.

3.15.6. The deflator used for non-market output of CPA O is presented also in Table 3.19.

Table 3.22 Methods used for deflation of non-market output for CPA O

| CPA | CPA heading | Non-market and market output | Evaluation A/B/C method |
|---|---|---|---|
| **84** | Public administration and defence services; compulsory social security services | Input method price index | B |

## 3.16. CPA P – Education services

3.16.1. In HPVM the education output is defined as

> "*Education output is the amount of teaching received by the students for each type of education*".

3.16.2. It is essential that any selected output indicator is based on cost-weighted data reflecting the level of education provided. At a minimum, the data should be disaggregated according to the internationally recognized broad categories of education.

3.16.3. In Latvia, the majority of education services are provided as non-market output. According to NACE activity classification, approximately 87% of all education services are delivered by the general government sector, while an additional 2% are provided by non-profit institutions serving households. This means that only 11% of education output is classified as market output.

3.16.4. There are significant differences in the structure of education provision across various levels of education:

- at the pre-primary level (ISCED 0), around 11% of children attend private educational institutions,
- at the primary and lower secondary levels (ISCED 1 and 2), only 4% of students are enrolled in private schools, indicating a strong dominance of public provision,
- in technical and vocational secondary education (ISCED 3), the share of students in private institutions increases to 29%,
- for post-secondary non-tertiary education (ISCED 4), only 5% of learners are in private institutions,
- however, in tertiary education (ISCED 5–8), the share of students in private institutions rises significantly to 23%.

3.16.5. These figures highlight that non-market output dominates the education sector, especially at the early and compulsory education levels, which are primarily provided by the government sector. In contrast, market output becomes more prominent at higher levels of education, particularly in tertiary education.

3.16.6. Non-market education output of General Government sector is deflated using volume indices, based on changes in the number of pupils or students compared to the previous period. While the recommended A method is to use pupil-hours, in cases where this data is unavailable, the number of pupils may be used as proxy —provided that the number of teaching hours per pupil remains stable, which is the case in Latvia.

3.16.7. Changes in the average annual number of pupils are calculated by ISCED 1-digit level. Cost weights for each education level are derived from general government expenses by education level.

3.16.8. The stratification of non-market output and the deflation methods used for CPA P in the general government sector are presented in Table 3.23.

Table 3.23 Methods used for deflation of non-market output for CPA P for general government sector

| CPA | CPA heading | ISCED level | Method/ Quantity indicator | Weighting | Evaluation A/B/C method |
|---|---|---|---|---|---|
| 85.1 | Pre-primary education services | level 0 | Pupils | Weights from General Government statistics | A |
| 85.2 | Primary education services | level 1 | Pupils | Weights from General Government statistics | A |
| 85.3 | Secondary education services | level 2 -3 | Pupils | Weights from General Government statistics | A |
| 85.41 | Post-secondary non-tertiary education services | level 4 | Pupils | Weights from General Government statistics | A |
| 85.42 | Tertiary education services | level 5 - 8 | Pupils | Weights from General Government statistics | B (*due to lack of detailed program-level split*) |
| 85.5 | Other education services | – | Number of employees | Weights from General Government statistics | C |
| 85.6 | Educational support services | – | Input method | Weights from General Government statistics | B |

3.16.9. Price index by education levels is calculated as:

(average annual number of pupils in current year × current year expenses) ÷ (average annual number of pupils in current year × previous year expenses)

3.16.10. Non-market output of education services provided by NPISHs is deflated using a price index estimated via the input method, which is classified as C method.

3.16.11. Market output of Education services is deflated using relevant consumer price index. The deflation method can be classified as B method, as an appropriate SPPI is not available.

## 3.17. CPA Q – Human health and social work services

3.17.1. Market output estimates at constant prices for market producers in this section are calculated by deflating current price values using CPI. The CPI is recorded gross of any reimbursements.

3.17.2. The method used for CPA 86 is classified as A method.

3.17.3. For CPA 87, the CPI for residential care activities for the elderly and disabled (CPA 87.3) is used. The method used for CPA 87 is classified as B method, as the price index covers only the CPA 87.3 component.

3.17.4. For CPA 87, the same CPI is used as for deflating CPA 87. For CPA 88, the method is classified as C method, since the price index does not directly cover the specific components of CPA 88 but is instead substituted with a similar product's price index.

3.17.5. The deflators and stratification used for CPA Q presented in Table 3.24.

Table 3.24 Methods used for deflation of market output for CPA Q

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **86** | Human health activities | CPI | A |
| **87** | Residential care activities | CPI | B |
| **88** | Social work activities without accommodation | CPI | C |

3.17.6. To estimate the volume of non-market output for human health activities in the General Government sector, various indicators are used. These activities are primarily characterized by individual services, for which the output volume indicator method is applied. Health services are deflated using supplementary data such as diagnosis-related groups and treatment costs.

3.17.7. The Table 3.25 below presents data sources and indicators available from the National Health Service of the Republic of Latvia. The National Health Service is a direct administrative institution under the Ministry of Health. It manages state budget funds allocated for health care and oversees their use in medical institutions and pharmacies.

Table 3.25 Data sources and indicators available from the National Health Service

| CPA | Product heading | Available data | Additional indicators calculated from data source |
|---|---|---|---|
| **86.10** | Hospital services | Number of hospitalizations; average duration of treatment; average costs by diagnosis group (approx. 580 diagnosis-related groups) | Hospitalization days by diagnostic category = number of hospitalizations × average duration (volume indicator).<br>Average cost per hospitalization day by diagnosis-related group (price indicator).<br>Price index of CPA 86.10 calculated using cost weights. |
| **86.21** | General medical practice services (Primary ambulatory health care) | Number of patients and state budget costs by diagnosis group (approx. 20 groups, ICD-10 classification) | Average cost per patient by diagnosis group (price indicator).<br>Number of patients (volume indicator).<br>Price index of CPA 86.21 calculated using cost weights. |
| **86.22** | Specialist medical practice services (Secondary ambulatory health care) | Number of examinations, detailed state-paid costs by service program (approx. 120 programs) | Average cost per examination by service program (price indicator). Number of examinations (volume indicator).<br>Price index of CPA 86.22 calculated using cost weights. |
| **86.23** | Dental practice services | Expenses and number of visits | Average cost per visit (price indicator). Number of examinations (volume indicator). |

3.17.8. An example formula for calculating the average price index at previous year prices is provided below:

$$\text{Price Index} = \sum_1^n (Volume\ in\ current\ year \times Price\ in\ current\ year) \div \sum_1^n (Volume\ in\ current\ year \times Price\ in\ previous\ year)$$

3.17.9. The output of CPA 86.9 – Other human health services – at constant prices is estimated using the input method. For this category, the input method is classified as B method.

3.17.10. The non-market output of NPISH sector CPA 86 is also compiled using the input method. In this case, the method is classified as C method.

3.17.11. For both the General Government and NPISH sectors, the non-market output of CPA 87 and CPA 88 is deflated using a price index derived from the input method. This approach is classified as B method, as the use of input methods is permitted as a B method for non-market output in these CPA categories.

## 3.18. CPA R - Arts, entertainment and recreation services

3.18.1. Market output at constant prices for market producers is compiled at CPA two-digit level.

3.18.2. For CPA 90, the market output is deflated using CPI of CPA 90.04 (Arts facility operation services). For CPA 91, the CPI of CPA 91.02 (Museum services) is used. Due to insufficient stratification for both CPA 90 and CPA 91, the applied method is classified as C method. method.

3.18.3. For CPA 92, which covers Gambling and betting activities, the market output is part of a strictly government-regulated market. In compiling the CPI for gambling, direct quality adjustments or bridged overlap techniques are applied. This method is classified as B method.

3.18.4. For CPA 93, covering Sports, amusement, and recreation activities, the CPI is used with sufficient stratification. Therefore, the method is classified as A method.

3.18.5. The deflators and stratification used for CPA R are presented in Table 3.26.

Table 3.26 Methods used for deflation of market output for CPA R

| CPA | CPA heading | Market output | Evaluation A/B/C method |
|---|---|---|---|
| **90** | Creative, arts and entertainment activities | CPI | C |
| **91** | Libraries, archives, museums and other cultural activities | CPI | C |
| **92** | Gambling and betting activities | CPI | B |
| **93** | Sports activities and amusement and recreation activities | CPI | A |

3.18.6. Output for own final use of Entertainment, literary, or artistic originals (included under CPA 90) is deflated using input price index.

3.18.7. For both the General Government and NPISH sectors, non-market output under CPA R at CPA two-digit level is deflated using a price index derived from the input method. The method and level of detail applied are consistent with those used for general government producers under CPA O. This approach is classified as C method, as the services involved are individual in nature.

## 3.19. CPA S – Other services

3.19.1. This product division includes services provided by membership organizations, repair services for computers and personal or household goods, as well as various other personal services.

3.19.2. Non-market output is represented only under CPA 94, primarily by the NPISH sector, and accounts for approximately 80% of the total output in this category. For CPA 94, the price index for both market output and non-market output is calculated using the input method. Detailed description of data sources and methods used to obtain input method price indices is provided in Chapter 2 in paragraphs 2.0.93 to 2.0.120.

3.19.3. The method used is considered as B method, since the services involved are collective nature. There is no detailed information available on the provision of services provided to members, broken down into a fine detail and weighted by the costs of provision.

3.19.4. CPA 95 and CPA 96 is deflated using the CPI. Since businesses will have minimal expenses for these services, the CPI is quite appropriate and is considered as A method.

3.19.5. The deflators and stratification used for CPA S are presented in Table 3.27.

Table 3.27 Methods used for deflation of market output for CPA S

| CPA | CPA heading | Market output and non-market output | Evaluation A/B/C method |
|---|---|---|---|
| **94** | Activities of membership organisations | Input method price index | B |
| **95** | Repair of computers and personal and household goods | CPI | A |
| **96** | Other personal service activities | CPI | A |

## 3.20. CPA T – Services of households as employers of domestic personnel

3.20.1. In Latvia, the CPA T consists only of services of households as employers of domestic personnel (CPA 97). The constant price estimate for CPA 97 of output for own final use is obtained by deflating current price value by the volume indicator (extrapolation using the number of staff as the extrapolator). The deflation method can be classified as B.

3.20.2. The deflators for CPA T is also presented in Table 3.28.

Table 3.28 Methods used for deflation of output for own final use for CPA T

| CPA | CPA heading | Output for own final use | Evaluation A/B/C method |
|---|---|---|---|
| **97** | Services of households as employers of domestic personnel | Volume indicator (number of staff) | B |
| **98** | Undifferentiated goods and services produced by private households for own use | – | – |

# Chapter 4: Methodologies by expenditure category (expenditure approach)

4.0.1. In Chapter 4 is provided description of methodologies used for deflation of GDP expenditure approach aggregates:

- household final consumption expenditure (see Section 4.1);
- government and NPISHs final consumption expenditure (see Section 4.2);
- gross fixed capital formation (see Section 4.3);
- acquisitions less disposals of valuables (see Section 4.4);
- changes in inventories (see Section 4.5);
- export and import of goods and services (see Section 4.6).

## 4.1. Households final consumption expenditure

4.1.1. Household final consumption expenditure (HFCE) is delineated according to the national concept, calculated as household final consumption expenditure by the domestic concept, minus direct purchases of non-resident households within the domestic territory, plus direct purchases of resident households abroad.

4.1.2. HFCE by the domestic concept encompasses all household expenditures on durable, semi-durable, and non-durable goods, as well as services.

4.1.3. Deflation Process: According to the "H-Approach," the components of the SUT use table, including HFCE, are deflated using appropriate basic price deflators or volume indicators. Post-transformation of HFCE from basic prices to purchaser prices, these results are validated against HFCE results at previous year's prices, obtained using the detailed harmonized indices of consumer prices (HICPs). In instances of unusual discrepancies or deviations between HFCE and the supply side, an additional in-depth analysis is conducted to identify potential causes, exclude errors, and implement necessary corrections.

4.1.4. Additional assumptions for deflating HFCE:

- Goods and services received as income in kind and consumption of self-produced goods and services are treated separately in the SUT and deflated equivalently in both supply and use.
- Nominal expenditure on narcotics is deflated using specific price indices for each of 5 most common narcotic types—heroin, amphetamines, cocaine, marijuana, and ecstasy. These price indices are obtained through the volume index, which is measured by the change in the number of users.
- Services of owner-occupied dwellings are estimated using the user cost method and price index is estimated by deflating inputs.
- Services provided by individuals employed in private households are deflated on both supply and use sides in the SUT tables, using the volume indicator (number of staff).
- Insurance is deflated by a price index that compares the previous year's output in NACE 65 at current year prices to the previous year's output at previous year prices, reflecting industry performance and considering the volume index (measured through the number of new contracts).
- Games of chance are strictly regulated by the Lotteries and Gambling Supervisory Inspection of the Republic of Latvia. Information on current year prices is readily available in annual reports, with a breakdown by the main types of games (gaming machines, gaming tables, bingo halls, betting points, online gambling, lotteries). However, there is no specific breakdown by quality, such as faster payouts.

- The import from non-resident operators is calculated within the estimation of e-commerce from payment card data. This part is not significant, and the total expenditure result is not divided between resident and non-resident operators for deflation purposes. The CPI for COICOP 09.4.7.0. Games of hance (S) is used to generate the value in previous year's prices. Bridged overlap/direct quality adjustment is applied to lottery prices for the calculation of the CPI, while prices for gaming machines are indexed quarterly to reflect changes in the value of the money used for the minimum contribution. No such corrections are made in connection with the percentage of winnings or other factors.
- Prostitution services are deflated using the price index that captures the change of average tariffs charged by prostitutes.
- Evaluation of financial intermediation services indirectly measured (FISIM) at constant prices involves adjusting the stock of loans and deposits to base year prices using the implicit deflator for domestic final demand, as specified in ESA 2010 (paragraph 14.14). The value of these services is accurately reflected in both supply and use tables, maintaining consistency in economic accounts.

4.1.5. For most products, the deflation methods meet the A methods requirements. The stratification of products and the methods employed are detailed in Table 4.1.

Table 4.1 Methods used for deflation of HFCE by the domestic concept

| **Stratification (COICOP classification)** | **Deflator** | **Evaluation A/B/C method** |
|---|---|---|
| 01.1.1. Cereals and cereal products (ND) | HICP | A |
| 01.1.2. Live animals, meat and other parts of slaughtered land animals (ND) | HICP | A |
| 01.1.3. Fish and other seafood (ND) | HICP | A |
| 01.1.4. Milk, other dairy products and eggs (ND) | HICP | A |
| 01.1.5. Oils and fats (ND) | HICP | A |
| 01.1.6. Fruits and nuts (ND) | HICP | A |
| 01.1.7. Vegetables, tubers, plantains, cooking bananas and pulses (ND) | HICP | A |
| 01.1.8. Sugar, confectionery and desserts (ND) | HICP | A |
| 01.1.9. Ready-made food and other food products n.e.c. (ND) | HICP | A |
| 01.2.1. Fruit and vegetable juices (ND) | HICP | A |
| 01.2.2. Coffee and coffee substitutes (ND) | HICP | A |
| 01.2.3. Tea, maté and other plant products for infusion (ND) | HICP | A |
| 01.2.4. Cocoa drinks (ND) | HICP | A |
| 01.2.5. Water (ND) | HICP | A |
| 01.2.6. Soft drinks (ND) | HICP | A |
| 01.2.9. Other non-alcoholic beverages (ND) | HICP | A |
| 01.3.0. Services for processing primary goods for food and non-alcoholic beverages (S) | HICP | A |
| 02.1.1. Spirits and liquors (ND) | HICP | A |
| 02.1.2. Wine (ND) | HICP | A |

| Stratification (COICOP classification) | Deflator | Evaluation A/B/C method |
|---|---|---|
| 02.1.3. Beer (ND) | HICP | A |
| 02.1.9. Other alcoholic beverages (ND) | HICP | A |
| 02.2.0. Alcohol production services (S) | HICP | A |
| 02.3.0. Tobacco (ND) | HICP | A |
| 02.4.0. Narcotics (ND) | Volume indicator (number of consumers) | C |
| 03.1.1. Clothing materials (SD) | HICP | A |
| 03.1.2. Garments (SD) | HICP | A |
| 03.1.3. Other articles of clothing and clothing accessories (SD) | HICP | A |
| 03.1.4. Cleaning, repair, tailoring and hire of clothing (S) | HICP | A |
| 03.2.1. Shoes and other footwear (SD) | HICP | A |
| 03.2.2. Cleaning, repair, and hire of footwear (S) | HICP | A |
| 04.1.1. Actual rentals paid by tenants for main residence (S) | HICP | A |
| 04.1.2. Other actual rentals (S) | HICP | A |
| 04.2.1. Imputed rentals of owner-occupiers for main residence (S) | Input method price index | B |
| 04.2.2. Other imputed rentals (S) | Input method price index | B |
| 04.3.1. Security equipment and materials for the maintenance and repair of the dwelling (ND) | HICP | A |
| 04.3.2. Services for the maintenance, repair and security of the dwelling (S) | HICP | A |
| 04.4.1. Water supply (ND) | HICP | A |
| 04.4.2. Refuse collection (S) | HICP | A |
| 04.4.3. Sewage collection (S) | HICP | A |
| 04.4.4. Other services relating to the dwelling n.e.c. (S) | HICP | A |
| 04.5.1. Electricity (ND) | HICP | A |
| 04.5.2. Gas (ND) | HICP | A |
| 04.5.3. Liquid fuels (ND) | HICP | A |
| 04.5.4. Solid fuels (ND) | HICP | A |
| 04.5.5. Other energy for heating and cooling (ND) | HICP | A |
| 05.1.1. Furniture, furnishings and loose carpets (D) | HICP | A |
| 05.1.2. Repair, installation and hire of furniture, furnishings and loose carpets (S) | HICP | A |
| 05.2.1. Household textiles (SD) | HICP | A |
| 05.2.2. Repair, hire and sewing services of household textiles (S) | HICP | A |

| Stratification (COICOP classification) | Deflator | Evaluation A/B/C method |
|---|---|---|
| 05.3.1. Major household appliances, whether electric or not (D) | HICP | A |
| 05.3.2. Small household appliances (SD) | HICP | A |
| 05.3.3. Repair, installation and hire of household appliances (S) | HICP | A |
| 05.4.0. Glassware, tableware and household utensils (SD) | HICP | A |
| 05.5.1. Motorized tools and equipment (D) | HICP | A |
| 05.5.2. Non-motorized tools and miscellaneous accessories (SD) | HICP | A |
| 05.5.3. Repair and hire of motorized and non-motorized tools and equipment (S) | HICP | A |
| 05.6.1. Non-durable household goods (ND) | HICP | A |
| 05.6.2. Domestic services and household services (S) | Volume indicator (number of staff) | B |
| 06.1.1. Medicines (ND) | HICP | A |
| 06.1.2. Medical products (ND) | HICP | A |
| 06.1.3. Assistive products (D) | HICP | A |
| 06.1.4. Repair, rental and maintenance of medical and assistive products (S) | HICP | A |
| 06.2.1. Preventive care services (S) | HICP | A |
| 06.2.2. Outpatient dental services (S) | HICP | A |
| 06.2.3. Other outpatient care services (S) | HICP | A |
| 06.3.1. Inpatient curative and rehabilitative services (S) | HICP | A |
| 06.3.2. Inpatient long-term care services (S) | HICP | A |
| 06.4.1. Diagnostic imaging services and medical laboratory services (S) | HICP | A |
| 06.4.2. Patient emergency transportation services and emergency rescue (S) | HICP | A |
| 07.1.1. Motor cars (D) | HICP | A |
| 07.1.2. Motorcycles (D) | HICP | A |
| 07.1.3. Bicycles (D) | HICP | A |
| 07.1.4. Animal drawn vehicles (D) | HICP | A |
| 07.2.1. Parts and accessories for personal transport equipment (SD) | HICP | A |
| 07.2.2. Fuels and lubricants for personal transport equipment (ND) | HICP | A |
| 07.2.3. Maintenance and repair of personal transport equipment (S) | HICP | A |
| 07.2.4. Other services in respect of personal transport equipment (S) | HICP | A |
| 07.3.1. Passenger transport by railway (S) | HICP | A |
| 07.3.2. Passenger transport by road (S) | HICP | A |
| 07.3.3. Passenger transport by air (S) | HICP | A |
| 07.3.4. Passenger transport by sea and inland waterway (S) | HICP | A |

| Stratification (COICOP classification) | Deflator | Evaluation A/B/C method |
|---|---|---|
| 07.3.5. Combined passenger transport (S) | HICP | A |
| 07.3.6. Other purchased transport services (S) | HICP | A |
| 07.4.1. Postal and courier services (S) | HICP | A |
| 07.4.9. Other transport of goods (S) | HICP | A |
| 08.1.1. Fixed telephone equipment (D) | HICP | A |
| 08.1.2. Mobile telephone equipment (D) | HICP | A |
| 08.1.3. Information processing equipment (D) | HICP | A |
| 08.1.4. Equipment for the reception, recording and reproduction of sound and vision (D) | HICP | A |
| 08.1.5. Unrecorded recording media (SD) | HICP | A |
| 08.1.9. Other information and communication equipment and accessories (D) | HICP | A |
| 08.2.0. Software (S) | HICP | A |
| 08.3.1. Fixed communication services (S) | HICP | A |
| 08.3.2. Mobile communication services (S) | HICP | A |
| 08.3.3. Internet access provision services and net storage services (S) | HICP | A |
| 08.3.4. Bundled telecommunication services (S) | HICP | A |
| 08.3.5. Repair and rental of information and communication equipment (S) | HICP | A |
| 08.3.9. Other information and communication services (S) | HICP | A |
| 09.1.1. Photographic and cinematographic equipment and optical instruments (D) | HICP | A |
| 09.1.2. Major durables for recreation (D) | HICP | A |
| 09.2.1. Games, toys and hobbies (SD) | HICP | A |
| 09.2.2. Equipment for sport, camping and open-air recreation (SD) | HICP | A |
| 09.3.1. Garden products, plants and flowers (ND) | HICP | A |
| 09.3.2. Pets and products for pets (ND) | HICP | A |
| 09.4.1. Hire and repair of photographic and cinematographic equipment and optical instruments (S) | HICP | A |
| 09.4.2. Hire, maintenance and repair of major durables for recreation (S) | HICP | A |
| 09.4.3. Hire and repair of games, toys and hobbies (S) | HICP | A |
| 09.4.4. Hire and repair of equipment for sport, camping and open-air recreation (S) | HICP | A |
| 09.4.5. Veterinary and other services for pets (S) | HICP | A |
| 09.4.6. Recreational and sporting services (S) | HICP | A |
| 09.4.7. Games of chance (S) | CPI | B |
| 09.5.1. Musical instruments (D) | HICP | A |
| 09.5.2. Audio-visual media (SD) | HICP | A |

| Stratification (COICOP classification) | Deflator | Evaluation A/B/C method |
|---|---|---|
| 09.6.1. Services provided by cinemas, theatres and concert venues (S) | HICP | A |
| 09.6.2. Services provided by museums, libraries, and cultural sites (S) | HICP | A |
| 09.6.3. Photographic services (S) | HICP | A |
| 09.6.9. Other cultural services (S) | HICP | A |
| 09.7.1. Books (SD) | HICP | A |
| 09.7.2. Newspapers and periodicals (ND) | HICP | A |
| 09.7.3. Miscellaneous printed matter (ND) | HICP | A |
| 09.7.4. Stationery and drawing materials (ND) | HICP | A |
| 09.8.0. Package holidays (S) | HICP | A |
| 10.1.0. Early childhood and primary education (S) | HICP | A |
| 10.2.0. Secondary education (S) | HICP | A |
| 10.3.0. Post-secondary non-tertiary education (S) | HICP | A |
| 10.4.0. Tertiary education (S) | HICP | A |
| 10.5.0. Education not defined by level (S) | HICP | A |
| 11.1.1. Restaurants, cafés and the like (S) | HICP | A |
| 11.1.2. Canteens, cafeterias and refectories (S) | HICP | A |
| 11.2.0. Accommodation services (S) | HICP | A |
| 12.1.1. Life and accident insurance (S) | | |
| 12.1.1.0.1. Direct life and accident insurance (S) | Volume indicator (number of signed contracts) | C |
| 12.1.1.0.2. Private pension funds (S) | Volume indicator (number of signed contracts) | C |
| 12.1.2. Insurance connected with health (S) | Volume indicator (number of signed contracts) | B |
| 12.1.3. Insurance connected with the dwelling (S) | Volume indicator (number of signed contracts) | B |

| Stratification (COICOP classification) | Deflator | Evaluation A/B/C method |
|---|---|---|
| 12.1.4. Insurance connected with transport (S) | Volume indicator (number of signed contracts) | B |
| 12.1.9. Other insurance (S) | Volume indicator (number of signed contracts) | B |
| 12.2.1. Financial intermediation services indirectly measured (FISIM) (S) | Implicit deflator for domestic final demand | B |
| 12.2.2. Explicit charges by deposit-taking corporations (S) | HICP | A |
| 12.2.9. Other financial services (S) | HICP | A |
| 13.1.1. Electric appliances for personal care (SD) | HICP | A |
| 13.1.2. Other appliances, articles and products for personal care (ND) | HICP | A |
| 13.1.3. Hairdressing salons and personal grooming establishments (S) | HICP | A |
| 13.2.1. Jewellery and watches (D) | HICP | A |
| 13.2.2. Devotional articles and articles for religious and ritual celebrations (SD) | HICP | A |
| 13.2.9. Other personal effects n.e.c. (SD) | HICP | A |
| 13.3.0. Social protection (S) | HICP | A |
| 13.9.0. Other services (S) | | |
| 13.9.0. Other services (S) | HICP | A |
| 13.9.0.1. Prostitution (S) | Price index (tariffs charged) | C |

## 4.2. Government and NPISHs final consumption expenditure

4.2.1. The approach for compiling NPISH and General Government final consumption expenditure at constant prices follows the same principle as at current prices. It is derived by subtracting sales and output for own final use at constant prices from output at constant prices and adding social transfers in kind, also valued at constant prices.

4.2.2. Output at constant prices is calculated in volume terms using the input method, where each cost component is deflated separately using the relevant price indices (see description of input method price indices in Chapter 2 in paragraphs 2.0.93 to 2.0.120). Exceptions apply to CPA P – Education (see Chapter 3 Section 3.16) and CPA 86 – Human Health (see Chapter 3 Section 3.17) within the General Government sector, where the output indicator methods are used instead.

4.2.3. Sales to households and other units are treated as market output, therefore is deflated with the same price indices as for market products. If market output prices do not exist for certain product, for example, sales of CPA 84 Public administration and defence services; compulsory social security services or CPA 94 Activities of membership organisations, the price index used for non-market output deflation is used.

4.2.4. Output for own final use are deflated using the same methods as described in Chapter 3. Output for own final use in these sectors mainly includes CPA 72 Research and development (see Chapter 3 Section 3.13), CPA J and CPA 90 for Literary, or artistic originals (see Section 3.10 and Section 3.18 for more details) and CPA 62 Own-account software (see Section 3.10). These outputs are preferably deflated using market output price indices. If such indices are not available, input-based price indices are used instead.

4.2.5. Social transfers in kind represents products which general government and NPISHs purchases from market producers, and which are supplied, without any transformation, to households. Social transfers in kind in most of cases are estimated in volume terms by deflating current price values using market output price indices.

4.2.6. An exceptions are General Government purchases of CPA 86.2 – Medical and dental practice activities, as these services are mainly purchased from general practitioners (family doctors), medical specialists, and surgeons, and the prices for each treatment are set a priori, based on agreements between medical professionals and the government. Therefore, the same price indices are used to deflate CPA 86.2 as those applied to non-market output, which is estimated using the output indicator method (see Chapter 3 Section 3.17 for more details).

4.2.7. Evaluating the methods applied for deriving Government and NPISHs final consumption expenditure in volume terms:

- general government final consumption expenditure, in aggregate, qualifies as B method in the case of collective services, as the main component—output—is deflated using the input method, which is acceptable for these types of services. Deflation of sales and output for own final use in most cases qualifies as method A method or B method. Within individual services, only CPA P (Education) and CPA Q (Health), in aggregate, qualifies as B method, while the remaining individual service product groups (mainly CPA R) are classified as C method. An estimation of sales and social transfers in kind in volume terms qualifies as A method or B method,
- NPISH final consumption expenditure by convention is recorded as individual services. Given that the main component—non-market output—is estimated in volume terms using the input method, the applied deflation method is classified as C method, except for CPA 87 and CPA 88, where the use of this method is evaluated as B method. The deflation of sales and social transfers in kind for the most of products follows A method.

## 4.3. Gross fixed capital formation

4.3.1. At first, Gross fixed capital formation is deflated in SUT framework at product level (CPA classification two-digit level) at basic prices and then transition to purchasers' prices are made based on "H-Approach" that is described more detailed in in Chapter 1 paragraphs 1.0.10 to 1.0.31..

4.3.2. After that the results are analysed and plausibility checks are performed in Classification of assets (AN). If necessary, any adjustments resulting from the additional plausibility checks are incorporated in a balanced manner in SUT.

4.3.3. In 2024, Latvia updated time series in the GDP benchmark revision related to GFCF, consumption of fixed capital, and the valuation of net and gross capital stock at constant prices, by integrating the results of work on improving the PIM estimates. In making these improvements, the recommendations of the Task Force on FIXCAP were taken into account, particularly regarding the selection of GFCF deflators, wherever possible.

4.3.4. **AN.111 Dwellings**

4.3.5. Latvia has not construction price indices and OOHPI is available only from 2011. Therefore, for dwellings (AN.1111) 3 different indices for different time periods are used:

1) 1995-2000 - construction cost index;

   Construction cost indices are not ideal for deflation of GFCF because they reflect input costs rather than output prices. They do not capture productivity changes or quality improvements. The method used is C method.

2) 2001-2010 - based on construction cost index for Residential buildings with modelled increases and decreases according to the economic cycle;

   Although the index is adjusted to reflect economic cycles, it remains based on input costs and lacks direct observation of transaction prices or output-based deflators. The method used still is C method.

3) 2011 and on- "Acquisition of dwellings" components of the OOHPI (new dwellings, self- builders and major renovations).

   The OOHPI is an output-based price index and is considered the preferred deflator for dwellings in national accounts. Using its components aligns with Eurostat's recommendations. The method used is A method.

4.3.6. For Costs of ownership transfer of used dwellings (AN.1112), 2 different approaches for different time periods are used:

1) 1995-2012 - costs of ownership transfer of dwellings are deflated by constructed average from the different products that compose this asset group (CPA 69.1, CPA 64, CPA 84, CPA 68).

   This approach uses a constructed index from relevant CPA categories and is based on output-based indices, therefore method used qualifies as B method.

2) 2012 and on - component "other costs related to acquisition of dwellings" of OOHPI (O.1.1.3). Price index for this subgroup is available starting from 2012.

   This component of the OOHPI is specifically designed to capture the costs of ownership transfer and is output-based. It reflects actual market transactions and is the preferred deflator according to Eurostat guidelines. The method used is considered as A method.

4.3.7. **AN.112 Other buildings and structures**

4.3.8. This category compromises four subgroups: AN.1121 Building other than dwellings, AN.1122 Other structures, AN.1123 Land improvements and costs of ownership transfers of land (included in AN.1123).

4.3.9. Relevant Construction Cost Indices for each building type have been used to deflate GFCF in other buildings and structures since 1995. Starting from 2019, additional components such as costs of ownership transfer, transport margins, and non-deductible VAT are also taken into account, as products are balanced in the SUT using the "H-Approach". Despite some modelling

and differentiation by structure type and adjustments to purchaser prices is taken in account, the reliance on CCI places the volume estimates under C method.

4.3.10. Cost of ownership transfer of land (included in AN.1123), 2 different approaches for different time periods are used:

1) till 2018 Costs of ownership transfer of AN.1123 are deflated by constructed average output-based price indices from the different products that compose this asset group (CPA 69.1, CPA 64, CPA 84, CPA 68) taking account product weights. The method qualifies as B method.
2) 2019 and on- Costs of ownership transfer of AN.1121 and AN.1123 are deflated by constructed output-based price index from the relevant CPA products (CPA 69.1, CPA 64, CPA 84, CPA 68) with product weights applied and adjusted to purchaser prices, based on the results of the SUT "H-Approach". The applied method qualifies as A method.

4.3.11. **AN.113 Machinery and equipment**

4.3.12. This category compromises three subgroups: AN.1131 Transport equipment, AN.1132 ICT equipment, AN.1139 Other machinery and equipment.

4.3.13. AN.113 asset group consists of various CPA products, which are mapped to AN.113 subcategories as follows: Transport equipment (AN.1131) corresponds to CPA 29 and CPA 30; ICT equipment (AN.1132) corresponds to CPA 26; and Other machinery and equipment (AN.1139) includes products from CPA 16, CPA 22, CPA 23, CPA 25, CPA 26, CPA 27, CPA 28, CPA 31, and CPA 32.

4.3.14. For years before 2019 composite price index (PPI is used for domestically produced and IPI for imported transport equipment) adjusted to purchasers' prices is used. This method is more refined than using general PPI deflators and is therefore classified as B method.

4.3.15. For the years 2019 and on - Use table price indices from "H-Approach" estimates are applied. In construction of price indices such components are taken into account: the transport and trade margins, non-deductible VAT, distinction between domestically and imported equipment. The method qualifies as A method.

4.3.16. **AN.114 Weapons systems**

4.3.17. The average import price index of machinery and mechanical appliances, electrical equipment, transport vehicles and equipment are used.

4.3.18. The lack of specificity to actual weapons systems and the use of broad categories limits precision placing it as C method.

4.3.19. **AN.115 Cultivated biological resources**

4.3.20. From 2019 onwards, price indices for CPA 01 derived from the SUT "H-Approach" are used, qualifying this as A method. For years prior to 2019, an output price index for CPA 01 based on basic price indices is applied, which classifies the method as B method.

4.3.21. **AN.1171 Research and development**

4.3.22. Price indices is estimated using Eurostat Task Force on research and development recommendations – input method. The method used qualifies as B method.

4.3.23. **AN.1172 Mineral exploration and evaluation**

4.3.24. In Latvia, mineral exploration and evaluation is negligible and consists of output for own final use which is capitalized (treated as GFCF). Since 2008, there have been small amounts recorded in GFCF, but these have shown a decreasing trend in recent years. Product is deflated using the domestic PPI of CPA 09, which corresponds to B method.

4.3.25. **AN.1173 Computer software and databases**

4.3.26. Output for own final use of own account software is deflated using SPPI CPA 62 Computer programming, consultancy. Other purchased AN.1173 products are split between domestic part and imported part. For the domestic part SPPI CPA 62 is used, for imported part average European Producer price index in service sectors J62 (available from 2007) are used. The method used qualifies as A method.

4.3.27. Before 2007 price index is calculated from output of NACE J62 (output at current prices/output at previous prices), a split between domestic or imported software is not performed. The method used qualifies as C method.

4.3.28. **AN.1174 Entertainment, literary or artistic originals**

4.3.29. Entertainment, literary or artistic originals includes mainly output for own final use (CPA 58, CPA 59, CPA 60, CPA 90). Price indices used are the same as described in Chapter 3 Sections 3.10 and 3.18).

4.3.30. **AN.1179 Other intellectual property products**

4.3.31. Not relevant as these products do not exist in Latvia.

## 4.4. Acquisitions less disposals of valuables

4.4.1. In Latvia, the value of acquisitions less disposals of valuables is negligible, which is around 0.1% of GDP. Most of these products are imported as the product group primarily are represented by CPA 24.41 – Precious metals.

4.4.2. The valuables include the following products in CPA classification:

- CPA 24.41 Precious metals (gold coins and bars)
- CPA 32.1 Jewellery, bijouterie and related articles
- CPA 90 Creative, arts and entertainment services (works of art).

4.4.3. Volume estimates of acquisition less disposals of valuables are estimated using SUT framework based on “H-approach”, the values at volume terms are first acquired at basic prices and after then transited to purchaser prices. Imported part is deflated using IPIs, domestic part by PPI or CPI in case of CPA 90.

4.4.4. As in estimation is used price indices for more broader groups at CPA two-digit level, the deflation method used for acquisition less disposals of valuables are set as C method.

## 4.5. Changes in inventories

4.5.1. Changes in inventories consist of the following categories:

- materials and supplies and military inventories (AN.121 and AN.124);
- work-in-progress and finished goods (AN.122 and AN.123);
- goods for resale (AN.125).

4.5.2. Materials and supplies and goods for resale in national accounts are valued at purchaser prices, but work-in -progress and finished goods are valued at basic prices.

4.5.3. First, inventories in volume terms are calculated at basic prices. The same price indices as for market output, broken down by two-digit CPA products, are applied for domestic products. The imported products of changes in inventories is deflated using the same price indices as those used for imports.

4.5.4. Next, inventories of materials and supplies, as well as goods for resale, are adjusted from basic prices to purchaser prices by adding the value of trade and transport margins and VAT at constant prices.

4.5.5. Since deflation is, in some cases, carried out using less appropriate price indices, the calculation method can be classified as a B method.

## 4.6. Export and import of goods and services

4.6.1. Deflation of exports and imports of goods and services is made separately for goods and separately for services, ensuring that volume indicators are accurately derived for each.

4.6.2. **Exports and imports of goods**

4.6.3. General indices used for deflation of exports and imports of goods are shown in the Table 4.2. Description and special cases are available below the table.

Table 4.2 Indices used for deflation of exports and imports of goods

| CPA | CPA heading | Exports of goods | Evaluation A/B/C method for exports of goods | Imports of goods | Evaluation A/B/C method for imports of goods |
|---|---|---|---|---|---|
| **01** | Products of agriculture, hunting and related services | PPI | B | IPI | A |
| **02** | Products of forestry, logging and related services | Market output price index | B | IPI | A |
| **03** | Fish and other fishing products; aquaculture products; support services to fishing | Market output price index | B | IPI | A |
| **05** | Coal and lignite | Export PPI of CPA 08 | C | Export PPI of CPA 08 | C |
| **06** | Crude petroleum and natural gas | EUVI | B | IPI | A |
| **07** | Metal ores | Export PPI of CPA 08 | C | Export PPI of CPA 08 | C |
| **08** | Other mining and quarrying products | Export PPI | A | IPI | A |
| **10** | Food products | Export PPI | A | IPI | A |
| **11** | Beverages | PPI | B | IPI | A |

| CPA | CPA heading | Exports of goods | Evaluation A/B/C method for exports of goods | Imports of goods | Evaluation A/B/C method for imports of goods |
|---|---|---|---|---|---|
| **12** | Tobacco products | EUVI | B | IPI | A |
| **13** | Textiles | Export PPI | A | IPI | A |
| **14** | Wearing apparel | Export PPI | A | IPI | A |
| **15** | Leather and related products of other materials | PPI | B | IPI | A |
| **16** | Wood and of products of wood and cork, except furniture; articles of straw and plaiting materials | Export PPI | A | IPI | A |
| **17** | Paper and paper products | Export PPI | A | IPI | A |
| **18** | Printing and recording services | Export PPI | A | IPI of CPA 17 | C |
| **19** | Coke and refined petroleum products | EUVI | B | IPI | A |
| **20** | Chemicals and chemical products | Export PPI | A | IPI | A |
| **21** | Basic pharmaceutical products and pharmaceutical preparations | PPI | B | IPI | A |
| **22** | Rubber and plastic products | Export PPI | A | IPI | A |
| **23** | Other non-metallic mineral products | Export PPI | A | IPI | A |
| **24** | Basic metals | Export PPI | A | IPI | A |
| **25** | Fabricated metal products, except machinery and equipment | Export PPI | A | IPI | A |
| **26** | Computer, electronic and optical products | PPI | B | IPI | A |
| **27** | Electrical equipment | Export PPI | A | IPI | A |
| **28** | Machinery and equipment n.e.c. | Export PPI | A | IPI | A |
| **29** | Motor vehicles, trailers and semi-trailers | Export PPI | A | IPI | A |
| **30** | Other transport equipment | PPI | B | IPI of CPA 29 | C |
| **31** | Furniture | Export PPI | A | IPI | A |
| **32** | Other manufactured goods | Export PPI | A | IPI | A |

| CPA | CPA heading | Exports of goods | Evaluation A/B/C method for exports of goods | Imports of goods | Evaluation A/B/C method for imports of goods |
|---|---|---|---|---|---|
| **33** | Repair and installation services of machinery and equipment | PPI | B | IUVI of CPA 28 | C |
| **35.1** | Electricity, transmission and distribution services | EUVI | A | IPI | A |
| **38** | Waste collection, treatment and disposal services; materials recovery services | PPI | B | IPI | A |
| **43** | Specialised construction works | EUVI overall | C | IPI overall | C |
| **58** | Publishing services | SPPI | B | Weighted IPI of CPA 17 and CPA 26 | C |
| **59** | Motion picture, video and television programme production services, sound recording and music publishing | CPI | C | IUVI overall | C |
| **71** | Architectural and engineering services; technical testing and analysis services | SPPI | B | SPPI | C |
| **74** | Other professional, scientific and technical services | CPI | C | IUVI overall | C |
| **90** | Creative, arts and entertainment services | CPI | C | IUVI overall | C |
| **91** | Library, archive, museum and other cultural services | CPI | C | IUVI overall | C |

4.6.4. Dominantly A methods are used, i.e. cases when export PPI (split by zones) and IPI exactly matching the CPA for which index is applied. All other methods here can be classified as B methods or C methods.

4.6.5. C methods are almost only for those exported or imported goods whose value at current prices is less than 0.1% of GDP and therefore is considered as negligible.

4.6.6. Exports of goods that are considered as negligible: CPA 05, CPA 07, CPA 18, CPA 43, CPA 59, CPA 74, CPA 90, CPA 91.

4.6.7. Imports of goods that are considered as negligible: CPA 05, CPA 07, CPA 18, CPA 33, CPA 43, CPA 58, CPA 59, CPA 71, CPA 74, CPA 90, CPA 91.

4.6.8. **Exports and imports of services**

4.6.9. General indices used for deflation of exports and imports of services are shown in the Table 4.3. Description and special cases are available below the table.

Table 4.3 Indices used for deflation of exports and imports of services

| CPA | CPA heading | Exports of services | Evaluation A/B/C method for exports of services | Imports of services | Evaluation A/B/C method for imports of services |
|---|---|---|---|---|---|
| **01** | Products of agriculture, hunting and related services | PPI | B | IPI | B |
| **02** | Products of forestry, logging and related services | Market output price index | B | IPI | B |
| **03** | Fish and other fishing products; aquaculture products; support services to fishing | – | – | IPI | B |
| **05** | Coal and lignite | – | – | Export PPI of CPA 08 | C |
| **10** | Food products | Export PPI | B | – | – |
| **11** | Beverages | PPI | B | – | – |
| **13** | Textiles | Export PPI | B | IPI | B |
| **14** | Wearing apparel | Export PPI | B | IPI | B |
| **15** | Leather and related products | PPI | B | – | – |
| **16** | Wood and of products of wood and cork, except furniture; articles of straw and plaiting materials | Export PPI | B | IPI | B |
| **17** | Paper and paper products | Export PPI | B | IPI | B |
| **18** | Printing and recording services | Export PPI | B | IPI of CPA 17 | C |
| **19** | Coke and refined petroleum products | – | – | IPI | B |
| **20** | Chemicals and chemical products | Export PPI | B | IPI | B |
| **22** | Rubber and plastic products | – | – | IPI | B |
| **23** | Other non-metallic mineral products | – | – | IPI | B |
| **25** | Fabricated metal products, except machinery and equipment | – | – | IPI | B |

| CPA | CPA heading | Exports of services | Evaluation A/B/C method for exports of services | Imports of services | Evaluation A/B/C method for imports of services |
|---|---|---|---|---|---|
| **26** | Computer, electronic and optical products | – | – | IPI | B |
| **27** | Electrical equipment | – | – | IPI | B |
| **30** | Other transport equipment | PPI | B | IPI of CPA 29 | C |
| **32** | Other manufactured goods | – | – | IPI | B |
| **33** | Repair and installation services of machinery and equipment | PPI | B | IPI of CPA 32 | C |
| **35.1** | Electric power generation, transmission and distribution | EUVI | B | IPI | B |
| **36** | Natural water; water treatment and supply services | – | – | PPI | C |
| **37** | Sewerage services; sewage sludge | PPI | B | – | – |
| **38** | Waste collection, treatment and disposal services; materials recovery services | PPI | B | PPI | C |
| **41** | Buildings and building construction works | CCI | C | CCI | C |
| **42** | Constructions and construction works for civil engineering | CCI | C | CCI | C |
| **43** | Specialised construction works | CCI | C | CCI | C |
| **45** | Wholesale and retail trade and repair services of motor vehicles and motorcycles | EUVI overall | C | Based on ImM | B |
| **46** | Wholesale trade services, except of motor vehicles and motorcycles | EUVI overall | C | Based on ImM | C |
| **49** | Land transport services and transport services via pipelines | Market output price index | C | Weighted product price index | C |
| **50** | Water transport services | – | – | Based on ImM | B |

| CPA | CPA heading | Exports of services | Evaluation A/B/C method for exports of services | Imports of services | Evaluation A/B/C method for imports of services |
|---|---|---|---|---|---|
| **51** | Air transport services | CPI | C | Based on ImM | B |
| **52** | Warehousing and support services for transportation | Market output price index | B | Based on ImM | B |
| **53** | Postal and courier services | Market output price index | B | Based on ImM | B |
| **55** | Accommodation services | – | – | Based on ImM | B |
| **58** | Publishing services | Market output price index | B | Based on ImM | B |
| **59** | Motion picture, video and television programme production services, sound recording and music publishing | Market output price index | C | Based on ImM | B |
| **60** | Programming and broadcasting services | Market output price index | C | Based on ImM | B |
| **61** | Telecommunication services | Market output price index | C | Based on ImM | B |
| **62** | Computer programming, consultancy and related services | Market output price index | B | Based on ImM | B |
| **63** | Information services | Market output price index | B | Based on ImM | B |
| **64 only FISIM** | FISIM | NA estimated | B | NA estimated | B |
| **64 except FISIM** | Financial services, except insurance and pension funding (and except FISIM) | Market output price index | B | Based on ImM | B |
| **65** | Insurance, reinsurance and pension funding services, except compulsory social security | Market output price index | C | Based on ImM | C |
| **66** | Services auxiliary to financial services and insurance services | Market output price index | C | Based on ImM | C |
| **68** | Real estate services | Market output price index | C | Based on ImM | B |

| CPA | CPA heading | Exports of services | Evaluation A/B/C method for exports of services | Imports of services | Evaluation A/B/C method for imports of services |
|---|---|---|---|---|---|
| **69** | Legal and accounting services | Market output price index | B | Based on ImM | B |
| **70** | Services of head offices; management consulting services | Market output price index | C | Based on ImM | B |
| **71** | Architectural and engineering services; technical testing and analysis services | Market output price index | B | Based on ImM | B |
| **72** | Scientific research and development services | Market output price index | B | Based on ImM | B |
| **73** | Advertising and market research services | Market output price index | B | Based on ImM | B |
| **74** | Other professional, scientific and technical services | Market output price index | B | Based on ImM | B |
| **77** | Rental and leasing services | Market output price index | B | Based on ImM | B |
| **78** | Employment services | Market output price index | B | Based on ImM | B |
| **79** | Travel agency, tour operator and other reservation services and related services | Market output price index | B | Based on ImM | B |
| **80** | Security and investigation services | Market output price index | B | Based on ImM | B |
| **81** | Services to buildings and landscape | Market output price index | B | Based on ImM | B |
| **82** | Office administrative, office support and other business support services | Market output price index | B | Based on ImM | B |
| **84** | Public administration and defence services; compulsory social security services | Market output price index | B | Based on ImM | B |
| **85** | Education services | Market output price index | B | EUVI overall | C |
| **92** | Gambling and betting services | Market output price index | B | EUVI overall | C |

| CPA | CPA heading | Exports of services | Evaluation A/B/C method for exports of services | Imports of services | Evaluation A/B/C method for imports of services |
|---|---|---|---|---|---|
| **93** | Sporting services and amusement and recreation services | Market output price index | B | Based on ImM | B |
| **95** | Repair services of computers and personal and household goods | Market output price index | B | Based on ImM | B |
| **96** | Other personal services | Market output price index | B | Based on ImM | B |

4.6.10. For exports of services where deflator is set as "Market output price index", more detailed description of these indices are available in Chapter 3 in Sections 3.1 to 3.20 where market output deflation methods are described and evaluated for each CPA. In cases where market output is considered as A method, for exports of services it is lowered to B method in cases when market output is not split by exported services and domestically consumed services.

4.6.11. Regarding CPA 64 FISIM, the deflation methods are described in Chapter 3 Section 3.11.

4.6.12. Exports of services in CPA 49 is considered as C method as in deflation is not taken into account type of exported land transportation services.

4.6.13. Imports of services in CPA 49 at current prices is recorded as transport margins. Currently the deflation method is based on transported product prices in breakdown by CPA two-digit level and in breakdown by transport type (CPA 49.2 Freight rail transport services and CPA 49.4 Freight transport services by road and removal services). As the deflation method is not based on volume changes of transported products (similarly as it is done for market output related to domestic transport margins), the method applied for imports of services in CPA 49 is considered as C method.

4.6.14. Exports of services in CPA 51 is considered as C method as in deflation is not taken into account type of exported air transportation services.

4.6.15. Indices based on Import index matrix (ImM) are created in NA. Import indices matrix is based on weights of 60 countries in the structure of import and on indices collected for each of these countries from Eurostat databases (SPPIs and CPIs) and UN databases (PPIs and CPIs). Import index matrix evaluates also changes of exchange rate for 24 currencies. Thus, exchange rate adjusted import indices are obtained.

4.6.16. Purchases of non-residents in Latvia are deflated based on CPI of ECOICOP 11 Restaurants and hotels, and as the deflator do not match products that are consumed of non-residents in Latvia it is considered as B method.

4.6.17. Purchases of residents abroad and imports of services are deflated mainly based on ImM but as not for all data used in ImM the product breakdown is available, it is considered as B method.

4.6.18. For CIF/FOB adjustment is used overall IUVI price index and it is considered as C method.

# Chapter 5: Methodologies for other parts of the system

5.0.1. In Chapter 5 is provided description of methodologies used for deflation of:

- value added (see Section 5.1);
- taxes and subsidies on products (see Section 5.2).

## 5.1. Value added

5.1.1. Gross value added is calculated as a difference between output of goods and services (at basic prices) and intermediate consumption (at purchasers' prices).

5.1.2. In Latvia, output and intermediate consumption are deflated separately, and gross value added is calculated as the balance of those two revalued flows, therefore gross value added at constant prices is calculated using the double deflation method that is the theoretically correct method to calculate value added in volume terms according to ESA 2010 and this method is considered belonging to the category of A method according to HPVM.

## 5.2. Taxes and subsidies on products

5.2.1. **Taxes on products**

5.2.2. Taxes on products at constant prices are compiled depending on the type of tax:

1) Taxes related to the quantity of products-these are surveyed as a fixed amount per unit of the taxed product. The tax payment depends on:
   - the quantity of the product,
   - the amount of tax per unit of the product (basic assessment figure)

   In this case, the breakdown of changes in value into price and volume components is as follows:
   - the volume component is determined by the change in the quantity of the product,
   - the price component is determined by the change in the basic assessment figure.
2) Taxes related to the values of products - these are levied as a percentage of the product's value. The tax payment depends on:
   - the volume of the product,
   - the price of the product,
   - the applicable tax rate.

   The amount of tax to be paid can be broken down into:
   - a volume component, reflecting changes in the volume of the taxed product,
   - a price component, capturing changes in both the product price and the tax.

5.2.3. The calculations are based on data from the State budget revenues, the State revenue service data on the circulation of excise goods, reports from the Lotteries and Gambling Supervisory Inspection on the gambling sector, data from the State Unified Computerized Land Register on real estate purchase transactions, data from the Latvian State Institute of Agrarian Economics (Agricultural Economic Accounts), energy balance data, and national regulatory enactments (laws, Cabinet of Ministers regulations, and orders).

5.2.4. The calculations in volume terms are based on complete and accrued data, with each individual tax analysed and treated separately. This approach corresponds to A method according to HPVM.

5.2.5. **Taxes related to quantities of products**

5.2.6. *Excise duties*

5.2.7. Excise duty is a specific consumption tax applied to certain groups of consumer goods that are either produced domestically or imported into the country.

5.2.8. In Latvia, excise goods are subject to excise duty in accordance with the Law on Excise Duties. Taxable objects include:

- alcoholic beverages,
- tobacco products,
- oil products,
- natural gas (from 01.07.2010, the duty was not applied from 01.09.2010 to 30.06.2011),
- non-alcoholic beverages and coffee;
- liquid to be used in electronic cigarettes (from 01.07.2016), components for preparation of liquid to be used in electronic cigarettes (from 01.01.2021),
- substitute tobacco products (as of 01.01.2021).

5.2.9. Tax rates are specified in the Law on Excise Duties and are applied as follows:

- alcoholic beverages – per 100 litres;
- tobacco products – per 1,000 cigarettes, cigars, or cigarillos; or per 1,000 grams of tobacco, tobacco leaves, or heated tobacco;
- liquids for electronic smoking devices and their components – per 1 millilitre;
- tobacco substitute products – per 1,000 grams;
- oil products – per 1,000 litres or kilograms;
- non-alcoholic beverages – per 100 litres; coffee – per 100 kilograms;
- natural gas – per megawatt hour (MWh).

5.2.10. *Excise duty on imported goods for omission for free turnover*

5.2.11. The tax rates are for a specific amount – a litre, a piece, a cubic metre, etc. The amounts of duty are processed together with the amounts of excise duty.

5.2.12. *Energy tax*

5.2.13. The energy tax applies to electricity supplied to final consumers, including electricity generated from renewable energy sources and by cogeneration power stations. It also covers electricity used for generating thermal energy and electricity supplied for self-consumption during the taxation period (including electricity used in administrative buildings).

5.2.14. Tax exemptions apply to:

- electricity used by households;
- electricity used directly in the process of electricity generation (effective from 1 January 2023);
- electricity used for freight transport and public passenger transport;
- other exemptions and reliefs as specified in Section 6 of the Electricity Tax Law.

5.2.15. This tax was introduced in Latvia in accordance with the requirements of a European Commission directive and has been in effect since 1 January 2007.

5.2.16. The current tax rate is EUR 1.01 per megawatt hour (MWh).

5.2.17. *State duty for keeping oil products security reserves*

5.2.18. The state fee for maintaining safety reserves of petroleum products in Latvia is defined in Section 72³ of the Energy Law. It applies to merchants engaged in the trade or consumption of petroleum products within the country.

5.2.19. The fee is calculated based on the consumption of petroleum products in the previous calendar year, and its amount may vary depending on state policy and market conditions.

5.2.20. According to 2023 data, the state duty rate for maintaining security reserves was EUR 45.45 per tonne of petroleum products released for free circulation, sold, or consumed in Latvia. This rate applied to categories I, II, and III of petroleum products, including petrol, diesel, and liquefied petroleum gas.

5.2.21. Until 2024, the duty was levied directly on merchants trading or consuming petroleum products. However, starting from 2024, a new management model was introduced. Under this model:

- the state acquires oil product safety reserves into public ownership;
- their maintenance is financed through a public service fee, paid by the same merchants who previously paid the state duty;
- this fee is transferred to an accumulation fund, administered by SIA "Public Asset Manager Possessor".

5.2.22. *Stamp duty for transactions made in Land Register, which have been collected from legal persons, except legacies and donations* and *Stamp duty for transactions made in Land Register, which have been collected from natural persons, except legacies and donations*

5.2.23. The Land Register fee for activities performed by the Land Register is determined in Section 107 of the Land Register Law. According to this section:

- the fee for corroborating a new right for each person is EUR 15.
- the fee for issuing a Land Register certificate is EUR 8.

5.2.24. These fees apply to both legal and natural persons, depending on the nature of the transaction.

5.2.25. *Mandatory procurement public service obligation fee*

5.2.26. Mandatory Electricity Procurement (MEP) is a state-defined support mechanism for electricity producers generating electricity in cogeneration plants or from renewable energy sources.

5.2.27. In accordance with the Electricity Market Law, the support was implemented by a public trader, a role fulfilled by the limited liability company "Energy Public Trader" since 1 April 2014.

5.2.28. The public trader:

- procured electricity under the MEP scheme from eligible producers;
- paid a guaranteed fee for installed capacity in power plants;
- covered balancing costs and administrative expenses.

5.2.29. These costs were passed on to all final electricity consumers in proportion to their electricity consumption, as part of the MEP component (MPC payment).

5.2.30. However, following amendments to the Electricity Market Law on 13 February 2023, from 1 May 2023, final electricity consumers are no longer required to pay the MEP. Instead, the associated costs are now covered by the State budget.

5.2.31. *The Municipal fee for hosting visitors and tourists in Riga*

5.2.32. A municipal fee for the reception of holidaymakers and tourists has been introduced in Riga, which came into force on 1 January 2023. The levy applies to all tourist accommodation, including hotels, guesthouses and rental apartments that host guests for a fee.

5.2.33. The amount of the fee depends on the duration of the stay of the guests:

- EUR 1 per night up to EUR 10 for the whole period of stay - from 1 January to 31 October 2023;
- EUR 0.89 per night up to EUR 8.90 for the whole period of stay - from 1 November 2023.

5.2.34. For example, if a guest stays in a hotel for 5 nights, the fee will be EUR 5. If stays last 11 or more nights, the levy applies only to the first 10 nights.

5.2.35. The levy does not apply to:

- persons under 18 years of age;
- persons to whom accommodation is provided free of charge;
- persons employed by the accommodation provider;
- Ukrainian citizens unable to return to Ukraine and admitted to Latvia under the government support programme.

5.2.36. Accommodation providers must register as fee payers on the Latvian public Administration Service Portal. The fee must be paid quarterly- until 30 April, 30 July, 30 October and 30 January - for the previous quarter period.

5.2.37. *Calculation method applied to taxes related to quantities of products*

5.2.38. Taxes related to quantities of products in volume terms is calculated based on volume indicator as changes in volumes are available.

5.2.39. Formula for Volume Index:

$$Volume\ Index = \frac{Q_1}{Q_0}$$

where:

Q1 – quantity of products in the current (comparison) period,

Q0 – quantity of products in the base period.

5.2.40. Formula for Price Index:

$$Price\ Index = \frac{Taxes\ collected_1}{Taxes\ collected_0 * Volume\ index}$$

where:

$Taxes\ collected_1$- taxes collected in the current (comparison) period,
$Taxes\ collected_0$- taxes collected in the base period.

5.2.41. In the calculation of the excise duty volume index for tobacco products and other excise goods, each product category is assigned a weight to reflect its relative importance within the group. These weights are taken into account to ensure that the index accurately represents the structure of excise goods.

5.2.42. **Taxes related to values of products**

5.2.43. *Value added tax (VAT)*

5.2.44. In national accounts VAT as GDP aggregate "taxes on products" refers only to actual VAT revenues by tax authorities, i.e. non-collected part of VAT is not treated in national accounts as "tax on products". VAT is calculated on a net basis and refers only to non-deductible VAT. In other words, VAT on products is defined as the sum of all non-deductible amounts which have to be paid by final users of product, and only the amount that refers to actual revenue by tax authorities.

5.2.45. VAT at previous years' prices is obtained in SUT framework at product level (CPA two-digit level) from the use table side.

5.2.46. For deflation of VAT is applied a requirement that the volume index of the value including VAT of a products equals the volume index of the value excluding VAT, i.e. the volume index of the VAT is equal the volume index at basic prices of the products on which the tax is applied.

5.2.47. In other words, for every entry of the use table where VAT is applicable, VAT in volume terms is estimated as:

$$T_{t/t-1} = T_{t-1/t-1} \times VI_{flow}$$

where

$T_{t/t-1}$ = tax on products t in prices of t − 1

$T_{t-1/t-1}$ = tax on products t − 1 in prices of t – 1

$VI_{flow}$ = volume change of the underlying product

5.2.48. Changes in VAT rate and changes in VAT collection ratio both are attributed to change in price and not to volume change.

5.2.49. The applied method is considered as category of A method.

5.2.50. *Duties on transactions with privatization vouchers*

5.2.51. Privatisation certificate - a dematerialised security granted by the State, which may only be used once as a means of payment for the State or local government property to be privatised.

5.2.52. A State fee shall be paid for the sale, gift and inheritance of certificates, except for a gift or inheritance received by spouses or persons who have a relationship of first- or second-degree kinship with the owner of certificates.

5.2.53. For the sale, gift or inheritance of certificates, the account holder shall charge a State fee in the amount of 0.2 percent of the nominal value of the certificates.

5.2.54. The revenue collected under this tax is close to zero, as transactions involving privatisation vouchers have practically ceased since 2010. Consequently, the price index is set to 1.

5.2.55. *Duty for consolidation of ownership and legal liens in Land Register, which have been collected from legal persons, except legacies and donations* and *Duty for consolidation of ownership and legal clients in Land Register, which have been collected from natural persons, except legacies and donations*

5.2.56. The State fee for the strengthening of property rights and pledge rights in the Land Register, except for inheritances and gifts, is determined in Cabinet Regulation No. 1250 of 27 October 2009, Regulations Regarding the State Fee for the Strengthening of Property Rights and Pledge Rights in the Land Register.

5.2.57. According to these regulations, the amount of the state fee is as follows:

- for legal entities, the fee is 2% of the value of the immovable property, but not more than EUR 50,000.
- for natural persons, the fee is 1.5% of the value of the immovable property, also capped at EUR 50,000.

5.2.58. To estimate these two taxes in volume terms, the price component is calculated first. For taxes related to the value of products, the price component should reflect changes in both the product price and the tax rate.

5.2.59. The tax rate for these taxes is changed very infrequently. The current rate has been in effect since 2021; previous rates were in force since 2009.

5.2.60. As a proxy for product price changes, a price index of the net stock of dwellings and buildings other than dwellings is used, since the tax applies to real estate transactions. This price index is derived from the PIM model.

5.2.61. In years when the tax rate remains unchanged, the price index used for deflating both taxes is equal to the index obtained from the PIM model.

5.2.62. In years when the price index changes due to a tax rate adjustment, the index is calculated as:

Price index=Product price index*Tax Rate adjustment

5.2.63. The tax rate adjustment is calculated by dividing the new rate by the previous rate, taking into account weights based on the number and value of real estate transactions, broken down by natural and legal persons.

5.2.64. **Taxes related to quantities and to values of products**

5.2.65. *Lottery and gambling tax*

5.2.66. The lottery and gambling tax is paid by capital companies which have received a special authorisation (licence) to organise lotteries or the necessary licences to operate gambling activities, in accordance with the procedures set out in the Law on Gambling and Lotteries and the Law on Lotteries and Gambling Fee and Tax.

5.2.67. The lottery tax applies to:

- income from the sales of tickets of State lotteries and instant lotteries;
- income from the sales of tickets of local lotteries and instant lotteries.
- income from the sales of tickets of single local lotteries.

5.2.68. From January 1, 2017, lottery tax rates for lotteries and instant lotteries amount to 10 percent of income from the sales of tickets (15 percent as of January 1, 2025).

5.2.69. The gambling tax applies to the following objects:

- slot machines and mechanical devices – per machine or gaming position;
- roulette (cylindrical games) – per gaming table connected to a roulette wheel;
- card and dice games – per table;
- bingo – based on income from organising the game;
- games of chance via telephone – based on income;
- betting (totalizator) – based on income;
- online gambling – based on income from games organised via telecommunications.

5.2.70. Gambling tax rates vary and are determined depending on the kind of gambling:

- roulette – fixed amount per table (as defined by law);
- card and dice games – fixed amount per table;
- slot machines – fixed amount per gaming position;
- phone-based games of chance – 15% of revenue;
- betting (totalizator) – 15% of revenue;
- bingo – 10% of revenue;
- online gambling – 12% of revenue.

5.2.71. The lottery tax in volume terms is calculated using such steps:

1) Lottery tax at current year prices (SRS data):

$$Lottery\ tax\ at\ current\ year\ prices = R_n * r_n$$

where:

Rn – income in the current period,

rn – tax rates (percent) in the current period.

2) Lottery tax at the previous year prices:

$$Lottery\ tax\ at\ previous\ year\ prices = R_n * r_{n-1}$$

where:

Rn – income in the current period,

rn-1 – tax rates (percent) in the previous period.

3) Lottery Tax Price Index:

$$Lottery\ Price\ Index = \frac{Lottery\ tax\ at\ current\ year\ prices}{Lottery\ tax\ at\ previous\ year\ prices}$$

5.2.72. The Gambling Tax Price Index is estimated with the same method as Lottery Price index for those types of gambling that, according to the law, are taxed as a percentage of income.

5.2.73. For gambling types taxed at a fixed amount per object, the index is calculated based on the number of taxable objects and the defined tax amount:

1) Gambling tax at current prices:

$$Gambling\ tax\ at\ current\ prices = Q_n * r_n$$

where:

Qn - number of taxable objects in the current period,

rn – tax amount per unit (EUR) in the current period.

2) Gambling tax at the previous year prices:

$$Gambling\ tax\ at\ previous\ year\ prices = Q_n * r_{n-1}$$

where:

Qn - number of taxable objects in the current period,

rn-1 – tax amount per unit (EUR) in the previous period.

3) Gambling tax price index:

$$Gambling\ Tax\ Price\ Index = \frac{Gambling\ Tax\ at\ current\ prices}{Gambling\ Tax\ at\ previous\ year\ prices}$$

5.2.74. In the last step the direct budget revenue from the lottery and gambling tax (at current prices) is deflated using the respective price index calculated above. This results in the Lottery and Gambling Tax in volume terms.

5.2.75. **Subsidies on products**

5.2.76. The calculations are based on complete and accrued data, with each individual subsidies analysed and treated separately, which corresponds to the A method according to HPVM.

5.2.77. Agricultural product subsidies are deflated using price index on subsides from Latvian State Institute of Agrarian Economics.

5.2.78. Support to households for partial compensation of the increase in energy resource prices (subsidy on product) is calculated separately:

- for compensation of electricity payments (CPA 35.1);
- for compensation of natural gas payments (CPA 35.2);
- for compensation of heat energy payments (CPA 35.3).

5.2.79. The calculation method is the same as Taxes related to quantities of products.

# Chapter 6: Application to quarterly national accounts

## 6.1. Introduction

6.1.1. Quarterly National Accounts (QNA) are compiled following the European system of national and regional accounts in the European Union (ESA 2010) as defined in Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013. Additionally, the requirements of Regulation (EU) 2023/734 of the European Parliament and the Council of 15 March 2023, which amends Regulation (EU) No 549/2013, are followed.

6.1.2. The quarterly estimate of the QNA indicators is based on a system of short-term statistics.

6.1.3. In Latvia, the quarterly gross domestic product (GDP) is primarily compiled using the indirect method. This involves using statistical indicators from monthly, quarterly, and semi-annual surveys, as well as administrative data, which are extrapolated based on the previous year's values.

6.1.4. The direct method is applied in specific cases, such as for financial and insurance activities (NACE Section K), for estimating taxes and subsidies on products, and for calculating general government sector indicators using the production approach. It is also used to estimate government expenditure and foreign trade (exports and imports) under the expenditure approach, as well as for taxes and subsidies within the income approach.

6.1.5. The quarterly GDP is compiled using three approaches: the production, expenditure, and income approaches. To derive volume measures, the production and expenditure approaches are used, while the income approach is estimated in current prices only.

6.1.6. To derive quarterly estimates in constant prices, various price indices are applied as deflators, including the Consumer Price Index (CPI), Producer Price Index (PPI), Services Producer Price Index (SPPI), Construction Cost Index (CCI), Export Unit Value Index (EUVI), and Import Price Index (IPI).

6.1.7. Volume estimates are produced using the chain-linking method, which ensures that economic indicators remain comparable over time. This method applies the annual overlap technique, where quarterly data are first calculated at the average prices of the previous year. These estimates are then chain-linked to a reference year (currently 2020), enabling the construction of consistent time series in constant prices.

6.1.8. Chain-linked volume series are non-additive. This means that aggregated totals at higher levels of classification may not correspond to the sum of their components. For instance, the total gross value added (GVA) at the national level does not equal the sum of GVA across all NACE sections.

## 6.2. Data availability

6.2.1. **Production approach**

6.2.2. The production approach is based on the estimation of output and intermediate consumption of various industries of the economy.

6.2.3. The GDP at market prices by the production approach (the leading approach in Latvia) is defined as the sum of gross value added from all kinds of economic activities plus taxes on products and excluding subsidies on products.

6.2.4. Estimation of quarterly GDP production aggregates is mainly done in the 2-digit level of NACE with some exceptions where calculations are made at 3-digit level of classification. Classification by institutional sectors also applied in the 2-digit level of NACE.

6.2.5. Volume estimates are derived by deflating output and intermediate consumption separately using appropriate price indices. Gross value added is calculated as the difference between the deflated value of output and the value of intermediate goods and services consumed.

6.2.6. A distinction is made between market and non-market output.

6.2.7. For non-market output, the Input method is used, deflating public administration and defence; compulsory social security (NACE O). This approach involves deflating each component of output separately and then summing up intermediate consumption, compensation of employees, consumption of fixed capital, and taxes less subsidies on production.

6.2.8. For deflating non-market output for education (NACE P) and human health activities (NACE 86), an Output method is used, where deflators are based on volume indexes, for which data may be unavailable for the current period. Extrapolation is used in cases where no data is available.

6.2.9. The rest of the non-market output of the general government sector is deflated using the number of employees and wage indices by NACE divisions.

6.2.10. Market output is deflated using PPIs for the industries where that is appropriate. If no PPI is available, CPI or SPPI is used.

6.2.11. The output of crop and animal production, hunting and related service activities (NACE 01) and subsidies on products are received from the Institute of Agricultural Resources and Economics in both current prices and previous year prices.

6.2.12. The deflation of market output and intermediate consumption at constant prices for financial service activities, except insurance and pension funding (NACE 64) is performed using the CPI of CPA 64 without FISIM. Thus, according to the Handbook on Prices and Volume Measures in National Accounts, the C method is employed. FISIM for output and intermediate consumption is deflated separately.

6.2.13. The B method is used to calculate FISIM. The method relies on readily available data, such as stocks of loans and deposits, which can be deflated to base period prices using a general price index.

6.2.14. FISIM at average prices of the previous year is calculated separately by sector for loans to the institutional sector and separately by sector for deposits made by the institutional sector. Like FISIM at current prices, FISIM at average prices of the previous year is also calculated on a quarterly basis.

6.2.15. FISIM at previous year's prices is calculated according to ESA 2010, Chapter 14.14.

6.2.16. Output and intermediate consumption at constant prices for products of insurance, reinsurance and pension funding, except compulsory social security (NACE 65) are estimated by extrapolating the average value of the previous year's current prices with the quantity indicator (number of signed contracts). For each group of companies, the extrapolation is done separately.

6.2.17. The deflation of market output and intermediate consumption at constant prices for activities auxiliary to financial services and insurance activities (NACE 66) is done using CPI. However, due to the insufficient detail provided by the CPI, the deflation of NACE 66 output utilises the CPI for NACE 64. Using the CPI for calculating NACE 66 involves the C method. FISIM for intermediate consumption is deflated separately.

6.2.18. Intermediate consumption is deflated separately; thus, double deflation is used in the QNA of Latvia.

6.2.19. Deflators for intermediate consumption are derived using the framework of the latest SUT table, where products are split between domestic and imported goods. Separate price indices

are calculated for the domestic and imported parts of intermediate consumption, and then a weighted average index is derived for each industry.

6.2.20. Value added in volume terms is determined as the difference between output in volume terms and intermediate consumption in volume terms.

6.2.21. *Expenditure approach*

6.2.22. The expenditure approach to GDP reflects the final use of goods and services, i.e., uses other than production costs, and is calculated by summing final consumption expenditure, gross capital formation, exports of goods and services, and subtracting imports of goods and services at both current and constant prices.

6.2.23. The final consumption expenditure of the general government is deflated using the number of employees and wage indices, but the final consumption expenditure of NIPISH is deflated using the total CPI index.

6.2.24. Household final consumption expenditure (HFCE) is estimated using turnover statistics and classified by COICOP. HFCE is deflated using CPI at the 2-digit level. For housing, a combination of CPI and the owner-occupied housing price index is used.

6.2.25. Gross fixed capital formation (GFCF) is broken down into dwellings, other buildings, machinery and equipment, and intellectual property. Dwellings are estimated using construction volume and housing price indices. Other buildings use construction output and CCI. Machinery and equipment are estimated using investment surveys and deflated using relevant PPIs and IPIs

6.2.26. Export and import data are sourced from the Balance of Payments, compiled by Latvijas Banka.

6.2.27. For goods, constant price estimates are obtained by deflating current values using Export Unit Value Indices (EUVI) and Import Price Indices (IPI).

6.2.28. For services, various indices are applied depending on the service type, including CPI, SPPI, CCI, EUVI, and IPI. Additionally, currency adjustments are made quarterly to eliminate the impact of exchange rate fluctuations. These adjustments use average exchange rates for the reference period and are applied separately for the euro area, non-euro EU countries, and the rest of the world.

## 6.3. Seasonality

6.3.1. The Central Statistical Bureau of Latvia employs a model-based seasonal adjustment procedure, TRAMO/SEATS, which is implemented in the software JDemetra+.

6.3.2. All time series are directly adjusted, which means that the QNA aggregate and each of its components are seasonally adjusted separately. QNA seasonally adjusted series are published at both current prices and chain-linked volumes.

6.3.3. No seasonal adjustments are made for time series in previous year prices.

## 6.4. Conclusion

6.4.1. Latvia's QNA methodology in constant prices is aligned with ESA 2010. It ensures consistency with annual accounts through benchmarking and uses a comprehensive set of data sources and deflators to produce reliable quarterly estimates.

6.4.2. QNA strives to use deflation methods as close to ANA as time and data availability permits it.

# Annex 1

**Brief description of the methods used before 2019**

**PRICE AND VOLUME MEASURES: PRODUCTION ACCOUNT**

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | | | | **1** | **Agriculture, Forestry and Fishing** | | | | | | |
| **A** | **01** | | | **2** | Crop and animal production, hunting and related service activities | Information from Latvian State Institute of Agrarian Economics | Agricultural price index | | | Agricultural price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **A** | **02** | | | **2** | Forestry and logging | | volume indice (FELLING AREAS AND STOCK VOLUME) | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | volume indice (FELLING AREAS AND STOCK VOLUME) | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **A** | **03** | | | **2** | Fishing and aquaculture | | volume indice (FISH CATCH (thsd tonnes)) | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | volume indice (FISH CATCH (thsd tonnes)) | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **B** | | | | **1** | **Mining and quarrying** | | | | | | |
| **B** | **05** | | | **2** | Mining of coal and lignite | | producer price index of NACE 2 activity 08 | | | producer price index of NACE 2 activity 08 | |
| **B** | **06** | | | **2** | Extraction of crude petroleum and natural gas | | producer price index of NACE 2 activity 08 | | | producer price index of NACE 2 activity 08 | |
| **B** | **08** | | | **2** | Other mining and quarrying | | producer price index | | | producer price index | |
| **B** | **09** | | | **2** | Mining support service activities | | producer price index of NACE 2 activity 08 | | | producer price index of NACE 2 activity 08 | |
| **C** | | | | **1** | **Manufacturing** | | | | | | |
| **C** | **10** | | | **2** | Manufacture of food products | | producer price index | | | producer price index | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 11 | | | 2 | Manufacture of beverages | | producer price index | | | producer price index | |
| C | 12 | | | 2 | Manufacture of tobacco products | | consumer price index | | | consumer price index | |
| C | 13 | | | 2 | Manufacture of textiles | | producer price index | | | producer price index | |
| C | 14 | | | 2 | Manufacture of wearing apparel | | producer price index | | | producer price index | |
| C | 15 | | | 2 | Manufacture of leather and related products | | producer price index | | | producer price index | |
| C | 16 | | | 2 | Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials | | producer price index | | | producer price index | |
| C | 17 | | | 2 | Manufacture of paper and paper products | | producer price index | | | producer price index | |
| C | 18 | | | 2 | Printing and reproduction of recorded media | | producer price index | | | producer price index | |
| C | 19 | | | 2 | Manufacture of coke and refined petroleum products | Is applyed CPI of 19.2 to all 19 activity, as 19.2 makes 91% of all activity 19 | consumer price index of 19.2 | | | consumer price index of 19.2 | |
| C | 20 | | | 2 | Manufacture of chemicals and chemical products | | producer price index | | | producer price index | |
| C | 21 | | | 2 | Manufacture of basic pharmaceutical products and pharmaceutical preparations | | producer price index | | | producer price index | |
| C | 22 | | | 2 | Manufacture of rubber and plastic products | | producer price index | | | producer price index | |
| C | 23 | | | 2 | Manufacture of other non-metallic mineral products | | producer price index | | | producer price index | |
| C | 24 | | | 2 | Manufacture of basic metals | | producer price index | | | producer price index | |
| C | 25 | | | 2 | Manufacture of fabricated metal products, except machinery and equipment | | producer price index | | | producer price index | |
| C | 26 | | | 2 | Manufacture of computer, electronic and optical products | | producer price index | | | producer price index | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C | 27 | | | 2 | Manufacture of electrical equipment | | producer price index | | | producer price index | |
| C | 28 | | | 2 | Manufacture of machinery and equipment n.e.c. | | producer price index | | | producer price index | |
| C | 29 | | | 2 | Manufacture of motor vehicles, trailers and semi-trailers | | producer price index | | | producer price index | |
| C | 30 | | | 2 | Manufacture of other transport equipment | | producer price index | | | producer price index | |
| C | 31 | | | 2 | Manufacture of furniture | | producer price index | | | producer price index | |
| C | 32 | | | 2 | Other manufacturing | | producer price index | | | producer price index | |
| C | 33 | | | 2 | Repair and installation of machinery and equipment | | producer price index | | | producer price index | |
| D | | | | 1 | **Electricity, gas, steam and air conditioning supply** | | | | | | |
| D | 35 | | | 2 | Electricity, gas, steam and air conditioning supply | | producer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | producer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| E | | | | 1 | **Water supply, sewerage, waste management and remediation activities** | | | | | | |
| E | 36 | | | 2 | Water collection, treatment and supply | | producer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | producer price index | |
| E | 37 | | | 2 | Sewerage | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E | 38 | | | 2 | Waste collection, treatment and disposal activities; materials recovery | | producer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | producer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| E | 39 | | | 2 | Remediation activities and other waste management services | | volume indice (labour input) | | | volume indice (labour input) | |
| F | | | | 1 | **Construction** | | | | | | |
| F | 41 | | | 2 | Construction of buildings | | construction cost index | | | construction cost index | |
| F | 42 | | | 2 | Civil engineering | | construction cost index | | | construction cost index | |
| F | 43 | | | 2 | Specialised construction activities | | construction cost index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | construction cost index | |
| G | | | | 1 | **Wholesale and retail trade; repair of motor vehicles and motorcycles** | | | | | | |
| G | 45 | | | 2 | Wholesale and retail trade and repair of motor vehicles and motorcycles | average price index estimated by Trade and service department | Price index | | | Price index | |
| G | 46 | | | 2 | Wholesale trade, except of motor vehicles and motorcycles | | | | | | |
| G | | local | | 3 | | | average producer price index of all branches | | | average producer price index of all branches | |
| G | | imported | | 3 | | | import unit value indice of all branches | | | import unit value indice of all branches | |
| G | 47 | | | 2 | Retail trade, except of motor vehicles and motorcycles | average price index estimated by Trade and service department | Price index | | | Price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| H | | | | 1 | **Transportation and storage** | | | | | | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **H** | **49** | | | **2** | Land transport and transport via pipelines | | | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **H** | | **49.1** | | **3** | Passenger rail transport, interurban | | volume indice-PASSENGER TURNOVER by rail (mln passenger-kilometres) | | | volume indice Passenger turnover by rail (mln passenger-kilometres) | |
| **H** | | **49.2** | | **3** | Freight rail transport | | business services price index | | | business services price index | |
| **H** | | **49.3** | | **3** | Other passenger land transport | | consumer price index | | | consumer price index | |
| **H** | | | **49.41** | **4** | Freight transport by road | | business services price index | | | business services price index | |
| **H** | | **49.5** | | **3** | Transport via pipeline | | volume of petroleum transported by pipeline (million.t) | | | volume of petroleum transported by pipeline (million.t) | |
| **H** | | **49_others** | | **3** | Others from 49.4, except 49.41 | | business services price index | | | business services price index | |
| **H** | **50** | | | **2** | Water transport | | | | | | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **H** | | **50.1+50.3** | | **3** | Sea and coastal passenger water transport+Inland passenger water transport | Is used CPI of 50.1, as it makes 99% of activities 50.1+50.3 | consumer price index of 50.1 | | | consumer price index of 50.1 | |
| **H** | | **50.2+50.4** | | **3** | Sea and coastal freight water transport+Inland freight water transport | | volume indice-sent/received cargo by sea transport (thsnd. tons) | | | volume indice-sent/received cargo by sea transport (thsnd. tons) | |
| **H** | **51** | | | **2** | Air transport | | | | | | |
| **H** | | **51.1** | | **3** | Passenger air transport | | consumer price index | | | consumer price index | |
| **H** | | **51.2** | | **3** | Freight air transport and space transport | | volume indice-CARGO TURNOVER BY AIR TRANSPORT (mln tonne-kilometres) | | | volume indice-CARGO TURNOVER BY AIR TRANSPORT (mln tonne-kilometres) | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H | 52 | | | 2 | Warehousing and support activities for transportation | Main part (77%) from activity 52 is accounted by labour input | | | | | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| H | | 52.1 | | 3 | Warehousing and storage | | business services price index | | | business services price index | |
| H | | | 52.24 | 4 | Cargo handling | | business services price index | | | business services price index | |
| H | | 52-others | | 3 | Others from 52.2, except 52.24 | | volume indice(labour input) | | | volume indice(labour input) | |
| H | 53 | | | 2 | Postal and courier activities | | | | | | |
| H | | 53.1 | | 3 | Postal activities under universal service obligation | | business services price index | | | business services price index | |
| H | | 53.2 | | 3 | Other postal and courier activities | | business services price index | | | business services price index | |
| I | | | | 1 | **Accommodation and food service activities** | | | | | | |
| I | 55 | | | 2 | Accommodation | | consumer price index | | | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| I | 56 | | | 2 | Food and beverage service activities | | consumer price index | | | consumer price index | |
| J | | | | 1 | **Information and communication** | | | | | | |
| J | 58 | | | 2 | Publishing activities | | | | | | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| J | | 58.1 | | 3 | Publishing of books, periodicals and other publishing activities | | business services price index | | | business services price index | |
| J | | 58.2 | | 3 | Software publishing | | consumer price index | | | consumer price index | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| J | 59 | | | 2 | Motion picture, video and television programme production, sound recording and music publishing activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| J | 60 | | | 2 | Programming and broadcasting activities | | volume indices- labour input | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | volume indices-labour input | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| J | 61 | | | 2 | Telecommunications | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | |
| J | 62 | | | 2 | Computer programming, consultancy and related activities | | business services price index | | | business services price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| J | 63 | | | 2 | Information service activities | | business services price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | business services price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **K** | | | | **1** | **Financial and insurance activities** | | | | | | |
| K | 64 | | | 2 | Financial service activities, except insurance and pension funding | | | | | | |
| K | | | 6411 | 4 | | | | input price indice | | | |
| K | | | 6419 without FISIM | 4 | | | | CPI of CPA 64 | | | |
| K | | | 6420+6430+64.9 | 3 | | | | CPI of CPA 64 | | | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **K** | | | **FISIM** | **1** | | | | P.3+P.5 deflators+base year margin | | | |
| **K** | **65** | | | **2** | Insurance, reinsurance and pension funding, except compulsory social security | | | CPI of CPA 65 | | | |
| **K** | **66** | | | **2** | Activities auxiliary to financial services and insurance activities | | | | | | |
| **K** | | **66.1** | | **3** | | | | price index derived from average changes of prices of shares and debt securities | | | |
| **K** | | **66.2** | | **3** | | | | CPI of CPA 65 | | | |
| **K** | | **66.3** | | **3** | | | | commision income price changes of investment managment companies | | | |
| **L** | | | | **1** | **Real estate activities** | | | | | | |
| **L** | **68** | | | **2** | Real estate activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **L** | | **68A** | | **3** | Imputed rents of owner-occupied dwellings | | | | | As for estimation of imputed rent are used user cost method, each component are deflated separately, for intermediate consumption components are used relevant CPI, consumption of fixed capital and Net operating surplus to owner-occupied dwellings and associated land is deflated by house price changes index. | |
| **M** | | | | **1** | **Professional, scientific and technical activities** | | | | | | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **M** | **69** | | | **2** | Legal and accounting activities | | | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **M** | | **69.1** | | **3** | Legal activities | | business services price index | | | business services price index | |
| **M** | | **69.2** | | **3** | Accounting, bookkeeping and auditing activities; tax consultancy | | business services price index | | | business services price index | |
| **M** | **70** | | | **2** | Activities of head offices; management consultancy activities | | | | | | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **M** | | **70.2** | | **3** | Management consultancy activities | | business services price index | | | business services price index | |
| **M** | | **70-others** | | **3** | Activities of head offices (70.1) | | volume indice(labour input) | | | labour input | |
| **M** | **71** | | | **2** | Architectural and engineering activities; technical testing and analysis | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **M** | **72** | | | **2** | Scientific research and development | | volume indice(labour input) | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | volume indice(labour input) | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **M** | **73** | | | **2** | Advertising and market research | | business services price index | | | business services price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **M** | **74** | | | **2** | Other professional, scientific and technical activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **M** | **75** | | | **2** | Veterinary activities | | consumer price index | | | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **N** | | | | **1** | **Administrative and support service activities** | | | | | | |
| **N** | **77** | | | **2** | Rental and leasing activities | | volume indice(labour input) | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | volume indice(labour input) | |
| **N** | **78** | | | **2** | Employment activities | | volume indice(labour input) | | | volume indice(labour input) | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **N** | **79** | | | **2** | Travel agency, tour operator and other reservation service and related activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **N** | **80** | | | **2** | Security and investigation activities | | business services price index | | | business services price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N | 81 | | | 2 | Services to buildings and landscape activities | | | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| N | | 81.1 | | 3 | Combined facilities support activities | | consumer price index | | | consumer price index | |
| N | | 81.2 | | 3 | Cleaning activities | | business services price index | | | business services price index | |
| N | | 81.3 | | 3 | Landscape service activities | | labour input | | | labour input | |
| N | 82 | | | 2 | Office administrative, office support and other business support activities | | labour input | | | labour input | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| O | | | | 1 | **Public administration and defence; compulsory social security** | | | | | | |
| O | 84 | | | 2 | Public administration and defence; compulsory social security | | volume indice(labour input) | consumer price index (total) | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | volume indice(labour input) | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| P | | | | 1 | **Education** | | | | | | |
| P | 85 | | | 2 | Education | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| Q | | | | 1 | **Human health and social work activities** | | | | | | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q** | **86** | | | **2** | Human health activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **Q** | **87** | | | **2** | Residential care activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **Q** | **88** | | | **2** | Social work activities without accommodation | | consumer price index of NACe 2 activity 87 | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index of NACe 2 activity 87 | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **R** | | | | **1** | **Arts, entertainment and recreation** | | | | | | |
| **R** | **90** | | | **2** | Creative, arts and entertainment activities | NACE 2 activity 90 is deflated with labour input (it is 66% - big government sector), and with consumer price index is deflated 33%, so activity 90 is defined between A and C methods (but mostly C method). | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| **R** | **91** | | | **2** | Libraries, archives, museums and other cultural activities | with consumer price index is deflated only 6%, other is deflated with LABOUR INPUT | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R | 92 | | | 2 | Gambling and betting activities | | consumer price index | | | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| R | 93 | | | 2 | Sports activities and amusement and recreation activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| S | | | | 1 | **Other service activities** | | | | | | |
| S | 94 | | | 2 | Activities of membership organisations | with labour input is deflated 70% and 30% with consumer price index, so it is C method | volume indice(labour input) | | | volume indice(labour input) | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| S | 95 | | | 2 | Repair of computers and personal and household goods | | consumer price index | | | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| S | 96 | | | 2 | Other personal service activities | | consumer price index | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | consumer price index | consumer price index except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation |
| T | | | | 1 | **Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use** | | | | | | |
| T | 97 | | | 2 | Activities of households as employers of domestic personnel | | consumer price index | | | consumer price index | |

| Letter level | NACE rev. 2 (2 digit level) | NACE rev. 2 (3 digit level) | NACE rev. 2 (4 digit level) | Levels | Description | Comments | S11 | S12 | S13 | S14 | S15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T | 98 | | | 2 | Undifferentiated goods- and services-producing activities of private households for own use | | | | | | |
| U | | | | 1 | **Activities of extraterritorial organizations and bodies** | | | | | | |
| U | 99 | | | 2 | Activities of extraterritorial organisations and bodies | | | | volume indices (labour input) except consumption of fixed capital, which is deflated by price indices of gross fixed capital formation | | |

**PRICE AND VOLUME MEASURES: EXPENDITURE ACCOUNT**

| Code | Aggregate and sub-aggregates | Describe all methods/indexes used if deflation takes place at more detailed level than that specified<br>Method(s)/Index(es) to deflate expenditures |
|---|---|---|
| | | **INDIVIDUAL CONSUMPTION EXPENDITURE BY HOUSEHOLDS** |
| | Goods | All products are deflated using relevant CPI (consumer price indices). For deflation is used most detailed level which is available from Consumer price statistic department (mostly three- or four-digit level of COICOP. |
| | Services | All products are deflated using relevant CPI (consumer price indices). For deflation is used most detailed level which is available from Consumer price statistic department (mostly three or four digit level of COICOP).<br>Special case is imputed rent deflation- input price index is used. As for estimation of imputed rent are used user cost method, each component are deflated separately, for intermediate consumption components are used relevant CPI, consumption of fixed capital and Net operating surplus to owner-occupied dwellings and associated land is deflated by house price changes index. |
| | Goods and services in kind | Are deflated with the same CPI indices as goods and services. |
| | Expenditure abroad by resident households on travel (imports) | For residents' final expenditure aboard is estimated average aboard consumer price index (ACPI) It is estimated taking in account the residents expenditure in each country, which is deflated with average consumer price index relevant for each country, and taking in account exchange rate of Latvian currency |
| | Expenditure by non- resident households on travel (exports) | Are deflated with same CPI indices as goods and services of domestic market. |
| | | **INDIVIDUAL CONSUMPTION EXPENDITURE BY NPISHs** |
| 201 | Housing | Average CPI of COICOP group (04) Housing, water, electricity, gas and other fuels for all expenditures, expecting consumption fixed capital. |
| 202 | Health | Average CPI of COICOP group (06) Health, for all expenditures, expecting consumption fixed capital.<br>Consumption of fixed capital for relevant industries of Housing is deflated using gross fixed capital formation price indices relevant for these industries. |
| 203 | Recreation and culture | Average CPI of COICOP group (09) Recreation and culture, for all expenditures, expecting consumption fixed capital.<br>Consumption of fixed capital for relevant industries of Housing is deflated using gross fixed capital formation price indices relevant for these industries. |

| Code | Aggregate and sub-aggregates | Describe all methods/indexes used if deflation takes place at more detailed level than that specified<br>Method(s)/Index(es) to deflate expenditures |
|---|---|---|
| 204 | Education | Average CPI of COICOP group (10) Education, for all expenditures, expecting consumption fixed capital.<br>Consumption of fixed capital for relevant industries of Housing is deflated using gross fixed capital formation price indices relevant for these industries. |
| 205 | Social protection | Average CPI of COICOP group (12.4) Social protection, for all expenditures, expecting consumption fixed capital.<br>Consumption of fixed capital for relevant industries of Housing is deflated using gross fixed capital formation price indices relevant for these industries. |
| 206 | Other services | Average CPI for services, for all expenditures, expecting consumption fixed capital.<br>Consumption of fixed capital for relevant industries of Housing is deflated using gross fixed capital formation price indices relevant for these industries. |
| | **INDIVIDUAL CONSUMPTION EXPENDITURE BY GENERAL GOVERNMENT** | |
| 301 | Housing | Constant prices are estimated by components. Output components -intermediate consumption compensation of employees, other taxes on production is deflated using volume indices (labour input), consumption of fixed capital is deflated using gross fixed capital formation price indices.<br>Market output (sales) and social transfers in kind are deflated using relevant CPI (COICOP 04 Housing)<br>Final consumption expenditure at constant prices are derived as output minus market output, output for own final use plus social transfers in kind. |
| 302 | Health | Constant prices are estimated by components. Output components -intermediate consumption compensation of employees, other taxes on production is deflated using volume indices (labour input), consumption of fixed capital is deflated using gross fixed capital formation price indices.<br>Market output (sales) (CPI (06 Health)) and social transfers in kind are deflated using relevant CPI (06.1medical products, price indices of reimbursable medicaments).<br>Final consumption expenditure at constant prices are derived as output minus market output, output for own final use plus social transfers in kind. |
| 303 | Recreation and culture | Constant prices are estimated by components. Output components -intermediate consumption compensation of employees, other taxes on production is deflated using volume indices (labour input), consumption of fixed capital is deflated using gross fixed capital formation price indices.<br>Market output (sales) is deflated using relevant CPI (recreation and culture).<br>Final consumption expenditure at constant prices are derived as output minus market output, output for own final use plus social transfers in kind. |
| 304 | Education | Constant prices are estimated by components. Output components -intermediate consumption compensation of employees, other taxes on production is deflated using volume indices (labour input), consumption of fixed capital is deflated using gross fixed capital formation price indices.<br>Market output (sales) (CPI (10) Education) and social transfers in kind are deflated using relevant CPI (CPI for transport services, education, food).<br>Final consumption expenditure at constant prices are derived as output minus market output, output for own final use plus social transfers in kind. |
| 305 | Social protection | Constant prices are estimated by components. Output components -intermediate consumption compensation of employees, other taxes on production is deflated using volume indices (labour input), consumption of fixed capital is deflated using gross fixed capital formation price indices.<br>Market output (sales) and social transfers in kind are deflated using relevant CPI (CPI (12.4) Social protection, transport services, food).<br>Final consumption expenditure at constant prices are derived as output minus market output, output for own final use plus social transfers in kind. |
| | **COLLECTIVE CONSUMPTION EXPENDITURE BY GENERAL GOVERNMENT** | |
| 401 | General public services | Collective consumption expenditure at constant prices is calculated in less detailed level than individual consumption expenditures. Final consumption expenditures, except part of consumption of fixed capital, are deflated with volume indices (labour input). Consumption of fixed capital is deflated using gross fixed capital formation price indices. |
| 402 | Defence | |
| 403 | Public order and safety | |
| 404 | Economic affairs | |
| 405 | Environment protection | |
| 406 | Housing and community amenities | |
| | **Gross fixed capital formation** | |
| 501 | Transport equipment | For in domestic market acquired products producer price index (PPI), for imported part- import unit value index (IUVI) |
| 502 | Office machinery and hardware | For in domestic market acquired products producer price index (PPI), for imported part- import unit value index (IUVI) |
| 503 | Radio, television and communication equipment | For in domestic market acquired products producer price index (PPI), for imported part- import unit value index (IUVI) |
| 504 | Other machinery and equipment n.e.c. | For in domestic market acquired products producer price index (PPI), for imported part- import unit value index (IUVI)<br>For military weapons systems average import unit value index of machinery and mechanical appliances; electrical equipment, transport vehicles and equipment |
| 506 | Residential buildings (dwellings) | Housing price index for new houses |
| 507 | Non-residential buildings | Construction costs indices |
| 508 | Other structures | Construction cost indices for underground pipelines, transport facilities<br>For investments in roads and bridges is used information from state joint stock company “Latvian State Roads”. Deflator is calculated from prices changes for square metre in each year. |
| 509 | Cultivated assets | Price indices of value added for industry 01(NACE Rev 2) from production side GDP |
| 510 | Computer software | Price indices of value added for industry 60 (NACE Rev 2) from production side GDP |

| Code | Aggregate and sub-aggregates | Describe all methods/indexes used if deflation takes place at more detailed level than that specified<br>Method(s)/Index(es) to deflate expenditures |
|---|---|---|
| 511 | Intangible fixed assets n.e.c. | Research and development- price indices are estimated using Eurostat Task Force on research and development recommendations – input method.<br>Entertainment and originals-input price indices<br>For other intellectual property products- Price indices of value added for (NACE Rev 2) division, letter M, from production side GDP |
| | **CHANGES IN INVENTORIES AND ACQUISITION LESS DISPOSALS OF VALUABLES** | |
| 601 | Changes in inventories | Changes in inventories at constant prices is balancing item between production side GDP and expenditure side GDP |
| 602 | Acquisition less disposals of valuables | Negligible impact on GDP, deflator 1 is used (current prices=previous prices) |
| | **EXPORTS AND IMPORTS** | |
| 701 | Exports of goods | Export unit value index of relevant products |
| 702 | Exports of services | Index<br>Travel: Average consumer price index (CPI)<br>Construction services: Construction cost index<br>Transport and communication services: CPI of transport services<br>Financial and insurance services: CPI of financial and insurance services<br>Fisim: Average export unit value index (EUVI)<br>Computer and information services: Export unit value index (EUVI) in compliance with CPA 26<br>Royalties and licence fees, other business services: CPI of NACE L<br>Government services n.e.c.: Average consumer price index (CPI)<br>Personal, cultural and recreational services: CPI of arts, entertainment and recreation services<br>Manufacturing services: Average consumer price index (CPI)<br>Repair services: CPI of Miscellaneous goods and services |
| 703 | Imports of goods | Import unit value index of relevant products |
| 704 | Imports of services | Index<br>Travel: Average aboard consumer price index (ACPI)<br>Construction services: Construction cost index<br>Transport and communication services: CPI of transport communication services<br>Financial and insurance services: CPI of financial and insurance services<br>Fisim: Average import unit value index (IUVI)<br>Computer and information services: Import unit value index (IUVI) in compliance with CPA 26<br>Royalties and licence fees, other business services: Import unit value index (IUVI) in compliance with NACE L<br>Government services n.e.c.: Average consumer price index (CPI)<br>Personal, cultural and recreational services: IUVI in compliance with CPI of arts, entertainment and recreation services<br>Manufacturing services: Average consumer price index (CPI)<br>Repair services: CPI of Miscellaneous goods and services |