

Quarterly National Accounts Inventory

Sources and methods of the Quarterly National Accounts
for Latvia

Final report

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List of abbreviations and acronyms

ANA	Annual National Accounts
ARIMA	Autoregressive integrated moving average
BoP	Balance of Payments
CCI	Construction Costs Index
CIF	Cost, Insurance, and Freight
CIS	Construction Information System
COFOG	Classification of the Functions of the Government
COPNI	Classification of the purposes of non-profit institutions serving households
CPA	Classification of Products by Activity
CPI	Consumer Price Index
CSB	Central Statistical Bureau of Latvia
ECB	European Central Bank
ECOICOP	European classification of individual consumption according to purpose
EDP	Excessive Deficit Procedure
ESA	European system of accounts
ESS	European Statistical System
EU	European Union
EUR	Euro
EUVI	Export Unit Value Index
FCMC	Financial and Capital Market Commission
FISIM	Financial Intermediation Services Indirectly Measured
FOB	Free on Board
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GFS	Government Finance Statistics
HBS	Household Budget Survey
HFCE	Household final consumption expenditure
HPI	House Price Index
IMF	International Monetary Fund
INRE	Income of non-reported employees
IPI	Import Price Index
LFS	Labour Force Survey
MP PSO	Mandatory procurement public service obligation fee
NA	National accounts
NACE	European Classification of Economic Activities
NPISH	Non-profit institutions serving households

List of abbreviations and acronyms

OECD	Organisation for Economic Co-operation and Development
PPI	Producer Price index
QNA	Quarterly National Accounts
QSA	Quarterly Sector Accounts
Rev.	Revision
RoW	Rest of the World
SA	Seasonal adjustment
SDDS+	The Special Data Dissemination Standard Plus
SPFS	State-funded pension scheme
SPPI	Services producer price index
SRS	State Revenue Service
TP	ESA 2010 Transmission Program
VAT	Value Added Tax

Introduction

This document aims to provide the description of sources and methods used to compile Quarterly National Accounts of Latvia. The ESA 2010 is the methodological document used for the current practice of production of GDP and its components.

Structure and content of this document are based on the recommendations of Eurostat. This document focuses on the compilation process of quarterly GDP and its components.

This document is the result of the Eurostat grant agreement No. 831417 — 2018/LV/NA-BOP National Accounts and Balance of Payments - Activity 7: Documenting sources and methods used for the compilation of inventories based on ESA 2010.

This description will be updated in the future if there are significant changes in methodology.

1. Overview of the system of quarterly accounts

1.1. Organisation and institutional arrangements

Quarterly national accounts in Latvia are compiled by the Central Statistical Bureau of Latvia (CSB).

According to the stipulations of laws of the Republic of Latvia, regulations of the Cabinet of Ministers, and Regulations of the Central Statistical Bureau, the CSB is a direct management institution operating under the supervision of the Ministry of Economics and is the leading performer and coordinator of statistical works in the country. The CSB is responsible for the organisation of the statistical work and authenticity of the data it has produced by summarising the information obtained from respondents.

The overall purpose (mission) of the CSB is to provide data users with independent, high-quality official statistics for decision-making, research and discussions.

The primary tasks of the CSB are:

- Ensuring the transparency of statistical processes and improving the degree of understanding of the public regarding statistical data, principles of their obtainment and usage possibilities.
- Improving the possibilities of acquisition and use of the required statistical data for all groups of information users: central government sector, entrepreneurs, academic and research staff, as well as other interested parties.
- Upgrading the process of statistical data collection to improve the quality of the information received and to reduce the load of respondents.
- Implementing the overall quality management system: identifying statistical and management processes and preparing their descriptions according to the requirements of the quality management system.

The framework document governing the official statistics and activity of the CSB is [Statistics Law](#) (adopted by the *Saeima* on 4 June 2015 and which has come into force on 1 January 2016) and EU Regulation.

The CSB performs statistical work in compliance with principles set out in the [European Statistics Code of Practice](#), the most important of which are as follows:

- professional independence;
- quality and statistical confidentiality commitment;
- approved methodology;
- reduction of excessive burden on respondents;
- timeliness and punctuality;
- availability and clarity.

Quarterly National Accounts are produced mainly by Macroeconomic Statistics Department Quarterly National Accounts section. Government sector data are compiled by the Government Finance Section of the same department. QNA is 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 the Council of 21 May 2013.

1.2. Publication timetable, revisions policy and dissemination of QNA

The first assessment of GDP is published as a flash estimate one month after the end of the reference quarter at the latest. At this time, the calculation of GDP is done on the overall economy only, in volume terms and published in a press release only.

Results of GDP production, expenditures and income approach are published two months after the quarter in the press release and simultaneously in the CSB website database <https://www.csb.gov.lv/lv/statistika/db> at 13:00 local time. Data to Eurostat are sent within deadlines set in ESA 2010 Transmission Program (TP).

Non-financial Quarterly sector accounts (Table 801Q of TP) are published in the CSB Database and sent to Eurostat 85 days after the reference period at the latest.

The QNA data revisions are carried out according to the CSB Revision policy guidelines:

https://www.csb.gov.lv/sites/default/files/dokumenti/revision_policy_ENG.pdf.

The first estimation of annual GDP is published as a sum of quarters along with publication of the fourth quarter of the current year.

General Government Statistics - Intra-annual data are first revised when calculations of the data for the fourth quarter are made, and the provisional annual data for EDP April notification prepared. The second revision is with the final annual data for ESA 2010 TP Table 2 and October EDP notification are estimated.

1.3. QNA compilation approach

Quarterly National Accounts 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.

The quarterly estimate of the gross domestic product mainly is based on a system of short-term statistics indicators.

Mainly the indirect method is used in the calculation of quarterly GDP in Latvia. It means that information from direct sources such as statistical data from monthly, quarterly and semi-annual statistical reports and administrative data sources is used and extrapolated on the value of the previous year. Direct method is used for significant part of Financial and insurance activities (NACE

Rev. 2 section K), taxes and subsidies on products and calculations of General government sector indicators on the production approach, General government expenditure and exports and imports on the expenditure approach, as well as taxes on production and imports and subsidies on income approach of GDP.

The quarterly and annual estimates of the GDP are obtained by the output (production), expenditure and the income approaches. Following ESA 2010, 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.

From the expenditure approach, GDP is defined as the sum of total final expenditure at purchasers' price, gross capital formation, the export of goods and services less import of goods and services.

The GDP by the income approach is defined as the sum of compensation of employees, gross operating surplus and mixed income and taxes linked to production and imports less subsidies. The gross operating surplus and mixed income (B.2g+B.3g) is derived as the residual value.

In Latvia data on output, in general, are more reliable than those from the expenditure side, both for annual and for quarterly national accounts. Therefore, GDP is mainly determined by the production approach of national accounts. The statistical discrepancy between production and expenditure approaches appears on the expenditure side and is published along with changes of inventories.

1.4. Balancing, benchmarking and other reconciliation procedures

The balancing process is an integral and vital part of the methodology used for the compilation of the national accounts statistics. This process attempts to make maximum use of the diverse range of information, which is collected and used to calculate the national accounts aggregates.

Analytical and logical controls, crosschecks and comparisons among the various data sources of production and expenditure approaches are carried out as part of the compilation to ensure data quality of the GDP components. In the process assessment and harmonisation of calculation details on both sides is carried out.

As the production approach of Latvian GDP is considered primary, because there are more reliable data sources available, a discrepancy which occurs in the estimation process is absorbed on the expenditure approach in changes in inventories (P.52).

The income approach does not take part in balancing process as there are no quarterly data sources on gross operating surplus and mixed income (B.2g+B.3g), which is derived as a residual value between GDP from production approach and other components of the income approach.

The sum of the four quarters of the reporting year is the first annual estimate. Benchmarking can be considered as a general approach to the annual data, dividing data to quarters. The decision for choosing a benchmarking method in QNA was based on the fact that ANA is formed on a data series, which are not available quarterly. The four quarters are adjusted to the annual estimates using the benchmarking method based on the *Denton-Cholette* algorithm.

The sum of the four quarters of reference year in Quarterly National Accounts is always equivalent to the corresponding annual figures for all national account aggregates.

1.5. Volume estimates

Quarterly GDP from production and expenditure approaches is estimated in both current prices and volume terms. GDP from the income approach is calculated only in current prices.

Chain-linking method is used for GDP volume estimates. The chain-linking is executed using annual overlap method – volume estimates at the average prices of the previous year are used.

The estimations of GDP from production approach are carried out using various deflators, both volume indices and price indices may be used. PPI', CPI', CCI', SPPI' and some other indices are used.

CCI', CPI', SPPI', EUVI' and IPI' are used to estimate GDP components from the expenditure approach.

1.6. Seasonal and calendar adjustment

The Central Statistical Bureau of Latvia uses a model-based seasonal adjustment procedure TRAMO/SEATS implemented in the software JDemetra+ (version 2.2.2). TRAMO/SEATS is one of the methods which is recommended by Eurostat for seasonal adjustment. The seasonal adjustment in quarterly national accounts (QNA) is made and updated whenever a new observation is added to time series. 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.

1.7. Additional information

Quarterly GDP and all components from production, expenditure and income approach are published in the CSB database: <https://www.csb.gov.lv/en/statistika/db>.

The Press releases are available on CSB website: <https://www.csb.gov.lv/en/statistics/statistics-by-theme/economy/gdp>.

International Monetary Fund's Special Data Dissemination Standard:

<https://www.csb.gov.lv/lv/statistika/starptautiska-valutas-fonda-datu-izplatisanas-standarts/national-summary-data-page>.

2. Publication timetable, revisions policy and dissemination of QNA

2.1. Release policy

CSB of Latvia estimates, publishes and transmits data on quarterly national accounts to Eurostat in accordance with the methodology of ESA 2010 and the deadlines set in ESA 2010 Transmission Program. Dissemination calendar for planned national publications, press releases and statistical tables is public and available on CSB website and usually covers full calendar year: <https://www.csb.gov.lv/en/statistics/calendar>.

Flash estimate of GDP is published one month after the reference period in a press release only. No revisions for previous estimates are made in this release.

Regular estimates of QNA are published two months after the reference period. At 13:00 local time, press release simultaneously in both Latvian and English is available on the CSB webpage. At the same time data for GDP production, expenditure and income components are published in the CSB Database and sent to Eurostat by the end of the working day.

Quarterly data on Employment is produced and transmitted to Eurostat two months after the reference period but are not published in the CSB database.

Non-financial QSA of Latvia are estimated and published by CSB 85 days after the reference period in the CSB Database and transmitted to Eurostat. Non-financial QSA are fully aligned with QNA as the latest estimates for GFS and BoP are considered and published within QNA. Latvijas Banka (the Bank of Latvia) performs financial QSA estimation.

Quarterly non-financial accounts for general government (S.13) are compiled by the CSB Government Finance Section and published according to the national release calendar (see the link above).

The preliminary annual estimates are published simultaneously with the GDP of the 4th quarter of reporting year as a sum of these quarters. The semi-final results based mainly on quarterly data sources are published at T+9 months but final results (based on annual data sources) – at T+21 months. The relevant QNA estimates are revised and published at the same time.

To achieve consistency between QNA aggregates and aggregates of government finance statistics, QNA is revised according to the newest GFS data.

Some consistency problems introduce Balance of Payments (BoP) data, as quarterly BoP comes too late to be included in the regular QNA estimates and the data of monthly BoP are used. Quarterly BoP is incorporated in QNA estimates with the publication of QSA. Latvia's Balance of Payments is published in the Statistics Database on the Latvijas Banka's website: <https://statdb.bank.lv/lb/Data.aspx?id=200&lv>

2.2. Contents published

The flash estimate of GDP is published as the growth rates for the overall economy in a press release format only.

The first estimate of GDP indicators from production, expenditure and income approach and employment is produced two months after the reference period. Data transmitted to Eurostat meets the requirements of ESA 2010 TP.

Data published in the CSB Database differs in coverage from those sent to Eurostat. Content published in the CSB Database: <https://www.csb.gov.lv/en/statistics/statistics-by-theme/economy/gdp>

- Production approach
 - Gross domestic product from production approach (at current prices, at prices of the previous year, chain-linked volumes with reference year 2015, seasonally unadjusted data and seasonally adjusted data), thousand EUR;
 - Gross domestic product per capita and employed person (at current prices, at prices of the previous year, chain-linked volumes with reference year 2015, seasonally unadjusted data), in EUR;
 - Gross domestic product indices by quarters, chain-linked, over the previous period and over the corresponding period of the previous year, seasonally unadjusted and seasonally adjusted data, in per cent;
 - Gross domestic product indices from production approach by kind of activity (NACE Rev.2 A*15¹), taxes on products and subsidies on products (at current prices and chain-linked volumes with the reference year 2015, % of the previous period and % of the corresponding period of previous year, - seasonally and calendar adjusted and non-adjusted);
 - Gross value added by kind of economic activity (NACE Rev.2 A*15) at current prices (structure) as per cent
- Expenditure approach
 - Expenditure of gross domestic product (main aggregates at current prices, previous year prices and chain-linked volume seasonally and calendar adjusted and unadjusted), thousand EUR
 - Gross domestic product indices from expenditure approach (main aggregates, chain-linked, % of the previous period, % of the corresponding period of the previous year), as per cent.

¹ NACE Rev.2 A*15 published in CSB database consists of following NACE aggregations: A, BDE, C, F, G, H, I, J, K, L, MNS, O, P, Q, R

- Income approach
 - Gross domestic product by income approach (at current prices, main aggregates, seasonally unadjusted and seasonally adjusted), thousand EUR. No breakdown data by the NACE Rev.2 kind of activities are published.
- The relation between gross domestic product and gross national income, at current prices (thousand EUR)
- The output of goods and services and intermediate consumption broken down by NACE Rev.2 A*15 kind of activities, at current prices and chain-linked volume (thousand EUR)
- Gross domestic product deflator (broken down by NACE Rev.2 A*15 kind of activities, taxes on products and subsidies on products)

Non-financial QSA data are published 85 days after the reference period, at the latest. As Latvian GDP is less than 1 % of EU total, the estimated QSA covers data for Total Economy (S.1), sectors of General Government (S.13) and the Rest of the World (S.2).

2.3. Special transmissions

The results of the Latvian QNA are transmitted to Eurostat following the compulsory ESA 2010 Transmission Programme.

Except for Eurostat, also several other users receive the data. The data are regularly sent to Latvijas Banka, the Ministry of Economy and other institutions (IMF, OECD and ECB).

Some news outlets receive the GDP press release one hour before the publishing time under embargo.

2.4. Policy for metadata

Latvia has been participating in the International Monetary Fund's Data Dissemination Standards (SDDS) since 1996. In February 2017, the Cabinet of Ministers of the Republic of Latvia supported the initiative to join the SDDS+, and as of August 2018, Latvia is fully compliant with the SDDS+ requirements. The metadata for QNA is produced according to the SDDS+ standard and is available on the IMF website and updated annually:

<https://dsbb.imf.org/sdds-plus/dqaf-base/country/LVA/category/NAG00>

Metadata related to national accounts can be found at:

<https://www.csb.gov.lv/en/statistics/statistics-by-theme/economy/gdp/tables/metadata-gross-domestic-product-latvia-total-esa-2010>

Metadata related to the Quarterly National Accounts can be found in the Project Documentation System developed and introduced by the CSB where all statistical products (surveys and calculations)

are described by production processes thereof. These national standardized quality reports are produced in Latvian only. These reports are published until 2016, from 2017 they are for internal use only.

- GDP production approach: <https://ads.csb.gov.lv/Apsekojums/Sakums.rails?id=98fe2373-0640-4712-832f-a6200100af82&listPage=1>
- GDP expenditure approach: <https://ads.csb.gov.lv/Apsekojums/Sakums.rails?id=2cf1692a-eb76-4189-8424-a61900b3efbb&listPage=1>
- GDP income approach: <https://ads.csb.gov.lv/Apsekojums/Sakums.rails?id=95db7fc7-ba3f-480f-84ab-a61a00a32aad&listPage=1>

3. Overall QNA compilation approach

3.1. General architecture of the QNA system

Latvian National accounts consist of both quarterly and annual accounts. These two systems are consistent.

Both Annual and Quarterly National Accounts 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.

The annual and quarterly estimates of the GDP are obtained by the output (production), expenditure and income approaches.

GDP at market prices by the production approach (the primary approach in Latvia) is defined as the sum of gross values added from all kinds of economic activities plus taxes on products and excluding subsidies on products. To calculate gross value added at first output and intermediate consumption are calculated across different NACE Rev.2 aggregations.

From the expenditure approach, GDP is defined as the sum of total final expenditure at purchasers' price, gross capital formation, the export of goods and services less import of goods and services.

The GDP by the income approach is defined as the sum of compensation of employees, gross operating surplus and mixed income and taxes linked to production and imports less subsidies. The gross operating surplus and mixed income is derived as the residual value.

Compilation of quarterly national accounts begins with the production of a single estimate of GDP with its output, income and expenditure components. The level of the compilation of GDP from production and expenditure approaches is more detailed than the level of dissemination variables.

From the production, approach estimates are carried out at the level of detail of A*88 branches of economic activity, but for the publication in the local database, the A*15 detail level is used. The quarterly data of household final consumption expenditure are classified into 12 groups according to the ECOICOP classification.

Mainly the indirect method is used in the calculation of quarterly GDP in Latvia. It means that information from direct data sources such as statistical data from monthly, quarterly and semi-annual statistical reports and administrative data sources are used and extrapolated on the value of the previous year. Direct method is used for the majority of Financial and insurance activities (NACE Rev. 2 section K), and taxes on products and subsidies on products and calculations of General government sector indicators on the production side approach, General government expenditure and exports and imports on the expenditure side approach, as well as taxes on production and imports and subsidies on income approach of GDP.

Latvia transmits to Eurostat all quarterly tables accordingly ESA 2010 Transmission programme. Data are available from the first quarter of 1995 at current and previous year's prices and chain-linked volumes with the reference year 2015 till the last reporting quarter (for production and expenditure approach) and in current prices (for income approach of quarterly GDP).

Our compilation is not based on supply-use tables, but short-term statistics indicators. Balancing of GDP from all sides is done within the system using balancing items from expenditure and income approaches.

Classifications

Institutional sectors are classified according to the requirements defined in ESA 2010. Industrial activities are classified using NACE Rev. 2. Government output and expenditure are classified according to the Classification of the Functions of the Government (COFOG), individual consumption expenditure of households - according to the European Classification of Individual Consumption by Purpose (ECOICOP) and Classification of the purposes of non-profit institutions serving households (COPNI) is used to classify consumption expenditure of non-profit institutions serving households (NPISHs).

3.2. Balancing, benchmarking and other reconciliation procedures

3.2.1. Quarterly GDP balancing procedure

The balancing process is an integral and vital part of the methodology used for the compilation of the national accounts statistics. This process attempts to make maximum use of the diverse range of information, which is collected and used to calculate the national accounts.

In the production process of quarterly GDP, the intermediate results are checked by the branch and sector specialists. In these procedures, they pay special attention to issues like coherence between price and volume changes, comparability in time of the estimates. During the balancing process, experts are involved in the reconciliation that has to be made to meet consistency in the whole framework.

The end product of the balancing process should be fully articulated and balanced set of accounts, with a single, definitive estimate of GDP, and component series across the three measures, which are entirely consistent with this estimate.

No balancing is performed by the use of supply-use tables quarterly in QNA in Latvia.

In Latvia data on output, in general, are more reliable than those from the expenditure side, both for annual and for quarterly national accounts. Therefore, GDP is mainly determined by the production side of national accounts. The discrepancy that occurs between the production and expenditure side is balanced on the expenditure side in changes in inventories for quarterly national accounts. An independent estimate of changes in inventories is not feasible due to the lack of reliable quarterly information; therefore, changes in inventories are derived as a balance between the GDP production estimate and other expenditure components.

GDP from income approach includes balancing item – gross operating surplus and gross mixed income, which is obtained by subtracting compensation of employees, taxes on production and imports and adding subsidies to production-based GDP estimate.

3.2.2. Benchmarking of QNA and ANA

The sum of the four quarters of the reporting year is the first annual estimate.

After annual data are obtained for the year T-2 at the end of September of year T, there are inconsistencies between QNA and ANA initially mainly because ANA data are determined at a later time, and calculation methods are independent of QNA. Since usually, the annual information is more reliable because it has more precise data sources and information, which are not available even in QNA data sources, the QNA results are adjusted to the ANA results. Many different benchmarking methods can be used to solve this problem. The purpose of benchmarking (when quarterly indicator or preliminary quarterly estimates are available) is to estimate the QNA time series by using relative strengths of low and high-frequency data so that annual levels of QNA time series are equal to the levels of ANA time series. Proportional Denton method is used to benchmark the quarterly series. This method keeps the movements of the benchmarked series as proportional as possible to those in the quarterly indicator series. As a result, benchmarked current price QNA series starting from 1995Q1 and ending with the last year of annual accounts are obtained.

Benchmarking requires that all indicator series are complete, starting from 1995Q1. The indicators are available only from 2000Q1. The previously published Pro-rata results, available from 1995Q1, were used to solve this problem. Growth rates for 1995Q2-2000Q1 were calculated and by knowing properties of Pro-rata, growth rates between the first quarter of a year and the last quarter of the previous year were deleted and afterwards modelled using back-casting methods. The indicator values for the 1995Q1 – 1999Q4 were then calculated. This calculation is a one-time-only procedure.

Benchmarking is applied for components at the most detailed level necessary to produce GDP aggregates. All aggregates are benchmarked indirectly by the aggregation of the benchmarked components. The *Denton-Cholette* method has been implemented.

Update of the information for four quarters of year T-1 and two quarters of year T takes place simultaneously with the benchmarking procedure.

3.2.3. Other reconciliation(s) of QNA different from balancing and benchmarking

In the production process of quarterly GDP, the intermediate results are checked by the branch and sector specialists. In these procedures, they pay special attention to issues like the coherence between price and volume changes, the comparability in time of the estimates. During the balancing process, experts are involved in the reconciliation that must be made to meet consistency in the whole framework.

3.2.4. Amount of estimation in various releases

The first release of quarterly national accounts aggregates is published two months after the reference period (quarter). Short-term (monthly, quarterly) statistics indicators are used for calculations (business surveys of CSB, information from Latvijas Banka, Ministry of Finance, administrative data sources). These figures represent more than 90 per cent of total indicators (some price indices are later).

It should be added that short-term indicators must be revised accordingly to the Revision Policy Guidelines of the CSB and Revision policy of Latvijas Banka. These changes are included in QNA calculations 85 days after the reference period with the publication and transmission of QSA.

3.3. Volume estimates

3.3.1. General volume policy

GDP figures are most often used in volume terms. To be able to compare the indicators over the time, impact of price changes must be excluded from volume indicators.

QNA volume data are published as chain-linked series with the reference year 2015 (from 2019). For the calculation of quarterly volume data, annual overlap method is used. It means that at first current price data are estimated at the previous year prices.

The GDP statistics from production and expenditure approach are estimated at current prices (registration and calculations are made at the actual prices of the respective period) and constant prices. The indicators at constant prices are expressed at prices of the previous calendar year and prices of the reference year (chain-linked).

To estimate GDP at prices of the previous calendar year the average prices of the previous calendar year are used as a base and the "annual average" method (where each running quarter (or year) is estimated at the average prices of the previous year) is used. Numerous deflators are used for the estimations. Both volume indicators and price indices may be used as deflators. The following price indices are used: consumer price index, producer price index, construction cost index, services producer price index, price indices of agricultural products, export unit value index, import price

index. The following volume indicators are used: change in the number of employees and change in natural indicators (e.g., in removals, passenger number, freights, etc.).

To calculate GDP at prices of the reference (base) year (currently, prices of 2015) the indices derived from the GDP indicators at the prices of the previous year are used to chain-link the calculated volume indices with 2015.

3.3.2. Chain-linking and benchmarking.

An annual overlap method is used for the compilation of chain-linked values of QNA aggregates, and it means that estimates for each quarter are expressed at the weighted annual average prices of the previous year.

The following method is implemented to provide linking factors using the annual correspondent data:

1. compile estimates for each quarter as annual average of the previous year;
2. convert the constant price estimates for each quarter into a volume index with the average of the last year=100;
3. link the quarterly volume indices.

Quarterly values in prices of the previous year are benchmarked to the annual national accounts data.

The chaining method selected additionally ensures time additive between quarterly and annual data so that no additional benchmarking is necessary in this regard.

The measurement of output and intermediate consumption in previous year prices and chain-linked values are calculated separately by a detailed breakdown of activities. Gross value added of an industry is the residual item between output and intermediate consumption at corresponding prices. Gross domestic product is calculated as the sum of gross value added of all industries/branches plus taxes on products (D.21) less subsidies on products (D.31).

The corresponding price indices (previous year = 100) are applied to each category (activity) or volume indicators (where there are no price indices) are used to extrapolate base year value. Values in prices of the previous year are obtained as follows: current prices are deflated by price index (previous year = 100) or base year values are extrapolated by volume indicators (e.g., government sector).

Chain linked index is calculated thus: the value of previous year chained to corresponding quarter.

Chain volume measure is calculated as chain-linked index multiplied by average value of the reference year (currently year 2015 divided by four).

Chain-linked volumes are not additive, and it means that the data series are not aggregate by calculation levels (e.g., total gross value added is not equal to the sum of all sections of NACE Rev.2)

3.3.3. Chain-linking and seasonal adjustment

There are different practices regarding how seasonally adjusted GDP is derived. In Latvia, the direct adjustment method is applied. GDP and its components are directly adjusted independently. A discrepancy emerges as a statistical discrepancy. Additional adjustment like corrections or balancing of seasonally adjusted data to re-establish identities and to ensure consistency between lower-level aggregates and higher-level aggregates are not applied.

The seasonal adjustment is applied to series in current prices and chain-linked prices. The time series in previous years prices are not seasonally adjusted.

3.4. Seasonal and calendar adjustment

The software JDemetra+ (version 2.2.2) developed by the National Bank of Belgium in cooperation with the Deutsche Bundesbank and Eurostat is used for the seasonal adjustment of the quarterly national accounts (QNA). The software includes the TRAMO/SEATS procedure developed by the Bank of Spain and the X-12 ARIMA procedure developed by the U.S. Census Bureau. Central Statistical Bureau of Latvia (CSB) uses a model-based seasonal adjustment procedure TRAMO/SEATS.

Seasonal adjustment for QNA is made according to the ESS guidelines on seasonal adjustment (2015 edition).

Seasonal adjustment (SA) for QNA is performed on indicators: more than 170 indicator series are adjusted, generally from the first quarter of 1995 till the last quarter. SA is performed only for quarterly time series.

Calendar adjustment is done only as a part of the seasonal adjustment process. Working day adjustment is an element of pre-treatment in the seasonal adjustment process. All the descriptions below concern the policy of seasonal and calendar adjustment of quarterly GDP and its main components.

3.4.1. Policy for seasonal adjustment

Seasonal adjustment is carried out separately for data at current prices and chain-linked volumes. The majority of aggregates of the quarterly accounts contain a significant seasonal component.

Before seasonal adjustment is done a correction of possibly included outliers in the series is made. Three kinds of outliers are taken into account: additive outliers, level shift and temporary change. An additive outlier - effects only one observation. Temporary change - affects several following observations. A level shift type of outlier - affects all following observations from a fixed point. Outlier detection is done using a mathematical identification procedure and all information available. Outliers are included as regressors in the model if there is a clear interpretation. The number of outliers in a time series is limited to 5 % of all observations of the series.

Decomposition scheme is selected using both automatic decomposition scheme selection (using information criteria) and graphical analysis. For the majority of QNA series, multiplicative decomposition was used. However, in some cases, additive decomposition can be used, for example, for balances, where negative values might be.

Generally, the ARIMA model is identified using the automatic procedure in the JDemetra+ software. The automatic model can be changed in case the model quality is not sufficient when JDemetra+ detects residual seasonality or calendar effects, and to reduce revisions. It may be a simplification of model structure, including the use of 'airline' model.

3.4.2. Policy for calendar adjustment

Calendar adjustment is performed as a part of the process of producing seasonally adjusted data and is the element of pre-treatment in the seasonal adjustment procedure. Main calendar effects are modelled by two repressors, taking into account fluctuations in the total number of working days and period length (leap year effect).

The Latvian specific calendar regressors are used for the calendar adjustment. The Central Statistical Bureau of Latvia has derived the calendar regressors according to the national law on holiday, remembrance and celebratable days and the JDemetra+ documentation. Corrections for calendar influences are carried out only for the selected time series, in which the calendar influence is statistically significant and explainable from the economic point of view.

3.4.3. Revision policy for seasonally adjusted data

According to the ESS guidelines on seasonal adjustment models and their parameters are verified and revised once a year, when data for the first quarter is added to time series. During the rest of the year, we stay with the current model, using partial concurrent adjustment (last outliers). The exception is when the original data is revised, and the model quality is not acceptable, or parameters are statistically insignificant, then we can adjust the model.

The concurrent adjustment strategy and model is used for revisions once a year (in the first quarter). Parallel adjustment is always used in case of major revisions of unadjusted data. If there are significant changes in the seasonality pattern or revisions in the unadjusted data, we should make a full revision of the model. When using the concurrent adjustment method, the new model, its quality diagnostics and the series of adjusted data are always compared with the previous ones.

4. GDP and components: the production approach

The production approach is the primary approach to estimate gross domestic product (GDP) in Latvia. Mainly the indirect method is used in the calculation of quarterly GDP in Latvia.

The production approach is based on the estimation of output and intermediate consumption of various industries of the economy. Intermediate consumption is estimated using final (annual) year ratios of intermediate consumption and output. Gross value added of industry is defined as the difference between output (basic prices) and intermediate consumption (purchaser's prices). The output consists of the products and services created during the accounting period.

GDP from the production approach is calculated as the sum of gross value added at basic prices of all NACE Rev. 2 industries/branches plus taxes on products less subsidies on products. There are no residual items in GDP estimations from the production side.

Estimation of quarterly GDP production aggregates is mainly done in the 2-digit level of NACE Rev. 2 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 Rev. 2.

Components of GDP by production approach are estimated at current prices, previous year prices and chain-linked series.

The main data sources for the estimation of the quarterly GDP from production approach are:

- the quarterly information from the Institute of Agricultural Resources and Economics;
- monthly and quarterly reports on agricultural production and prices (CSB);
- monthly volume indices of industrial production and the output in terms of value (Mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply);
- quarterly volume index of construction production and construction output at current prices;
- monthly and quarterly retail trade statistics;
- quarterly business trends in Forestry; Wholesale; Transportation and storage; Accommodation and food services; Information and communication; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities; Education (market services); Human health and social work activities (market services); Arts, entertainment and recreation; Other service activities;
- quarterly labour statistics about the number of employees and wages and salaries;
- quarterly information from Latvijas Banka (BoP, Quarterly Financial Report 1-FP, Profit or Loss Account of Latvijas Banka, the monetary financial institutions' financial report (Profit or loss statement and balance sheet positions);

- quarterly information from the Financial and Capital Market Commission (Profit or loss account of investment brokerage firms and investment management companies, Profit or loss account of pension funds, etc.);
- Ministry of Finance of the Republic of Latvia (taxes on products);
- the principal sources of general government financial statistics are monthly and annual reports of the Ministry of Finance on the implementation of state and local government budgets and the statistical form information on the activities of state and local government-controlled enterprises.

Quarterly business statistics are based on surveys' data (information is collected from large units - net turnover and number of employees are determined as the main criteria).

Statistical information provided by supervisory institutions of the financial sector (information on credit institutions, insurance companies, pension's funds) is used to evaluate output and intermediate consumption of this sector.

The primary data source for non-market activities is monthly-based general government expenditures on central and local government.

For non-financial corporation sector (S.11) and household sector (S.14) output is calculated using output or turnover data from short-term business statistics, but for financial corporation sector (S.12) – using mostly direct data sources from Latvijas Banka, FCMC and reports of the CSB for output estimates. Current expenditure of government units is used for output estimates in the general government sector (S.13). The indicator of non-profit institutions serving households sector (S.15) remains at the level of the corresponding period of the previous year.

4.1. Gross value added, including industry breakdowns

Agriculture (NACE Rev. 2 A01)

Quarterly estimations of crop and livestock production are carried out by specialists of the Institute of Agrarian Resources and Economics using information from CSB reports, expert evaluations and forecasts (especially in crop production).

The current quarterly calculation is carried out by extrapolating output of corresponding quarter of the previous year.

The output is calculated using production indicators, and intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output. Value added is the residual item between output and intermediate consumption.

Estimates for agriculture includes livestock (meat, milk, eggs as well as purchase data and prices of other products from the sales forms), crop production and services. For crop production, due to the high seasonality, the output obtained during the year is divided by quarters in proportion to the costs

incurred. The specialists of the Institute of Agrarian Resources and Economics make estimates on production in quarters.

For compiling the quarterly volume measures, the agricultural price indices are used, which are calculated by the Institute of Agrarian Resources and Economics.

Quarterly livestock production data are estimates based on the following data sources:

- CSB statistical questionnaires:
 - 1-poultry "Report on poultry farming";
 - 11-purchase "Report on Purchase and Slaughtering of Livestock".
- data of the Milk Producer Register managed by the Agricultural Data Centre;
- data of the Slaughterhouse Electronic Reporting System maintained by the Agricultural Data Centre.
- Statistics on meat produced in slaughterhouses is acquired from the following data sources:
 - data of the Slaughterhouse Electronic Reporting System managed by the Agricultural Data Centre;
 - CSB questionnaire 11-purchase "Report on Purchase and Slaughtering of Livestock".

The data on the volume of grain, pulses and rape purchased and the average purchase prices are acquired with a full-scope CSB survey 1-purchase "Report on purchase of grain, pulses and rape".

Indicators are acquired with the help of calculations and assessments by using the following data sources:

- CSB statistical report forms:
 - 21-LS (Crop) "Report on production and sale of crop products";
 - 1-flowers/seedlings "Report on floriculture and nursery activities";
 - 5-purchase "Report on the purchase of flax products";
 - 1-purchase "Report on purchase of grain, pulses and rape";
 - 11-purchase "Report on purchase of livestock products and slaughtering of livestock";
 - 3-ls "Livestock";
 - 1-poultry "Report on poultry farming";
- Agricultural Data Centre data from the Milk Producer Register;
- Agricultural Data Centre information from the Slaughterhouse Electronic Reporting System;
- Data of the Institute of Agricultural Resources and Economics on prices of agricultural products.

Forestry (NACE Rev. 2 A02)

Data used for estimation of the output of Forestry are acquired from CSB Trade and Service statistics. Imputation information from Value Added Tax declaration from State Revenue Service is used to estimate turnover data of forestry. The output is calculated using turnover data – reporting quarter turnover data compared with the data of corresponding quarter of the previous year to obtain changes, which are extrapolated on the output of the corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Value added in volume measures is estimated by applying the relevant price index – average purchase price indices of round timber. The export unit value index is used for calculations of exported production in volume terms.

The data on the volume and prices of log purchased by enterprises are compiled once in six months and are used to calculate average purchase prices of log (pine logs, spruce logs, birch logs and veneer logs, black alder logs, asp logs and packaging timber) in Latvia (EUR/m³, excluding VAT). Data on average purchase prices of timber are acquired from the sample survey by using CSB semi-annual statistical report form 1-timber "Report on purchase of timber."

Fishery (NACE Rev. 2 A03)

Fishery sector output is calculated using production indicators. Output in quarters is computed using the extrapolation method – reporting quarter turnover data compared with the data of corresponding quarter of the previous year to obtain changes, which are extrapolated on the output of the corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

The source of data on fishery statistics is the regular surveys of merchants engaged in fishing.

To obtain data on fishery the quantity of catch in northwest Atlantic, Northeast Atlantic, Baltic Sea and the Gulf of Riga, central east Atlantic and inland waters, are examined. Due to the lack of relevant information, the amount of aquaculture is estimated at the level of the corresponding quarter of the previous year until new data from annual sources is received. This information will be integrated into calculations accordingly Revision policy of QNA.

Value added in volume measures is calculated using fishery deflator. For fishery deflator, calculations unit value to average unit value of the previous year and weights of fish value is used. For weights, the most valuable fish species are used, which covers around 98% of all fishery value.

Fishery data are acquired with the help of calculations based on the following data sources:

- CSB statistical report forms:
 - annual – 1-aquaculture "Survey on aquaculture";
 - quarterly – 1-fishery "Survey on fishery";
- data of the Ministry of Agriculture of the Republic of Latvia, Fishery Department;
- data of the Institute of Food Safety, Animal Health and Environment.

Mining and quarrying, Manufacturing, Electricity, gas, steam and air conditioning supply (NACE Rev. 2 B to D)

Data sources for Mining and quarrying; Manufacturing; Electricity, gas, steam and air conditioning supply are surveys from Industrial and Construction Statistics about volume index and output of industrial production.

For the calculation of output and value-added, the value index is used, extrapolating the relevant period of the previous year value. The value index is calculated from the volume index and producer price index in the industry. Intermediate consumption is a residual item between output and value-added.

Volume measures. Value added is calculated with the extrapolation method using the volume index of industrial production separately for each NACE Rev.2 activity.

Data sources: CSB monthly statistical report form 1-r "Survey of industrial activity". Data are collected from economically active enterprises if their primary or secondary activity in compliance with NACE Rev. 2 is Mining and quarrying (Section B), Manufacturing (Section C), Electricity, gas, steam and air conditioning (Section D) and if 20 and more persons are employed in industrial production or industrial turnover in previous year comprised EUR 500 thousand or more.

Water supply; sewerage, waste management and remediation activities (NACE Rev. 2 E)

The output of water supply, sewerage, waste management and remediation activities are obtained from financial indicators of non-financial merchants (indicator – net turnover). Output in quarters is calculated using extrapolation method - quarterly data (net turnover) are compared with quarterly data of the corresponding period of the previous year to obtain changes, which are used to extrapolate the national account's value of a corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

For estimating volume measures, PPIs in the industry are used, except division E39 where changes in the number of employees are used in the calculations. For government sector value added in volume measures, changes in the number of employees are applied.

Data sources: CSB quarterly statistical report form 1-F "Report on the financial situation." The statistical population of this survey – all economically active enterprises with the number of employees, annual turnover or total amount of balance exceeds a certain threshold. Enterprises that, according to indicators set, do not exceed any threshold, are not surveyed, but data are recalculated using annual report and indicators of VAT declarations submitted to the State Revenue Service.

Construction (NACE Rev. 2 F)

For the calculation of output and value-added, the value index is used, extrapolating the relevant period of the previous year. The value index is calculated from the volume index and construction cost index. Intermediate consumption is a residual item between output and value-added.

Construction output data are acquired with a sample survey. The data are compiled based on the CSB quarterly questionnaire on construction (1-construction).

The data are collected from all economically active enterprises with the primary or secondary activity Construction (NACE Rev. 2 Section F, classes 41.10–43.99), which employ 30 or more persons in construction and the turnover of which in the previous year amounted to 4.5 million euros or more. Other commercial companies engaged in construction are surveyed based on simple random sampling.

Volume measures. Value added is calculated with the extrapolation method using a volume index of construction production (quarterly indicator).

Wholesale and retail trade; repair of motor vehicles and motorcycles (NACE Rev. 2 G)

According to ESA 2010 section 3.56, wholesale and retail services output is measured by the trade margin realised on goods purchased for resale. In quarterly national accounts, turnover of wholesale trade in short term statistics (division G46) with adjustments (if necessary) must be used as the indicator for output as there is no quarterly information available on the development of the trade margin.

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output.

Volume indices. Turnover indices of trade of motor vehicles and motorcycles (G45) and retail trade enterprises (G 47) are used to estimate volume measures for these sections. For wholesale trade, the weighted price index from Producer Price and Import Price indices are used as a deflator.

Data for retail trade are obtained conducting a sample size survey. Information is collected from:

- CSB monthly statistical report form 1-turnover "Survey on turnover";
- Value Added Tax declaration information from State Revenue Service for data imputation.

Enterprises for the survey are selected using the simple stratified random sampling.

Enterprises are stratified by the kind of activity according to Statistical Classification of Economic Activities in the European Community (NACE Rev. 2) and turnover. The larger the enterprise's turnover, the larger the possibility for the enterprise to be included in the sample.

Data for the trade of motor vehicles and motorcycles wholesale trade are taken from:

- CSB monthly questionnaires 4-turnover "Survey on Turnover";
- Value Added Tax declaration information from State Revenue Service for data imputation.

Transport and storage (NACE Rev. 2 H)

The data sources are information from monthly statistics report on turnover of service industries, in this section in some NACE Rev. 2 divisions calculations and estimations are made at a more detailed level.

Output in quarters is calculated using extrapolation method – short term statistics quarterly data are compared with the data of corresponding period of the previous year to obtain changes, which are used to extrapolate the national account's value of a corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Volume measures. For calculating volume indicators, Producer Price indices for Services, Consumer price indices and some volume indicators are used.

Data on net turnover are obtained from:

- CSB monthly questionnaires 2-turnover "Survey on Turnover";
- Value Added Tax declaration information from SRS for data imputation.

Accommodation and food service activities (NACE Rev. 2 I)

This section includes the provision of temporary accommodation for travellers as well as ready-to-eat meals and drinks.

Accommodation and food service data are obtained from Trade and Service statistics and the State Revenue Service. Output in quarters is calculated using extrapolation method – short term statistics quarterly data are compared with the data of corresponding period of the previous year to obtain changes, which are used to extrapolate the national account's value of a corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year structures of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

For the calculation of volume measures in accommodation and food service activities, Consumer price indices are used.

Data are obtained from:

- CSB monthly questionnaires 2-turnover "Survey on Turnover";
- Value Added Tax declaration information from SRS for data imputation.

Information and communication (NACE Rev. 2 J)

The output of Information and communication industries is acquired from surveys on industry activity and data on VAT – from the State Revenue Service. Output in quarters is calculated using extrapolation method – short term statistics quarterly data on turnover are compared with the data of corresponding period of the previous year to obtain changes, which are used to extrapolate the national account's value of a corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Volume measures. Value added is calculated using the Consumer Price Indices and Services Producer Price Indices. Services producer price indices for some industries (computer programming, consultancy and related activities (J62), Information service activities (J63)) are calculated using hourly labour costs data, so they are not available for the quarterly estimations at two months after the reference period and SPPIs of the previous quarter are used. Subsequently, data are revised according to QNA Revision policy.

Data are obtained from:

- CSB monthly questionnaires 2-turnover "Survey on Turnover";
- Value Added Tax declaration information from State Revenue Service for data imputation.

Financial and insurance activities (NACE Rev. 2 K)

Value added in current prices of each division of Section K is estimated based on individual approach due to the specific kind of activity and data sources. Volume measures of Section K are derived by deflating with the CPI, except FISIM, which is calculated and added to Section K output and intermediate consumption separately.

Financial service activities, except insurance and pension funding (NACE Rev.2 K64)

The output of Latvijas Banka is measured as the sum of costs. It means that output is estimated as the sum of remuneration of personnel, social security costs, consumption of fixed capital (P.51c) and intermediate consumption.

The intermediate consumption consists of Banknote and coin acquisition costs, Fee and commission expenses and Other operating expenses. The difference between total output and sum of Fees and commissions income and Other operating income is allocated to the intermediate consumption of subsectors S.122 and S.125. Input data are taken over from the Profit and Loss Statement of Latvijas Banka, which is provided quarterly.

The largest class of 64 division is Other monetary intermediation (64.19), which mainly consists of commercial banks. The output for these units is estimated as the sum of FISIM for S.122, Fee and commission income, profit/loss on transactions with financial instruments and Net other operating income. Intermediate consumption is estimated as the sum of Fee and commission expenses, Other administrative expenses, other operating expenses and allocated production of Latvijas Banka to S.122. The data for the calculations – aggregated Profit or loss statement – are provided by Latvijas Banka quarterly.

For other classes of 64 division output consists of FISIM for S.125 sector companies, on the one hand, and services charged directly to customers, on the other side. The data are received from the Financial and Capital Market Commission and the survey conducted by Latvijas Banka quarterly. For S.127 sector 64.20, 64.30 and 64.99 companies sum of costs approach is used.

Intermediate consumption for most other classes of 64 division due to lack of suitable indicators is estimated based on ratio, which is calculated using the last available annual data. Intermediate consumption of 64 division also includes FISIM of S.124 and S.127, as well as allocated production of Latvijas Banka to S.125.

Insurance, reinsurance and pension funding, except compulsory social security (NACE Rev.2 K65)

Life insurance (65.11) and non-life insurance (65.12) output is calculated as follows:

Direct insurance premiums earned + Property income attributed to insurance policyholders - Adjusted claims incurred (different approach for life and non-life insurance is applied) - Changes in insurance technical reserves excluding holding gains (different approach for life and non-life insurance is used). The data are taken from aggregated Profit or loss statement of life insurance companies and non-life insurance companies.

Suitable indicators for intermediate consumption for life and non-life insurance are not available. Therefore, ratios for intermediate consumption, which are calculated based on the last available annual aggregated profit or loss statement of life and non-life insurance companies are used. Intermediate consumption also includes the reinsurance (65.20), i.e. service of reinsurance, which is consumed by the insurance companies (65.11 and 65.12) and which is taken from the BoP.

Pension funding (65.30) consists of Private Pension Plans, Private pension funds and State-funded pension scheme (SFPS) asset managers. SFPS asset managers' output is equal to intermediate consumption and consists of Management fee, Custodian fee and Other expenses for investment plan management. The data are taken from the Income and Expenses Statement of SFPS. The output of Private pension plans is calculated as follows: Total contributions + property income earned from investing in reserves - Additional pension capital paid out - holding gains. Intermediate consumption

of Private pension plans is estimated using Investment management charges and Administrative expenses. The data are taken from the Summary of the Movement of Pension Plan Net Assets. The output of Private pension funds is the sum of Operating income and Other ordinary income; intermediate consumption is the sum of Other ordinary expenses and adjusted Administrative expenses. The data are taken from Aggregated Profit or loss statement of Private pension funds.

Intermediate consumption of 65 division also includes FISIM of S.128+S.129.

Financial and Capital Market Commission provide data for estimations on a quarterly basis.

Activities auxiliary to financial services and insurance activities (NACE Rev.2 K66)

Value-added estimates of this division consist of 2 parts:

1. Value-added of such Fund management activities (66.30) as Investment management companies and Alternative investment fund managers. Their output consists of commission income and other similar income, but intermediate consumption consists of commission expenses and other similar expenses. Financial and Capital Market Commission provide data quarterly.
2. Value-added of other companies, which are classified under Activities auxiliary to financial services and insurance activities. The output of these companies is derived as net turnover from aggregated Profit or loss statement, which is provided as a part of the survey conducted by Latvijas Banka. Intermediate consumption, due to the lack of suitable indicators, is estimated based on ratio, which is calculated using the last available annual data. Intermediate consumption of 66 division also includes FISIM of S.126.

Real estate activities (NACE Rev.2 L)

Real estate activities output is obtained from surveys of activity industries and data about VAT from the State Revenue Service. Output in quarters is calculated using extrapolation method - quarterly data on turnover are compared with quarterly data of the previous year to obtain changes, which are used to extrapolate the national account's value of a corresponding quarter of the previous year.

The compilation of output of imputed rent at current prices is based on the assumption that output develops appropriately to the development of some indicators of the real estate industry (according to experts estimations).

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output. Value added is the residual item between output and intermediate consumption.

Value added at constant prices is calculated using relevant price indices (CPI, SPPI, HPI).

Data are obtained mostly from:

- CSB monthly questionnaires 2-turnover "Survey on Turnover";
- Value Added Tax declaration information from the State Revenue Service for data imputation.

Professional, scientific and technical activities (NACE Rev.2 M)

Professional, scientific and technical activities data are obtained from Trade and Service statistics and State Revenue Service. Output in quarters is calculated using extrapolation method – quarterly data on turnover are compared with quarterly data of the previous year to obtain changes, which are used to extrapolate the national account's value of a corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year structures of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Volume measures. The deflators for industries are mainly formed from Services Producer Price Indices and for some activities – from Consumer Price Indices. Services producer price indices for specific activities (Legal and accounting activities (M69.10), Management consultancy activities (M70.2), Architectural and engineering activities and related technical consultancy (M71), Advertising and market research (M73)) are calculated using hourly labour costs data, so they are not available for the quarterly estimations at two months after the reference period and SPPIs of previous quarter are used. Subsequently, data are revised according to the QNA's Revision policy.

Data are obtained from:

- CSB monthly questionnaires 2-turnover "Survey on Turnover" for divisions M69, M70, M71, M73, M74 and quarterly questionnaire 3-turnover "Survey on Turnover" for divisions M72 and M75;
- Value Added Tax declaration information from State Revenue Service for data imputation.

Administrative and support service activities (NACE Rev.2 N)

Administrative and support service activities data are obtained from Trade and Service statistics and the State Revenue Service. Output in quarters is calculated using extrapolation method - quarterly data on turnover are compared with quarterly data of the previous year to obtain changes, which are used to extrapolate the national account's value of a corresponding quarter of the previous year.

Intermediate consumption is estimated using final (annual) year ratio of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Volume measures. The deflators for industries are mainly formed from the Services Producer Price Indices and for some industries Consumer Price Index and Volume index, which is developed using changes in the number of employees to the previous year. Services producer price indices for Security and investigation activities (N80) are calculated using hourly labour costs data, so they are not available for the quarterly estimations at two months after the reference period and SPPIs of the previous quarter are used. Subsequently, data are revised according to QNA's Revision policy.

Data are obtained from:

- CSB monthly questionnaires 2-turnover "Survey on Turnover";
- Value Added Tax declaration information from State Revenue Service for data imputation.

Public administration and defence; compulsory social security (NACE Rev.2 O), Education (NACE Rev.2 P), Human health and social work activities (NACE Rev.2 Q)

Public administration and defence; compulsory social security is the main activity of the public sector. Current expenditure of state budget is used for output and intermediate consumption estimates in this sector (see the section below *Non-market output of General government sector (S.13)*).

Market production for Education and Human, health and social work activities. The primary source is the quarterly statistical survey of non-financial enterprises. Output in quarters is calculated using the extrapolation method - quarterly data are compared with quarterly data of the previous year to obtain changes, which are extrapolated on the corresponding quarter of the previous year. Intermediate consumption is estimated using final (annual) year structures of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Volume measures. Value added is calculated using the Consumer Price Index and Volume Index, which is formed from changes in the number of employees and wages and salary.

Data for the market sector are obtained from:

- CSB quarterly questionnaire 3-turnover "Survey on Turnover";
- Value Added Tax declaration information from State Revenue Service for data imputation.

Arts, entertainment and recreation (NACE Rev.2 R)

Arts, entertainment and recreation activities data are obtained from Trade and Service statistics and imputations of State Revenue service data. Output in quarters is calculated using the extrapolation method - quarterly data are compared with quarterly data of the previous year to obtain changes, which are extrapolated on the corresponding period of the previous year.

Intermediate consumption is estimated using final (annual) year structures of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Volume measures. Value added is calculated using Consumer Price Indices and Volume Index, which is formed from changes in the number of employees and wages and salary.

Data for the market sector are obtained from:

- CSB quarterly questionnaire 3-turnover "Survey on Turnover";
- Value Added Tax declaration information from State Revenue Service for data imputation.

Other service activities (NACE Rev.2 S)

Other service activities data are obtained from Trade and Service statistics and imputations of State Revenue service data. Output in quarters is calculated using the extrapolation method - quarterly data are compared with quarterly data of the previous year to obtain changes, which are extrapolated on the corresponding period of the previous year.

Intermediate consumption is estimated using final (annual) year structures of intermediate consumption and output.

Value added is the residual item between output and intermediate consumption.

Data for the market sector are obtained from:

- CSB quarterly questionnaire 3-turnover "Survey on Turnover";
- Value Added Tax declaration information from State Revenue Service for data imputation.

Volume measures. Value added is calculated using Consumer Price Indices and Volume Index, which is formed from changes in the number of employees and wages and salary.

The non-market output of General government sector (S.13)

According to ESA 2010 2.111 p., the general government sector (S.13) consists of institutional units which are non-market producers whose output is intended for individual and collective consumption and are financed by compulsory payments made by units belonging to other sectors, and institutional units principally engaged in the redistribution of national income and wealth.

According to 2.113 p., the general government sector is divided into four subsectors:

- central government (excluding social security funds) (S.1311);
- state government (excluding social security funds) (S.1312);
- local government (excluding social security funds) (S.1313);
- social security funds (S.1314).

Data in Latvia are compiled for central government, local government, and social security funds. The total output of non-market producer is valued as the total costs of production:

$$P.1 (S.13) = P.2 + D.1 + P.51c + D.29 - D.39$$

where:

P.1 (S.13) – non-market output of General government sector,

P.2 – intermediate consumption,

D.1 – compensation of employees,

P.51c – consumption of fixed capital,

D.29 – other taxes on production,

D.39 – other subsidies on production.

Primary data sources used for estimates of output of General government (S.13) are:

- Reports on General Government Consolidated Budget Execution;
- CSB quarterly survey 2-FAP “Financial assets and liabilities”;
- CSB quarterly survey 2-labour “Report on labour”.

For quarterly calculations, each of the output components of the government sector is broken down by industry, using the annual breakdown of NACE Rev. 2. and quarterly information for P.2, D.1, P.51c, D.29 and D.39. For example, when calculating the quarters of 2018, the structure of the mentioned above components in 2017 is used.

Intermediate consumption (P.2) calculated from expenditures. Main types of expenditure of general government are goods and services (for example, expenditure for transport services, other communication services, expenditures for public utilities, repair of buildings, IT services and other services).

Tax payments of budgetary institutions on the land, real estate, natural resources form other taxes on production D.29 of the general government sector.

Consumption of fixed capital P.51c of the general government sector is the estimation of CSB experts after based on annual information.

Value-added of general government calculated as the difference between output and intermediate consumption. General government enterprises operate in almost all of NACE Rev.2 divisions, but according to gross value added, the largest general government sector share is in divisions 84, 85 and 86.

Table 4.1. Share of government sector value added in NACE Rev.2 division

NACE Rev. 2	Share of S.13 in divisions (%)
84 Public administration and defence; compulsory social security	99
85 Education	87
86 Human health activities	62

Also, worth mentioning is S.13 share in value-added of NACE Rev.2 divisions 72, 87, 88, 90, and 91.

Calculations in prices of the previous year

For government sector, for calculations in prices of the previous year, quarterly data of the number of employees and wages of the budgetary institutions and number of employees and wages of the

enterprises re-allocated to the government sector in compliance with the two-digit level of NACE are used (data source is the CSB quarterly survey 2-labour 'Report on labour'). General government output and value-added at prices of the previous year is obtained mainly using the growth rate of the number of employees in compliance with the two-digit level of NACE. For NACE O, P, Q, R growth rate number of employees multiplied by the growth rate of half of the compensation of employees is used. Intermediate consumption at prices of the previous year calculated as the difference between output and value-added.

4.2. FISIM

FISIM is calculated quarterly according to ESA 2010 Chapter 14. FISIM on loans and deposits is derived separately for S.122 and S.125 using aggregated data: stocks on loans and deposits by sector, as well as interest receivable on loans and interest payable on deposits by sector. Latvijas Banka provides data on S.122. Central Statistical Bureau and Latvijas Banka give data on S.125. Detailed information on imports and exports of FISIM is taken from the Balance of Payments (BoP).

FISIM is allocated quarterly to S.13 and S.12: FISIM of S.124 and S.127 – to intermediate consumption of 64 division, FISIM of S.128+S.129 – to intermediate consumption of 65 division and FISIM of S.126 – to intermediate consumption of 66 division.

FISIM in volume terms is calculated quarterly according to ESA 2010 paragraph 14.14. as follows:

$$FISIM_{VOL} = \frac{\text{average stocks of loans and deposits}}{\text{price index}} * \text{previous year average margin}$$

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.

4.3. Taxes less subsidies on products

Taxes on products

Taxes on production and imports are divided into two main groups:

- taxes on products (D.21) and
- other taxes on production (D.29).

Taxes on products (D.21) are obtained from direct administrative data sources. Quarterly data for taxes on products (D.21) are taken from the Monthly Reports on Budget Settlement provided by the Treasury. Ministry of Finance of Latvia adjusts tax revenue data taking into account time lag. There are taxes and duties on products, which have been used for the quarterly GDP estimate by the production method:

- value-added tax (VAT) – D.211;
- excise taxes and duties – D.214 :

- excise duty on alcoholic beverages – D.214a,
- excise duty on beer – D.214a,
- excise duty on tobacco goods – D.214a,
- excise on natural gas – D.214a,
- excise on oil products – D.214a,
- customs duties – D.2121;
- import duties (excise duty collected of imported goods for omission for free turnover) – D.2122;
- other taxes on products.

Other taxes on products include:

- electricity tax – D.214a
- car registration taxes – D.214d (operating time was from 2004 till 2016)
- gambling and lottery tax – D.214f
- state fee to be paid for the maintenance of the petroleum product emergency – D.214l
- mandatory procurement public service obligation fee (MP PSO) – D.214i

According to the results calculations of 2018, the largest share of taxes collected on products in Latvia is VAT (about 63%), and excise taxes (around 27%), other taxes on products (9%) and import taxes are 1%. The largest share of excise is comprised by excise duty on oil products (53%), excise duty on tobacco (20%), excise duty on alcohol (18%), excise duty on beer (5%), excise duty on natural gas (2%) and excise duty on other excise goods (2%).

Data on taxes are provided on the accrual basis. Import duties collected on behalf of the European Union are recorded on a gross basis for determining GDP.

Taxes on products are compiled in current prices, previous year prices and chain-linked prices (the reference year 2015). Taxes on products at prices of the previous year are calculated using changes in taxes rates and consumer price index.

Taxes at current prices are converted into average prices and rates of the previous year. Taxes on products at average prices and rates are calculated by dividing the tax amount at current prices with the relevant tax rate index: rate in reference quarter / average rate of the previous year.

Product tax rates and their changes are currently governed by the laws and regulations of the Republic of Latvia:

- Law on Excise Duties
- Law on Value Added Tax
- Law on Lotteries and Gambling Fee and Taxes
- Electricity Tax Law
- Electricity Market Law

Subsidies on products

Data for subsidies on products (D.31) are obtained from the Institute of Agricultural Resources and Economics (Complex of surveys to compilation of aggregate account of agriculture). This institution is responsible for compilation of Economic Accounts for Agriculture and on Agriculture Sector Modelling. The complex of surveys to a compilation of aggregate account of agriculture includes information about agricultural activity in Latvia. This source contains monthly, quarterly and annual aggregate accounts of agriculture. Description of sources is done in Chapter 9.

Net taxes on products are taxes on products minus subsidies on product.

Data for subsidies on products (D.31) at prices of the previous year are obtained from the Latvian State Institute of Agricultural Resources and Economics.

5. GDP components: the expenditure approach

The expenditure approach of GDP reflects the final use of goods and services, i.e. uses other than production costs.

It consists of:

- Household final consumption (P.3 S.14);
- Final consumption expenditure of government (P.3 S.13)
- Final consumption expenditure of non-profit institutions serving households (NIPISH) (P.3 S.15)
- Gross capital formation (P.5)
 - Gross fixed capital formation (GFCF) (P.51)
 - Changes in inventories (P.52)
 - Acquisitions and disposals of valuables (P.53)
- Exports of goods and services (P.6)
 - Exports of goods (P.61)
 - Exports of services (P.62)
- Imports of goods and services (P.7)
 - Imports of goods (P.71)
 - Imports of services (P.72)

GDP from the expenditure approach is calculated based on the formula:

$$GDP_{exp} = P.3(S.14) + P.3(S.15) + P.3(S.13) + P.51 + P.52 + P.53 + P.6 - P.7$$

5.1. Household final consumption expenditure

Household final consumption expenditure is estimated according to ESA2010 definitions and classified according to ECOICOP scheme. For domestic and national concepts, ECOICOP classification 01- 12 main groups scheme is applied at the 2-digit level or in more details for separate commodity groups.

The estimations of household final consumption are based on several data sources. The main one is the turnover statistics. Extrapolation method is used to transfer the growth rates of turnover of specific industries to the appropriate ECOICOP items at current prices.

Final expenditure for housing, water, electricity, gas and other fuels estimation on the 3-digit level is carried out due to the different data sources used. The consumer price index for rentals is used as an indicator to extrapolate actual and imputed rentals for housing. Construction output for the repair of residential buildings and structures is used for extrapolation of household expenditure maintenance and repair of dwelling. Share of the production in purchaser's prices of industries E and D is allocated to the final expenditure of households using the latest SUT structure.

At a 4-digit level, appropriate industry turnovers are used to extrapolate household final consumption expenditure for transport. It is mainly done due to the reason that it is one of the main groups of expenditure which cannot be reliably extrapolated using one indicator. The turnover of the retail sale of automotive fuel in specialised stores, maintenance and repair of motor vehicles, sale of motor vehicles and sale of motor vehicle parts and accessories is used. Passenger cars registered for the first time is used as an indicator to extrapolate purchase of a vehicle. For the ECOICOP groups where there are no quarterly indicators available the level of last annual data is kept (for example expenditure on purchase of bicycles).

All the detailed divisions of ECOICOP groups are obtained on the bases of the last annual data structure.

For the estimation of HFCE from the national concept, the resident purchases abroad are added and non-resident purchases in Latvia – subtracted. Travel data from BoP are used.

Household final consumption expenditure at constant prices are deflated using appropriate CPI at the 2-digit level of ECOICOP. An exception is group 04, where a combination of CPI and owner-occupied housing price index is used.

Resident expenditure abroad at constant prices is obtained by deflating residents' expenditure in each country with average CPI relevant for the corresponding country, the exchange rate of Latvian currency is taken into account. Non-resident expenditure in Latvia is deflated with the CPI.

When available, Household budget survey (HBS) is used as an additional data source. The last years covered by this survey were 2016 and 2019. It was decided that the survey will be carried out every 3rd year.

After the estimation of annual data of household final consumption expenditure on a more detailed level, quarterly data are revised.

5.2. Government final consumption expenditure

According to ESA2010, government final consumption expenditures include two categories of expenditure:

- the value of the goods and services produced by the general government itself other than own-account capital formation, market output and payments for non-market output;
- purchases by the general government of goods and services provided by market producers that are supplied to households, without any transformation, as social transfers in kind. The general government pays for these goods and services that the sellers provide to households.

Government final consumption expenditure is calculated by applying the following formula:

$$P.3_{S.13} = P.1 - (P.11 + P.12 + P.131) + D.632$$

where:

P.1 – output of general government,

P.11+P.12+P.131 – output of market products and payments for non-market output and output for own final use,

D.632 – social transfers in kind via market producers.

There are two main data sources used to estimate quarterly government final consumption expenditure:

- monthly reports on Budget Execution by State Treasury;
- Financial assets and liabilities of reclassified units to S.13 (2-FAP).

There are no quarterly data sources for the split between individual and collective consumption to be calculated, so the last annual data structure is used.

The Government Finance Section does all estimations on government final consumption expenditure.

For calculating government final consumption expenditure in volume terms quarterly data of the number of employees and wages are used (data source is the CSB quarterly survey 2-labour 'Report on labour'). It is obtained mainly using the growth rate of the number of employees of the general government sector multiplied by the growth rate of half of the compensation of employees.

5.3. NPISH final consumption expenditure

There are no data sources for quarterly calculation for final consumption expenditure of (NPISH). Information from the previous year is used.

The main data sources used for the estimation of annual figures are State Revenue Service data and model-based estimates.

5.4. Gross capital formation

Gross fixed capital formation (GFCF)

For calculations of gross fixed capital formation, the following breakdown is used: dwellings, other buildings and structures, machinery and equipment+ weapon systems excluding transport equipment, transport equipment, cultivated biological resources and intellectual property products (total).

In estimation of dwellings mainly direct data sources are used, and it is calculated using the price x quantity method. The data about square metre are derived from CSB Report on Building Permits Granted, New Construction and Commissioning of Buildings (questionnaire 1-BA till 2019) and Construction Information System (starting from the year 2020 all necessary data will be available in CIS). The surveys are compiled by the Industrial and Construction Statistics Section. The average prices per square metre for multi-dwellings houses and single dwellings houses are estimated from information from Price statistic department. For the publication, two months after the reference period, the prices of the previous quarter are used and subsequently revised 85 days after the reference period with the release of QSA. This estimate than is adjusted for the transfer costs and repairs using the last available annual information.

GFCF of other buildings and structures is estimated using the extrapolation method based on the construction output growth rate of civil engineering and non-residential buildings. Quarterly construction output is compiled based on the sample survey on construction (1-construction).

For the calculation of GFCF of machinery and equipment, transport equipment and intellectual property products, the main data source is the quarterly sample survey "Report on investment" (6-investments).

Estimating GFCF of transport equipment adjusted extrapolation method is used. For the calculation of growth rates, significant one-time investments are excluded from the survey data (for example – purchase of an aeroplane) after the extrapolation process theses sums are added manually, if necessary.

The last ANA data on cultivated biological resources available is used and distributed evenly by quarters. This principle is used because there is no information available on the indicator in quarters, and it is difficult to estimate due to fluctuating nature of the data.

For estimation of GFCF in volume terms, various price indices are used. GFCF of dwellings is deflated using the house price index for new dwellings. For the publication two months after the reference period, the price index of the previous quarter is used and subsequently revised 85 days after the reference period with the release of QSA. Construction cost index is used for the deflation of GFCF in other buildings and structures.

Relevant PPI, IPI and CPI are used to deflate other GFCF groups. Indices are weighted using the last detailed annual information available.

Changes in inventories and Acquisitions less disposals of valuables

Changes in inventories (P.52) of quarters are derived as balance position between GDP from production approach and all other expenditure approach components for both current and average prices of the previous year. When annual information is available data are revised.

There are no quarterly data sources for calculation of acquisition less disposals of valuables. Quarterly estimation is obtained dividing annual data by four. Annual acquisition less disposals of valuables (P.53) is calculated only for two institutional sectors: General government sector (S.13) and Financial corporations sector (S.12) and based on administrative data sources.

5.5. Exports and imports of goods and services

Data source: Balance of payments (BoP) compiled by Latvijas Banka.

In the term, two months after the end of the reporting period, data on the three months of the respective period are available, which are not broken down by country groups (euro area (U2), EU countries outside the euro area (U3), EU institutions (4A), EU countries (B0) and the rest of the world (D0). The breakdown is made using the structure of the previous quarter.

In the term, t+85, when quarterly sector accounts are published, the data are revised using the BoP quarterly data breakdown by country groups and kinds of services.

Until 2014, calculations of FISIM for the CSB and Latvijas Banka were based on different methods. Starting with the 2nd quarter of 2014 calculation of FISIM data is done by Latvijas Banka, and CSB uses the estimated results.

Exports and imports of goods

Information on "Exports and imports of goods" (P.61; P.71) is available each quarter (month) from the balance of payments (BoP) of Latvijas Banka - code 10020. Mainly, this information is based on the data from the Foreign Trade Statistics Section, which is adjusted according to the BoP principle by Latvijas Banka.

In 2018 creation and optimization of the sample is based on thresholds set by the CSB and on special thresholds. Thresholds and special thresholds are determined separately for imports and exports of goods so that data obtained with the help of Intrastat reports would cover no less than 93 % of imports and 97 % of exports of the total trade value of Latvia with the EU member states.

The total value of exports of goods is shown in current FOB prices (price of commodity including transportation and insurance costs up to the border of the exporting country), according to the special trade system (without commodity flows from customs warehouses and free economic zones) and indicating the country of ultimate destination.

Data are compiled in compliance with so-called National principle, which unlike the so-called Community principle, does not include information on exports of goods which through Latvia are sold by some EU member state to some third country (which is not a EU member state), but starting with 2008 – also data on the exports of goods to some EU member state, which imports them through Latvia from some third country, even though customs declarations are filled-in in Latvia.

The total value of foreign trade exports includes the following flows of goods:

- goods that were exported for sale abroad,
- goods that were exported for processing abroad, undertaking an obligation to re-import them,
- goods imported that after processing were exported abroad,
- reexport or goods imported for consumption in Latvia, which was exported back abroad.

For **total value of imports of goods** merchandise imports are shown in current CIF values (price of commodity including transportation and insurance costs up to the border of the importing country) according to the special trade system (without commodity flows to customs warehouses and free economic zones); in imports from the third countries indicating the last known country of origin (if it is not known, the country of consignment).

From 2004 the arrival of goods from the EU Member States is classified to the indicated country of consignment. Data are compiled in compliance with the so-called National principle, which unlike the so-called Community principle does not include information on imports of goods, which specific EU Member State carries out in specific third country (which is not EU Member State) through Latvia, but starting from 2008 it does not include also data on commodity arrivals from particular EU Member State, which through Latvia exports goods to other third country, although in all mentioned cases customs declarations are lodged in Latvia.

The total volume of foreign trade imports includes the following flows of goods:

- goods which are declared for consumption in Latvia,
- goods which are imported for processing, undertaking liabilities regarding re-exportation,
- exported goods which were imported after processing abroad.

Changes carried out by Latvijas Banka in the calculation of exports and imports of goods (according to BoP principle)

- CIF/ FOB adjustment,
- Goods purchased by transport organizations,
- Exports transactions from fishing vessels (CSB data),
- Cash production costs,
- Goods for processing,
- Non-monetary gold,
- Illegal imports (CSB data),
- Goods by post,
- Goods not changing ownership.

Imports and exports of goods at CPA 2-digit level is broken down for the calculation of constant prices (data source: foreign trade statistics). For each group of goods own EUVI or IPI is applied.

For the calculation of export unit value indices and import price indices, 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.

Exports and imports of services

Information on "Exports and imports of services" (P.62; P.72) is available each quarter (month) from the BoP of Latvijas Banka - code 10340.

Table 5.1. BoP includes codes included in the estimations of exports and imports of services

Kind of service	BoP of Latvijas Banka
Total	Code 10340
Manufacturing services on physical inputs owned by others	Code 10360
Maintenance and repair services not included elsewhere	Code 10380
Transport services	Code 10400
Telecommunication services	Code 11340
Insurance and pension services	Code 11040

Kind of service	BoP of Latvijas Banka
Explicitly charged and other financial services	Code 11260
Business trips	Code 10840
Personal trips	Code 10900
Construction	Code 10980
Computer services	Code 11360
Information services	Code 11380
Charges for the use of intellectual property n.i.e.	Code 11300
Other business services	Code 11440
Government goods and services, n.i.e	Code 12060
Personal, cultural and recreational services	Code 11920
Financial intermediation services indirectly measured (FISIM)	Code 11280

For the calculation of export and import of services in constant prices, various indices are used: CPI, SPPI, CCI, EUVI, IPI.

Each quarter currency adjustment is calculated to ensure exchange rates left no impact on the prices of the previous year.

The calculation is started with currency rates from the website of Latvijas Banka: <https://www.bank.lv/en/statistics/stat-data/2015-03-15-11-51-38/overview-of-exchange-rates>

Here, currency exchange rates and dates of the respective period needed (e.g., from 01.10.2018 until 31.12.2018 for the 4th quarter) are chosen, and for each currency, the average rate is calculated.

Once a year, updated data on the breakdown of previous year's currencies are received from Latvijas Banka – if the composition has changed, adjustment is made. Adjustments for each type of currency, part of the European Union that is not in the euro area and the RoW are calculated separately.

Eventually, exports and imports of services at prices of the previous year with currency adjustment are estimated.

6. GDP components: the income approach

In Quarterly National Accounts of Latvia GDP by income approach is not an independent approach.

GDP income approach reflects income that is made up of producing goods and providing services, adding up production and imports taxes and deducting subsidies.

Data on the primary income of economic activity: compensation of employees (wages and salaries in cash and in-kind and employers' social contributions), production and imports taxes, subsidies, gross operating surplus and mixed income are compiled to calculate GDP from the income approach.

GDP income approach includes:

- compensation of employees (D.1);
 - wages and salaries (D.11);
 - employers' social contributions (D.12);
 - employers' actual social contributions (D.121);
 - employers' imputed social contributions (D.122);
- production and imports taxes (D.2);
- subsidies (D.3);
 - subsidies on products (D.31);
 - other subsidies on production (D.39);
- gross operating surplus (B.2g);
- gross mixed income (B.3g).

GDP from the income approach is calculated using the given formula:

$$GDP_{INC} = D.1 + D.2 - D.3 + B.2g + B.3g$$

Gross Domestic Product from the income approach is calculated only at current prices.

6.1. Compensation of employees

Compensation of employees (D.1) has two breakdowns, one by categories or components and by kind of activities. Calculations are carried out separately by sectors, but only totals are published.

The primary data source used for calculation of compensation of employees is Enterprise Survey of Labour (2-labour):

$$D.11 = \sum wage\ and\ salary\ fund - Sick_leave\ cert.\ A - Remunerations\ in\ kind$$

where

Sick-leave certificate A – sick-leave paid by the employer.

D.11 starting figure for S.11, S.12, S.14.sectors is calculated using 2-labour summary as a basis.

After that, several adjustments are made:

- D.11 exhaustiveness adjustment – made up by Annual National Accounts section calculations (e.g., remuneration in kind, tips, travel allowances, SRS data, etc.). Annual information is broken down using a breakdown of quarters of the same year from “2-labour”. When calculating subsequent quarters, this information is constant until the next final year is calculated. Receiving ANA data for the latest year, both quarterly information of the current year and the following year are adjusted;
- Underreported wages refer to the wages and salaries that are actually paid to employees but not reported officially by enterprises in the business accounts and tax statements. This adjustment is the result of Experts assessment on the data. It is considered that D.11 total growth rate of national accounts figures over the corresponding quarter of the previous year is the same as the growth rate calculated from survey data. Underreported wages are increased or reduced to meet this assumption;
- The income of non-reported employees (INRE) is calculated based on the number of non-reported employees of the specific quarter (in full-time equivalent):

$$INRE = \sum non_reported\ employees * min\ net\ wage$$

Employers' actual social contributions (D.121) include statutory social contributions, collectively agreed, contractual and voluntary social security contributions.

Employers' imputed social contributions (D.122) include payments for sickness leaves A, calculated payments to employees leaving the enterprise and social benefits and is calculated in two parts:

- a sum of respective survey data from “2-labour”;
- exhaustiveness adjustment for the latest ANA data. This information is constant for the following quarters until the next ANA is estimated. Receiving final year calculated, both quarterly data of the current year and the following year are adjusted. For the breakdown of quarters, D.122 structure of “2-labour” of the same year is used.

For calculation of the government sector (S.13) D.11, D.121 and D.122, Government Finance Section (GFS) data are used. No adjustments are made to this sector.

Wages and salaries and social contributions of sector S.15 are computed once a year using the latest SRS data available. Usually, they are on period T-1 (in 2018 data for 2017 were used). Breakdown by quarters is obtained using the structure of respective indicators of “2-labour”.

6.2. Taxes less subsidies on production

Production and imports taxes (D.2) consist of compulsory, unrequited payments which are levied by general government, or by the institutions of the European Union, in respect of the production and

importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production. These taxes are to be paid independently of the profit gained.

Production and imports taxes consist of:

a) product taxes (D.21)

Taxes on products are taxes to be paid for goods or services unit manufactured or involved in the transaction. Taxes that are calculated for the product independently of which institutional unit pays the tax are included in the product taxes unless they are specifically included in another position.

b) other production taxes (D.29).

Other production taxes consist of all taxes that involvement in production causes to enterprises independently of the volume or value of goods and services produced or sold.

Data sources used are GFS and Latvia's Balance of Payments.

Subsidies (D.3) have two main components: subsidies on products (D.31) and other subsidies on production (D.39), and are current unrequited payments paid by general government or the European Union institutions to manufacturers – residents.

Subsidies are granted for the following purposes:

- to affect production level;
- to affect product prices, or
- to affect reimbursement of factors of production.

Data for subsidies (D.3) are obtained from Monthly Reports on Budget Settlement.

Data for subsidies on products (D.31) for S.13 are obtained from GFS data and for S.2 from BoP of Latvia.

Other subsidies on production (D.39) are calculated as total subsidies less subsidies on products.

6.3. Gross operating surplus and mixed income

In the GDP income approach calculation, this is balance position – the difference between production approach GDP and other income components:

$$B.2g + B.3g = GDP_{PROD} - D.1 - D.2 + D.3$$

7. Population and employment

7.1. Population

The data source for the population is demographic statistics data.

The population variable in national accounts is the average of the values at the beginning of the quarter, i.e. for the 1st quarter, it would be the average of the population on the 1st and 2nd quarter.

Demographic statistics data are obtained by compiling and analysing only registered changes of the population number (both natural increase and net migration). Population number by months, taking into account unregistered migration evaluation, as well as birth/mortality data accordingly to the month of the event are recalculated into the 2nd quarter of the following year.

7.2. Employment: persons

Calculation of the number of national accounts employees in quarters is carried out at a breakdown of NACE A*10 by domestic and national concept according to ESA 2010 requirements.

The employed population consists of employed person and self-employed persons (self-employed persons are comprised of employers, self-employed and unpaid persons in a relatives-owned enterprise / professional practice or farm).

$$\textbf{Employed population} = \textbf{persons employed} + \textbf{selfemployed persons}$$

The number of national accounts (NA) employed population is calculated using the number of persons employed at the main job.

As the main data source for the calculation of the number of NA employed population Labour Force Survey (LFS) is used, as it is household survey which includes all persons employed below 75 years, of which also self-employed persons.

To calculate the number of employed accordingly ESA 2010 as required by national accounts, the number of employed includes both residents and non-residents who work in the territory of Latvia for less than one year.

In national accounts, the number of the employed population is calculated accordingly domestic approach, including all persons employed in an economic territory. The total number of NA persons employed is taken from LFS, which is recalculated according to the domestic approach. Difference between national accounts concept and national accounts domestic concept is in non-residents working in Latvia (must be added) and residents working abroad (must be subtracted), but the difference between Labour Force Survey and national accounts national concept is in the number of employed aged 75 and more. They are not included in the Labour Force Survey, but they must be included in national accounts.

The following formula is used to calculate total national accounts number of employed in a quarter:

$$\sum_{emp} NA = (NPE_{LFS} - NPE_{abr} + NPE_{75+}) + (SELF_{LFS} - SELF_{abr} + SELF_{75+})$$

where:

$\sum_{emp} NA$ – total national accounts number of employed in a quarter

NPE_{LFS} – number of persons employed in a quarter from the Labour Force Survey

NPE_{abr} – number of Latvian residents employed abroad in a quarter from the Labour Force Survey

***NPE*₇₅₊** – number of persons aged 75 and more employed in a quarter from the Structure of Earnings Survey

***SELF*_{LFS}** – number of self-employed in a quarter from the Labour Force Survey

***SELF*_{abr}** – number of self-employed Latvian residents working abroad in a quarter from a Labour Force Survey

***SELF*₇₅₊** – the number of self-employed persons aged 75 and more employed in a quarter from the Structure of Earnings Survey.

To calculate the number of employed for each sector, not only changes of the number of employed over the corresponding period of the previous year is taken into account, but also what changes production output experienced in the specific sector in the respective quarter as compared to the corresponding quarter of the previous year.

To evaluate data as effectively as possible and to avoid various discrepancies, data from 3 different sources are analysed. As data of previous periods are known, the growth rate is calculated against the corresponding period of the previous year for each sector for the following indicators:

- number of employed from LFS
- number of employed from 2-labour
- quarterly national accounts output data

A decision is made on the growth of the specific industry after analysing both:

- changes of the number of employed and
- production increase or decrease for the certain sector.

This growth is multiplied by the number of employed in the national accounts in the corresponding quarter of the previous year, obtaining the number of employed in the national accounts for the particular sector in the current quarter. For each industry various assumptions are used to decide which growth rate to choose out of 3 previously calculated, therefore, when calculating the number of employed for each sector separately and then counting them at the end, their amount may differ from the previously calculated. Overall reallocation of the difference obtained is carried out mathematically, retaining the total amount of the number of employed calculated previously. In the result, the number of employed of the national accounts in quarters by industry is obtained.

The total number and breakdown of self-employed persons by NACE Rev. 2 sections are obtained from LFS, which is recalculated according to the domestic approach.

7.3. Employment: total hours worked

Hours worked are calculated as the total amount of hours worked by employed (salaried) and self-employed persons at the main job and by employed (salaried) and self-employed persons at a secondary job.

The calculation is carried out according to the following formula:

$$\sum_{HW} NA = \frac{\sum_{emp} NA * HW_{AVG}}{DAYS_W} * DAYS_Q$$

where:

$\sum_{HW} NA$ – total national accounts number of hours worked in a quarter;

$\sum_{emp} NA$ – total national accounts number of employed in a quarter;

HW_{AVG} – average numbers of hours worked in week;

$DAYS_W$ – number of days in a week (7 days);

$DAYS_Q$ – number of days in a quarter.

For the calculation of hours, the data source is LFS, as well as survey “2-labour”.

8. Flash estimates

8.1. Flash GDP estimate

Flash estimates are produced within the framework of the regular Quarterly National Accounts. According to the Eurostat handbook of Quarterly National Accounts (2013) GDP flash estimate is “...the earliest picture of an economy according to national accounts concepts, which is produced and published as soon as possible after the end of the quarter.” For the Central Statistical Bureau of Latvia, it is one month after the end of the reference quarter.

The methodology used for the production of the flash estimate is the same as in the regular estimation two months after the reference period.

Gross domestic product (GDP) flash estimates are based on incomplete information (provisional information accounts for about 85% of the amount of data needed to estimate GDP from the production approach).

The flash estimate of GDP for the production aspect is calculated similarly to the same way as it does for the provisional GDP two months after the end of the reporting period. The calculation of output, intermediate consumption and value-added by industry is based on operational short-term statistics data provided by sector statistics on output or turnover in a given sector. Price indices, volume indicators and changes in the number of employees and wages and salaries in the government (S.13) sector are used for calculations at constant prices. Forecasting, imputation or expert estimation method is used to evaluate missing data. Some price indices (SPPI, IPI, EUVI) are not available at the moment of calculation flash estimate of GDP which is why indices of the previous period with necessary adjustments or two-month index are used in the estimations.

The State Revenue Service uses product tax information for the largest product tax groups on a cash basis.

A flash assessment is also carried out for individual components on the expenditure side.

The coherence between the indicators of both aspects is analysed, to make a final decision about GDP flash estimate.

8.2. Flash employment estimate

There is no current plan to compile employment flash estimate.

9. Main data sources used

This chapter aims to provide information on the main data sources used in the compilation of QNA in Latvia. Many of the data sources described below are used in the compilation of GDP by two or three approaches. For one approach, it can be the main data sources, but for the other used as the verification value. The main data sources used are listed below:

Source 1: The procurement of grain, legume, rape

The data reflect the volume and average purchase price of grain, pulses and rape purchased in Latvia from local producers. The information is collected by the main type of cereals, pulses and rape.

<i>Name of data source</i>	Report on purchase of grain, pulses and rape (1-procurement)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 543/2009 of the European Parliament and of the Council of 18 June 2009 concerning crop statistics and repealing Council Regulations (EEC) No 837/90 and (EEC) No 959/93
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data is available 30 days after the end of the reference period
<i>Main variables used in QNA</i>	Statistical information on the volume of grain, legume, rapeseed procurement grown in Latvia and average procurement prices

Source 2: Sales of crop products

<i>Name of data source</i>	Report on production and sale of crop products (21-LS (Crop))
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 543/2009 of the European Parliament and of the Council of 18 June 2009 concerning crop statistics and repealing Council Regulations (EEC) No 837/90 and (EEC) No 959/93; European Statistical System (ESS) Agreement on annual crop production statistics
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	30 days after the end of the reference period (provisional information), 45 days after the reference period
<i>Main variables used in QNA</i>	Information on crop products produced and sold in Latvia, their sales prices by type of production

Source 3: Crop production

<i>Name of data source</i>	Crop production (2-Ls)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 138/2004 of the European Parliament and of the Council of 5 December 2003 on the economic accounts for agriculture in the Community (Text with EEA relevance)
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data is available 30 days after the reference period
<i>Main variables used in QNA</i>	Forecasts for volumes and total yields of crop

Source 4: Poultry farming

<i>Name of data source</i>	Report on poultry farming (1-poultry)
<i>Link to surveys undertaken at the European level</i>	European Statistical System (ESS) Agreement on statistics of the production of eggs for consumption
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data is published on the last working day of the month following the end of the reporting period
<i>Main variables used in QNA</i>	Statistical information on the production of eggs and poultry-meat, utilisation of products, selling prices

Source 5: Livestock

<i>Name of data source</i>	Livestock (3-Ls)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 1165/2008 of the European Parliament and of the Council of 19 November 2008 concerning livestock and meat statistics and repealing Council Directives 93/23/EEC, 93/24/EEC and 93/25/EEC (Text with EEA relevance); Directive 2003/107/EC of the European Parliament and of the Council of 5 December 2003 amending Council Directive 96/16/EC on statistical surveys of milk and milk products
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data is published on the last working day of the month following the end of the reporting period
<i>Main variables used in QNA</i>	Statistical information on the production of eggs and poultry-meat, utilisation of products, selling prices; quantity of milk and milk products produced in dairy processing plants

Source 6: The procurement and slaughter of livestock

<i>Name of data source</i>	Report on the purchase of livestock products and slaughtering of livestock (11-procurement)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 1165/2008 of the European Parliament and of the Council of 19 November 2008 concerning livestock and meat statistics and repealing Council Directives 93/23/EEC, 93/24/EEC and 93/25/EEC (Text with EEA relevance)
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data is published on the last working day of the month following the end of the reporting period
<i>Main variables used in QNA</i>	Number of livestock slaughtered in slaughterhouses recognised by the Food Veterinary Service (PVD), carcase weight and value of farmed animals purchased

Source 7: Overview of timber procurement

<i>Name of data source</i>	Overview of timber procurement (1-timber)
<i>Periodicity</i>	Half-year
<i>Time of availability of results</i>	Data is available 65 days after the end of the reference period
<i>Main variables used in QNA</i>	Quantity (m ³) and value (EUR) of purchased logs by tree species

Source 8: Overview of fisheries

<i>Name of data source</i>	Survey on fishery (1-fishery)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 1921/2006 of the European Parliament and of the Council of 18 December 2006 on the submission of statistical data on landings of fishery products in Member States and repealing Council Regulation (EEC) No 1382/91
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data is available 55 days after the end of the reference period (provisional information), final results 180 days after the end of the reference period
<i>Main variables used in QNA</i>	Information on catches by fishing place, area, species (quantity in kg and value in EUR)

Source 9: Aquaculture

<i>Name of data source</i>	Survey on aquaculture (1-aquaculture)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 762/2008 of the European Parliament and of the Council of 9 July 2008 on the submission by Member States of statistics on aquaculture and repealing Council Regulation (EC) No 788/96
<i>Periodicity</i>	Annual
<i>Time of availability of results</i>	Data is available 60 days after the end of the reference period (provisional information), 150 days after the end of the reference period
<i>Main variables used in QNA</i>	Statistical information on marketed aquaculture production (domestic market, foreign market, quantity in kilograms and value in EUR by species, revenue from aquaculture activity and marketing of products)

Source 10: Industrial activity

Data are collected from economically active enterprises if their primary or secondary activity in compliance with NACE Rev. 2 is Mining and quarrying (Section B), Manufacturing (Section C), Electricity, gas, steam and air conditioning (Section D) excluding group 35.3 "Steam and air conditioning supply" and if 20 and more persons are employed in industrial production or industrial turnover in previous year comprised EUR 500 thousand or more. In 2017, their share in the total volume of the industrial output exceeded 80 %.

<i>Name of data source</i>	Survey of industrial activity (1-r)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data is available 34 days after the reference period
<i>Main variables used in QNA</i>	Output and turnover of industrial production (NACE Rev. 2 in different aggregates), industrial output index

Source 11: Overview of the financial situation

<i>Name of data source</i>	Overview of the financial situation (1-F)
<i>Link to surveys undertaken at the European level</i>	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
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data is available 55 days after the end of the reference period
<i>Main variables used in QNA</i>	Net turnover of selected industries

Source 12: Overview of producer prices in industry

<i>Name of data source</i>	Overview of producer prices in industry (1-RC)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data is available 15 days after the end of the reference period
<i>Main variables used in QNA</i>	Producer price indices for manufacturing and other industrial output

Source 13: Overview of the construction activities carried out by the companies

<i>Name of data source</i>	Overview of the construction activities carried out by the companies (1-construction)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Results are available 42 days after the end of the reference period
<i>Main variables used in QNA</i>	Construction output and construction output index

Source 14: Survey on retail trade turnover

<i>Name of data source</i>	Survey on turnover (1-turnover)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Results are available 30 days after the reference period
<i>Main variables used in QNA</i>	Retail turnover index (against different bases and different levels of aggregation), retail trade turnover

Source 15: Survey on turnover

<i>Name of data source</i>	Survey on turnover (2-turnover; 3-turnover; 4-turnover)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Monthly (2-turnover; 3-turnover), quarterly (3-turnover)
<i>Time of availability of results</i>	Results are available 55 days after the reference period
<i>Main variables used in QNA</i>	Net turnover of service sections and service turnover index (in different aggregates)

Source 16: Survey on railway transport

<i>Name of data source</i>	Survey on railway transport (2-railway)
<i>Link to surveys undertaken at the European level</i>	REGULATION (EU) 2018/643 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 April 2018 on rail transport statistics(recast)
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Provisional results are available 26 days after the end of the reference period. Final results – 50 days after the end of the reference period.
<i>Main variables used in QNA</i>	Information on the carriage of goods and passengers by rail (i.e. inland and international transport, different units of measure)

Source 17: Freight traffic by road

<i>Name of data source</i>	Survey on freight traffic by road (2-auto)
<i>Link to surveys undertaken at the European level</i>	Regulation (EU) No 70/2012 of the European Parliament and of the Council of 18 January 2012 on statistical returns in respect of the carriage of goods by road Text with EEA relevance
<i>Periodicity</i>	Weekly
<i>Time of availability of results</i>	Provisional results are available 55 days after the end of the reference period. Final results – 150 days after the end of the reference period.
<i>Main variables used in QNA</i>	Information regarding the carriage of goods and the circulation of goods with lorries registered in Latvia, broken down by type of transport, groups of goods and countries

Source 18: Activity in ports

<i>Name of data source</i>	Survey of incoming and outgoing ships in ports (2-ports), Port Activity Statement (2-ports (short))
<i>Link to surveys undertaken at the European level</i>	Regulation (EU) No 1090/2010 of the European Parliament and of the Council of 24 November 2010 amending Directive 2009/42/EC on statistical returns in respect of carriage of goods and passengers by sea
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Results are available 30 days after the end of the reference period.
<i>Main variables used in QNA</i>	Information regarding the circulation of passengers (arriving, leaving) and cargo (shipped, received, by type of cargo) in ports

Source 19: Activity in airports

<i>Name of data source</i>	Survey of aircraft movements at airports (2-airports)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 437/2003 of the European Parliament and of the Council of 27 February 2003 on statistical returns in respect of the carriage of passengers, freight and mail by air
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Results are available 30 days after the end of the reference period.
<i>Main variables used in QNA</i>	Statistics on arrivals and departures at the airport and their characteristics

Source 20: Passenger transport

<i>Name of data source</i>	Survey of regular commercial passenger transport by coach and bus, administrated by Ltd. "The Road Transport Administration"
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Results are available 55 days after the end of the reference period.
<i>Main variables used in QNA</i>	Data on scheduled passenger bus services by quarter of a calendar year

Source 21: Electric transport

<i>Name of data source</i>	Survey of Electric Transport Work (3-Electric Vehicles)
<i>Link to surveys undertaken at the European level</i>	Regulation (EU) 2015/759 of the European Parliament and of the Council of 29 April 2015 amending Regulation (EC) No 223/2009 on European statistics (Text with relevance for the EEA and Switzerland)
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Results are available 55 days after the end of the reference period.
<i>Main variables used in QNA</i>	Number of passengers carried in city electric transport (total in Latvia, by city)

Source 22: Transport of oil and oil products

<i>Name of data source</i>	Survey on the transport of oil and oil products (2-pipeline)
<i>Link to surveys undertaken at the European level</i>	REGULATION (EC) No 223/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 March 2009 on European statistics and repealing Regulation (EC, Euratom) No 1101/2008 of the European Parliament and of the Council on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities, Council Regulation (EC) No 322/97 on Community Statistics, and Council Decision 89/382/EEC, Euratom establishing a Committee on the Statistical Programmes of the European Communities
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Provisional results are available 55 days after the end of the reference period.
<i>Main variables used in QNA</i>	Information on the volume of oil products transported by pipeline

Source 23: Activity of hotels and other accommodation establishments

<i>Name of data source</i>	Activity of hotels and other accommodation establishments (1-accommodation establishments)
<i>Link to surveys undertaken at the European level</i>	Regulation (EU) No 692/2011 of the European Parliament and of the Council of 6 July 2011 concerning European statistics on tourism and repealing Council Directive 95/57/EC Text with EEA relevance
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Results are available 45 days after the end of the reference period.
<i>Main variables used in QNA</i>	Occupancy of bed places in Latvian tourist accommodation establishments (by categories and by region)

Source 24: Leasing provision

<i>Name of data source</i>	Survey on Leasing Provision (1-leasing)
<i>Link to surveys undertaken at the European level</i>	The survey is organised in compliance with 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
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Results are available 45 days after the end of the reference period.
<i>Main variables used in QNA</i>	Financial leasing portfolio by institutional sector of lessee and factoring portfolio, interest income from financial leasing and factoring transactions with residents, broken down by institutional sector of a lessee

Source 25: Financial assets and liabilities

Data on financial assets and liabilities classified under sectors S.125, S.126 or S.127, are collected by Latvijas Banka using sample size survey.

<i>Name of data source</i>	Quarterly Financial Report (1-FP)
<i>Link to surveys undertaken at the European level</i>	The survey is organised in compliance with 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 The survey is administrated by Latvijas Banka
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Results are available 50 days after the end of the reference period.
<i>Main variables used in QNA</i>	Data on loans and borrowings with residents and accumulated interest of 649_S.125 companies, net turnover, Fees and commissions income, Administrative expenses, Cost of goods sold, selling costs
<i>Further adjustments made to the survey data:</i>	Gross-up to a complete set using annually collected data

Source 26: The monetary financial institutions' financial report

Latvijas Banka provides data on the monetary financial institutions. For QNA calculations data on loans and deposits with residents and accumulated interest, fee and commission income, profit/loss on transactions with financial instruments, net other operating income, fee and commission expenses, other administrative expenses, other operating expenses are used. Data are available quarterly 30 days after the end of the reference period.

Source 27: Summary reports on banks in liquidation

<i>Name of data source</i>	Summary of monthly balance sheet reports of banks in liquidation
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation The survey is administrated by Latvijas Banka
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Results are available 50 days after the end of the reference period
<i>Main variables used in QNA</i>	Data on loans and deposits with residents, Claims on MFIs, excluding the Bank of Latvia, Liabilities to MFIs, excluding the Bank of Latvia

Source 28: Latvijas Banka's financial indicators

<i>Name of data source</i>	Latvijas Banka's profit and loss statement
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	12 days after the end of the reference period
<i>Main variables used in QNA</i>	Remuneration of personnel, social security costs, Banknote and coin acquisition costs, Fee and commission expenses, Other operating expenses, Fees and commissions income and Other operating income

Source 29: Balance of Payments

Latvijas Banka compiles balance of Payments in Latvia. It is one of the main data sources for all three GDP approaches. Production approach uses data on FISIM exports and imports, reinsurance, Expenditure approach – exports and imports of goods and services, but the Income approach – subsidies on products.

Data are available on a monthly or quarterly basis. For the GDP compilation, two months after the reference period sum of monthly BoP is used, and if necessary, figures are revised when the quarterly BoP is available (65 days after the reference period) and results published with the publication of QSA.

Source 30: Life and non-life insurance

<i>Name of data source</i>	Aggregated Profit or loss statement of life and non-life insurance companies
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	50 days after the end of the reference period
<i>Main variables used in QNA</i>	Gross premiums, change in UPP, investment income, investment management charges, claims handling expenses, value (re-)adjustments on investments, Losses on the realisation of investments, net claims paid, net change in OCP, change in LP, net change in other technical provision
<i>Further adjustments made to the survey data:</i>	Gross-up to a complete set using annually collected data

Source 31: Movement of Pension Plan Net Assets

<i>Name of data source</i>	Summary of the Movement of Pension Plan Net Assets
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	50 days after the end of the reference period
<i>Main variables used in QNA</i>	Contributions and payments to pension plans, total income, investment management charges, realized increase (decrease) in the value of investments, gains (loss) from foreign currency revaluation

Source 32: Private pension funds

<i>Name of data source</i>	Aggregated Profit or loss statement of Private pension funds
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	50 days after the end of the reference period
<i>Main variables used in QNA</i>	Operating income, Administrative expenses, Other ordinary income, Other ordinary expenses
<i>Further adjustments made to the survey data:</i>	Administrative expenses are adjusted based on detailed information according to the Financial statement of each company

Source 33: Statements of State-funded pension schemes, Investment funds, Alternative investment funds

<i>Name of data source</i>	Income and Expenses Statements of State-funded pension scheme, Investment funds, Alternative investment funds
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	50 days after the end of the reference period
<i>Main variables used in QNA</i>	Management fee, Custodian fee and Other expenses for investment plan/fund management

Source 34: Investment management companies and Alternative investment fund managers

<i>Name of data source</i>	Aggregated Profit or loss statement of Investment management companies and Alternative investment fund managers
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	50 days after the end of the reference period
<i>Main variables used in QNA</i>	Commission income, other similar income, commission expenses, other similar expenses

Source 35: Investment brokerage firms

<i>Name of data source</i>	Summary profit or loss account of investment brokerage firms
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on national legislation
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	50 days after the end of the reference period
<i>Main variables used in QNA</i>	Fee and commission and other similar income and expenses, Gains or losses arising from dealing in financial instruments, Other ordinary income and expenses, Other administrative expenses

Source 36: Financial assets and liabilities of enterprises re-allocated to S.13

<i>Name of data source</i>	Financial assets and liabilities (2-FAP)
<i>Link to surveys undertaken at the European level</i>	The survey is carried out based on 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 Text with EEA relevance
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data are available 55 days after the end of the reference period
<i>Main variables used in QNA</i>	Production costs, sales costs, administrative costs, material costs of the products sold by the enterprises re-allocated to the government sector

Source 37: General Government Consolidated Budget Execution

<i>Name of data source</i>	Reports on General Government Consolidated Budget Execution; Report on Budget Settlement
<i>The organisation collecting the data</i>	The Treasury
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data are available 15 days after the end of the reference period and tax adjustment from cash data to accrual data by the 60 th day after the end of the quarter
<i>Main variables used in QNA</i>	General Government expenditures, taxes on production and imports, taxes on products, other taxes on production and subsidies
<i>Further adjustments made to the survey data</i>	Ministry of Finance of Latvia adjusts the tax revenue data due to time lag

Source 38: Report on the labour

Information is acquired quarterly on activities of merchants, state and local government budgetary institutions, foundations, associations and funds (2-Labour, 2-Labour-municipalities, 2-Labour (short)), and administrative data. Individual merchants, foundations, associations and funds employing 7–49 persons submit statistical report form 2-Labour (short). Form 2-Labour-municipalities submitted by local governments and municipal institutions. All other statistical units included in the sample submit statistical report form 2-Labour. Administrative data are acquired from reports on employees submitted by employers to the State Revenue Service from the Report on state social security compulsory payments from employee income, Income Tax and Business Risk State Duty during the reference month, from the Report regarding the employment income, personal income tax and state mandatory social insurance contributions of the payers of the income tax for seasonal farmworkers and Micro-enterprise Tax Declaration. The survey covers all statistical units (state and local government budgetary institutions, state and local government merchants, private commercial companies, individual merchants, peasant and fishers farms employing 50 persons and more, foundations, associations and funds employing one and more persons) economically active in the reporting year.

<i>Name of data source</i>	Reports on Labour (2-Labor, 2-Labor (short), 2-Labour-municipalities)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data are available 55 days after the end of the reference period
<i>Main variables used in QNA</i>	Data on labour market statistics - calculated gross wages and salaries, sick-leave certificate A payments, gross monthly wages and salaries in kind, employer's voluntary social security contributions paid to employees, employer benefits and compensation paid to employees quarterly, estimated gross redundancy benefits, the wages and salaries, the employer's compulsory social insurance contributions

Source 39: Labour Force Survey

Information on labour status (employment and unemployment) of Latvia population is acquired with the help of continuous Labour Force Survey. The main goal of the Labour Force Survey is to obtain information on the labour status of Latvia population – characterise the labour force by sex, age and level of education, as well as to compile data on kinds of economic activities, occupations in the current (for employed) or last (for unemployed) place of work, and other indicators on labour market.

<i>Name of data source</i>	Labour Force Survey (1-LFS)
<i>Link to surveys undertaken at the European level</i>	Regulation (EC) No 2257/2003 of the European Parliament and of the Council of 25 November 2003 amending Council Regulation (EC) No 577/98 on the organisation of a labour force sample survey in the Community to adapt the list of survey characteristics (Text with EEA relevance).
<i>Periodicity</i>	Weekly
<i>Time of availability of results</i>	For the 1 st and 4 th quarters of the year data are available 55 days after the end of the reference period, but for the 2 nd and 3 rd quarter – 50 days after the reference period.
<i>Main variables used in QNA</i>	Data on the personal employment relationship, employment and hours worked, side-work and working-time reserve

Source 40: Household Budget Survey

Data on household expenditure by 12 main groups of ECOICOP at the 2-digit level are aggregated quarterly, but in 5-digit and more detailed level - on 6th month after the calendar year. A stratified two-stage random sample is used. Stratified systematic sampling with inclusion probabilities proportional to unit size is made at the first stage, and simple random sampling is made at the second stage. The sampling frame ensures information about citizens of the Republic of Latvia legally registered at the dwelling as well as their gender, age and nationality. The sampling frame is made quarterly. The annual address sample is evenly distributed over time (the same number of addresses is sampled within each of the 52 weeks of the year) and space. The survey does not cover the collective households (homes for the elderly, homes for disabled children, students' hostels, hotels, soldiers' barracks, hospitals, sanatoria, places of liberty deprivation, etc.)

<i>Name of data source</i>	Household Budget Survey
<i>Link to surveys undertaken at the European level</i>	https://ec.europa.eu/eurostat/web/household-budget-surveys
<i>Periodicity</i>	Every three years
<i>Time of availability of results</i>	Data by 12 main groups of ECOICOP at the 2-digit level are aggregated quarterly and are available 58 days after the reference period, but in 5-digit and more detailed level - on 6th month after the calendar year
<i>Main variables used in QNA</i>	Data on household expenditure by 12 main groups of ECOICOP at the 2-digit level
<i>Further adjustments made to the survey data</i>	Data are grossed up by adjustments for differential non-response and compared with other relevant statistics (for example, retail trade quarterly statistics, wages and salaries) and previous time series of HBS.

Source 41: Gross Capital Investment

Statistics on gross capital investment provides information on gross capital investment in tangible goods (land, in existing buildings and constructions, construction and reconstruction of buildings, machinery and equipment and other fixed assets) and gross capital investment in concessions, patents, licences, trademarks, purchase of software and other intangible investments.

<i>Name of data source</i>	Report on investment (6-investments)
<i>Link to surveys undertaken at the European level</i>	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 Text with EEA relevance Regulation (EC) No 295/2008 of the European Parliament and of the Council of 11 March 2008 concerning structural business statistics (recast) (Text with EEA relevance)
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data are available 55 days after the reference period
<i>Main variables used in QNA</i>	Data on gross fixed capital formation at AN_F6 breakdown of fixed assets
<i>Further adjustments made to the survey data</i>	Data are adjusted to the NA concept of GFCF

Source 42: Consumer Price Index

Consumer price index (CPI) reflects changes in the prices of consumer goods and services in a specified period. The CPI measures the average level of price changes in a fixed amount of selected goods and services (the consumer basket). This indicator is used as a principal measure of inflation in Latvia. The CPI covers the whole resident population of the country, including persons living in institutional households (social care institutions, children's homes, prisons, etc.). The CPI does not cover expenses of non-resident travellers. The CPI includes the prices paid for goods and services in monetary transactions. The CPI excludes illegal goods and services, gifts, expenditure on the owner-occupied housing, as well as interest and credit charges. In 2019, the CPI "basket" contains 516 goods and services the prices of which are recorded regularly. Approximately 25 -thousand various trade and services outlets are surveyed. In total, about 20-thousand prices are observed each month.

<i>Name of data source</i>	Consumer Price Indices
<i>Link to surveys undertaken at the European level</i>	Regulation (EU) 2016/792 of the European Parliament and of the Council of 11 May 2016 on harmonised indices of consumer prices and the house price index, and repealing Council Regulation (EC) No 2494/95 (Text with EEA relevance)
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data are available 22 days after the reference period
<i>Main variables used in QNA</i>	Consumer price indices by 12 main groups of ECOICOP and NACE Rev.2
<i>Further adjustments made to the survey data</i>	For QNA calculation, CPI is calculated compared to the average of the previous year and by NACE Rev.2 divisions.

Source 43: Construction Cost Indices

The construction cost index (CCI) is used for the calculation of non-financial investments, as well as of the total construction volume at constant prices. The construction cost index reflects changes in the costs of construction work performed during the reference period compared with the base period. For the calculation of the CCI, the following components are compared: prices of the building materials used, labour remuneration of construction workers, maintenance and operational costs of machinery and mechanical appliances.

<i>Name of data source</i>	Survey on prices of construction resources (1-BC)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data are available on 19 th working day after the reference period
<i>Main variables used in QNA</i>	Price indices
<i>Further adjustments made to the survey data</i>	For QNA calculation, CCI is calculated compared to the average of the previous year

Source 44: Services Producer Price Indices

Services Producer Price indices are calculated using hourly labour costs data.

<i>Name of data source</i>	Survey on “Services Producer Prices” (1-PC)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data are available on 60 th working day after the reference period
<i>Main variables used in QNA</i>	Services Producer Price Indices by NACE Rev.2 divisions, sections and classes
<i>Further adjustments made to the survey data</i>	For QNA calculation, SPPI is calculated compared to the average of the previous year

Source 45: Import Price Indices

<i>Name of data source</i>	Survey on “Import prices” (1-IC)
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data are available 45 days after the reference period
<i>Main variables used in QNA</i>	Import price index (total, by CPA divisions and sections)
<i>Further adjustments made to the survey data</i>	For QNA calculation, IPI is calculated compared to the average of the previous year

Source 46: Export Unit Value Indices

<i>Name of data source</i>	Export Unit Value Index
<i>Link to surveys undertaken at the European level</i>	Commission Regulation (EU) No 461/2012 of 31 May 2012 amending Council Regulation (EC) No 1165/98 concerning short-term statistics and Commission Regulations (EC) No 1503/2006, (EC) No 657/2007 and (EC) No 1178/2008 as regards adaptations related to the removal of the industrial new orders variables Text with EEA relevance
<i>Periodicity</i>	Monthly
<i>Time of availability of results</i>	Data are available 45 days after the reference period
<i>Main variables used in QNA</i>	Export Unit Value Index (total, by CPA divisions and sections)
<i>Further adjustments made to the survey data</i>	For QNA calculation, EUVI is calculated compared to the average of the previous year

Source 47: The Institute of Agrarian Resources and Economics

<i>Name of data source</i>	The Institute of Agrarian Resources and Economics
<i>Periodicity</i>	Quarterly
<i>Time of availability of results</i>	Data are available 53 days after the reference period
<i>Main variables used in QNA</i>	Estimations on output of agriculture and subsidies on products