



Central Statistical Bureau of Latvia

Quarterly National Accounts Inventory

Sources and methods of Latvia

Final Report

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CHAPTER 1 Overview of the system of quarterly national accounts

1.1 Organisational and institutional arrangements

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

According to the stipulations of laws of Republic of Latvia, regulations of Cabinet of Ministers, and Regulations of Central Statistical Bureau (CSB), CSB is a direct management institution operating under the supervision of the Ministry of Economics, and is the main performer and coordinator of statistical works in the country. CSB is responsible for the organization of state statistical work in Latvia and for the correctness of data obtained by it via summarizing the information received from respondents.

When performing its professional duties it is completely independent from any state power or administrative institution or political party.

The basic tasks of the CSB are:

- to establish and to manage a unified system of statistical information in the country based on the international standards and methodology,
- provide domestic and foreign users with timely, accurate, easily comprehensible and internationally comparable statistical information on economic, demographic and social phenomena and processes taking place in the society and environment,
- The CSB is responsible for setting up a unified compulsory classification system of economic information.

The basic document that regulates the official statistics and the operation of CSB is the Official Statistics Law of the Republic of Latvia adopted by the Saeima on November 6, 1997. It has amendments adopted on January 28, 1999, March 18 and October 7, 2004 and March 16, 2006. The Official Statistics Law was developed under observation of legal norms and principles set forth in Regulation of European Council No. 322/97 of February 17, 1997 on Community Statistics (this regulation is informally being referred to as Statistics Law of EU). The CSB provides the compliance of its activity with principles set out in the European Statistics Code of Practice that was adopted by the Statistical Programme Committee on February 24, 2005 and approved by the European Commission on May 25, 2005. These principles must be applied in the development of Community Statistics. The Code has two purposes: firstly, to improve the trust in the work of statistical authorities by proposing some institutional and organisational measures, and, secondly, to promote the reliability and quality of the statistics provided and disseminated, thus encouraging constant application of best international statistical principles, methods and practice among all providers of official statistics. The CSB's statistical work is performed according to the fundamental principles of official statistics adopted during the special session of the United Nations Statistical Commission from 11 to 15 April 1994.

According to the Article 18 of the Official Statistics Law of the Republic of Latvia the CSB ensures the confidentiality of individual statistical data.

The Central Statistical Bureau collaborates with other central and local government institutions and some particular questions of the state statistical system are solved by the Bank of Latvia, the Treasury, Ministry of Finance and other central or local government bodies. In the Official Statistics Law it has been stated that, the Central Statistical Bureau succeeds in performing the co-ordination functions. In order to manage a unified system of statistical information based on the international standards in the country the Central Statistical Bureau from State institutions collects also all survey forms used for their internal needs, as well as methodology.

To ensure really efficient co-operation and exchange with necessary statistical information, special co-operation agreements with same institutions are prepared. For example, every year Contract between CSB and Bank of Latvia is signed. There a list of statistical products and terms of presentation from CSB to the Bank of Latvia, and vice versa is attached.

Similar document clarifying co-operation forms and necessary information to be exchanged is signed also with the State Revenue Service.

The national accounts are compiled by the National Accounts Section, which is a part of the Macro-economic Statistics Department of the Central Statistical Bureau of Latvia (CSB).

The National Accounts Section is responsible for compiling integrated statistics, which provide a coherent overview of socio-economic developments in Latvian society at macro level in breakdown by economic activities, transaction categories and institutional sectors. For the compilation of its statistical output the National Accounts Section used a large number of statistics compiled by other CSB divisions.

The CSB publishes quarterly macroeconomic indicators. Quarterly National Accounts (QNA) are based on the detail level required by the Eurostat and are sent to it. Estimates of GDP and GNI are published in the quarterly bulletin 'Macroeconomic Indicators of Latvia' and 'Monthly Bulletin of Latvian Statistics'. The data are also available on the home page of the CSB: www.csb.gov.lv

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The Structure of the Central Statistical Bureau of Latvia is shown in the scheme available on the home page of the CSB:

<http://www.csb.gov.lv/csp/content/?lng=en&cat=341>

1.2 Publication timetable, revisions policy and dissemination of QNA

Flash estimates are released within 40 days after the end of the reference quarter, at the latest. Results of GDP production, expenditures and income approach are published 70 days after the quarter in the press release.

Quarterly data (based on European Parliament and Council Regulation Nr. 1161/2005) are sent to the Eurostat each quarter, at about t+90 days.

Quarterly data (S.1) are published each quarter in the statistical bulletin “Macroeconomic Indicators of Latvia” and “Monthly Bulletin of Latvian Statistics” and on the Central Statistical Bureau homepage www.csb.gov.lv.

Quarterly non-financial accounts for general government (S.13) are compiled by the Central Statistical Bureau of Latvia and these data are not published.

Full table 0801Q (quarterly data) on Rest of the world sector (S.2) Central Statistical Bureau of Latvia does not publish.

Quarterly revision - data are revised for the previous quarter (depth = 1), sending table 0801 of next quarter.

Yearly revisions - data are revised backwards for 4 years (depth = 16 Q), T-14 after report year.

At the beginning the year is a sum of quarters, but when the data are revised annual data are taken as the base.

General Government Statistics - Intra-annual data are first revised when we calculate the data on fourth quarter, and prepare the provisional annual data for EDP March notification. The second revision is usually made when we calculate final annual data for ESA95 Table 2 and September EDP notification. Further revisions are related to methodological changes and technical mistakes, if any.

The data on four quarters are revised. The revisions of this data source are fully accommodated in the quarterly accounts.

Balance of Payments (BoP) statistics - due to that, when sending quarterly table 0801 operative balance of payments is applied, data are revised by sending information on next quarter. According to the revision policy of the CSB - data on imports and exports are revised once a year simultaneously with the balancing process of the national accounts (table 0800).

When sending information on next quarter, we revise data of previous quarter. Data, which in case of emergency are revised on 3 previous years, are sent in March.

Quarterly data are revised after the annual results are received and, in order to achieve balance between quarterly and annual data, previously published data are corrected.

Annual data are revised once a year (to 01.10) up to 3 previous years.

Everything concerning our revision policy can be read on the home page of the CSB www.csb.gov.lv (*currently only in Latvian*)

1.3 QNA compilation approach

Compilation of quarterly accounts begins with the production of a single estimate of Gross Domestic Product (GDP) with its output, income and expenditure components. Latvian National accounts consist of both quarterly and annual accounts. These two systems of components of accounts are integrated.

The most important approach for calculation of gross domestic product is production approach.

The core of the gross domestic product is income from economic activity generated during defined period of time in all sectors of the national economy.

Gross domestic product from the production side is formed by the income surplus from sales over the value of goods and services used in production.

Following the evaluation of quarterly results, **Gross Domestic Product** is first calculated from the production side showing the output of goods and services, value added (at basic prices) and taxes on products. Parallel to this domestic product is calculated from the income approach. After that, on the basis of additional information, GDP is also calculated from the

expenditure side, determining the most significant consumption structure. The necessary revisions are made by balancing GDP from the production, income and expenditure sides.

For the calculation of gross domestic product from the production side, first the output of goods and services and intermediate consumption are determined. **Output of goods and services** summarises the result (the value of production) of economic activity of all economic units: enterprises, organisations and institutions engaged in manufacturing of goods and providing services, private subsidiary farms and self-employed persons. Output of goods and services is normally shown at basic prices, i.e., excluding the net value of taxes on products (total taxes minus subsidies). **Intermediate consumption** includes the value of goods and services that have been used as production costs for the output of goods in the reporting period. By subtracting intermediate consumption from the output of goods and services at basic prices we obtain the value added or gross domestic product at basic prices. On the other hand, by adding the net value of taxes on products we obtain the gross domestic product at market prices.

The final use shows the domestic product from the demand or use approach summarising the information on the use of goods and services for final consumption, i.e., the consumption of goods and services not linked to production costs.

Final consumption is formed by the consumption expenditure of the population and current expenditures of government administration bodies. From the expenditure approach gross domestic product also includes producers' accumulation for future periods. The balance between the value of exports of goods and services and imports is also included in the expenditure approach. As two thirds are accounted for by the consumption expenditure of the population, this approach provides a vast material for analysing welfare of the population. Moreover, this approach also reflects growth in fixed assets, on the basis of which it is possible to make forecasts on the prospects of further economic progress. This approach also shows the role of the country's foreign activities.

For the calculation of gross domestic product from the income approach data are compiled on the primary income from economic activity: compensation of employees (wages and salaries in cash and kind and employers' social contributions), taxes on production and imports, subsidies, operating surplus and mixed income (gross – including the consumption of fixed capital).

The main kinds of this income are compensation of employees, taxes on production and products and incomes that initially remain at the disposal of the entrepreneurs.

Quarterly estimate of gross domestic product is based on a system of short-term indicators.

Our QNA compilation approach is reduced, and we do not provide complete set of QNA sectors, but only Sectors S.1 and S.2.

All completion quarterly tables N.1 according to Data Transmission Programme Latvia send to the Eurostat.

1.4 Balancing, benchmarking and other reconciliation procedure

In estimation process of GDP data sources from the production, expenditure and income side are used. The main approach of estimation of GDP is production approach in Latvia.

An unconformity between the production and expenditure side as balance position is presented by the 'Changes in inventories' (P.52).

The balanced GDP fully determines the income side with 'Gross operating surplus and Gross mixed income' ($B.2 \cdot g + B.3 \cdot g$) calculated as the residual.

Equilibration between different approaches is done at current prices and results are usually quite consistent. In the balancing process more attention is paid to the items calculated indirectly, or calculations are based on week or changed primary data sources.

Balancing, benchmarking and other reconciliation procedures are conducted on an annual basis, rather than on a quarterly basis.

Benchmarking can be considered to be the general approach to the annual data, dividing data of a quarter. The decision for choosing the benchmarking approach in QNA is based on the fact that, ANA is formed on a data series, which are not available on a quarterly basis.

For benchmarking basically two methodical approaches exist: Purely mathematical, as well as statistical benchmarking techniques, where the distribution of annual to quarterly figures relies on their statistical relation at annual frequency.

The sum of the quarterly National Accounts is always equivalent to the annual figures.

1.5 Volume estimates

Valuation at current prices means that, accounting and calculations in a reference period are performed at the prices of it. GDP by production and expenditure side are compiled in current prices, chain-linked (reference year 2000) and previous year prices, but GDP by income approach are compiled only at current prices.

The output approach is based on the calculation of output and intermediate consumption of various industries of the economy. Output at current prices is calculated using turnover data or production data. Output in quarters is calculated using extrapolation method - to obtain

changes quarterly data are compared with quarterly data of previous year, which afterwards are extrapolated on previous year.

Intermediate consumption is estimated using final (annual) year structures of output and intermediate consumption. Gross value added of an industry is defined as the difference between output (basic prices) and intermediate consumption (purchaser's prices).

GDP is calculated as the sum of gross value added (basic prices) of all industries/branches plus taxes on products (D.21) less subsidies on products (D.31).

Constant prices. Calculations are made for market and non-market part separately. Components of various industry groups are deflated using producer price index (PPIs), consumer price index (CPI) export and import unit value index, construction cost index or approximations. Where there is a lack of price indices or are they are not applicable, extrapolation with volume indicators is used. Direct volume projection is used for transport, forestry, fishing, while input indicators (employment) are used for non-market services and part of market services. Constant prices are evaluated at previous year prices (chain linked).

The GDP from expenditure side is the sum of the total consumption expenditures of households and private non-profit institutions, general government expenditures, gross domestic fixed capital formation, change in stocks, and net export.

Main data source for quarterly estimations are:

1. Household Budget Survey- household final consumption expenditure;
2. Monthly report on Budget Settlement- government final consumption expenditure;
3. Survey of Non-financial Investments and Construction (2-Investments)- gross fixed capital formation;
4. Balance of Payments of Latvian Central Bank- export and import.

There are no data sources for final consumption expenditure of non-profit institutions serving households (NPISH) and changes in inventories and acquisition less disposals of valuables. Information of previous year is used for NPISH and for acquisition of less disposals of valuables. Changes in inventories of quarters are derived as balance position.

Volume growth of Latvian GDP and its components is measured on the basis of the structure of the previous year's prices according to the chain index method. In quarterly chain indices are based on the annual overlap method, which consists of comparison of the current quarter's value with the average value in quarters of the previous year.

The final consumption expenditure of households at constant prices are obtained as deflation of current value with price figures from the CPI (Consumers Price Index).

Constant price estimates for final consumption expenditure of general government are obtained using volume extrapolations (changes in number of employees according to NACE Rev.1.1 classification).

Estimates for final consumption expenditure of non-profit institutions serving households (NPISH) at constant prices are obtained using deflator of GDP.

Deflation of gross fixed capital formation is undertaken for three broad asset groups – construction (deflating by construction cost index), machinery (relevant import unit value index for machinery applied) and transport equipment (relevant import unit value index for transport applied).

There is no separate estimation of changes in inventories at constant prices. The changes in inventories at constant prices are the balancing item.

Export and import of goods at constant prices are deflated using import and export unit value indices.

For export and import of services deflation for both flows is based on price data, which are used in the deflation of output.

Main sources for current price data used for calculation of GDP by income approach are Enterprise Survey on Labour (2-Labour), Monthly Report on Budget Settlement and Balance of Payments, but main source for quantity data is Labour Force Survey (LFS).

The information in Enterprise Survey on Labour, for example, wages and salaries and employers' social contributions, used for calculation of GDP by income approach, are already shown at current prices, therefore there is no necessity to recalculate these data. The Bank of Latvia prepares Balance of Payments at current prices, which are used for calculation of subsidies. The Treasury is responsible for Report on Budget Settlement preparation, which is used for calculation of taxes on production and imports and subsidies. For compilation of Report on Budget Settlement the Treasury receives the information from state institutions at current prices.

There is only one volume estimate in income approach calculations: information on employment, which is used for adjustment of wages and salaries.

About chain linked - Annual overlap technique has been selected for the calculations at previous year prices - value of a quarter of a current accounting period is calculated basing on the average prices of the previous year (t-1).

1.6 Seasonal adjustment and working day correction

Seasonal adjustments and working day correction are performed. They are derived from a Latvian specific calendar.

Outliers detection is done using a mathematical identification procedure. Three kinds of outliers are taken into account: additive outliers, level shift and temporary change. An additive outlier- affects only one observation. Temporary change - affects several following observations. A level shift type of outlier- affects all observations from a fixed point. (The number of outliers in a time series is limited to 5% proportional to the number of all observations of the series.)

Quality of seasonal adjustment is estimated using different statistical tests. (Significant- lags of the autocorrelation of the residuals, normality test for residuals, Kurtosis).

Central Statistical Bureau of Latvia uses a model-based seasonal adjustment procedure Demetra version 2.1, by the TRAMO/SEATS program. All time series are directly adjusted.

Latvia are sending to the Eurostat the seasonally and working day adjusted data, but our bureau is planning to publish them only in 2009.

1.7 Additional information

The subsequent links on CSB's website provide more detailed quarterly information:

Archive of events:

<http://www.csb.gov.lv/csp/events/?lng=en&mode=arh&period=prev10>

Informative newsletters (yearly and quarterly information) (this information is available only in Latvian):

<http://www.csb.gov.lv/csp/content/?lng=lv&cat=7904>

CSB Data bases → Economy and Finance (quarterly, annual data):

<http://data.csb.gov.lv/DATABASEEN/ekfin/databasetree.asp?lang=1>

International Monetary Fund's Special Data Dissemination Standard:

<http://www.csb.gov.lv/csp/content/?lng=en&cat=1467>

Latvia's Balance of Payments Statistics Database:

http://www.bank.lv/eng/main/all/statistics/bop_stat/database/

CHAPTER 2 Publication timetable, revisions policy and dissemination of QNA

2.1 Release policy

Quarterly Macroeconomic indicators are calculated following the concepts of the 1993 System of National Accounts, which were developed by the United Nations and other international organisations, the European System of Accounts (ESA - 95) and the Handbook on quarterly national accounts. The sectoral classification of the economy is made according to the NACE Rev.1 Statistical Classification of the Economic Activities in the European Community.

All data published at current prices and calculations of GDP from expenditure and production side are produced also at constant prices (average prices of 2000) till 2008Q2. Starting in 2008Q3, we calculate chain-linked, reference year 2000 and in previous year prices.

The flash estimates are released within 40 days after the end of the reference quarter. This is simultaneous between the national statistic institutes and *Eurostat* to guarantee the concurrent publication of the results with the other member states.

Flash Estimate of Gross Domestic Product is published on the Central Statistical Bureau homepage:

http://www.csb.gov.lv/csp/events/?lng=en&cat=248&cc_cat=248&mode=arh&period=

Results of GDP production, expenditures and income are published 70 days after the quarter in the Press release on the Central Statistical Bureau homepage.

Quarterly data (S.1) are published each quarter in the statistical bulletin “Macroeconomic Indicators of Latvia” and “Monthly Bulletin of Latvian Statistics”.

Quarterly non-financial accounts for general government (S.13) are compiled by the Central Statistical Bureau of Latvia and are transmitted to Eurostat t+90 days, but data are not published.

Quarterly data on Rest of the world sector (S.2) Central Statistical Bureau of Latvia do not publish, but this information is sent to Eurostat.

Some consistency problems arose with statistics Balance of Payments (BoP), they come too late and it is not possible to use the information in the QNA estimates. The data are used in QSA estimates with a quarter delay.

The bulletin “*Latvia's Balance of Payments*” (publisher - Bank of the Latvia) is published on a quarterly basis (in the fourth month after the end of the reporting period, but in the internet – third month after the end of the reporting period) in Latvian and English. The Balance of Payments summarises economic transactions of Latvia's residents with the rest of the world (non-residents). The Balance of Payments is compiled following the guidelines of the IMF publication *Balance of Payments Manual*, 5th edition. The bulletin also includes current exchange rates of lat, Latvia's international investment position, data on Latvia's external debt and data on foreign direct investments in breakdown by economic activity and country.

The quarterly results are available to the users in the form of free-of-charge electronic publications in the database, in selected tables on the internet:

http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1090,30070682,1090_30298591&_dad=portal&_schema=PORTAL

and on the Central Statistical Bureau homepage:

<http://www.csb.gov.lv/csp/content/?lng=en&cat=355>

The calendar of planned publications is available on the CSB website.

We apply a revision policy. Everything concerning our revision policy can be read on the home page of CSB <http://www.csb.gov.lv> (at the moment only in Latvian). In order to set how many quarters (years) ago data will be looked through in a case of Benchmark data revision, the policy of data revision will be looked through in the nearest future.

Using new information available, revisions are made with every new publication of the quarterly figures and they comprise only the reference year. Initially the year is a sum of quarters, but when data are revised annual data are taken as a base.

Annual revisions - data are revised backwards on several years - 4 years (depth = 16 Q), T-14 after report year.

General Government Statistics - Intra-annual data are first revised when we calculate the fourth quarter data, and prepare the provisional annual data for EDP March notification. The second revision is usually made when we calculate final annual data for ESA95 Table 2 and September EDP notification. Further revisions are related to methodological changes and technical mistakes if any.

Balance of payments statistics - due to that, when sending quarterly table 0801 we apply operative balance of payments, data are revised when sending information on next quarter. According to the revision policy of the CSB - imports and exports data are revised once a year

simultaneously with the balancing process of the national accounts (table 0800). Annual data are revised once a year (to 01.10) up to 3 years ago.

In the benchmark revisions we revise entire data series.

In case of methodological changes, the back series of the national accounts and their involved aggregates are recalculated. The most recent recalculations based on the methodological changes were related to the recalculation of financial intermediation services indirectly measured (FISIM). Global FISIM was excluded, and new approach was applied. The new approach was based on requirements specified in the Council Regulation (EC) No 448/98 of 16 February 1998 completing and amending the Regulation (EC) No 2223/96 with respect to the allocation of financial intermediation services indirectly measured (FISIM) within the European system of national and regional accounts (ESA) and Council Regulation (EC) No 1889/2002 of 23 October 2002 on the implementation of Council Regulation (EC) No 448/98 completing and amending Regulation (EC) No 2223/96 with respect to the allocation of financial intermediation services indirectly measured (FISIM) within the European System of national and regional Accounts (ESA) (Text with EEA relevance). Detailed description of the applied method is provided in Chapter 4.

2.2 Contents published

The Press release of the regular calculation covers mainly the GDP production side (breakdown NACE 17) and expenditure side (private final consumption, government final consumption, gross capital formation, exports of goods and services and imports of goods and services).

A more detailed breakdown is published in the quarterly bulletin Macroeconomic indicators of Latvia as well as on the CSB website:

<http://www.csb.gov.lv/csp/content/?lng=en&cat=355>

These figures cover GDP production, GDP expenditure, and GDP income.

GDP production data are published in thousand lats and growth rates of GDP at current prices and constant prices (at average prices of 2000) till 2008Q2. Starting in 2009 (data from 2008Q3), we will be publishing chain-linked, reference year 2000 and in previous year prices. As well as published in the growth rates of GDP as percentage changes of previous year, as well as Implicit price deflators of the GDP and Structure of GDP.

Gross domestic product from the **production side** (according to NACE Rev.1.1) is published in following breakdown (S.1):

Table 2.2 – 1: Breakdown of the production side

NACE A01	Agriculture, hunting and related service activities
NACE A02	Forestry, logging and related services activities
NACE A	Agriculture, hunting, forestry
NACE B	Fishing
NACE C	Mining and quarrying
NACE D	Manufacturing
NACE E	Electricity, gas and water supply
NACE F	Construction
NACE G	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
NACE H	Hotels and restaurants
NACE I	Transport, storage and communications
NACE J	Financial intermediation
NACE K	Real estate, renting and business activities
NACE L	Public administration and defence; compulsory social security
NACE M	Education
NACE N	Health and social work
NACE O	Other community, social and personal service activities
NACE D.21	Taxes on products
NACE D.31	Subsidies on products
NACE B.1g	Gross domestic product

Gross domestic product from the **expenditure side** is published in thousand lats at current prices and constant prices (at average prices of 2000) till 2008Q2. Starting in 2008Q3, we will be publishing chain-linked, reference year 2000 and in previous year prices in following breakdown:

Table 2.2 – 2: Breakdown of the expenditure side

P.3	Final consumption expenditure
P.3 (S.14, S.15)	-Final consumption expenditure of households and of non-profit institutions serving households (NPISH)
P.3 (S.13)	-Final consumption expenditure of general government

P.5	Gross capital formation
P.51	-Gross fixed capital formation
P.52+ P.53	-Changes in inventories + acquisition less disposals of valuables
P.6	Exports of goods and services
P.7	Less: Imports of goods and services
B.1g	Equals: GDP at purchasers' prices

Gross domestic product from the **income side** is published in thousand lats at current prices in following breakdown:

Table 2.2 – 3: Breakdown of the income side

D.1	Compensation of employees
D.11	-Wages and salaries
D.12	-Employer's social contributions
D.2	Taxes on production and imports
D.3	Subsidies (-)
B.2g+B.3g	Operating surplus and mixed income, gross
B.1g	Equals: GDP at purchasers' prices

Relations between Gross domestic product and **Gross national product** are published in following breakdown, in thousand lats at current prices:

Table 2.2 – 4: Breakdown of the Gross national product side

B.1g	Gross domestics product
D.1	Compensation of employees, net
D.1 (+)	Compensation of employees from the rest of the world
D.1 (-)	Compensation of employees to the rest of the world
D.21 (-)	Taxes on product to the rest of the world
D.31 (+)	Subsidies on product from the rest of the world
D.4	Property income, net
D.4 (+)	Property income from the rest of the world
D.41 (+)	-of witch interest
D.4 (-)	Property income to the rest of the world

D.41 (-)	-of witch interest
B.5g	Equals: Gross national product

We are sending to Eurostat also seasonally and working day adjusted data, but our bureau is planning to publish them only in 2009.

Rest of the World (RoW) sector quarterly data (S.2) Central Statistical Bureau of Latvia is not publish.

The Bank of the Latvia is publishing bulletin “Latvia's Balance of Payments” on a quarterly basis (in the fourth month after the end of the reporting period) and it is published in Latvian and English. The balance of payments summarises economic transactions of Latvia's residents with the rest of the world (non-residents). The balance of payments is compiled following the guidelines of the IMF publication *Balance of Payments Manual*, 5th edition. The bulletin also includes current exchange rates of the lats, Latvia's international investment position, data on Latvia's external debt and data on foreign direct investment broken down by activity and country.

2.3 Special transmissions

The quarterly results of the Latvian NA are transmitted to Eurostat in accordance with the compulsory ESA delivery programme.

Except of Eurostat, also several other users receive data.

The regular release CSB is sending to the Latvian Ministry of Finance, Ministry of Economy and to the Bank of the Latvia.

Data are regularly sent to other institutions, namely IMF, OECD and ECB.

2.4 Policy for metadata

The International Monetary Fund (IMF/Fund) established the Special Data Dissemination Standard (SDDS). The Latvian QNA has added the SDDS of the IMF. The Latvian liaison person is Mrs. Ilze Meldere, The Treasury of the Republic of Latvia. For details see:

<http://dsbb.imf.org/Applications/web/dsbbhome>

<http://dsbb.imf.org/Applications/web/sddscountrycategorylist/?strcode=LVA>

<http://www.csb.gov.lv/csp/content/?lng=en&cat=1467>

CHAPTER 3 Overall QNA compilation approach

3.1 General architecture of the QNA system

The Quarterly National Accounts (QNA) are compiled in accordance with the European System of Accounts (ESA-1995; Council Regulation 2223/96), the European Parliament and Council Regulation (EC) Nr. 1161/2005 of the 6 July 2005 on the compilation of quarterly non-financial accounts by institutional sector and with the European Parliament and Council Regulation (EC) Nr. 1392/2007 of the November 13, 2007 – Transmission programme of national accounts data.

Our QNA compilation approach is reduced, we do not provide complete set of QNA sectors, but only information on Sectors S.1 and S.2. Latvia shall transmit the data with respect to the Rest of the World sector (S.2) and the General government sector (S.13), because Latvian Gross domestic product at current prices normally represents less than 1% of the corresponding Community (The European Parliament and Council Regulation (EC) Nr. 1161/2005 of the July 6, 2005 on the compilation of quarterly non-financial accounts by institutional sector, Article 3(1)). Data are available since the first quarter of 1999.

Latvia transmit to the Eurostat all completion quarterly tables N.1 accordingly Data Transmission Programme. Data are available since the first quarter of 1995 at both current and at constant prices (at average prices of 2000) till 2008Q2, but starting in 2008Q3 chain-linked and in previous year prices, according to ESA 95 reference scheme. Our compilation is not based on supply-use tables, but on short-term indicators.

In Latvia data on output in general are more reliable than from the expenditure side. This regards annual, as well as quarterly national accounts. Therefore, GDP is mainly determined by the production side of national accounts. A mismatch occurs between the production and expenditure side as balance position – Changes in inventories, in annual and quarterly national accounts. An independent estimate of changes in inventories is not feasible due to the lack of quarterly information; therefore, changes in inventories are derived as a balance between the GDP production estimate and other expenditure components. The balanced GDP fully determines the income side with 'gross operating surplus and gross mixed income' ($B.2 * g + B.3 * g$) calculated as the residual. This position is formed by the difference between GDP as determined by the production approach and the sum of compensation of employees (D.1) and taxes less subsidies on production (D.2 – D.3).

Compilation of quarterly accounts begins with the production of a single estimate of GDP with its output, income and expenditure components. Latvian National accounts consist of both quarterly and annual accounts. These two systems of account components are integrated.

In order to be in line with the international classifications in the compilation of GDP the following classifications are used:

Industrial classification of economic activities (NACE 1.1 rev.);
Classification of Institutional Sectors on the ESA 95;
The Classification of Individual Consumption by Purpose (COICOP).

From the production-side estimates are conducted at level of a detail of A.31 branches of economic activity, but to when published only at A.17 detail level. The quarterly data of household final consumption expenditure are classified into 12 groups according to the COICOP-System.

In order to minimize the differences between flash estimates and final results for each quarter, when compiling the quarterly information all data sources are used with the priority to the direct information, e.g., administrative sources or enterprise and household surveys.

Quarterly data sources include the information only on part of enterprises. For annual information the annual data sources are used, overlap of which is wider than quarterly overlap. The source of information on exports and imports of goods and services is INTRASTAT monthly surveys of enterprises engaged in trade with EU Member States and Customs declarations on trade with third countries. Data includes all enterprises of Latvia. The quarterly and annual overlaps are the same.

QNA estimates are produced at current prices, and estimates of GDP from expenditure and production side are produced also at constant prices (average prices of 2000) till 2008Q2. Starting in 2008Q3, we calculate chain-linked and in previous year prices. The base year for constant price computations is 2000. Chain-linked data on period from 1st quarter 1995 to 3rd quarter 2008 we sent at the end of December 2008. Estimates of current prices are derived on the basis of quarterly indicators; volume estimates are obtained by deflation or using direct volume indicators (ex. government). Some exceptions to this practice exist when volume information is directly used in the estimation process.

The adjustment for seasonal, working day effects and leap year effect is done. Method used is TRAMO/SEAT and software used is Demetra 2.1., which is country-specific (national holidays) and is applicable for all the series. Seasonal adjustment model/filter selection is automatic. Seasonal adjustment decomposition: additive – partly and multiplicative – GDP – yes, but Expenditure and Income – partly. Latvia performs direct adjustment of each series. We perform re-identification revisions of model, filters, outliers, calendar regressors once in a year, but parameters/factors re-estimation - every quarter, if necessary. Seasonally Adjusted quality index is the Ljung-Box on residual.

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. In its operation the process attempts to make optimum use of the diverse range of information, which is collected and used to calculate the national accounts.

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 fully consistent with this estimate.

In Latvia there are three different ways how to calculate gross domestic product: production, expenditure and income approach. The most important approach for calculation of gross domestic product is production approach.

Quarterly GDP figures are compiled on the basis of production estimates, such information being fairly available from statistical surveys and administrative sources.

As there are no quarterly data sources on changes in inventories, GDP from expenditure side is not comparable with GDP from production approach, changes in inventories are the balancing item, which is obtained by subtracting the final consumption expenditure, gross fixed capital formation and external balance of goods and services from production based GDP estimate.

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.

Quarterly information is less detailed and less accurate than annual data.

Therefore, after annual data are found out and annual accounts are compiled, quarterly data are rebalanced.

3.2.2 Benchmarking of QNA and ANA

Annual information is more reliable because it has more precise data sources and information on some indicators, which are not available even in quarterly data sources. After annual data are obtained, quarterly estimates are revised.

Annual estimates are acquired by summing quarterly estimates, such as exports and imports of goods and services, final consumption expenditure of general government, taxes on production and imports, subsidies.

After estimation of annual data of household final consumption expenditure, quarterly data are recalculated.

Final consumption expenditure of Non-profit institutions serving households is estimated as gross output of Non-profit institutions from State Revenue Service data. They are classified according to NACE rev.1.1 classification by activity.

To make the right estimate of gross fixed capital formation (GFCF) in quarters, the annual structure of GFCF is used.

The quarterly data of the growth rate of non-financial investments for GFCF quarterly estimate validation is used, but it is controlled by the growth rate of output of construction and the growth rate of import of capital goods.

Compensation of employees (D1) is based on system of short-term indicators. Quarterly data on compensation of employees are obtained from quarterly data sources. To calculate annual compensation of employees for ANA administrative data sources are used as well: State Revenue Service data for sector of non-profit institutions serving households, Financial and Capital Market Commission and the Bank of Latvia data for financial corporation sector. Annual employers' actual social contributions are recalculated basing on Annual Report on the Central and Local Government Budget Implementation data. When annual information is obtained, quarterly estimates are recalculated.

3.2.3 Other reconciliation's of QNA different from balancing and benchmarking

In the middle of 2004 the tax adjustment method was completely revised. If until then incomes from taxes were adjusted using changes in tax arrears, the current method now complies with the requirements of Regulation No.2516/2000. For taxes D.211, D.214, D.51, D.611 the time-adjustment method is used.

3.2.4 Amount of estimation in various releases

The amount of adjustments and estimations among the different dates of quarterly indicator calculations for the quarterly accounts varies significantly.

Quarterly data available on 70th day show lower coverage of hard data, those are data obtained from direct data sources. Such situation occurs due to the lack of short-term data sources for majority of the indicators.

Table 3 – 1 shows the percentage amount of short-term information available at two different releases: the first data are available on 70th day after the quarter and second - 14 months after the end of year:

Table 3 – 1: the percentage amount of short-term information available at two different releases (GDP expenditure side)

Expenditure components	Weight 2006	T+ 70 days		T+14 month	
		Direct source	Adjustment	Direct source	Adjustment
Final consumption expenditure of general government	17%	100%	0%	100%	0%
Final consumption expenditure of households	64%	55%	45%	88%	12%
Final consumption expenditure of NPISH	1%	0%	100%	100%	0%
Gross fixed capital formation	33%	77%	23%	100%	0%
Exports of goods and services	45%	100%	0%	100%	0%
Imports of goods and services(-)	66%	100%	0%	100%	0%

Concerning the release on 70th day the coverage for such indicator equals 100% of the direct data as final consumption expenditure of general government data are obtained mostly from Report on the Central and Local Government Budget Implementation.

The coverage for imports and exports is 100 %, because the largest part of the data (98%) comes from the Central Bank of Latvia, FISIM comes from CSB and there are no adjustments made.

3.3 Volume estimates

3.3.1 General volume policy

At present, GFCF deflation at constant prices is undertaken for three asset groups: construction (deflating by construction cost index), machinery (relevant import unit value index for machinery) and transport equipment (relevant import unit value index for transport). The assumption is made that all machinery and equipment is imported.

Calculations are made using the fixed base, where currently year 2000 serves as a base year. The final consumption expenditure of households at constant prices is obtained as deflation of current value with price figures from the CPI (Consumers Price Index) at three-digit level or for separate commodity groups in more details.

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

Estimates for final consumption expenditure of non-profit institutions serving households (NPISH) at constant prices are obtained using mainly growth rate of the number of employees in compliance with the NACE. The deflation is not made by split of product.

Exports and imports of goods at constant prices are deflated using import and export unit value indices. There is no deflation by split of product, only at total level.

For export and import of services deflation is based on price data, which are used in the deflation of output.

For calculation of final consumption expenditure of general government at constant prices volume extrapolation Laspeyres formula is used.

Rate of growth is used, when to want to know, how quickly the indicator has risen (or has decreased) during the certain period.

The formula for calculating a growth rate is:

$$g_t = \left[\left(\frac{x_t}{x_{t-1}} \right) - 1 \right] \cdot 100$$

where g_t is the growth rate in period t , x is the variable being examined and n is the time period of interest.

The growth rates are calculated using the formula above with t is equal to the current year and $t - 1$ is equal to the previous year.

Quarterly growth rates of GDP – at current and average prices (corresponding period of previous year = 1) and structure at current prices (%) are also computed and published in the quarterly bulletin “Macroeconomic Indicators of Latvia”. Implicit price deflators of GDP and relations between Gross Domestic Product and Gross National Income are published only there.

3.3.2 Chain-linking and benchmarking

There is no benchmarking in quarterly data at prices of previous year, Quarterly data and year data are calculated independently.

Chain linking compiling estimates for each quarter at the weighted annual average prices of the previous year- annual overlap. Subsequent linking using the correspondent annual data to provide linking factors.

1. Compile estimates for each quarter at 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

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 linking values are calculated separately by detailed breakdown of activities. Gross value added of an industry is residual item between output and intermediate consumption at corresponding prices. Gross domestic product 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 index (previous year is 1) is applied to each category (activity) or volume indicators (where is no price index) are used to extrapolate base year value. Values in previous year prices are obtained: current prices are deflated by price index (previous year is 1) or base year values are extrapolated by volume indicators (for example, government).

Chain linked index is calculated: to value of previous year chained to corresponding quarter. Chain volume measure is calculated as chain linked index multiplied by reference year average value (currently year 2000 divided by four).

In quarterly bulletin are published output, intermediate consumption and gross value added by quarters and years of all industries and gross domestic product at current prices and chain-linked reference year 2000.

Loss of additivity of chain-linked figures:

Additivity difference are not avert.

3.3.3 Chain-linking and seasonal adjustment

There are different practices regarding how to derive seasonally adjusted GDP. In Latvia the direct adjustment method is applied. GDP and its components are directly adjusted independently. A discrepancy emerges as a statistical discrepancy.

3.4 Seasonal adjustment and working day correction

3.4.1 Policy for seasonal adjustment

Seasonal adjustment for National Account (NA) is made according to the Eurostat STS recommendation “No STS WP Dec 06-05”. This recommendation covers both calendar and working/trading day effect adjustments. Central Statistical Bureau of Latvia (CSB) uses a model-based seasonal adjustment procedure. For seasonal adjustment version 2.1 of the software Demetra developed by the Eurostat is used. This software includes the TRAMO/SEATS package developed by the Bank of Spain and the X-12 ARIMA package developed by U.S. Bureau of the Census, and Eurostat promotes both of them. For the seasonal adjustment of the quarterly time series of the NA, software Demetra version 2.1 is used.

Seasonal adjustment (SA) in NA is performed on indicators: more than 170 indicator series are adjusted, generally from the first quarter of 1995 till the last quarter. Seasonal adjustment is performed only at a quarterly level.

SA procedure uses a partial concurrent adjustment, i.e., the choice of the model is made and, if necessary, can be changed not more often than once a year, while parameters are updated whenever a new observation becomes available. The ARIMA models and the log transformation are chosen automatically by the TRAMO/SEATS program and then verified through the normality test on residuals and the analysis on revision statistics that TRAMO/SEATS produces in the software Demetra.

All time series are directly adjusted.

3.4.2 Policy for working day correction

Specific Latvian calendar is used (only working days of the Latvian calendar are used) as integrated in the software Demetra version 2.1.

Seasonal adjustment is then effected by the already calendar-adjusted time series. The calendar factors are checked at regular intervals and adjusted, if necessary. The calendar effects component is a part of the time series, which represents calendar variations, such as the trading/working day and specific national holiday effect, leap year and the Easter effect.

Outlier detection is done using a mathematical identification procedure.

Three kinds of outliers are taken into account: additive outliers, level shift and temporary change.

An additive outlier- affects only one observation. Temporary change - affects several following observations. A level shift type of outlier- affects all observations from a fixed point.

(The number of outliers in a time series is limited to 5% proportionally to the number of all observations of the series.)

All parameters have to be defined separately for each time series. The settings of the parameters are checked at regular intervals and adjusted, if necessary.

CHAPTER 4 Production approach

The production approach is the main approach to estimate gross domestic product (GDP) in Latvia. The output approach is based on the calculation of output and intermediate consumption of various industries of the economy. Gross value added of an industry is defined as the difference between output (basic prices) and intermediate consumption (purchaser's prices).

Output consists of the products created during the accounting period.

GDP is calculated as the sum of gross value added (basic prices) of all industries/branches plus taxes on products less subsidies on products.

Table 4 – 1: Gross value added from production approach at current prices in 2006, million LVL

	1st quarter	2nd quarter	3rd quarter	4th quarter	Year
Agriculture, hunting and related service activities	29 385	63 687	79 194	43 682	215 948
Forestry, logging and related service activities	28 526	29 890	32 206	27 227	117 849
Fishing	3 268	2 767	2 163	3 022	11 220
Mining and quarrying	6 351	9 681	10 618	7 332	33 982
Manufacturing	250 784	279 406	302 586	326 666	1 159 442
Electricity, gas and water supply	77 883	46 606	40 301	70 207	234 997
Construction	100 859	163 545	231 172	230 513	726 089
Trade	454 837	472 514	533 594	589 506	2 050 451
Hotel and restaurants	34 264	47 041	53 736	51 419	186 460
Transport, storage and communication	218 320	290 425	317 099	300 133	1 125 977
Financial intermediation	143 324	144 883	180 289	199 295	667 791
Real estate, renting and business activities	302 348	361 657	383 171	419 678	1 466 854
Public administration and defence, compulsory social security	133 921	161 715	158 531	264 510	718 677
Education	94 839	125 423	93 077	127 945	441 284
Health and social work	52 215	72 023	73 862	86 218	284 318
Other community, social and personal service activities	91 237	92 584	103 898	106 717	394 436
All industries	2 022 361	2 363 847	2 595 497	2 854 070	9 835 775
Net taxes on products (D21-D31)	265 256	302 259	349 416	418 987	1 335 918
Gross domestic product	2 287 617	2 666 106	2 944 913	3 273 057	11 171 693

In general

For non-financial corporation sector (S11) output is calculated using turnover data but for financial corporation sector (S12) using financial indices for output estimates. Current expenditure of government units is used for output estimates in general government sector (S13). For household sector (S14) change rate of sector S11 is applied. Indicator on non-profit institutions serving household sector (S15) remains at the level of last year.

Components of GDP by production approach are estimated in both current and constant (average price of 2000) prices till 2008Q2. Starting in 2008Q3, we calculate chain-linked and in previous year prices.

4.1 Gross value added by industries

4.1.1 Agriculture and Forestry (NACE A)

The current quarterly calculation is carried out by extrapolating output of the previous year's quarter. For the branches agriculture, forestry and fishing this is done separately.

Agriculture industry output is calculated using production. Forestry industry output is calculated using turnover data. Intermediate consumption is estimated using final (annual) year structures of output and intermediate consumption. Value added is the residual item between output and intermediate consumption.

The regular statistical surveys on agricultural farms are the source of information on both the production of livestock products and the number of farm animals and poultry, and crop farming.

Table 4 – 2: Description of the Agriculture and Forestry

<i>Name of data source:</i> Quarterly survey on realisation of agriculture produce (21-ls); Half a year of livestock production (1ls and 3ls – livestock); Monthly survey on slaughter and purchase of cattle, poultry and rabbits (11-purchase)
<i>Organization collecting the data and purposes for which it is collected:</i> Central Statistical Bureau of Latvia and Latvian State Institute of Agrarian Economics
<i>Reporting units:</i> statistics on agriculture in Latvia is compiled on the following kinds of farms: peasant farms, household plots, agricultural statutory companies (capital companies), specialised state farms, private subsidiary farms.

Periodicity: <i>Quarterly and monthly</i>
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<i>Time of result availability: 12 days after the reference period; 12 July and 12 January.</i>

Information on forestry industry is obtained from the survey “2–turnover”. The State Forest Service provides information on distributed cutting resources (licences) for felling and stock volume for felling.

4.1.2 Fishery (NACE B)

Fishing output is calculated using production. Output in quarters is calculated using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

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

Table 4 – 3: Description of the Fishery

<i>Name of data source: Survey of fishery (1 – fishery)</i>
<i>Organization collecting the data, and purposes for which it is collected: Central Statistical Bureau of Latvia and state fishery administration</i>
<i>Reporting units: fish farms</i>
Periodicity: <i>Quarterly</i>
<i>Time of result availability: 15 days after the reporting quarter</i>

The source of data on fishery statistics is the regular surveys of merchants engaged in fishing. To obtain data on fishery quantity of catch in northwest Atlantic, northeast Atlantic, Baltic sea and the Gulf of Riga, central east Atlantic and inland waters is examined.

4.1.3 Industries (NACE C - E)

Output for NACE 1.1 activities mining and quarrying; manufacturing and electricity, gas and water supply (C, D, E) is obtained from surveys of activity of industries. Intermediate consumption is estimated using final (annual) year structures of output and intermediate consumption. Value added is the residual item between output and intermediate consumption.

Table 4 – 4: Description of the Industries

<i>Name of data source:</i> Monthly survey on industrial activities (1-r); Survey of new orders in industry (2 – r); Survey of production of electricity, import and export (2 – electricity).
<i>Organization collecting the data, and purposes for which it is collected:</i> Central Statistical Bureau of Latvia
<i>Reporting units:</i> mining and quarrying, manufacturing and electricity, producers in gas and water industries
Periodicity: Monthly
<i>Time of result availability:</i> 15 days after the reference period

Industrial output statistics is compiled in accordance with the “International Recommendations for Industrial Statistics”. Data are collected monthly from economically active enterprises that employ 20 or more persons in industrial production or where industrial turnover in the previous year was higher than 300 thsd lats. Data on industrial production output are obtained from the surveyed enterprises.

The value of production output is defined as the sum total of the following elements:

- receipts from the sale of goods produced and industrial works (services) excluding the value added tax and excise duty,
- changes in stocks of finished products and work in progress (plus or minus) at the end of the reference period over the beginning of the period, evaluated on the basis of production costs,
- value of fixed assets produced on own account employing the enterprise workforce, as well as capital repair of the equipment.

4.1.4 Construction (NACE F)

Construction output is calculated using production data. Output in quarters is calculated using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

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

Table 4 – 5: Description of the Construction

<i>Name of data source:</i> Survey of construction (1 – construction)
<i>Organization collecting the data, and purposes for which it is collected:</i> Statistic of construction
<i>Reporting units:</i> construction companies
Periodicity: Quarterly
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> 19 %
<i>Time of result availability:</i> 15 days after the reporting quarter (I, II, III) and on 4 th quarter till the February 1 of the next year.

Construction output refers to the volume of construction work (including capital repairs) completed by construction enterprises and other organisations, preparation of the building site, land improvement, building management as well as current repairs of buildings and structures performed by construction enterprises according to the contract.

4.1.5 Trade, Hotels and restaurants (NACE G + H)

Trade and Hotels and restaurants industry output is calculated using turnover data. Output in quarters is calculated using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

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

Table 4 – 6: Description of the Trade and Hotels and restaurants

<i>Name of data source:</i> survey of turnover (1 –turnover)
<i>Organization collecting the data and purposes for which it is collected:</i> Central statistical bureau of Latvia
<i>Reporting units:</i> All economically active enterprises
Periodicity: Monthly
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> ~24%
<i>Time of result availability:</i> 9 days after the reference period
<i>Survey response rate:</i> ~90%

<i>Name of data source:</i> Survey on enterprise financial situation (1 – f); The profit and losses account (2 - f)
<i>Organization collecting the data and purposes for which it is collected:</i> Central statistical bureau of Latvia
<i>Reporting units:</i> economically active enterprises, excluding financial intermediation.
Periodicity: Quarterly
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> ~80% from heavy enterprises
<i>Time of result availability:</i> I – May 2; II, III – 15 days after the reporting quarter; IV – 15 days after the reference period only profit and losses account.

In this industry separately calculate retail trade and wholesale trade.

4.1.6 Transport, storage and communication (NACE I)

Transport, storage and communication industry output is calculated using turnover data. Output in quarters is calculated using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

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

Transport industry includes:

- passenger transport;
- freight transport;
- air transport;
- water transport;
- pipeline transport;
- other transport

Table 4 – 7: Description of the Transport, storage and communication

<i>Name of data source:</i> Quarterly survey of turnover (3 - turnover)
<i>Organization collecting the data and purposes for which it is collected:</i> Central statistical bureau of Latvia
<i>Reporting units:</i> All economically active enterprises

Periodicity: Quarterly
<i>Time of result availability: 15 days after the reporting quarter</i>
<i>Survey response rate: ~90%</i>

4.1.7 Financial intermediation (NACE J)

Financial intermediation industry data are calculated using financial indices for output estimates. Output in quarters is calculated using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

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

Table 4 – 8: Description of the Financial intermediation

<i>Name of data source:</i> Profit and loss accounts of life and non-life insurance; Profit and loss accounts of pension funds
<i>Organization collecting the data and purposes for which it is collected:</i> Financial and capital market commission.
<i>Reporting units:</i> The Bank of Latvia
Periodicity: Quarterly
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> 100%
<i>Time of result availability:</i> 20 days after the reporting quarter

<i>Name of data source:</i> Survey on financial situation of enterprise (3 – F)
<i>Organization collecting the data and purposes for which it is collected:</i> profit and loss accounts of investment fund, investments in social of administration, social investments of brokers
<i>Reporting units:</i> The Financial and capital market commission.
Periodicity: Quarterly
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> 100%
<i>Time of result availability:</i> Month after the reporting quarter

4.1.8 Real estate, renting and business activities (NACE K)

Real estate, renting and business activities industry output is calculated using turnover data. Output in quarters is calculated using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

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

Table 4 – 9: Description of the Real estate, renting and business activities

<i>Name of data source:</i> Survey of turnover (2 – turnover)
<i>Organization collecting the data and purposes for which it is collected:</i> Central statistical bureau of Latvia
<i>Reporting units:</i> economically active enterprises.
Periodicity: Monthly
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> ~18%
<i>Time of result availability:</i> 9 days after the reference period
<i>Survey response rate:</i> ~90%

<i>Name of data source:</i> Reports on General Government Consolidated Budget Execution
<i>Organization collecting the data and purposes for which it is collected:</i> The treasury
<i>Reporting units:</i> Budgetary institutions
Periodicity: Monthly
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> 100 %
<i>Time of result availability:</i> 16 days after the reference period

4.1.9 Public administration and defence, compulsory social security, Education, Health and social work, Other community, social and personal service activities (NACE L – O)

Public administration and defence, compulsory social security: current expenditure of state budget is used for output estimates. Output in quarters is calculated using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

Education, Health and social work and Other community, social and personal service activities output is calculated using turnover data (sector S11). Current expenditure of government units is used for output estimates (sector S13). Output in quarters is calculated

using extrapolation method - quarterly data compared with previous year quarterly data, to obtain changes, which then is extrapolated on previous year.

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

Table 4 – 10: Description of the Public administration and defence, compulsory social security, Education, Health and social work and Other community, social and personal service activities

<i>Name of data source:</i> Quarterly survey of turnover (3 – turnover)
<i>Organization collecting the data and purposes for which it is collected:</i> Central statistical bureau of Latvia
<i>Reporting units:</i> economically active enterprises
Periodicity: <i>Quarterly</i>
<i>Time of result availability:</i> 15 days after the reporting quarter

<i>Name of data source:</i> Reports on General Government Consolidated Budget Execution
<i>Organization collecting the data and purposes for which it is collected:</i> The treasury
<i>Reporting units:</i> Budgetary institutions
Periodicity: <i>Monthly</i>
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> 100%
<i>Time of result availability:</i> 16 days after the reference period

4.2 Taxes less subsidies on products

Taxes on production are divided into two main groups: taxes on products (D.21) and subsidies on products (D.31).

Taxes on products (D.21) are obtained from the direct source. Taxes on products includes: value added tax; customs duties, excise duty, gambling and lottery tax. Taxes (import duties, agricultural and sugar levies). Quarterly data for taxes on production are taken from the Monthly Reports on Budget Settlement provided by State Treasury.

Table 4 – 11: Description of the Taxes on products

<i>Name of data source:</i> Monthly Report on Budget Settlement
<i>Organization collecting the data and purposes for which it is collected:</i> The Treasury
<i>Reporting units:</i> Budgetary institutions
<i>Periodicity:</i> Monthly
<i>Time of result availability:</i> 20 days after the reference period
<i>Variables used for QNA:</i> taxes on production and imports, taxes on products, other taxes on production and subsidies
<i>Further adjustments made to the data:</i> Ministry of Finance gives correction of tax revenue because of time lag

Data for subsidies on products (D.31) are obtained from Latvian State Institute of Agrarian Economics (Complex of surveys to compile the aggregate account of agriculture) and from Balance of Payments (subsidies on products received from European Union).

Table 4 – 12: Description of the Subsidies on products

<i>Name of data source:</i> Latvia's Balance of Payments – Quarterly data
<i>Organization collecting the data and purposes for which it is collected:</i> The Bank of Latvia
Reporting units: the full rights of a state institution
<i>Periodicity:</i> Quarterly
<i>Time of result availability:</i> 90 days after the reference period
<i>Variables collected:</i> Detailed accounting data
<i>Sampling frame:</i> The Bank of Latvia shall publish monthly, quarterly and annual balance sheets in accordance with the standards used by the world's central banks.

Data on taxes are provided on accrual basis.

Net taxes on products are taxes on products minus subsidies.

Taxes (import duties, agricultural, and sugar levies) collected behalf of the European Union are recorded on gross basis for determining GDP.

4.3 FISIM

4.3.1 Introduction

The methodology of estimation of Financial Intermediation Services Indirectly Measured (FISIM) in the National Accounts allows the detailed calculation and allocation of FISIM produced by banking and financial intermediaries (resident and non-resident domestic) to the user sectors as intermediate or final consumptions.

Financial intermediaries explicitly charge commissions and fees to their customers. But they also provide services for which no explicit charges are made. These services are known in national accounts as the financial intermediation services indirectly measured (FISIM). In the case of FISIM, paying or charging different rates of interest to borrowers and lenders generates service income. The intermediaries pay lower interest rates than those who lend them money, and charge higher rates of interest to those who borrow from them.

The use of FISIM is allocated to user sectors/industries. The use of FISIM is recorded entirely as intermediate consumption and also as final consumption and exports including imports.

4.3.2 Sources

FISIM to be allocated is produced by other monetary financial institutions (sector S.122) and by other financial intermediaries (sector S.123). Information is more reliable for S.122 than for S.123, therefore in specific cases estimates were needed.

Data on interbank stocks of loans and deposits between S.122 and S.123 used in calculation of internal reference rate of FISIM are obtained from the appendix A1-k5 to the monthly financial position report of Latvia's credit institutions "Claims on and liabilities to credit institutions and foreign central banks" as the end of the period: claims on resident credit institutions and liabilities to resident credit institutions.

Data on interbank interest of loans and deposits between S.122 and S.123, used in calculation of internal reference rate of FISIM are obtained from Appendix F to the monthly financial position report of credit institutions "Profit and loss statement": interest income on claims on resident credit institutions and interest expense on liabilities to resident credit institutions. Data on stocks of loans and deposits and interest of loans and deposits within S.123 are obtained from CSB quarterly report 3-f "Overview of the financial position" NACE 65.2)

Data on stocks of loans and deposits for residents (S.122) in breakdown by user sectors are obtained from monthly financial position report of credit institutions at the end of the period and from appendix B1 to the monthly financial position report of credit institutions "Loans to

and deposits of non – MFIs” Data on stocks of loans and deposits of insurance corporations are obtained from Financial and capital market commission.

For the breakdown of households’ deposits data from “Households budget” are used as owners of unincorporated enterprises and deposits of individuals.

Data on stocks of loans for residents (S.123) are obtained from appendix E to the monthly financial position report of credit institutions “Types of loans”, from Latvian’s leaser association (with a breakdown by user sectors) about financial and operating leasing portfolio as well as factoring.

Data on stocks of loans of pawnshops (NACE 6522) are obtained from CSB quarterly report 3-f “Overview of the financial position”.

Data on interest of loans and deposits for residents (S.122) and (S.123) are obtained from Appendix F to the monthly financial position report of credit institution “Profit and loss statement”.

Data on stocks of loans and deposits for calculation exports of FISIM (S.122) are obtained from monthly financial position report of credit institutions:

- claims on non-resident credit institutions

- loans to non- resident non-banks

- liabilities to non-resident credit institutions

- deposits from non-residents non-banks

Data on stocks of loans for calculation exports of FISIM (S.123) are obtained using CSB quarterly report “Overview of the financial position” (NACE 652 + NACE 67).

Data on interest of loans and deposits for calculation of FISIM exports (S.122) are obtained from Appendix F to the monthly financial position report of credit institution “Profit and loss statement”:

- interest income on claims on non- resident credit institutions

- interest income on loans to non-resident non-banks

- interest expense on liabilities to non –resident credit institutions

- interest expense on liabilities to non - resident non-banks

Data on interest of loans for calculation of FISIM exports (S.123) are obtained using CSB quarterly report 3-f “Overview of the financial position”.

Data on stocks of loans and deposits of (S.2) for calculation of FISIM imports (S.2) in breakdown by domestic sectors are obtained from “International Investment Position” at end of period:

Liabilities: Other investment - loans by domestic sectors

Assets: Other investment - deposits by domestic sectors

Data on interest of loans and deposits of (S.2) used in calculation imports of FISIM are obtained from “Balance of Payments”:

Current account – Income – other investment:

Debit: interest expense of loans by domestic sectors

Credit: interest income of deposits by domestic sectors

4.3.3 Methods of calculating and allocating FISIM in National Accounts

The calculation of FISIM on loans and deposits is made on the basis of the difference between the actual interest payable and receivable and a “reference” rate of interest.

4.3.3.1 The calculation of “detailed” FISIM (intermediate and final consumption) by domestic user sectors

FISIM calculation and allocation begins basing on the monthly financial position report of Latvia’ s credit institutions and data for average stocks of loans and deposits and accrued interest in breakdown by user sectors are obtained.

Based on the data about financial intermediaries, and using CSB annual and quarterly data, sub sectors S.123 are broken by produced FISIM and not produced FISIM.

For each of the sub- sectors S.122 and S.123 the table of average stocks of loans, deposits (split by user sectors) for the period (average of four quarters) is used , as well as the accrued interest after reallocation of interest rate subsidies to their actual recipients as defined by the 1995 ESA.

The calculations of internal and external reference rates are made. The calculation of “detailed” FISIM (intermediate and final consumption) by domestic user sectors is made.

The total FISIM by institutional sector is obtained as the sum of FISIM on loans granted to the institutional sector and of FISIM on deposits of the institutional sector.

FISIM on the loans granted to the institutional sector = interest receivable on loans – (loans stocks x “internal” reference rate).

FISIM on the deposits of the institutional sector = (deposit stocks x “internal” reference rate) – interest payable on deposits.

In order to identify the part of the FISIM to be allocated to final consumption, and thus to evaluate the impact on the GDP, it is also necessary to have a further decomposition of the stocks and interest on loans granted to the households sector by distinguishing:

- dwelling loans (intermediate consumption);
- loans to households as owners of unincorporated enterprises (intermediate consumption)
- other loans to households (final consumption);

The stocks and interest on deposits from households sector also is broken down by:

- deposits from households (final consumption);
- other deposits from households (intermediate consumption).

4.3.3.2 The calculation of exported FISIM

Exported FISIM is calculated on the basis of the balance sheet of the financial intermediaries (S.122 and S.123), using the “external” interbank reference rate as follows:

FISIM on loans granted to non- residents (including FIs) =
= interest receivable – (loans stocks x “external” reference rate).

FISIM on deposits of non- residents (including FIs) =
= (deposit stocks x “external” reference rate) – interest payable.

4.3.3.3 The calculation of imported FISIM

For calculation imported FISIM by institutional sector data about loans granted by non-resident FIs are used, as well as interest receivable by non-resident FIs and about deposits with non- resident FIs and interest payable by non – resident FIs.

The financial intermediation imported by each institutional sector is calculated as follows:

FISIM imported for loans = interest receivable by non-resident FIs – (loans stocks x “external” reference rate).

FISIM imported for deposits = (deposit stocks x “external” reference rate) – interest payable by non- resident FIs.

CHAPTER 5 GDP components: the expenditure approach

The GDP is the sum of the total consumption expenditures of households and private nonprofit institutions, general government expenditures, gross domestic fixed capital formation, change in stocks, and net export during a certain period. Components of GDP by expenditure approach are estimated in both current and constant (average price of 2000) prices till 2008Q2. Starting in 2008Q3, we calculate chain-linked and in previous year prices.

Table 5 - 1 shows the components of GDP in accordance with the expenditure approach.

Table 5 – 1: GDP expenditure approach at current prices for the year 2006 million LVL

	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter	Year
Total final consumption expenditure	1815.277	2174.740	2324.863	2820.805	9135.685
Household final consumption expenditure	1403.473	1715.034	1878.772	2186.871	7184.150
NPISH final consumption expenditure	24.244	24.524	24.006	23.578	96.352
Government final consumption expenditure	387.560	435.182	422.085	610.356	1855.183
Gross capital formation	870.869	976.530	1301.205	1285.403	4434.007
Gross fixed capital formation	659.453	795.533	1015.472	1173.689	3644.147
Changes in inventories and acquisitions less disposals of valuables	211.416	180.997	285.733	111.714	789.860
Exports of goods and services	1106.244	1264.883	1308.943	1334.225	5014.295
Export of goods	759.022	867.587	882.910	922.270	3431.789
Export of services	347.222	397.296	426.033	411.955	1582.506
Imports of goods and services	1504.773	1750.047	1990.098	2167.376	7412.294
Import of goods	1288.541	1496.549	1672.450	1830.635	6288.175
Import of services	216.232	253.498	317.648	336.741	1124.119
Gross Domestic Product	2287.617	2666.106	2944.913	3273.057	11171.693

5.1 Household final consumption expenditure (P.31, S.14)

Household budget survey is the main data source for quarterly estimation of household final consumption expenditure. Information from this data source about household's expenditure is available at most detailed level in a year. The quarterly data are classified into 12 groups according to the COICOP-System. Table 5 - 2 shows detailed description of the Household budget survey.

Table 5 – 2: Description of the Household budget survey

<i>Name of survey:</i> The Household Budget Survey
<i>Link to surveys undertaken at the European level:</i> Module 36100 HBS theme N36
<i>Reporting units:</i> Households
<i>Periodicity:</i> Month
<i>Time of results availability:</i> Data by 12 main COICOP 2-digit level groups are aggregated quarterly, but in 3-digit level or in more details for separate commodity groups- on 6th month after calendar year.
<i>Sampling frame:</i> Dwelling database, which is made on the basis of population census (2000) data and actual population register data, where information is grouped by dwellings. In rural areas this database is also integrated with the agricultural farm register. Institutional households are not included.
<i>Survey is compulsory or voluntary?</i> Voluntary
<p><i>Main features of survey methodology:</i> The method of sampling – a two-stage stratified random sample. The annual household sample is evenly distributed over time (the same number of households participates in the survey within each of the 52 weeks of the year) and over space. Primary sampling units (PSU) are selected within each stratum using systematic probability proportional to size sampling with a random starting point. In the second stage households from each sampled PSU are selected by simple random sampling.</p> <p>An information form household is collected by the means of diary of household consumption expenditure (filled in by respondents themselves) and households' questionnaire (filled in by interviewer during the preliminary and final interview).</p> <p>Respondents themselves have filled in the Diary during the 4 weeks. In the diary, all regular household consumption expenditure is registered as well as consumption of food products received free of charge. The households are asked to record food quantities and the prices actually paid. The reference period for food products is 2 weeks, for non-food products and services - 4 weeks.</p> <p>Preliminary interview covers social and demographic composition of a household, housing conditions, the possibility to use (cultivate) land, employment of household members (aged 15 years and above).</p> <p>Final interview covers questions on income of the household members in cash, transfers (different recall periods), income in kind received from the employer, and different benefits from the state and local government social assistance, possession of durable goods in the household, household expenditure on the purchase of durable goods and other goods that are bought more seldom, on services during the last 12 months, self-evaluation of living conditions (subjective poverty indicators).</p>
<i>Population size:</i> All private households in the country
<i>Sample size:</i> 6063
<i>Survey response rate:</i> Approximately 65%
<i>Variable used for grossing-up of the population:</i> To estimate the means, totals ratio and

percentages we use the Horvitz-Thompson estimators. It means that for each household selected in the sample it is necessary to determine probability of its inclusion in the sample.

Sample coverage, as % in terms of variable used for grossing-up: No relevant

Main variables collected: Total private households expenditure classified according to COICOP and in more detailed groups of goods and services (349), and divided into consumption expenditures in cash and in kind, and private households' income (different kinds).

Further adjustments made to the survey data: Data are grossed up by adjustments for differential non-response and compared with other relevant statistics and historical series.

Household final consumption expenditure is estimated according to ESA95 definitions and classified according to COICOP scheme. For domestic and national concepts, COICOP classification 01- 12 main groups scheme is applied at 3-digit level or in more details for separate commodity groups in a year.

After estimation of annual data of household final consumption expenditure, quarterly data are recalculated.

Estimation of households' final expenditures by direct methods for year are based on grossing up of:

- Household budget survey data;
- Retail trade statistic data;
- Survey on enterprise financial situation;
- Data from large producers;
- Budgetary information.

Indirect methods for year are used for calculations of:

- Non-invoiced activities;
- Dwelling services
- Business purchases;
- Expenditures of persons living in institutional households;
- Residents and non-residents expenditures;
- Expenditure of purchase of cars;
- Expenditure of tobacco and alcoholic beverages;
- Expenditure of clothing and footwear.

5.2 Government final consumption expenditure (P.3, S.13)

According to ESA95 government final consumption expenditures includes two categories of expenditure:

- Value of goods and services produced by general government itself other than own-account capital formation and sales;
- Purchases by general government of goods and services produced by market producers that are supplied to households – without any transformation – as social transfers in kind.
- General government purchases of goods and services produced by market producers that are supplied to households – without any transformation – as social transfers in kind.

Government final consumption expenditures are calculated indirectly deducting fees of household and other sectors from output of government production. Taking into account that, according to ESA95, government purchases in the market for households are not included in intermediate consumption or the output value of general government, they are allocated directly to government final consumption expenditures.

Data source for estimation of government final consumption expenditure is Monthly report on Budget Settlement; source description is made in chapter 4.

After estimation of annual data of government final consumption expenditure, quarterly data are recalculated.

Annual report on the central and local government budget implementation contains information about income and expenditure of central and local government institutions. The Treasury is an institution subordinated to the Ministry of Finance, managing state budget execution and accounting functions. Source description is given in chapter 4.

In accordance with the principle of ESA95, government final consumption expenditure (GFCE) is divided into individual consumption and collective consumption. The actual final consumption of general government sector is equal to general government collective consumption expenditure.

Individual consumption expenditure is calculated from general government output of health and social protection activity (NACE rev1.1: 85), education services activity (NACE rev1.1: 80) and recreation, culture and sporting services activity (NACE rev1.1: 92), and then deducting sales related to those activities and adding general government purchases from market producers for transfer to households.

Collective consumption expenditure is calculated by deducting individual consumption expenditure from total general government final consumption expenditures.

For calculation of individual and collective consumption expenditure, there are no quarterly data sources, therefore, such calculation is possible only for annual data, for estimation of quarterly data annual structure is used.

5.3 Final consumption expenditure of Non-profit institutions serving households (NPISH) (P.31, S.15)

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

The main data source for year is State Revenue Service data- annual surveys from Non-profit institutions. Final consumption expenditure of Non-profit institutions serving households is estimated as gross output of those institutions. So they can be classified according to NACE rev.1.1 classification by activity.

5.4 Gross capital formation (P.5)

5.4.1 Gross fixed capital formation (P.51)

Main data source for compiling Gross fixed capital formation of quarters is the survey of non-financial investments and construction. Table 5 – 3 shows description about the Survey of non-financial investments.

Table 5 –3: Description of the Household budget survey

Name of survey: ‘Survey of non-financial investments’, 2-Investments
Link to surveys undertaken at the European level (e.g. short term business statistics): Enterprise statistics
Periodicity (e.g. quarterly/monthly/other- to be specified): Quarterly
Time of result availability: 65 days after the end of the reference period
Main variables used in QNA: Long-term investments of intangible assets, fixed assets
Further adjustments made to the survey data: None

After estimation of gross fixed capital formation annual data quarterly data are recalculated. For annual information the surveys ‘Annual survey on enterprise activity’, 1–Annual and ‘Complex survey on organisations activity’ 2-Annual are used.

The information from annual data sources always gives higher Gross fixed capital formation as from quarter's survey. Therefore to minimize differences between quarterly and yearly information some extrapolation method is used, and data of the survey of non-financial investments and construction's are grown up. To determine Gross fixed capital formation on quarters are development of pervious dynamic trends of gross fixed capital formation of previous years, the growth rate of construction production (corresponding period of previous year=1), the growth rate of output of construction (corresponding period of previous year=1), the growth rate of import of capital goods taken also in account.

Survey of non-financial investments and construction contains information on assets of stocks at the beginning and at the end of the period, the intervening changes (total increases and total decreases) and depreciation. This survey is provided by enterprises of all kind of activities, as well as all by budgetary institutions.

'Annual survey on enterprise activity' 1-Annual contains accounting data on annual basis, data being processed by CSB. This survey contains information about Balance sheets of enterprises.

'Complex survey on organizations activity' 2-Annual contains accounting data on annual basis. Reporting units are Budgetary institutions.

To make correct balance of P51, the annual structure of P51 is used. To balance the quarters of 2007 the 2006 structure is used. It shows that, the main groups are construction and machinery and transport equipment. Therefore, the data about these groups are used to determine quarterly P51, as well as growth rate of non-financial investments is used.

To determine GFCF broken down by P.6, the GFCF annual data structure is used, because quarterly GFCF is not calculated in breakdown by P.6. The GFCF annual data are calculated using annual information. At first every sector – S.11, S.12, S.13, S.14, S.15, is broken down by P.6, and afterward summarized to S.1.

5.4.2 Changes in inventories and acquisition less disposals of valuables (P.52, P.53)

Changes in inventories of quarters are derived as balance position. When annual information is available data are corrected.

Main data sources for inventories are the Balance sheets of enterprises. In accordance with ESA-95 changes in inventories should be estimated at the average prices of the year. Therefore, changes in inventories for each type of inventories are calculated as the value of closing stocks minus value of opening stocks plus holding gain impact (price correction).

There are no quarterly data sources for calculation of acquisition less disposals of valuables. Quarterly estimation is obtained dividing annual data by four. Annual estimate of acquisition less disposals of valuables is calculated as the valuables on the aggregated opening balance

minus the valuables on aggregated closing balance from balance sheets of Monetary Financial institutions and from balance sheet of Central Bank of Latvia (Financial and Capital Market Commission information).

5.5 Exports and imports of goods and services (P.6, P.7)

5.5.1 Exports of goods (P.61)

Main data sources for evaluating export of goods are the quarterly information from Balance of Payments of Latvian Central bank. Balance of payments contains statistical information about the economic transactions of residents of the country with the rest of the world (non-residents) for a definite period of time. The Bank of Latvia uses statistics collected by it and other institutions. Data sources are as follows (see table 5 - 4).

Table 5- 4: Data sources for evaluating export of goods

Resources used	Institutions
Foreign trade statistics	Central Statistical Bureau of Latvia
Aggregated data on transportation and intermediary services	Central Bank of Latvia
Aggregated data on extraterritorial trade by shipping vessels	Central Statistical Bureau of Latvia
Profit and loss statement of Bank of Latvia	Central Bank of Latvia
Statistics on non-bank external payments	Central Bank of Latvia

Export of goods covers export of general merchandise, goods for processing, and repairs on goods, goods procured in ports by carriers, and non-monetary gold in a specified period of time.

In compilation of foreign trade statistics the special trade system is used. This means that export where goods produced abroad are imported to and exported from customs warehouses, is excluded from the total. Exports include goods listed in customs cargo declarations for exports and re-export, i.e. export of goods previously imported for domestic consumption, humanitarian and similar aid.

In foreign trade statistics exported goods are stated in FOB value. FOB value is the price of a commodity on the border of the exporting country, which includes the transportation and insurance costs only up to the border. Foreign trade statistics also includes data on export of electricity and natural gas. In addition to foreign trade statistics, the following data sources are used: reports on extraterritorial trade by shipping vessels, information of Central Statistics Bureau of Latvia on goods produced in Latvia and exported from customs warehouses (such

goods are stated at the prices they have upon entering customs warehouses), information on banknote production and coinage costs from the profit and loss statement of Bank of Latvia, and statistics on non-bank external payments, compiled by the Bank of Latvia.

Goods for processing abroad include exports of goods for processing and subsequent imports of these goods. All transactions are recorded on gross basis (the value of goods exported for processing and the value of goods imported after processing). Data on goods for processing are derived from foreign trade statistics, which is compiled by the Central Statistical Bureau of Latvia basing on the data of INTRASTAT monthly reports and customs cargo declarations.

Repairs on goods cover the value of repairs performed by residents on transport vehicles owned by non-residents. The Central Statistical Bureau of Latvia derives the relevant information from data of INTRASTAT monthly reports and from customs cargo declarations, as well as the aggregated data of Bank of Latvia on transportation and intermediary services, and statistics on non-bank external payments.

Data on exports of non-monetary gold (gold that is not included in reserve assets) are derived from the statistics of Bank of Latvia on non-bank external payments.

5.5.2 Exports of services (P.62)

Export of services is calculated in accordance with the Balance of Payments methodology, which is compiled by the Central Bank of Latvia. In Latvian National account no adjustments are made to Balance of Payment data, only the export of FISIM is calculated separately and then summarized to total of export of services. Exports of services are divided into the following main groups: transportation, travel and other services, and export of FISIM.

For calculation of export of services following data sources are used (see table 5 - 5)

Table 5 – 5: Data sources for calculation of export of services

Group of services	Resources used	Institutions
Transportation	Aggregated data on transportation and intermediary services	Central Bank of Latvia
	Statistics on non-bank external payments	Central Bank of Latvia
	Foreign trade statistics	Central Statistic Bureau of Latvia
Travel	Aggregated data on persons entering and leaving the country	Central Statistic Bureau of Latvia

Group of services	Resources used	Institutions
	Number of persons entering and leaving the country	Central Statistic Bureau of Latvia
	Statistics on non-bank external payments	Central Bank of Latvia
Other services	Aggregated data on services	Central Bank of Latvia
	Statistics on non-bank external payments	Central Bank of Latvia
	Banking statistics	Central Bank of Latvia
	Reinsurance premiums and claims paid	Financial and Capital Market Commission
	Aggregated data on revenue and expenditure of Republic of Latvia embassies, representative offices and consulates	Ministry of Foreign Affairs
	Aggregated data on VAT repaid to foreign embassies, representative offices and consulates	State revenue Service
	Profit and loss statement of Bank of Latvia	Central Bank of Latvia
	Foreign trade statistics	Central Statistical Bureau of Latvia
FISIM		Central Statistical Bureau of Latvia

Transportation covers all transportation services rendered by residents to non-residents that involve the carriage of passengers, the movement of goods (freight), rentals (charters) of carriers with crew, and related supporting and auxiliary services. Transportation services are subdivided into the following categories: sea transport, air transport, and other transport. The latter includes transportation by rail, road, and pipeline. Data on transportation services rendered are derived from aggregated data of Bank of Latvia on transportation and intermediary services, and from statistics on non-bank external payments. Data on passenger transportation by air are obtained with calculations, using data on the number of departing passengers by airlines, submitted by Riga International Airport, data of Central Statistical Bureau of Latvia on monthly number of residents and non-residents crossing the state border by air, and information on average prices of airline tickets.

Travel covers all goods and services purchased by non-resident travellers in Latvia. The international carriage of travellers is excluded. A traveller is an individual staying for the purpose of personal or business travel in a economy where she/ he is not a resident for less than one year. This does not apply to students, trainees, and medical patients who remain residents of their economies of origin even if they stay for more than one year. Data on travel are derived from data on persons leaving the country compiled by the Central Statistics

Bureau of Latvia. Travelers are polled at border control points four times a year thus obtaining information about resident's spending abroad. The average spending of a traveller is calculated using mathematical methods; and thereafter, total spending of travellers is obtained. The number of travellers is available from State Boarder Guard of the Republic of Latvia; which registers all persons leaving the country. Likewise, the statistics of Bank of Latvia's on non-bank external payments are used.

Other services cover services that are not included under transportation and travel. Services included are communications services, construction services, insurance services, royalties and license fees, other business services, personal, cultural and recreational services, and government services n.i.e. Data on other services are mainly derived from aggregated data of Bank of Latvia on services and aggregated data of Bank of Latvia's on non-bank external payments. Besides, a number of other sources are used: banking statistics, compiled by the Bank of Latvia; profit and loss statement of Bank of Latvia; aggregated data on revenue of embassies, representative offices and consulates of Republic of Latvia, compiled by the Ministry of Foreign Affairs; and data of reinsurance premiums and claims paid, compiled by Financial and Capital Market Commission. Another source is foreign trade statistics of Central Statistical Bureau.

FISIM as a part of export of services is calculated separately of Balance of Payments and it is done by the Central Statistical Bureau of Latvia.

5.5.3 Imports of goods (P.71)

Main data sources to evaluate the import of goods are the information from Balance of Payments of Latvian Central Bank. The Bank of Latvia uses statistics collected by it and other institutions. Information about data sources and institutions responding about data sources is the same as described in paragraph on export of goods.

Import of goods covers import of general merchandise, goods for processing, and repairs on goods, goods procured in ports by carriers, and non-monetary gold in a specified period of time.

Data on general merchandise are derived from foreign trade statistics provided by CSB of Latvia. They include INTRASTAT monthly data on trading of goods with Member States of European Union and customs declaration data on trading of goods with third countries (as in export). Imports include goods declared for domestic consumption, humanitarian and similar aid.

In foreign trade statistics, imported goods are stated in CIF value. CIF value is the price of a commodity on the border of the importing country, which includes the transportation and insurance costs only up to the border. To provide the compliance with National accounts and ESA-95 requirements, as well as international standards, the import of goods is adjusted to FOB prices. Adjustments, based on ratios showing the average relation between FOB and CIF

values in 1988 and 1999, are made by the Central Statistical Bureau of Latvia. To ensure the breakdown of import of goods by country and to obtain correct information on freight, adjustments are made for each mode of transport and country of origin of goods, declaring separately resident carriers and non-resident carriers. Where the price of goods in a customs cargo declaration is stated in a foreign currency, it is recalculated into lats, applying the exchange rate of Bank of Latvia as on the date the customs cargo declaration was filled in. Foreign trade statistics also includes data on export of electricity and natural gas. In addition to foreign trade statistics data the used data sources for data on import of goods is the same as for export of goods.

Goods for processing in Latvia include imports of goods for processing and subsequent exports of these goods. As in export all transactions are recorded on a gross basis. The main data sources are the same as for export of goods for processing.

Repairs on goods cover value of repairs performed by non-residents on transports vehicles owned by residents.

Goods procured in ports by resident carriers abroad. Data are derived from aggregated data on transportation and intermediary services compiled by the Bank of Latvia.

Data on imports of non-monetary gold are derived from the statistics of Bank of Latvia on non-bank external payments.

5.5.4 Imports of services (P.72)

Imports of services are calculated in accordance with Balance of Payments methodology compiled by Central Bank of Latvia. In Latvian National accounts no adjustments are made to Balance of Payment data, only the import of FISIM is calculated separately and then summarized to total of import of services. The main data sources used for calculation of import of services are the same as for calculation of export of services (see paragraph on export of services.) Import of services is divided into the following main groups: transportation, travel and other services, and import of FISIM.

CHAPTER 6 GDP components: The income approach

Gross domestic product from the income approach contains information on primary incomes from economic activity, which consist of compensation of employees, taxes on production and imports less subsidies, gross operating surplus and gross mixed income. Table 6 - 1 shows the components of GDP in accordance with the expenditure of income.

Direct calculation methods based on information from statistical surveys are used for the calculation of primary data for wages and salaries and for employer's social contributions.

A seasonal adjustment of Income approach added is performed.

Table 6 – 1: GDP by income approach at current prices for the year 2006, million LVL

	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter	Year
Gross domestic product (B.1g)	2287.617	2666.106	2944.913	3273.057	11171.693
Compensation of employees (D.1)	1064.433	1181.266	1252.594	1410.840	4909.133
<i>of which</i>					
- wages and salaries (D.11)	894.852	996.064	1060.401	1179.590	4130.907
- employers' social contributions (D.12)	169.581	185.202	192.193	231.250	778.226
Taxes on production and imports (D.2)	295.213	339.205	386.851	450.773	1472.042
<i>of which</i>					
- taxes on products (D.21)	270.937	318.327	367.593	430.135	1386.992
-other taxes on production (D.29)	24.276	20.878	19.258	20.638	85.050
Subsidies, minus (D.3)	69.690	24.847	8.893	64.731	168.161
Operating surplus and mixed income, gross (B.2g, B.3g)	997.661	1170.482	1314.361	1476.175	4958.679

6.1 Compensation of employees (D.1)

Compensation of employees (D.1 in ESA95) has two breakdowns, one by categories or components and one by kind of activities. In practice, each of the components is broken down by kind of activity (two-digit NACE classification). Table 6 - 2 shows detailed description about of the Compensation of employees by industries.

Compensation of employees has two main components, each of them is broken down in two items (sub-components), see table 6 - 3:

**Table 6 – 2: Compensation of employees by industries at current prices of the 2006,
million LVL**

	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter	Year
A	28.334	33.062	35.730	35.423	132.549
01	12.790	16.380	18.260	16.625	64.055
02	15.544	16.682	17.470	18.798	68.494
B	1.528	1.423	1.266	1.645	5.862
05	1.528	1.423	1.266	1.645	5.862
C	2.862	3.961	4.825	4.152	15.800
10	2.023	2.904	3.646	2.703	11.276
14	0.839	1.057	1.179	1.449	4.524
D	161.995	177.674	186.629	197.012	723.310
15	32.868	36.725	39.122	40.108	148.823
17	6.419	6.926	7.193	7.423	27.961
18	9.423	9.710	9.726	10.081	38.940
19	0.396	0.384	0.404	0.398	1.582
20	29.406	31.118	32.678	34.625	127.827
21	1.928	2.044	2.059	2.175	8.206
22	12.006	12.664	13.541	14.513	52.724
24	6.259	7.588	7.231	8.246	29.324
25	3.900	4.611	5.549	5.832	19.892
26	6.674	8.077	8.695	9.516	32.962
27	5.474	5.764	6.429	6.349	24.016
28	10.507	11.636	12.433	13.178	47.754
29	7.663	8.357	8.978	9.208	34.206
31	4.697	5.676	5.579	6.715	22.667
32	1.347	1.565	1.558	1.868	6.338
34	1.273	1.490	1.509	1.803	6.075
35	6.598	7.410	7.417	7.062	28.487
36	11.621	12.057	12.504	13.338	49.520
16+23+30+33+					
37	3.536	3.872	4.024	4.574	16.006
E	22.328	24.826	28.874	28.368	104.396
40	20.253	22.619	26.530	25.785	95.187
41	2.075	2.207	2.344	2.583	9.209
F	113.392	129.542	150.720	159.381	553.035
45	113.392	129.542	150.720	159.381	553.035
G	161.915	176.842	188.927	208.386	736.070
50	20.347	22.501	25.047	27.569	95.464
51	73.347	77.938	82.839	91.442	325.566
52	68.221	76.403	81.041	89.375	315.040

H	24.249	27.468	29.647	31.252	112.616
55	24.249	27.468	29.647	31.252	112.616
I	109.919	118.583	123.549	129.707	481.758
60	53.363	61.638	64.076	67.345	246.422
61	2.451	2.593	2.497	2.420	9.961
62	3.815	4.365	4.480	4.633	17.293
63	26.565	29.061	30.148	32.292	118.066
64	23.725	20.926	22.348	23.017	90.016
J	51.374	50.320	50.691	59.834	212.219
65	41.141	39.603	39.831	48.605	169.180
66	7.178	7.485	7.608	7.753	30.024
67	3.055	3.232	3.252	3.476	13.015
K	99.285	113.729	124.465	138.309	475.788
70	26.194	30.869	33.707	37.998	128.768
71	3.350	3.144	3.544	4.424	14.462
72	14.676	15.621	16.577	18.399	65.273
73	3.805	4.012	4.287	5.021	17.125
74	51.260	60.083	66.350	72.467	250.160
L	94.530	111.410	112.813	146.201	464.954
75	94.530	111.410	112.813	146.201	464.954
M	86.363	93.178	91.233	129.399	400.173
80	86.363	93.178	91.233	129.399	400.173
N	55.785	62.234	64.202	70.415	252.636
85	55.785	62.234	64.202	70.415	252.636
O	50.574	57.014	59.023	71.356	237.967
90	10.570	12.574	14.336	16.450	53.930
91	3.016	3.697	4.058	4.156	14.927
92	31.726	35.112	34.676	44.255	145.769
93	5.262	5.631	5.953	6.495	23.341
Total	1064.433	1181.266	1252.594	1410.84	4909.133

Table 6 – 3: Components of compensation of employees

Main components	Sub-components
D.11 Wages and salaries	Wages and salaries in cash
	Wages and salaries in kind
D.12 Employers' social contributions	D.121 Employers' actual social contributions
	D.122 Employers' imputed social contributions

In National Accounts of Latvia, **wages and salaries in cash** comprise the following main elements:

- Wages and salaries payable at regular intervals (mostly monthly), including any social contributions, income taxes etc. payable by the employee also if actually withheld by the employer and paid directly to social insurance schemes and tax authorities on behalf of the employee;
- Enhanced rates of pay for overtime, night work, and holiday work, disagreeable or hazardous circumstances;
- Housing allowances paid in cash by employers to their employees;
- Bonuses based on productivity or profits;
- Allowances for transport to and from work;
- Commissions, tips, attendance or directors' fees paid to employees;
- Exceptional payments to employees who leave the enterprise, if those payments are not linked to a collective agreement;
- Wages and salaries payable to employees away from work on short periods, e.g. on holidays, or as a result of a temporary halt to production.

In National Accounts of Latvia, the most important types of **wages and salaries in kind** covered are:

- Goods, services for private use;
- Expenditures on housing owned by the enterprise;
- Cost to the enterprise of company cars supplied to employees for their private use;
- Meal vouchers;
- Kindergartens and day nurseries.

Employers' social contributions (D.12) in National Accounts of Latvia are divided into two sub-items, one on employers' actual social contributions and another on employers' imputed social contributions. Payments are recorded during the period in which the work is done.

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 (expenditures in relation to anniversaries, study grants for employees etc.).

Main data sources used for calculation of compensation of employees are:

- Enterprise Survey on Labour (2-Labour);
- Employment data from Labour Force Survey (LFS).

‘Enterprise Survey on Labour’, 2-Labour is quarterly survey on labour. This survey was introduced in 1997 and is based on the Statistical Business Register of the CSB. In the sampling frame only economically active enterprises are included. All enterprises whatever their size by NACE Rev.1.1 sections A to O and all employees are covered including those working on part-time, apprentices, those who began to work during the reference quarter or finished work during the reference quarter. The survey contains a series of statistics on wages and earnings in different industries. Table 6 - 4 shows detailed description about the Enterprise Survey on Labour.

It provides quarterly data on employed persons and employer’s social contributions. Data are available by kind of activity, public and private sector and by administrative territories of the country. Information is used as primary data for wages and salaries, employers’ actual social contributions and employers’ imputed social contributions.

Table 6 – 4: Description of the Enterprise Survey on Labour

<i>Name of survey:</i> Enterprise Survey on Labour (2-Labour)
<i>Link to European surveys:</i> Council Regulation No 1165/98 concerning short-term statistics. Commission Regulation No 1737/2005 amending Regulation 1726/1999 as regards definition and transmission of information on labour costs
<i>Reporting units:</i> Economically active enterprise (legal unit)
<i>Periodicity:</i> Quarterly
<i>Time of result availability:</i> 60 days after the reference period
<i>Sampling frame:</i> Statistical Business Register
<i>Main features of survey methodology:</i> Stratified simple random survey, postal questionnaire
<i>Method used to impute missing data:</i> Re-weighting for unit non-response; cold-deck imputation
<i>Variable used for grossing-up of the population:</i> Sampling weight = number of units in stratum/number of surveyed units
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> Number of employed people in the main job in the sample and number of employed people in the main job in the universe, that is 80.1%
<i>Main variables used in QNA:</i> wages and salaries, employers’ actual social contributions, employers’ imputed social contributions, number of employees

Further adjustments made to the survey data: From 2008 data for micro enterprises (number of employees 1-4) will be obtained using administrative database of the State Revenue Service

'Labour Force Survey', LFS is the main source of information on situation in the labour market (employment, unemployment, inactivity). Starting from November 1995, Labour Force Survey was conducted in Latvia. Starting with 2002, several changes were performed in the organization of the Labour Force Survey to achieve correspondence to the regulations of European Union and to make the survey information comparable to the information obtained during similar surveys in other countries. LFS covers information on population categories, which are not covered in other surveys, for example, unemployed persons not registered in State Employment Agency, and self-employed persons. LFS is used for primary data on employment and estimation of hidden economy (by comparison). Table 6 - 5 shows detailed description of the Labour Force survey.

Table 6 – 5: Description of the Labour Force Survey'

<i>Name of survey:</i> 'Labour Force Survey' (LFS)
<i>Link to surveys undertaken at the European level:</i> Council Regulation No 577/98 on the organisation of a labour force survey in the community
<i>Reporting units:</i> Households
<i>Periodicity:</i> Quarterly, continuous survey
<i>Time of result availability:</i> 60 days after quarterly data of reference period, 80 days after annual data of reference period
<i>Sampling frame:</i> Updated data base of Population Census
<i>Main features of survey methodology:</i> Stratified two stage sampling, face to face interviews
<i>Method used to impute missing data:</i> Not relevant
<i>Variable used for grossing-up of the population:</i> Sampling weight = number of units in stratum/number of surveyed units
<i>Sample coverage, as % in terms of variable used for grossing-up:</i> Inflating factors are calculated for the capital, 6 major cities, towns and rural area, 14 age groups and sex.
<i>Main variables used for QNA:</i> Number/ share of employed population in the main job by sector of economic activity, self employed persons, economically inactive population, share of unemployed persons aged 15-74 years in the economically active population.
<i>Further adjustments made to the survey data:</i> Enlarging available information (annual data) on the Internet web site of the Central Statistical Bureau of Latvia

Analysing survey data concerning small companies, it is identified that, some companies under valuate data on profits and wages. Besides, it is assumed that employers often do not record full amount of wages paid and actually share profits with employees. For this purpose National Accounts of Latvia makes *three adjustments for wages and salaries: adjustment a, b and c*.

Adjustments are made to the wages and salaries (D.11):

Adjustment a (for small firms with surveyed average wages below legal minimum wage)

In many activities, it is found that enterprises surveyed declare to pay average wages below the legal minimum wages. However, it is known that actual wages are not below the legal minimum. This adjustment recalculates average compensation per employee on the assumption that it is not below the legal minimum wage. This calculation is done enterprise-by-enterprise for small enterprises (enterprises below 50 employees included in the sampling part of the Survey of Labour), and only for Sector 11.

By extrapolation according to the sample stratification, an adjusted average compensation per capita is obtained. The difference between the adjusted and the unadjusted average compensation is used to calculate the additional amount of compensation for each activity. This adjustment implies a corresponding increase in total GDP.

Adjustment b (for hidden economy)

The estimate of wages and salaries in the hidden economy is obtained as follows: number of employees of non-covered employment multiplied by average compensation of employees (calculation by activity, after adjustment a) for Sector 14.

Labour Statistics Section provides the estimate on the number of employees of hidden economy.

Adjustment c (for underreported wages)

This adjustment is the result of Experts assessment on the data, after adjustments a and b for Sector 11. The Experts assessment on eventual underreporting of wages is made, using several sources (like the Questionnaire on the Informal Sector and information on average wages by activity). The result of Experts assessment consists in allocating various plausible degrees of underreporting of wages. As a consequence, additional adjustment to the amount of compensation by activity is obtained.

The notion of benchmark and extrapolations has an important role in all quarters of the year, because information about adjustments for minimum wages (adjustment a) and for hidden economy (adjustment b) are not available for current year. That is why in National Accounts of Latvia data for these two adjustments are taken from the latest available year. After getting figures for current year, figures for its four quarters are revised. It means, that at the time

when the whole year has to be calculated, adjustment figures for current year are available. There is a need to recalculate all quarters.

Adjustment d (for travel allowance per day)

Travel allowance per day is adjusting to the wage and salary for government sector every quarter. Information about adjustment for travel allowance per day is not available for current year. Travel allowance per day in every quarter was estimated by using data on last year calculated travel allowance per day, which was determined on detailed budget information (Report on the central and Local Government Budget Implementation) basis. After getting figure for current year, figure for its four quarters is recalculated.

Direct calculation methods (direct methods based on information from statistical surveys) are used to calculate wages and salaries and employers social contributions. Indirect methods – adjustments a, b, c and d – are used for calculation of compensation of employees (D.1) and taxes on production and imports minus subsidies (D.2-D.3).

The final NA estimate for D1 is obtained by sum:

$$\text{NA D.1} = \text{Adjusted D.11} + \text{D.12}$$

$$\text{Adjusted D.11} = \text{Primary D.11} + \text{adjustment a} + \text{adjustment b} + \text{adjustment c} + \text{adjustment d}$$

$$\text{D.12} = \text{D.121} + \text{D.122}$$

Quarterly data are recalculated on the basis of annual data. Data sources used for annual compensation of employees in NA are:

- Annual Report on the Central and Local Government Budget Implementation;
- State Revenue Service data;
- Latvian State Institute of Agrarian Economics data;
- Annual survey on enterprise activity (1-Annual);
- Complex survey on organizations activity (2-Annual);
- Household budget survey.

6.2 Taxes less subsidies on production (D.2 – D.3)

Taxes on production and imports (D.2) are divided into two main groups: taxes on products (D.21) and other taxes on production (D.29).

In terms of ESA95, other taxes on production include one single item, defined as taxes that enterprises incur as a result of engaging in production, independently of the quantity or value of the goods and services produced or sold. It should be emphasised that rules and procedures exist to ensure that for each tax a correct and consistent classification is made. Such items are taxes on property, risk duty of business, natural resources tax, lottery and gambling state duty, gambling equipment marking duty, lottery of goods and services organization duty, payment for rental of commercial fishing rights, other special target state duties; all were allocated to the category of other taxes on production. Taxes exclude payments for services provided by government in proportion to the cost of the work involved.

Data for taxes on production and imports for quarters are taken from the **Monthly Reports on Budget Settlement** provided by State Treasury. Data for taxes on production and imports paid to the European Union are obtained from the Ministry of Finance. Ministry of Finance provides correction of tax revenue every quarter.

Monthly report on Budget Settlement provides information about: central government consolidated budget; central government basic budget data; local government consolidated budget; local government basic budget data; central and local government donations. Many data are available in breakdown by state ministries. Data used for income approach is information about taxes on production and imports, taxes on products, other taxes on production and subsidies. Table 6 - 6 shows detailed description about the Monthly Report on Budget Settlement.

Table 6 – 6: Monthly Report on Budget Settlement

<i>Name of data source:</i>	Monthly Report on Budget Settlement
<i>Link to European surveys:</i>	
<i>Organization collecting the data, and purposes for which it is collected:</i>	The Treasury
<i>Reporting units:</i>	Budgetary institutions
<i>Periodicity:</i>	Monthly
<i>Time of result availability:</i>	20 days after the reference period
<i>Variables used for QNA:</i>	taxes on production and imports, taxes on products, other taxes on production and subsidies
<i>Further adjustments made to the data:</i>	Ministry of Finance gives correction of tax revenue because of time lag

Subsidies (D.3) have two main components: subsidies on products (D.31) and other subsidies on production (D.39).

In terms of ESA95, other subsidies on production include one single item (D.39), defined as unrequited payments from general government which resident producer units receive as a consequence of engaging in production and which are not linked to the quantity or value of the goods and services produced or sold. It should be underlined that rules and procedures exist to ensure that all subsidies on production are estimated and consistent classification is made.

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

Data for subsidies on products (D.31) are obtained from **Latvian State Institute of Agrarian Economics (Complex of surveys to compilation of aggregate account of agriculture)** and from **Balance of Payments**.

Complex of surveys to compilation of aggregate account of agriculture includes information about agricultural activity in Latvia. This source contains monthly, quarterly and annual aggregate accounts of agriculture. Latvian State Institute of Agrarian Economics is responsible institution on compilation of Economic Accounts for Agriculture and on Agriculture Sector Modelling. Subsidies on products are calculated according LEK methodology. Source description is done in the chapter 4.

Balance of Payments is a financial report prepared by the Bank of Latvia. Balance of Payments provides quarterly information about subsidies on products received from European Union. Table 6 - 7 shows detailed description about the Balance of Payments.

Table 6 – 7: Balance of Payments (BoP)

<i>Name of data source:</i> Balance of Payments
<i>Organization collecting the data, and purposes for which it is collected:</i> The Bank of Latvia
<i>Periodicity:</i> Quarterly and annual
<i>Time of result availability:</i> 90 days after the reference period
<i>Variables used for QNA:</i> subsidies on products
<i>Further adjustments made to the data:</i> No adjustments made

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

6.3 Gross operating surplus and gross mixed income (B.2g + B.3g)

The sum of 'Gross operating surplus' and 'Gross mixed income' is derived as a residual. This position is formed by the difference between GDP as determined by the production approach and the sum of compensation of employees (D.1) and taxes less subsidies on production (D.2 – D.3).

CHAPTER 7 Population and employment

7.1 Population (POP)

The estimation of population in QNA is based on data from the:

- Registers of the General Registry offices;
- Statistical survey of divorces;
- Data of the Population Register of the Office of Citizenship and Migration Affairs;
- Data of the Naturalisation Board;
- Data of the Health Statistics and Medical Technologies State Agency.

The method of collecting information in demographic statistics is a full-scope survey.

The data characterising the population number and change factors thereof are regularly updated on the basis of civil registry office data and information on population migration.

In the Latvia data available on the population size within the present borders of Latvia. For the years when population censuses were conducted the number of population is available also as of the date of the census (January 12, 1989; March 31, 2000). Data on the number of population and change factors thereof after the 1989 Population Census have been recalculated on the basis of the finalised results of the 2000 Population Census.

The compilation population data the following classifications:

- Classification of Administrative Territories and Territorial Units of the Republic of Latvia;
- Classification of Ethnicities of the Republic of Latvia.

For detail view see:

www.csb.gov.lv > Klasifikācijas > only Latvian language

In QNA, quarterly population data are calculated as the average between the beginning and the end of each quarter. Short term (quarterly and monthly) data are revised after completion of processing annual data.

7.2 Employment (ETO): persons

Table 7 – 1: Population and employment at thousands person for the 2006

	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter	Year
National concept					
Population	2292.5	2288.7	2285.8	2283.0	2287.8
Employment	1057.4	1071.6	1119.4	1101.4	1073.7
Employees	942.6	930.4	996.4	977.3	947.6
Self-employed	114.8	141.2	123.0	124.1	126.1
Domestic concept					
Total employment	1044.7	1055.1	1103.9	1088.5	1073.7
Agriculture, hunting and forestry; fishing (A+B)	112.0	134.8	133.6	108.8	118.2
Industry including energy (C+D+E)	190.1	180.6	175.7	179.1	185.8
Construction (E)	91.2	89.6	121.0	125.0	104.3
Wholesale and retail trade (G+H+I)	302.0	300.2	308.7	305.0	299.7
Financial, real estate, renting and business activities (J+K)	83.1	99.7	91.8	102.5	100.2
Other service activities (L+M+N+O)	266.3	250.2	273.1	268.1	265.5
Employees	929.9	913.9	980.9	964.4	947.6
Self-employed	114.8	141.2	123.0	124.1	126.1

Labour force survey (LFS) is the main source for quarterly estimation of employed persons, employees and self-employed. See table 6 - 3 shows detailed description about the Labour Force survey in the chapter 6.

Starting from 2002 LFS is carried on continuous basis with publication of quarterly results.

Quarterly Enterprise Survey on Labour (ES) data is used to estimate **number of employees (EEM)**. See table 6 - 2 shows detailed description about the Enterprise Survey on Labour in the chapter 6.

ES data are processed by the main kind of activity.

To get data comparable with LFS results by kind of activity unit 3-year moving averages are used from Integrated Survey on Enterprise Economic Activity. Table 7 - 2 shows detailed description about the Integrated Survey on Enterprise Economic Activity.

Estimation takes place at more detailed breakdown with final aggregation at A6 level.

Number of employees is calculated by comparing data in main job from both sources: LFS and ES at A17 level.

As far conscripts are not considered as employed according to LFS methodology to be consistent with ESA number of conscripts is added to LFS results. Data on conscripts was obtained in Ministry of Defence.

In practice, LFS figures are almost always higher than ES figures the difference is considered as hidden employment (part not covered by enterprise surveys).

As a rule there are two activities where we assumed that data from ES are more reliable: E (Electricity, gas and water supply) and L (Public administration)

Combination of data to obtain DC (domestic concept):

$$DC = \text{Employees (LFS; ES)} + \text{Conscripts (Ministry of Defence)} - \text{Residents working abroad for less than 1 year (LFS)}$$

Activity Q (Extra territorial organisations and bodies) and Non-residents working in the country are not considered because numbers are small and sources not reliable due to small sample (LFS) or insufficient information.

Table 7 – 2: Description of the Integrated Survey on Enterprise Economic Activity

<i>Name of the survey:</i>	Integrated Survey on Enterprise Economic Activity
<i>Link to European surveys:</i>	Council Regulation No 58/97 concerning structural business statistics
<i>Periodicity:</i>	Annual
<i>Time of availability of results:</i>	T + 315 days
<i>Main variables used:</i>	Number of employees by economic activity of local unit

For the number of **self-employed (ESE)**, LFS is the only source and the figure from this source is retained.

LFS quarterly results are published within 60 days after reference quarter. Data could be revised after processing of annual results.

ES data are available 70 days after reference quarter. The data of quarters I to III are preliminary when first released. The data for the last time are revised after processing the data of the quarter IV. At this time the data of all quarters of the year become final.

7.3 Employment: total hours worked

Total hours worked are considered as the significant indicator concerning the survey of productivity. Notwithstanding this fact, information available for the compilation of the quarterly series often falls short and must be elected with precaution.

Currently CSB of Latvia is working with draft methodology for estimation of quarterly hours worked. Until the end of 2009 it is planned to test methodology on quarterly data 2006 based on LFS and ES results, to finalize methodology and estimation on hours worked for 2006.

CHAPTER 8 From GDP to net lending/borrowing

8.1 Primary income from/to the RoW (D.1 to D.4), gross national income (B.5*g)

This paragraph outlines the transition of GDP to GNI (ESA95). In the Latvia system of accounts, GNI is obtained by adding compensation of employees and property income to/from the Rest of the World (RoW), taxes on production paid to the RoW.

Quarterly primary income is estimated by each component as follows:

- D1 – compensation of employees (receipts from and payments to the RoW)
- D2 – taxes on production paid to the RoW
- D3 – subsidies received from the RoW
- D4 – property income (receipts from and payments to the RoW)
 - o D41 – interest

Table 8 - 1 break down the transition from GDP to GNI in the reference year (2006): the values are consistent with the National Accounts of Latvia. The analysis of the data shows that, in 2006 as a result of the RoW income balance, the value of gross national income at market prices (GNI) reduced that of gross domestic product at market prices by LVL 329886 thousand (Q1=37902; Q2=95167; Q3=102349; Q4=94468).

Table 8 - 1 Transition from GDP to GNI in thousands LVL, in 2006

Code	Description	1st quarter	2nd quarter	3rd quarter	4th quarter	Year
B.1*g	GDP at market (current) prices		2666106	2944913	3273057	11171693
(+) D.1	Compensation of employees (net)	60486	63394	65032	65743	254655
D.1(+)	Compensation of employees from the world (+)	63969	66539	68487	69842	268837
D.1(-)	Compensation of employees to the world (-)	3483	3145	3455	4099	14182
(-) D.2	Taxes on production paid to the ROW	9726	8169	8688	15378	41961
(+) D.3	Subsidies received from the RoW	65095	13140	457	17272	95964
(+) D.4	Property income (net)	-153757	-163532	-159150	-162105	-638544
D.4(+)	Property income from the rest of the world (+)	54452	72330	84153	92591	303526
D.41(+)	of which interest	50548	66530	76283	90182	283543

Code	Description	1st quarter	2nd quarter	3rd quarter	4th quarter	Year
	<i>interest from BoP</i>	60020	75202	82907	94982	313111
	<i>FISIM from CSB</i>	-9472	-8672	-6624	-4800	-29568
D.4(-)	Property income paid to the rest of the world (-)	208209	235862	243303	254696	942070
D.41(-)	of which interest	73654	94940	112548	126037	407179
	<i>interest from BoP</i>	59304	81919	94180	115271	350674
	<i>FISIM from CSB</i>	14350	13021	18368	10766	56505
(=) B.5*g	GNI at market prices (B.5*g)	2249715	2570939	2842564	3178589	10841807
(-) K.1	Consumption of fixed capital	367405	428192	472970	525672	1794239
B.5*n	Net national income	1882310	2142747	2369594	2652917	9047568

BOP is the main source of RoW on the primary income transactions. In accordance with the Law "On the Bank of Latvia" The Bank of Latvia shall collect, register and compile financial and balance-of-payments statistics, as well as publish the compiled statistics.

Latvia's Balance of Payments Statistics Database contains data starting from 1992. From 1992 to 1999, the data were prepared by the Central Statistical Bureau of Latvia (CSB), whereas from 2000, Latvia's BoP has been compiled and published by the Bank of Latvia. With international requirements concerning statistics changing, the level of detail provided has deepened; therefore, certain period data may be missing from some of the tables.

Latvia's Balance of Payments Statistics Database allows you to generate and download customised statistics.

Contact persons for the data published in the quarterly bulletin Latvia's Balance of Payments:

Aigars Kalniņš: aigars.kalnins@bank.lv

Data are published on the Bank of Latvia homepage:

http://www.bank.lv/eng/main/all/statistics/bop_stat/database/

Cooperation between the CSB and the Bank of Latvia ensures the exchange of information in transactions with the RoW, and this cooperation is carried out in accordance with cooperation agreement. The agreement is reviewed, updated and revised every year. The agreement ensures the provision of numerical and methodological information. Ad-hoc meetings are also held to solve and discuss relevant issues.

Data are compiled and published with reference to BoP standard components specified in the fifth edition of the International Monetary Fund's (IMF's) Balance of Payments Manual

(BPM5). Details for all BoP components are comprehensive and include the Extended Balance of Payments Classification.

Latvia's Balance of Payments reflects the external stability of the economy and forms a part of the system of national accounts. The balance of payments is comprised of the current, capital and financial accounts.

The statistical statement summarises economic transactions of residents of Latvia with the RoW during the reporting period. Resident institutional units are defined in broad conformity with the BPM5's concepts of the economic territory and centre of economic interest.

8.1.1 Compensation of employees (D.1) from/to the RoW

Employees earning income from labour in another state as border or seasonal workers make a contribution to the gross national income of their home country.

Information on compensation of employees from/to the RoW is available from the BoP on a quarterly basis (BOPSY code 310). In data compilation there are no conceptual or methodological differences between National Accounts and Balance of Payments.

8.1.2 Taxes on production and imports (D.2) to the RoW

Information on taxes on production and imports paid to the RoW is available from the Ministry of Finance on a quarterly basis.

Ministry of Finance collects information on taxes on products to EU institutions. According to the ESA-95 methodology and Eurostat Note of May 12, 2004 to GNI Committee members, these amounts are recorded on gross basis.

Preliminary Taxes on production and imports are evaluated differently in Ministry of Finance and in preliminary BoP.

Initial D.2 we get from provisional Balance of Payments (BOPSY code 380D21). When data of the Ministry of Finance are available (these data are available slightly later than provisional BoP), initial D.2 is corrected. This nonconformity is averted also when making revision in the Balance of Payments

8.1. 3 Subsidies (D.3) from the RoW

Subsidies from the rest of the world contain the payments of the European Union for market regulation. Starting from May 2004, Balance of Payments provides quarterly information about subsidies on products received from the European Union, displayed into BOPSY 380D31.

In data compilation there are no conceptual or methodological differences between National Accounts and Balance of Payments, thus the sum of the BoP quarterly figures matches exactly the values of annual National Accounts and no further benchmarking is required.

8.1.4 Property income (D.4) from/to the RoW

The property income (D.4) category is treated as collectively as property income represents income, which is received from Latvian owners of financial assets held abroad and from foreign owners of assets held in Latvia.

The data for the quarterly calculations of Property income (D.4) are obtained from quarterly Balance of Payments (BOPSY code 334; 349; 370). In respect to per cent flows (D.41) the BoP data are corrected with calculated FISIM value.

The income from FISIM services, which are formed by the received and paid interest rates, in breakdown by quarters is calculated in the CSB.

8.2 Consumption of fixed capital (K.1), net national income (B.5*n), acquisition less disposals of non-financial non produced assets (K.2)

Net national income (B.5*n) is obtained subtracting the consumption of fixed capital (K.1) from gross national income (B.5*g). (See table 8-1)

8.2.1 Consumption of fixed capital (K.1)

Consumption of fixed capital (K.1) represents the amount of fixed assets used up, during the period under consideration, as a result of normal wear and tear and foreseeable obsolescence, including a provision for losses of fixed assets as a result of accidental damage that can be insured against. (ESA 1995 6.02)

Consumption of fixed capital should be distinguished from the depreciation shown in business accounts. Consumption of fixed capital represents the amount of fixed assets used up, during the period under consideration. Consumption of fixed capital is estimated on the basis of the

stock of fixed assets and probable average economic life of the different categories of those goods.

If no quarterly information on capital stock is available quarterly estimate of fixed capital consumption is obtained using the quarterly gross fixed capital formation series as indicators. The quarterly disaggregation is done at current prices

8.2.2 Acquisition less disposals of non-financial non-produced assets (K.2)

Information on acquisition less disposal of non-financial non-produced assets (K.2) is available from the quarterly BoP (BOPSY code 480). In the compilation of these aggregates there are not methodological or conceptual differences between National Accounts and BoP and no further benchmarking is required.

8.3 Current transfers from/to the RoW (D.5 to D.7), net national disposable income (B.6*n)

Disposable income is the balancing item of the current income in the redistribution of income account. It is obtained for each sector by adding current transfers receivable to primary income and by deducting all current transfers payable. It can be used for consumption or saving.

Adjusted disposable income is a corresponding item in the redistribution of income in kind account.

Net national disposable income (B.6*n) is calculated by subtraction of net current transfers from/to the rest of the world (D.5 to D.7) from net national income (B.5*n).

Information on current transfers from/to the RoW is available from the BoP on a quarterly basis, displayed into BOPSY: code 380D7N, code 391 and code 392. In data compilation there are no conceptual or methodological differences between National Accounts and Balance of Payments.

8.4 Adjustment for the change in net equity (D.8), net savings (B.8*n)

Saving is the balancing item in the use of income accounts. It is the positive or negative amount resulting from current transactions which establishes the link with accumulation. If saving is positive, non-spent income is used for the acquisition of assets or to pay off the liabilities. If saving is negative, certain assets are liquidated or certain liabilities increase.

Net saving (B.8*n) is derived subtracting consumption expenditures (P.3) and change in net equity of households in pension funds reserves (D.8) from net disposable income (B.6*n).

Adjustments for the changes in net equity of households in pension fund reserves (D.8) in quarterly accounts are reflected only in the 4th quarter, after annual accounts are balanced.

8.5 Capital transfers (D.9), net lending/borrowing (B.9)

Net lending/net borrowing is a balancing item in the capital account and financial account.

Net lending/borrowing corresponds to the amount available to a unit or sector for financing, directly or indirectly, other units or sectors or the amount, which a unit or sector is obliged to borrow from other units or sectors.

Information on Capital transfers (D.9) from/to the RoW is available from the BoP on a quarterly basis by summing up capital transfers of the private and public sector as published into BOPSY code 4000. In Capital transfers data compilation there are no conceptual or methodological differences between National Accounts and Balance of Payments.

Net lending/borrowing is obtained adjusting net saving (B.8*n) by net capital transfers (D.9) and net acquisition less disposals of non-financial non-produced assets (K.2) and net capital formation (P.5), which is gross capital formation less consumption of fixed capital (K.1).

CHAPTER 9 Flash estimates

9.1 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 (2000) GDP flash estimate is "...the earliest picture of economy according to national accounts concepts, which is produced and published as soon as possible after the end of the quarter."¹ Generally it is 40-45 days after the end of the reference period, for Central Statistical Bureau of Latvia it is 40 days after the end of quarter.

The methodology used for the production of the flash estimate is the same as in the regular estimation. Quarterly value added data were used according to NACE rev1.1 classification A17 where taxes on products were added and product subsidies subtracted.

Flash estimation of GDP for CSB of Latvia takes place in three stages:

- CSB calculates the value added of sectors such as mining and quarrying (C), manufacturing (D) and electricity, gas and water supply (E) five days before the publishing of flash estimates;
- by applying the forecast equations value added of the remaining sectors is determined;
- 99% confidence interval is set for a common forecast and expert makes an adjustment within the bounds of this interval, if necessary.

The value added of sectors C, D and E is calculated 35 days after the end of the reference quarter. It is based on the data in the monthly survey of industrial activity. Monthly data are collected from economically active enterprises where 20 and more persons are employed in industrial production or where the turnover in the previous year exceeded LVL 300 thousand. Starting from the 15th day information on industrial output at current prices each month is collected within ten days at 4-digit level of NACE rev.1.1. The industrial output indicators are recalculated into constant prices using the producer price indices.

The missing data for GDP flash estimate are based on the forecast equations with the ARIMA structure. In the modeling of individual sectors lagged sectoral value indicators and seasonal dummies were basically used as explanatory variables. On the basis of the ARIMA theory it was supplemented with three tools:

- the autoregressive or AR, term. Each AR term of the respective order corresponds to the use of a lagged value of the residual.
- the integration. That means differencing the forecast time series n times, and then such series are designated as integrated by order n and designated as $I(n)$.

¹ "Eurostat Handbook on Quarterly National Accounts" Eurostat (2000), Page 374

- the moving average term or MA. A moving average forecasting model uses lagged values of the forecast error to improve the current forecast.

The forecasting ability of individual sectors was evaluated by means of several indicators. For the evaluation of forecast errors the indicators of the root mean squared error RMSE and the mean absolute percentage error MAPE were used. Theil's inequality coefficient TIC was applied in the same way showing the closeness of a forecast to actual data, as well as the bias proportion BP, which describes how far the mean forecast is from the actual mean, the variance proportion VP showing how far the forecast variance is from the actual data variance, and finally the covariance proportion CP, which measures the proportion of the remaining non-systematic forecast errors.

The parameters of the regression equations, test statistics, as well as the forecasting ability were calculated applying the programme Eviews 5.0

The largest percentage share of value added is calculated using the forecast equations of sectors. Since these equations are based on growth dynamics of the sectors, errors in the current period may emerge in the sectoral indicators in comparison with the forecasts in case when changes are too rapid. To avoid such situations the result obtained is verified and, if necessary, adjusted by an *expert*, CSB officers involved in GDP calculation. If adjustment is necessary, it is done within the limits of the 99% confidence interval, which together with the forecast is obtained using the programme Eviews5.0.

9.2 Flash employment estimate

CSB of Latvia doesn't produce flash estimate for employment.

9.3 Other flash estimate

CSB of Latvia doesn't produce any other flash estimate.