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**LITHUANIAN  
QUARTERLY NATIONAL ACCOUNTS  
INVENTORY**

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# LITHUANIAN QNA INVENTORY

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## Chapter 1. Overview of the system of quarterly accounts

The Inventory describes and presents the quarterly data of 2005.

### 1.1. Organisation and institutional arrangements

**1.1.1.** The Lithuanian Department of Statistics (Statistics Lithuania) is responsible institution for the compilation of national accounts. The Lithuanian national accounts are estimated both quarterly and annually. GDP is obtained from the production, income and expenditure sides every quarter from 1994. GDP by production and expenditure approaches are estimated at current and constant prices while the GDP by income approach is estimated only at current prices. The quarterly GDP data are seasonally adjusted.

**1.1.2.** Quarterly and annual estimates are made for GNI and employment data as well.

The National Accounts Division (NAD) and the Division of Methodology and Quality in the Lithuanian Department of Statistics are in charge for the quarterly estimates. The Division of Methodology and Quality produces the first flash estimates of GDP, employment and GNI data on the basis of econometric models as well the second GDP estimate in two months after the reference quarter. Two-three persons are involved in these calculations (head of the Division who also produces data is Ms. Bronislava Kaminskienė – [bronislava.kaminskiene@stat.gov.lt](mailto:bronislava.kaminskiene@stat.gov.lt)). They also produce seasonally adjusted data.

**1.1.3.** The National Accounts Division estimates detailed quarterly national accounts data on the basis of statistical surveys and administrative data sources. There are 29 employees in the NAD of which 14 persons produce both quarterly and annual estimates. Head of the Division (Ms. Irena TvariJonavičiūtė – [irena.tvarijonaviciute@stat.gov.lt](mailto:irena.tvarijonaviciute@stat.gov.lt)) is responsible for the methodological implementation of ESA 95, compilation and publication of data, including public finance statistics and financial accounts. There are two Deputy Heads in the NAD. One of them (Ms. Gailute Juškienė – [gailute.juskiene@stat.gov.lt](mailto:gailute.juskiene@stat.gov.lt)) is responsible for the compilation of quarterly and annual non-financial accounts by institutional sectors including Rest of the World accounts. Second (Ms. Jūratė Šinkūnienė – [Jurate.sinkuniene@stat.gov.lt](mailto:Jurate.sinkuniene@stat.gov.lt)) is in charge for the methodological issues. One person (Ms. Eglė Rėčkutė – [egle.reckute@stat.gov.lt](mailto:egle.reckute@stat.gov.lt)) is responsible for the data dissemination and publication. The responsibility between staff is distributed according to the general topics of SNA.

**1.1.4.** List of the NAD staff responsible for the quarterly data:

1. Ms. Liubovė Muravskaja – GDP by production approach – [liubove.muravskaja@stat.gov.lt](mailto:liubove.muravskaja@stat.gov.lt);
2. Ms. Tatjana Rumianceva – GDP by expenditure approach – [tatjana.rumianceva@stat.gov.lt](mailto:tatjana.rumianceva@stat.gov.lt);
3. Ms. Almutė Pranskūniene – GDP by Income approach – [almute.pranskuniene@stat.gov.lt](mailto:almute.pranskuniene@stat.gov.lt);
4. Ms. Jelena Masiliūnienė – Mining, quarrying, manufacturing and energy activities – [jelena.masiliuniene@stat.gov.lt](mailto:jelena.masiliuniene@stat.gov.lt);
5. Mr. Tomas Paulauskas – Financial intermediation services – [tomas.paulauskas@stat.gov.lt](mailto:tomas.paulauskas@stat.gov.lt);
6. Mr. Rimvydas Miliauskas – FISIM – [rimvydas.miliauskas@stat.gov.lt](mailto:rivydas.miliauskas@stat.gov.lt);
7. Ms. Vaida Savickaitė – Public collective and individual services – [vaida.savickaite@stat.gov.lt](mailto:vaida.savickaite@stat.gov.lt);
8. Ms. Eglė Lukšienė – Household final consumption expenditure – [egle.luksiene@stat.gov.lt](mailto:egle.luksiene@stat.gov.lt);
9. Ms. Raisa Meščeriakova – Gross fixed capital formation – [raisa.mesceriakova@stst.gov.lt](mailto:raisa.mesceriakova@stst.gov.lt);
10. Ms. Ana Kvaukienė – Changes in inventories, exports and imports – [ana.kvaukiene@stat.gov.lt](mailto:ana.kvaukiene@stat.gov.lt);
11. Ms. Galina Baltrūnienė – Consumption of fixed capital – [galina.baltruniene@stat.gov.lt](mailto:galina.baltruniene@stat.gov.lt);

12. Ms. Daiva Bludnickaitė – Rest of the World accounts – [daiva.bludnickaitė@stat.gov.lt](mailto:daiva.bludnickaitė@stat.gov.lt);
13. Mr. Jurijus Sluka – Employment data – [jurijus.sluka@stat.gov.lt](mailto:jurijus.sluka@stat.gov.lt);
14. Ms. Lolita Los – Price and volume indices – [lolita.los@stst.gov.lt](mailto:lolita.los@stst.gov.lt).

## **1.2. Publication timetable, revisions policy and dissemination of QNA**

**1.2.1.** Statistics Lithuania publishes quarterly GDP three times after the end of reference quarter. First release of provisional GDP (flash estimate) is issued on 27<sup>th</sup> day after the end of quarter. Only nominal, real and seasonally adjusted GDP and its growth rate are published at this time and also transmitted to Eurostat.

**1.2.2.** Second GDP estimate is published on 60<sup>th</sup> day after the end of reference quarter. This publication covers GDP estimates by three approaches: production, income and expenditure. Gross value added is presented by 6 kind of activity according to the ESA95 Data Transmission Programme. All income and expenditure components are published as well.

**1.2.3.** And the third revised quarterly GDP is published on 90<sup>th</sup> day after the end of quarter. More detailed data are estimated on the basis of information from the statistical surveys in next three months. Gross value added is published by 31 kind of activity, which users appreciate very much.

**1.2.4.** Quarterly data on Employment are produced and published twice. First flash estimate comes approximately 45 days after the end of reference quarter. Second more detailed estimate is made in 70 days after the end of reference quarter.

**1.2.5.** GNI data are estimated and published in 70 days after the end of reference quarter according to the ESA95 Data Transmission Programme.

**1.2.6.** Data are not revised for the current quarters during the year. Only on 9<sup>th</sup> month after the end of reference year the quarterly data are reconciled with revised t-1 annual GDP data when the first annual data are available. At the same time the quarterly data for the year t-2 are revised and reconciled due to revision of annual GDP for this year.

## **1.3. QNA compilation approach**

**1.3.1.** Quarterly national accounts are estimated by production, income and expenditure approaches. But not all approaches are considered as independent. Main approach for GDP estimates is considered a production approach. Even if the basic information is available for most of components by income and expenditure approaches the GDP from income and expenditure sides are balanced with production approach.

**1.3.2.** To compile the quarterly national accounts the monthly and quarterly statistical surveys and administrative data sources are used. Not only a short-term statistics, which provides the volume indices, or price indices are used. Statistics Lithuania also collects quarterly statistical data on the levels of business. Most important survey for the production and income approaches is the quarterly statistical survey on businesses.

**1.3.3.** Compilation procedures are carried out in two steps. For the first step estimates the econometric methods are applied. GDP components are estimated using linear or multiplicative models. In cases when the components are modeling the correlation, regression or co-integration theories were used.

**1.3.4.** For the third revised quarterly data estimates the actual quarterly statistical or administrative data sources are used. Very detailed data on the business levels by kind of activity are available. The public finance statistics, balance of payments, data on wages and salaries and households budget survey also are available.

## **1.4. Balancing, benchmarking and other reconciliation procedures**

**1.4.1.** Balancing procedures are used for the GDP estimates applying three methods. GDP estimated by income and expenditure approaches are balanced with the GDP calculated by production approach which is taken as the most reliable one.

**1.4.2.** Benchmarking is used for the quarterly data estimates of output, intermediate consumption and value added of NPISH, unincorporated (individual) enterprises and for the exhaustiveness estimates.

**1.4.3.** Reconciliation procedure is applied for the adjustment of preliminary quarterly data with the annual figures.

## **1.5. Volume estimates**

**1.5.1.** Quarterly GDP at current prices is estimated by production, expenditure and income methods whereas quarterly GDP at constant prices is estimated by production and expenditure approaches.

**1.5.2.** Since 2005 year the chained volume of GDP which is based on the volume at previous year prices is calculated. The annual overlap method is used for the chain-linking of quarterly data.

**1.5.3.** The estimation of GDP and its elements at constant prices by production approach is performed extrapolating GDP in previous year by the volume index of output. PPI's, Consumer Price Indices, Construction Price Indices, some quantity data and price deflators estimated in expert way are used for the estimation of output at previous year prices by activities.

**1.5.4.** Construction Price Indices, Export Price Indices, Import Price Indices, Consumer Price Indices are used for the estimation of GDP components by expenditure approach.

## **1.6. Seasonal adjustment and working day correction**

**1.6.1.** Seasonal and working day adjustment for the quarterly data is made every quarter. Calculations are made for the quarterly time series of GDP components by production, income and expenditure approaches.

**1.6.2.** Seasonally and working day adjusted GDP is published in the press release and placed in the database. Adjusted data of all components at current prices and chain-linked volume is transmitted to Eurostat. Also changes of seasonal adjusted series (chain-linked volume) are placed to users.

## **1.7. Additional information**

**1.7.1.** Press release is available at Statistics Lithuania website <http://www.stat.gov.lt/en/>.

**1.7.2.** Bulletin "Quarterly National Accounts" is available at website of the Statistics Lithuania <http://www.stat.gov.lt/en/catalog/viewfree/?id=1198>. Tables with quarterly GDP data by activity breakdown and all components from income and expenditure side are placed at the website <http://www.stat.gov.lt/en/pages/view/?id=1867>.

## Chapter 2. Publication timetable, revisions policy and dissemination of QNA

### 2.1. Release policy

**2.1.1.** Quarterly national accounts are compiled, published and transmitted to the Eurostat according to the deadlines of the ESA 95 Data Transmission Programme.

**2.1.2.** National accounts in Lithuania as a statistical product constitutes in a structural way. This means that the estimates of national accounts data compiled on the basis of different data sources capacitates revisions step-by-step before they become final. Availability of statistical information for national accounts purposes processes their dependence of compilation in time. Supply of basic information, compilation of macro aggregates and data dissemination were organized according to the Resolution No. 569 of the Government of the Republic of Lithuania on Introduction of the European System of National and Regional Accounts dated at 16 May 2001.

**2.1.3.** According to the Government Resolution the Department of Statistics is responsible for the following issues:

- Compilation and management of the national and regional accounts of the Republic of Lithuania, co-ordination of the related work, methodological guidance through compilation of macro-economic indicators;
- Estimation of the GDP for the country and its regions and other macro-economic indicators in accordance with the System of national accounts, their transmission to public and municipal institutions and establishments, The Statistical Service of the European Communities, international organizations according to the procedure and manner as agreed with the latter, their publishing in the editions and inclusion into the web-site of the Department of Statistics and presentation of information on the mass media.

**2.1.4.** The Government Resolution No. 569 of 2001 covered the timetable for the National accounts data dissemination and revision. Preliminary quarterly data had to be published twice: in 30 days and 90 days after the end of the quarter. Since the May 2004 new system for data transmission was applied in Statistics Lithuania as the Regulation (EC) No 1267/2003 of the European Parliament and of the Council came into force. Lithuanian Data Dissemination Program for National accounts data was expanded. The deadline of publishing and transmitting to Eurostat of estimated GDP and its components was reduced to 70 days after the end of the period. Statistics Lithuania took an obligation to provide the GDP data in 60 days after the end of the period due to the request of transmission of Principal European Economic Indicators (PEEI). Table presents all steps of the quarterly data publication and revisions:

**Table 1. The revision policy of annual (quarterly) GDP estimates**

Estimation	Description	Terms of submission
I estimation	Provisional (flash) estimation of the t-1 annual as well as quarterly GDP based on preliminary	In t+30 days; (Q+30 days)

<b>Estimation</b>	<b>Description</b>	<b>Terms of submission</b>
	data using econometric models.	
II estimation	First preliminary estimation of t-1 annual (and quarterly) macro aggregates based on quarterly statistics available using econometric models.	In t+60 days; (Q+60 days)
III estimation	Second preliminary estimation of t-1 annual (and quarterly) macro aggregates based on statistical data for four quarters in a detailed breakdown (A31).	In t+90 days; (Q+90 days)
IV estimation	Estimation of t-1 annual indicators and first revision of quarterly estimations performed on the basis of annual statistical information available (preliminary Structural Business Statistics data – SBS )	In t+9 months (Q <sub>t</sub> +(t+9 months))
V estimation	More precisely revision of t-2 annual indicators and reconciliation of quarterly data on the basis of complete information from statistical annual surveys including data from SBS and administrative data sources	t+20 months
VI estimation	The last revision of the t-2 annual indicators and reconciliation of quarterly data on the basis of Supply-Use Tables integration into national accounts	t+36 months

**2.1.5** Provisional (flash) annual GDP at current prices for 2000 was estimated for the first time according to the Resolution No. 334 of the Government of the Republic of Lithuania dated at 23 March 2000. It was published in the Press release. Calculations were done using econometric models.

**2.1.6.** The second estimates were made using econometric models because very little quarterly information was available at this moment.

**2.1.7.** More detailed GDP data are calculated using actual statistical data and published in 90 days after the end of the period for the national users needs.

**2.1. 8.** For the first time seasonally adjusted GDP data, which reflect changing trends, started to be released from the 4<sup>th</sup> quarter of 2004.

**2.1.9.** According to the implementation of new classification of economic activities NACE rev. 2 in all basic statistics since 2009 (except National accounts) the basic information will not be available by old NACE rev.1 classification in time when the National accounts are required these data because the National accounts have to keep continuing classification NACE rev.1 by September 2011. Due to that the publication of GDP data in 90 days will be postponed to the publication of the

first (flash) GDP estimate of the next quarter. It means that GDP of the third estimate will be revised and published in 117 days after the end of the quarter due to recalculation of basic information from NACE rev. 2 to NACE rev.1. However, the ESA 95 Data Transmission Programme and users' needs will be met issuing quarterly GDP in 60 days because the third estimate of very detailed quarterly value added was an additional initiative to the data transmission deadlines.

## **2.2. Contents published**

**2.2.1.** The first release of Quarterly National accounts comes approximately by 30 days after the end of reference quarter and contains GDP provisional (flash) estimate. The data are published locally in the website of Statistics Lithuania and in the database and transmitted to Eurostat within 24 hours after Press release.

**2.2.2.** Press release covers GDP flash estimate at current prices, the growth rates, also GDP per capita data. Press release is available at Statistics Lithuania website <http://www.stat.gov.lt/en/>. At the same time data are published in pre-defined data tables of the website and also in the local database. It contains:

- GDP at current prices in million Litas, Euro and US Dollars;
- GDP chain linked volumes in million Litas;
- GDP at previous year prices in million Litas;
- GDP per capita at current prices in million Litas, Euro and US Dollars;
- GDP growth indices as compared to previous period and corresponding period of previous year also growth indices of seasonally and working days adjusted estimate.
- GDP growth rate as compared to 2000.

**2.2.3.** The transmission to Eurostat includes Excel file with GDP flash estimate at current, previous year prices, chain-linked volume and seasonally and working days adjusted data at current prices and chain-linked volume.

**2.2.4.** Total Employment flash estimate comes approximately 45 days after the end of reference quarter and is transmitted to Eurostat. Data table contains Total employment broken down into 7 kind of activity (A6 breakdown and Manufacture separately), presented in thousands of Persons and Hours worked.

**2.2.5.** Second GDP estimation is published in approximately 60 days after the end of the reference quarter. Data present GDP components by production approach broken down by 7 branches (A6 breakdown plus manufacture separately), also GDP components by Income and Expenditure approaches. Information published locally in Press release, pre-defined data tables and database.

**2.2.6.** The transmission to Eurostat contains the data in tables 0101, 0102, 0103, 0117, 0120 and 0121, according to the ESA 95 Data Transmission Programme. Data presented in current, previous year prices, chain-linked volume also seasonal and working days adjusted at current prices and chain-linked volume.

**2.2.7.** GNI (disposable income, saving, net blending / borrowing; real disposable income) and Employment (population and employment; employment by industry) data are published approximately 70 days after the end of reference quarter and presented locally in data base, also transmitted to Eurostat (data tables 0107 0109, 0110 and 0111 according to the ESA 95 Data Transmission Programme).



**2.2.8.** Revised GDP components by production approach (A31 breakdown), income and expenditure approach are published approximately 90 days after reference quarter. Information comes locally with more detailed Press release, Information release, pre-defined data tables and database. Within 24 hours revised data in tables 0101, 0102, 0103, 0107, 0109, 0117, 0120, 0121 are transmitted to Eurostat.

**2.2.9.** Bulletin “Quarterly National Accounts” comes within one week after transmission to Eurostat. Briefly publication contains GDP components at current prices by production (A31 breakdown), expenditure and income approach, growth rates, structure, National income, saving and net lending/borrowing at current prices and quarterly Government Finance Statistics. Publication is available at website the of Statistics Lithuania <http://www.stat.gov.lt/en/catalog/viewfree/?id=1198>.

**2.2.10.** Statistics Lithuania will stop issue of bulletin “Quarterly National Accounts” from 2009 due to availability of enough published quarterly data in the website and in the database and due to the economic reasons.

## **2.3. Special transmissions**

**2.3.1.** The quarterly results of Lithuanian NA are transmitted to Eurostat according to the ESA 95 Data Transmission Programme and to the Bank of Lithuania.

**2.3.2.** Apart from Eurostat and Bank of Lithuania quarterly pre-defined Excel data tables are sent also to United Nations, The International Monetary Fund, The European Central Bank, The Ministry of Economy, The Ministry of Finance, Lithuanian Government Office, State Tax Inspectorate, National Audit Office of Lithuania and to Lithuanian representative of the European Commission, Lithuanian Finance Attaché in the European Union.

## **2.4. Policy for metadata**

**2.4.1.** Description about the methodology and methods used for the GDP estimation according to the required framework of the SDDS are published in the website of the Bank of Lithuania. As the description in Lithuanian is not available yet, it is not published in the website of Statistics Lithuania. It will be done in 2009.

**2.4.2.** When the Executive Board of the International Monetary Fund (IMF) approved in April 1996 the Special Data Dissemination Standard (SDDS) the Lithuania subscribed to the SDDS by the end of May 1996, seeking to become more open to the international financial markets and to cause to take interest to the country's economy more foreign investors. The purpose of the SDDS is to guide IMF members in the provision to the public of economic and financial statistics. Timely publication of comprehensive statistical data is essential to the transparency of macroeconomic performance and policy.

**2.4.3.** IMF member states subscribed to the SDDS provide wide information about their statistical and data dissemination practices (so-called "metadata") prescribed under the SDDS. The metadata

prepared by the member states are posted on the electronic [Dissemination Standards Bulletin Board](#) (DSBB) established and maintained by the IMF.

**2.4.4. [Metadata for Lithuania](#)** is posted on the DSBB. Data categories prescribed by the SDDS at the Bank of Lithuania's disposal, as well as the advance release calendar for those data categories and the list of contact persons, are published in the LB "Monthly Bulletin".

**2.4.5.** Following the SDDS requirements, the National Summary Data Page (NSDP) "[Economic and Financial Data for Lithuania](#)" has been established. This page which is updated [on the day that data are released](#), along with the NSDPs of other subscribing countries, has been hyperlinked to the [DSBB](#). The [Advance Release Calendars](#) for Lithuania and the other subscribing countries are also downloaded on the DSBB.

## Chapter 3. Overall QNA compilation approach

### 3.1. Overall compilation approach

#### 3.1.1. General architecture of the QNA system

**3.1.1.1.** Quarterly national accounts are estimated by production, income and expenditure approaches. But not all approaches are considered as independent. Main approach for GDP estimates is considered a production approach. Even if the basic information is available for most of components by income and expenditure approaches the GDP from income and expenditure sides are balanced with GDP obtained from production side.

**3.1.1.2.** Compilation procedures are carried out in two steps. First step of estimates of the quarterly NA indicators belongs to estimates using econometric models. These data are published in 60 days after the end of reference quarter. Second step of estimates devoted to the National accounts data compilation based on actual quarterly statistical data from the statistical surveys and administrative data sources. These data are published in 90 days after the end of reference quarter.

**3.1.1.3. First step.** The econometric methods are applied for the **second GDP estimate after provisional (flash) estimate**. GDP components are estimated using linear or multiplicative models. In cases when the components are modelling the correlation, regression or co-integration theories are used. The ARIMA model is used when any information is not available. The list of indicators estimating production, expenditure and income aggregates are presented in the tables 4, 14 and 19.

**3.1.1.4. Second step.** For the **third quarterly data estimates as called "Revised quarterly GDP"** the actual statistical or administrative data sources for a current quarter are used. Very detailed data on the business levels by kind of activity are available. The public finance statistics, balance of payments, agricultural and businesses statistics, banking and insurance statistics, data on wages and salaries and households budget survey, labour force statistics also are available.

**3.1.1.5.** To compile the quarterly national accounts the monthly and quarterly statistical surveys and administrative data sources are used. Not only a short-term statistics, which provides the volume indices, or price indices are used. Statistics Lithuania also collects quarterly statistical data on the levels of businesses. Most important survey for the production and income approaches is the

quarterly statistical survey on main financial indicators of non-financial enterprises carried out by the Enterprise Statistics Division producing Structural business statistics (SBS). Quarterly report F-01 “**Main financial indicators of an enterprise**” is the basis for measuring output and intermediate costs in the non-financial corporation sector **S.11**. Value added at basic prices is calculated as the difference between gross output and intermediate consumption.

**3.1.1.6.** Agricultural statistics provides quarterly data in split by institutional sectors.

**3.1.1.7.** Quarterly information for the calculation of Household sector **S.14** is available. Although the sole-proprietorships are out of scope of the quarterly survey of non-financial enterprises, information on the changes of income of small enterprises comparing with the same quarter of previous year is used in the National Accounts.

**3.1.1.8.** Statistics Lithuania has access to the information from the Tax Inspectorate and is getting the information on the number and value of acquired patents (licenses) by natural persons. This is a part of the Household sector S.14.

**3.1.1.9.** The main source for the financial sector **S.12** is the financial statements of banks and credit unions quarterly provided by the central bank to Statistics Lithuania. The Bank of Lithuania is responsible for monetary and banking statistics and compiles the Balance of Payments data. The information from the Bank is an important source for the measurement of economic activity in the corresponding part of the financial corporations sector.

**3.1.1.10.** Insurance Supervisory Commission of the Republic of Lithuania supervises all the insurance companies and provides quarterly summarized information on their activity to Statistics Lithuania.

**3.1.1.11.** All other financial intermediaries report directly to Statistics Lithuania. The Financial Services Statistics Division collects them and prepares summarized report for National Accounts purposes.

**3.1.1.12.** For the sector **S.13**, the information on government revenues and expenditures of the central and local government by the **Ministry of Finance** serves as the base. The existing extra-budgetary funds are included.

**3.1.1.13.** Revenue and expenditure of social security, which come from the report of the **Compulsory Social Security Fund**, are used too. Output is estimated on the basis of cost elements, i.e. the sum of intermediate consumption, compensation of employees, consumption of fixed capital and other net taxes on production.

**3.1.1.14.** The main source for the sector of non-profit institutions serving households (NPISHs) **S.15** is the annual **survey of non-profit institutions**, carried out by the Social statistics. The unit of the survey is non-profit institution as one. Output is estimated on the basis of cost elements, i.e. the sum of intermediate consumption, compensation of employees (mainly do not exist), consumption of fixed capital and other net taxes on production. National Accounts are doing forecasts and are distributing annual data to the quarters with the help of DEMETRA software.

**3.1.1.15.** The allocation of FISIM among industries is made proportionally to the output for each industry for the same quarter of the previous year.

**3.1.1.16.** HFCE estimates mainly are based on data from quarterly Household budget survey (HBS), monthly survey on retail trade turnover (RT); quarterly survey on market services and quarterly data from the Balance of Payments. In addition, quarterly data from output, insurance companies and other statistical sources are also being used.

**3.1.1.17. General government final consumption expenditure** (P.3) consists of individual (P.31) and collective (P.32) consumption expenditure. The split between individual and collective consumption expenditure is drawn on the basis of quarterly data, provided by the Ministry of Finance (MoF) and the Social Security Funds (SSF). The Ministry of Finance provides data on the State (central government) budget revenue and expenditure, the local government budget revenue and expenditure and extra-budgetary funds. The source data from the MoF are broken down by economic and functional (COFOG 2<sup>nd</sup> level) classifications of expenditure. Data provided by SSF is not available by COFOG, but most expense concerns only the divisions for Health (07) and Social Protection (10). In addition, quarterly statistical survey is used for the public hospitals. The methods used to compile data on a quarterly basis are consistent with the methods used to compile annual data.

**3.1.1.18.** The principal data source used for final consumption of NPISH is a special survey of Non-profit institutions conducted by the Social statistics division in Statistics Lithuania. This survey covers main cost elements: compensation of employees, social security contributions, consumption of fixed capital, purchases and sales of goods and services.

**3.1.1.18.** The calculation of **gross fixed capital formation** for machinery and equipment is based on the industry survey and foreign trade statistics. They contain all the necessary information for the commodity flow approach.

**3.1.1.19.** The volume of investment in buildings and constructions is assumed to move in line with the volume of construction and same indicators are used as for production-based GDP for this branch.

**3.1.1.20.** Data sources on outlays on other products are: the data from surveys on investment and services, data from agricultural statistics.

**3.1.1.21.** Estimates of quarterly **changes in inventories** are based on the statistical business survey of non-financial enterprises (F-01 – quarterly), on the reports of Agricultural partnerships and on the survey of farmers. Holding gains/losses are calculated using information on changes in stocks derived from the mentioned sources combining them with a range of price indices, and suitable assumptions about stock-holding periods.

**3.1.1.22.** Data on **exports and imports** are used from the quarterly Balance of Payments compiled by the Central Bank.

**3.1.1.23.** Quarterly information on **taxes** comes from the quarterly reports on taxes and other revenue of central and local government budgets and extra-budgetary funds. The main data sources on **subsidies** are quarterly central and local government budget reports, data on subsidies from EU Funds (received from the Ministry of Finance) and data from the Employment Fund.

**3.1.1.24.** Quarterly information on total **population** is provided by the Demographic Statistics Division of Statistics Lithuania. The main data sources used by the accountants of abovementioned Division for estimations of the figure are Population census and Register of population.

**3.1.1.25.** Quarterly data on total **employment**, economically active and unemployed persons in national concept presented in table 0110 is provided by the Employment Statistics Division according to the Labour Force Survey (LFS). Data on employment presented in table 0110 is adjusted by National Accounts Division by the number of conscripts (Information on conscripts is provided by Ministry of Defense).

**3.1.1.26.** Quarterly data for the **Rest of the World** accounts are received from the Central bank and from the Ministry of Finance.

## **3.2. Balancing, benchmarking and other reconciliation procedures**

### **3.2.1. Quarterly GDP balancing procedure**

**3.2.1.1.** Balancing procedures are used for the GDP estimates applying three methods. GDP estimated by income and expenditure approaches are balanced with the GDP calculated by production approach which is taken as the most reliable one.

**3.2.1.2.** The value of quarterly GDP, estimated by expenditure approach, is balanced with the results of quarterly GDP, estimated by production approach, making the adjustments for the some group of goods and services of household final consumption and, mainly, changes in inventories.

**3.2.1.3.** Gross operating surplus for the national economy is a balancing item of GDP from income side and can be expressed either in gross or in net terms due consumption of fixed capital.

### **3.2.2. Benchmarking of QNA and ANA**

**3.2.2.1.** Benchmarking is used for the quarterly data estimates of output, intermediate consumption and value added of NPISH, unincorporated (individual) enterprises and for the exhaustiveness estimates.

**3.2.2.2.** The main source for the sector of non-profit institutions serving households (NPISHs) **S.15** is the annual **survey of non-profit institutions**. Information of this survey first of all has to be split to the quarters. ECOTRIM software is used for this split. A share of quarterly household final consumption expenditure (HFCE) is applied to calculate indicators of the annual survey: wages and salaries, social contributions, taxes, intermediate consumption, income from sales and income from other activity. National Accounts Division also is doing forecasts of quarterly data for the current year on the basis of previous quarterly estimates with the help of DEMETRA software.

**3.2.2.3.** As the sole-proprietorships (unincorporated enterprises) are out of scope of the quarterly survey of non-financial enterprises, information on the changes of income of small enterprises comparing with the same quarter of previous year is used in the National Accounts to estimate the amounts of output for the current quarter. Intermediate consumption (IC) is calculated applying the same ratio of IC to output in the appropriate quarter of the previous year.

**3.2.2.4.** For the quarterly exhaustiveness estimates the information from special survey on the Non-observed economy (NOE) is used. This survey was carried out in 2003 (in the framework of National Phare). The most important result from this survey was the establishment of the correction

coefficients that reflect the share of non-declared income by responding units. Those coefficients are used for adjustment of output by kind of activity with the aim to ensure the exhaustiveness of data (for measurement of hidden income).

### 3.2.3. Other reconciliations of QNA different from balancing and benchmarking

**3.2.3.1.** Reconciliation procedure is applied for the adjustment of preliminary quarterly data in comparison with the annual figures.

**3.2.3.2.** The reconciliation of quarterly NPISH data to annual figures is made using the ECOTRIM software.

### 3.2.4. Amount of estimation in various releases

**3.2.4.1.** In the table there are presented **second estimate of GDP** at current and constant prices and growth rate (estimated at constant prices with a fixed base year of 2000) compared to corresponding period of 2004 year.

**Table 2. Results of the second GDP estimates.**

	<b>GDP at current prices, LTL mill</b>	<b>GDP at constant prices, LTL mill</b>	<b>Growth rate, %</b>
<b>Period</b>	<b>t+60</b>	<b>t+60</b>	<b>t+60</b>
2005 I	14735	14344	5.6
2005 II	17425	16082	8.0
2005 III	19034	17884	7.6
2005 IV	19558	17533	8.8

**3.2.4.2.** In the table there are presented **third estimate** of GDP at current and constant prices and growth rate (estimated at constant prices with a fixed base year of 2000) compared to corresponding period of 2004 year. Usually the third estimate makes correction in the structure of value added which has an impact on the growth rate by activities and for total GDP. The change of total GDP value at current prices is less significant.

**Table 3. Results of the third GDP estimates.**

	<b>GDP at current prices, LTL mill</b>	<b>GDP at constant prices, LTL mill</b>	<b>Growth rate,</b>
<b>Period</b>	<b>t+90</b>	<b>t+90</b>	<b>t+90</b>

2005 I	14735	14466	4.4
2005 II	17639	16254	8.4
2005 III	19070	17938	8.0
2005 IV	19641	17529	8.8

### 3.3. Volume estimates

#### 3.3.1. General volume policy

**3.3.1.1.** The chain-linking method for the estimation of annual and quarterly volumes of GDP was introduced in 2005. Quarterly chained volume indices at first were published in September of 2005. Quarterly publications include only the chained volume indices (as compared to corresponding period of previous year and as compared to reference year 2000) so far.

**3.3.1.2.** The chain-linking method is performed estimating GDP and its elements at previous year prices. The calculations were performed in such a way. In series were estimated:

- GDP and its elements (value added by activities and GDP by expenditure components) at previous year prices (PYP);
- implicit deflators as compared to the previous year ( $t-1 = 100$ ) of GDP elements;
- implicit deflators as compared to the annual implicit deflator of previous year of GDP elements;
- GDP elements at previous year prices, the so called PYP series, by dividing values at current prices at previously calculated deflators (compared to the previous year); total GDP were calculated as the sum of GDP elements at previous year prices;
- volume indices as compared to the annual value of GDP and its elements in previous year by dividing PYP at annual current value of previous year for annual data and dividing PYP at average annual current value, i. e. the annual overlap method is applied for the quarterly data;
- chained volume indices when 2000 is a reference year; these indices are the multiplication of all volume indices as compared to the previous year beginning from the reference year;
- chain-linked volume of GDP and its elements using early calculated chained volume indices.

**3.3.1.3.** When estimating GDP by production side, firstly the output of activities is calculated at previous year prices using appropriate price indices or quantity indices. Later the PYP of value

added by activities are estimated on the ground of the volume indices to the previous year of output by activities.

### **3.3.2. Chain-linking and benchmarking**

Benchmarking procedures are not applied in the GDP estimates at constant prices.

### **3.3.3. Chain-linking and seasonal adjustment**

For the compilation of seasonally-adjusted chain-linked volumes the program *DEMETRA and TRAMO/SEATS* method is used. Direct approach is used for the seasonal adjustment.

## **3.4. Seasonal adjustment and working day adjustment**

**3.4.1.** Method TRAMO/SEATS of the program DEMETRA is used for the seasonal and working day adjustment at current prices for GDP components (by production, expenditure and income approaches). Un-direct method is used for the seasonal adjustment at current prices which applied for the time series of quarterly data.

**3.4.2.** Seasonally and working day adjusted GDP as well as non-adjusted data are published in the press release and placed in the database. Adjusted data of all components at current prices and chain-linked volume is transmitted to Eurostat. Also changes of seasonal adjusted series (chain-linked volume) are placed to users.

### **3.5. Policy for seasonal adjustment**

The policy for seasonal adjustment refers to Eurostat guidelines for seasonal adjustment. Revisions policy refers also to Eurostat revision policy.

### **3.6. Policy for working-day correction**

The policy for seasonal adjustment and working-day adjustment refers to Eurostat guidelines for seasonal adjustment. Revisions policy refers also to Eurostat revision policy.

## **Chapter 4. GDP components: the production approach**

### **4.0. Second estimate t + 60.**

**4.0.1.** The methodology for calculation of the second GDP estimate is different from the methodology used for the National accounts compilation in 90 days.

**4.0.2.** The gross value added by production approach is estimated at NACE 2-digit level.

**4.0.3.** To estimate GDP components one of the model – linear, linear for logarithmic values (multiplicative) – are used. For the modeling of separate components the correlation, regression, co-integration theories are used as well. ARIMA model is used when any information is not available.



**4.0.4.** For estimation of the separate GDP components, additional different explanatory indicators – regressors are used: other indicators of the same activity for components in production approach (output, number of employees in full time units, average salary, income and etc.). Table below presents indicators which are used to estimate the value added by activities.

**4.0.5.** Different Divisions of the Statistics Lithuania such as Price Statistics, Construction and Investment Statistics, Industry Statistics, Foreign Trade Statistics, Domestic Trade Statistics, Transport and Service Statistics, Agriculture and Environment Statistics provide statistical data for the estimation of GDP components. Besides, the Ministry of Finance, Bank of Lithuania, State Social Insurance Fund Board of the Republic of Lithuania, Insurance Supervisory Commission of the Republic of Lithuania (results of insurance activity), State Tax Inspectorate and the Association of Lithuanian banks provide statistical data as well.

**Table 4. The list of regressors groups used for production approach**

	NACE	Regressors groups	Remarks
1	A. Agriculture, hunting and forestry	Gross agricultural production; Purchase of animals, milk and eggs; Forest felling; Volume of agriculture production exported by groups of commodities; Sales of production in domestic trade; Lever shift fictitious variable.	The gross value added is estimated separately for agriculture and forestry. Linear model is used for estimates calculation at current prices and for changes – the changes model.
2	B. Fishing	Purchased fishing production; Statistical data of the State Tax Inspectorate (value added tax) Seasonal factors.	The produced value added is evaluated using errors and changes models. Since no significant regressors (95 percent significance) have been found for this section, the less significant regressors (85 – 90 percent significance) are used.
3	C. Mining and quarrying	Industrial production; Number of persons employed (lagged); Statistical data of the State Tax Inspectorate (value added tax); Seasonal factors.	Evaluating the value added, this section is decomposed at NACE two sings level. Models used: linear and multiplicative.

4	D. Manufacturing	Industrial production; Number of persons employed; Statistical data of the State Tax Inspectorate (value added tax); Seasonal factors.	Evaluating the value added, this section is decomposed at NACE two sings level. Models used: linear and for the corresponding year prices – co-integration model.
5	E. Electricity, gas and water supply	Industrial production; Changes in fuel and energy supply; Statistical data of the State Tax Inspectorate (value added tax); Number of persons employed.	Evaluating the value added, this section is decomposed at NACE two sings level. Calculating value added the least errors occur, using logarithmic changes model at previous year prices and using multiplicative model - at current prices.
6	F. Construction	Construction work carried out; Number of granted permits (lagged); Residential buildings completed; Construction of new non-residential buildings; Statistical data of the State Tax Inspectorate (value added tax).	The logarithmic changes model gives the least error.
7	G. Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and households goods	Turnover of retail and wholesale trade; Income of sales of service enterprises; Number of persons employed; Statistical data of the State Tax Inspectorate (value added tax).	Value added is calculated separately in four segments. The linear model is the best one for the calculating the value added at current prices, the changes model – at previous year prices.
8	H. Hotels and restaurants	Turnover of restaurants, bars and other catering enterprises; Income of sales of service enterprises; Statistical data of the State Tax Inspectorate (value added tax); Indicators of accommodation services;	The value added for this section is calculated, evaluating produced value added of food service and accommodation companies separately. Mathematically the linear model describes the value added at current prices and changes model – at constant prices of the previous year more precisely.

9	I. Transport, storage and communications	<p>Goods transportation;  Passengers traffic;  Goods loaded and unloaded in Klaipeda State seaport and Butinge terminal;  Income of sales of transport and communication service enterprises;  Indicators from balance of payment;  Number of employees (lagged);  Statistical data of the State Tax Inspectorate (value added tax);  Seasonal factors.</p>	<p>Calculating the value added this section is decomposed at eight components: transport types (4 types), tourism, supporting and auxiliary transport activities, post and telecommunications. The value added for these components are evaluated using models with the significant time, seasonal and regression components.</p>
10	J. Financial intermediation	<p>Indicators from Monetary financial institutions balance;  Monetary financial institutions interest rates;  Insurance statistics;  Profit (loss) of banks;  Statistical data of the State Tax Inspectorate (value added tax);  Number of employees (lagged).</p>	<p>The value added for this section consists of three components. Linear models are used for evaluation.</p>
11	K. Real estate, renting and business activities	<p>New residential buildings completed;  Indicators of sales of service enterprises;  Statistical data of the State Tax Inspectorate (value added tax);  Number of employees (lagged);  Living space of new residential buildings;  Seasonal factors.</p>	<p>Models used – changes and linear. The produced value added for other business activities is evaluated by forecasting corresponding time series, using multiplicative models.</p>
12	L. Public administration and defense; compulsory social security	<p>Indicators of national budget (income and expenditure indicators);  Indicators of State social insurance fund board;  Number of employees;</p>	<p>Only linear models were used.</p>

13	M. Education	National budget expenditure for education; Number of employees; Indicators of sales of service enterprises; Statistical data of the State Tax Inspectorate (value added tax).	Evaluating the value added for education section, private sector and public sector are calculated separately. For the calculation of the value added for public sector the linear model were used. Value added for private sector is forecasted using ARIMA model.
14	N. Health and social work	National budget expenditures for health and social work; Number of employees; Seasonal factors; Indicators of sales of service enterprises; Statistical data of the State Tax Inspectorate (value added tax);	Estimating the produced value added for health and social work activity, private and public sectors are calculated separately. For the calculation of the value added for public sector the linear model were used.  The value added for private sector is forecasted using ARIMA model.
15	O. Other community, social and personal service activities	Indicators of sales of service enterprises; Number of employees; Indicators of national budget; Statistical data of the State Tax Inspectorate (value added tax);	The value added for this section consists of four components. Recreational, cultural and sporting activities are calculated separately for private and public sectors. Linear models are used.
16	P. Private households with employed persons	Significant regressors weren't found	ARIMA model was used.

**4.0.6. Third estimate t+90.** GDP compilation by production approach is the main method in calculation of quarterly GDP. It is considered to be more reliable, because of the following reasons:

- a) The information for this method is of a larger scale than for the other methods.
- b) The information has more details.
- c) There is availability for verification in comparing the information from different sources, for example the data from the statistical business survey of non-financial enterprises against the data on short-term statistics.
- d) The price and volume information for this method is more reliable and detailed, this is important for the constant price calculations.
- e) The start of GDP compilation was done by production approach, therefore assessed as better understandable by users and more accessible for compilers.

**4.0.7** For the reporting and dissemination purposes quarterly GDP in 2005 by production approach at current prices was represented by main A6 breakdown (separating D):

**Table 5. Value added at basic prices and Gross domestic product at market prices in 2005, at current prices, LTL mill.**

(yearly data is the sum of quarters)

Activities by NACE Rev.1.1	I quarter	II quarter	III quarter	IV quarter	2005
<b>A+B</b>	573.5	737.5	1659.6	690.5	3661.1
<b>C+D+E</b>	3670.3	4071.7	4145.6	4805.9	16693.5
<b>D</b>	2865.9	3449.0	3580.7	3894.5	13790.0
<b>F</b>	645.0	1206.9	1448.9	1481.7	4782.4
<b>G+H+J</b>	4505.7	4990.0	5463.4	5633.3	20592.4
<b>J+K</b>	1720.7	2030.1	2157.2	2171.8	8079.7
<b>L+...+P</b>	2136.5	2851.3	2283.8	3040.7	10312.3
<b>A+...+P</b>	13251.7	15887.3	17158.6	17823.9	64121.5
<b>Taxes less subsidies</b>	1482.8	1751.3	1911.5	1816.8	6962.4
<b>GDP</b>	14734.5	17638.6	19070.1	19640.7	71083.9

**4.0.8.** Value added and Gross domestic product, chain-linked volumes, by appropriate breakdown:

**Table 6. Value added and Gross domestic product in 2005, chain-linked volume, LTL mill.**

(yearly data is the sum of quarters)

Activities by NACE Rev.1.1	I quarter	II quarter	III quarter	IV quarter	2005
<b>A+B</b>	590.2	784.0	1604.2	567.4	3545.7
<b>C+D+E</b>	3738.8	3819.5	3846.3	4333.8	15738.4
<b>D</b>	2893.7	3244.3	3292.9	3478.4	12909.3
<b>F</b>	582.9	1059.7	1294.8	1244.0	4181.4
<b>G+H+J</b>	4249.8	4683.4	5052.4	5050.0	19035.7
<b>J+K</b>	1550.2	1738.9	1794.2	1866.2	6949.4
<b>L+...+P</b>	2150.3	2349.9	2300.9	2477.6	9278.6
<b>A+...+P</b>	12854.2	14448.7	15851.0	15567.0	58720.9
<b>Taxes less subsidies</b>	1620.2	1820.5	2009.0	1963.3	7413.0
<b>GDP</b>	14474.7	16269.6	17859.4	17530.5	66134.2

**4.0.9.** The most important survey for the production approach is the Quarterly statistical survey on main financial indicators of non-financial enterprises carried out by Enterprise Statistics Division producing Structural business statistics (SBS). Quarterly report F-01 “**Main financial indicators of an enterprise**” is the basis for measuring output and intermediate costs in the non-financial

corporation sector **S.11**. Value added at basic prices is calculated as the difference between gross output and intermediate consumption.

**4.0.10.** The **enterprise**, producing goods or rendering services, is the unit of the quarterly survey. The breakdown of enterprises by main economic activity is presented in conformity with “Statistical Classification of Economic Activities in European Community” (NACE Rev.1.1), excluding agricultural, hunting and related activities, financial intermediation, public administration and defence and private households with employed persons. Individual enterprises (sole-proprietorships) are out of scope of the survey.

**4.0.11.** The special purpose sample is applied for the enterprises. Selected enterprises must represent the kind of economic activity by 2 digit level of NACE Rev.1.1 (except some cases by 3 and more digit level) and their income must make up more than 80 percent of income in appropriate kind of activity.

**4.0.12.** The enterprises are selected according to their sales (turnover), number of employees and ownership.

First of all enterprises are sorted according to their annual income. Enterprises with a turnover of LTL 500 thousand are taken into the quarterly survey.

The rest of enterprises are sorted by average annual number of employees and those of them with 10 and more employees are captured by sample survey.

For the remaining enterprises a sample according their code of ownership is done. The enterprises coded as 11, 12 (public) are covered fully.

**4.0.13.** There is no difference between small and large units in the bookkeeping law therefore all the units are receiving the same questionnaire. After receiving the reports from enterprises they are distributed by size classes according to the number of employees. The following enterprise size classes are distinguished: 0, 1-9, 10-49, 50-249, 250 and more employees.

**4.0.14.** Quarterly survey collects financial information, including data about assets and equity of enterprises, liabilities, income, tangible investment as well as data on sales, costs, profit (loss) and number of employees. It is a mail survey.

**4.0.15.** Specialists from SBS are dealing with sampling and grossing-up. In the grossing-up procedure, turnover, number of employees and number of reported enterprises are expanded to those of operating enterprises. Re-weighting method is used in the grossing-up procedure. So, the data provided by respondents are expanded for the total population of enterprises registered in the particular kind of activity using algorithms foreseen in the sampling frame.

**4.0.16.** Population of active enterprises for the current year is drawn from the Business Register in November. This is kept unchanged for all types of annual and short-term Business Surveys carried out in Statistics Lithuania. The population includes all enterprises, which were active during the reporting year. Data from the previous year annual statistical surveys plus administrative data (financial statements) from Tax authorities and Social security Fund as well as short-term statistics data for the current year are used as data sources for determining the activeness of enterprise.

**4.0.17.** SBS is also the provider of quarterly information for the calculation of Household sector **S.14**. Although the sole-proprietorships are out of scope of the quarterly survey of non-financial enterprises, the SBS is supplying National Accounts with the information on the changes of income of small enterprises comparing with the same quarter of previous year. Those changes are used to

calculate the output of individual enterprises (sole-proprietorships) in current quarter. Quarterly calculations based on these changes are kept valid until the receiving of annual information on tax declarations from Tax Inspectorate.

**4.0.18.** The SBS is also the provider of information for calculations of other part of S.14 sector – of working by acquired patents (licenses). Statistics Lithuania has access to the information from Tax Inspectorate and is getting the information on the number and value of acquired patents (licenses) by natural persons. SBS is dealing with information obtained and then providing it to NA. National Accounts are getting the information from SBS in aggregated form: data are distributed by activities at the same NACE level, as the data of non-financial enterprises are presented.

**4.0.19.** The information on acquired patents is restricted to the number of licenses (patents), and the sum of payments, thus the estimation of output and intermediate consumption are done in NA. The price of licenses differs depending on the activity for which the license is obtained. The list of activities that can be carried out having only such permission (license) as well as other conditions is strongly determined by legal acts.

**4.0.20.** The main source for the financial sector **S.12** is the financial statements of banks and credit unions quarterly provided by the central bank to Statistics Lithuania. The Bank of Lithuania is responsible for monetary and banking statistics and compiles the Balance of Payments data. The information from the Bank is an important source for the measurement of economic activity in the corresponding part of the financial corporations sector.

**4.0.21.** Insurance Supervisory Commission of the Republic of Lithuania supervises all the insurance companies and provides quarterly summarized information on their activity to Statistics Lithuania. All other financial intermediaries report directly to Statistics Lithuania. The Financial services Statistics division collects them and prepares summarized report for National Accounts purposes.

**4.0.22.** For the sector **S.13**, the information on government revenues and expenditures of the central and local government by the **Ministry of Finance** serves as the base. The existing extra-budgetary funds are included.

**4.0.23.** Revenue and expenditure of social security, which come from the report of the **Compulsory Social Security Fund**, are used too. Output is estimated on the basis of cost elements, i.e. the sum of intermediate consumption, compensation of employees, consumption of fixed capital and other net taxes on production.

**4.0.24.** The main source for the sector of non-profit institutions serving households (NPISHs) **S.15** is the annual **survey of non-profit institutions**, carried out by the Social statistics. The unit of the survey is non-profit institution as one. The distinguishing between NPISH and non-profit institutions serving business and financial intermediation was done in 2003. Output is estimated on the basis of cost elements, i.e. the sum of intermediate consumption, compensation of employees (mainly do not exist), consumption of fixed capital and other net taxes on production. A share of quarterly household final consumption expenditure (HFCE) is applied to calculate indicators of the annual survey: wages and salaries, social contributions, taxes, intermediate consumption, income from sales and income from other activity. National Accounts are doing forecasts with the help of DEMETRA software. The distribution of annual data to the quarters and reconciliation of quarterly data to annual figures is made after using the ECOTRIM software.

**4.0.25.** The National Accounts are using all the available statistical surveys, carried out by the Department of Statistics. They include industrial production survey, survey on construction works, on new buildings construction, information from different sources on transport and communications, survey on services, wages and salaries survey.

**4.0.26.** For the quarterly exhaustiveness estimates the information from the special survey on the Non-observed economy (NOE) is used. This survey was carried out in 2003 (in the framework of National Phare). The most important result from this survey was the establishment of the correction coefficients that reflect the share of non-declared income by responding units. Those coefficients are used for adjustment of value added by kind of activity for the sake of insurance of exhaustiveness of data (for measurement of hidden income).

**4.0.27.** The distinction in national accounts between **market and non-market** units is based on the unit's institutional status mainly. In principle, categories of production: market production, production for own final use and other non-market production are easily followed.

**4.0.28.** The **ownership** is one of the indicators, in which the users are especially interested. In the rapid process of privatization of enterprises, land and dwellings all the changes in ownership were very important.

**4.0.29.** Holding gains/losses adjustments are made to gross output in activities of agriculture, in all the activities of mining and quarrying and manufacturing, construction, trade and transport. Holding gains/losses in service activities are almost negligible. The estimations are based on data from the mentioned F-01 questionnaire and price indices. Holding gains are estimated on inventories of materials and supplies, work-in-progress, finished goods and goods for resale.

**4.0.30.** Quarterly production is valued at basic prices, excluding taxes on products (VAT and excise), intermediate consumption – at purchasers' prices, gross value added – at basic prices. Output, intermediate consumption and value added for the whole economy are obtained by adding the results for the activities. GDP at market prices is derived from gross value added at basic prices by adding taxes on products and subtracting subsidies on products.

**4.0.31.** The principle of calculation of output in separate market activity is as follows: receipts from sales of goods and services (turnover, excluding purchased goods for resale), plus, output for own final use, plus, changes in inventories of finished production, plus, changes in inventories of work-in-progress, plus, changes in inventories of goods for resale.

**4.0.32.** The intermediate consumption is valued at purchasers' prices and recorded when the goods and services are purchased. For the market activities, intermediate consumption is calculated from F-01 reports "Main financial indicators of an enterprise" by following scheme: purchases of raw materials and intermediaries, fuels; changes in stocks of raw materials and intermediaries and fuels; purchases of services.

**4.0.33.** For the valuation of non-market output: output of general government and non-profit institutions serving households, total costs of production are taken into account, i.e. the sum of:

- Intermediate consumption,
- Compensation of employees (if this is),
- Consumption of fixed capital and
- Other taxes on production.



## **4.1 Gross value added, including industry breakdowns**

**4.1.1.** For the reporting and dissemination purposes GDP by production approach is aggregated by groups: Agriculture, forestry and Fishing (NACE A+B), Industry (NACE C+D+E, separating D), Construction (NACE F), Trade, Hotels and restaurants, Transport, storage and communication (NACE G+H+I), Financial intermediation, Real estate, renting and business activities (J+K), Other services (L+M+N+O+P). Estimations of value added in greatest part of activities do not cause difficulties because the quarterly statistical information regarding these activities is sufficient.

**4.1.2.** There are only few activities, which should be explained because of the sources of quarterly data are different from annual sources. Agriculture, Financial intermediation, FISIM, Rents, Taxes less Subsidies on products need to be explained with more details.

### **4.1.3. Estimation of Quarterly Agricultural activity**

The Agriculture and Environment Statistics Division is responsible for the calculations of indicators of agricultural activity.

**4.1.3.1.** The agricultural companies and enterprises as well as farmers and household farms are the producers in agriculture. They are not deeply specialised and produce both crop and animal production.

**4.1.3.2.** Agricultural output is a sum of production by all units. Output is total value of agricultural production, except this which is produced and used as intermediate consumption within the same kind of activity unit and the same accounting period, plus value of secondary (inseparable) activity (processing of agricultural products at farm level, income from non-agricultural activities etc.), plus related service activities, plus subsidies on products.

**4.1.3.3.** The main sources for information are:

- 1) Quarterly survey on production of livestock and poultry for companies and enterprises (ZU-24);
- 2) Monthly forecasts on number of livestock and poultry products production (Ministry of Agriculture);
- 3) Quarterly forecasts on harvest (Ministry of Agriculture);
- 4) Quarterly report on main financial indicators in agricultural companies and enterprises (F-18);
- 5) Report “Main financial indicators of an enterprise” of Quarterly statistical survey of non-financial enterprises (F-01) for the related service activities;
- 6) The data of Economic Accounts for Agriculture (EAA) for previous (n -1) year (data from Agrarian Institute of Economics);
- 7) Data on purchase prices, collected monthly from enterprises purchasing and processing of agricultural products;
- 8) Monthly report from companies and enterprises on purchase prices of the means of agricultural production (as motor fuels, electricity, coal, plant protection products and pesticides, mineral fertilizers etc.) ZU-20.

**4.1.3.4.** Output of agriculture is calculated applying the volume index of production and producer (purchase) price index.

**4.1.3.5.** Every quarter different products, received and produced within reporting period by all kinds of producers, are evaluated, for example: I quarter – vegetables and animal products; II quarter – vegetables, strawberries, hay, animal products; III quarter – grain, potatoes, field vegetables,

rapeseed, animal products; IV quarter – vegetables, fodder beet, animal products. For the calculation of volume index of agricultural production the producer prices are used.

**4.1.3.6.** Quarterly volume index of agricultural production is calculated comparing production of different agricultural products in reporting quarter against the production in corresponding quarter of previous year, evaluated at producer prices of corresponding quarter of previous year. In other words, production volumes of the current period evaluated at corresponding period of previous year prices divided by producer prices and volumes of products of corresponding period of previous year:

$$I_{qa} = \frac{\sum_{k=1}^m q_k^n p_k^{n-1}}{\sum_{k=1}^m q_k^{n-1} p_k^{n-1}}$$

$I_{qa}$  – production volume index;

$m$  – products;

$q^n$  – quantity of product in reporting quarter;

$q^{n-1}$  – quantity of product at the corresponding period of previous year;

$p^n$  – price of product in reporting quarter;

$p^{n-1}$  – price of product at the corresponding period of previous year.

**4.1.3.7.** Then, the production value index, taking into account the change of price, is calculated:

$$I_{qv} = I_{qa} \times I_p$$

$I_{qv}$  – production value index, taking into account the change of price;

$I_{qa}$  – production volume index;

$I_p$  – producer (purchase) price index..

**4.1.3.8.** Finally the production value at current prices is estimated:

$$q_n v_n = I_{qv} \times (qv)_{n-1}$$

$q_n v_n$  – production value of the reporting period at current prices;

$I_{qv}$  – production value index, taking into account the change of price;

$(qv)_{n-1}$  – production value of the corresponding quarter of previous year evaluated at corresponding quarter current prices.

**4.1.3.9.** For the estimation of production at basic prices the subsidies on products in current quarter are added as well as related services and secondary activities at basic prices.

**4.1.3.10.** Then, the distribution of production by **institutional sectors** is required in National Accounts. For the calculation of output, intermediate consumption and value added of the sector of non-financial enterprises (**S.11**) in agriculture and in related services the data of quarterly reports F-18 and F-01 are used.

**4.1.3.11.** The production of household sector, i.e. in farmer's and family farms, (**S.14**) is received as the difference between total production and the sector S.11.

**4.1.3.12.** Own account products, which were used within the same kind of activity unit, and which should not be included into production are calculated on the base of EAA of previous year.

**4.1.3.13.** Intermediate consumption for the sector S.11 is taken from the quarterly reports of agricultural companies and enterprises F-18 and F-01. For the estimation of intermediate consumption in farmer's and family farms the EAA of previous (n-1) year are used. The calculation of elements of intermediate consumption as for example, purchases of energy and fuel, purchases of raw material and services are based on percentage structure of expenditure elements from (n-1) year.

**4.1.3.14.** Value added of agriculture is estimated as the difference between output and intermediate consumption by institutional sectors.

**4.1.4. Mining and quarrying; manufacturing; electricity, gas and water supply.** These industries accounted for about 26 per cent of total value added, or 23 per cent of GDP in 2005. It is one of the largest activity group in the framework of the National Accounts of Lithuania. Although only quarterly value added for total industry with separating manufacturing is delivered to Eurostat, the calculations are done at a more detailed level. Quarterly value added for sections C – E is estimated similarly as annual for 28 sub-branches, including Non-financial corporations and Household sectors. The results of estimation for 19 branches are published in quarterly bulletin "Quarterly national accounts".

**4.1.4.1.** The main source for the production approach in QNA is statistical business survey of non-financial enterprises and price indices. For verification purposes in all the activities the short-term statistics monthly survey of Manufacture enterprises is used. The Industry Statistics Division bulletin presents monthly and quarterly volume indices of industrial activity related to the production of mining, quarrying and manufacturing as well as electricity, gas and water supply.

**4.1.4.2.** The main aggregates of Industry activities are presented in following tables:

**Table 7. Value added in 2005, at current prices, LTL mill.**  
(yearly data is the sum of quarters)

Activities by NACE Rev.1.1	I quarter	II quarter	III quarter	IV quarter	2005
C	62.6	93.1	102.8	91.5	349.9
D	2865.9	3449.0	3580.7	3894.5	13790.0
E	741.9	529.6	462.2	819.9	2553.6

<b>C+D+E</b>	<b>3670.3</b>	<b>4071.7</b>	<b>4145.6</b>	<b>4805.9</b>	<b>16693.5</b>
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**Table 8. Output in 2005, at current prices, LTL mill**  
(yearly data is the sum of quarters)

<b>Activities by NACE Rev.1.1</b>	<b>I quarter</b>	<b>II quarter</b>	<b>III quarter</b>	<b>IV quarter</b>	<b>2005</b>
<b>C</b>	110.1	172.2	183.9	164.6	630.7
<b>D</b>	8954.6	10306.1	11080.2	11683.4	42024.3
<b>E</b>	1724.1	1052.8	962.7	1571.1	5310.8
<b>C+D+E</b>	<b>10788.8</b>	<b>11531.1</b>	<b>12226.8</b>	<b>13419.1</b>	<b>47965.8</b>

**Table 9. Intermediate consumption in 2005, at current prices, LTL mill**  
(yearly data is the sum of quarters)

<b>Activities by NACE Rev.1.1</b>	<b>I quarter</b>	<b>II quarter</b>	<b>III quarter</b>	<b>IV quarter</b>	<b>2005</b>
<b>C</b>	47.5	79.1	81.1	73.1	280.8
<b>D</b>	6088.7	6857.1	7499.5	7788.9	28234.3
<b>E</b>	982.2	523.2	500.6	751.2	2757.2
<b>C+D+E</b>	<b>7118.4</b>	<b>7459.4</b>	<b>8081.2</b>	<b>8613.2</b>	<b>31272.3</b>

**4.1.5. Financial intermediation (J).** Indicators of the production accounts in the Financial sector are different from the other business. The production estimates of NACE J are shown in the table.

**Table 10. Production indicators of the financial intermediation in 2005.**

	<b>NACE</b>	<b>Quarter</b>	<b>Output, LTL million</b>	<b>Intermediate consumption, LTL million</b>	<b>Value added, LTL million</b>	<b>% of Gross value added</b>	<b>% of GDP</b>
<b>65</b>	Financial intermediation, except insurance and pension funding	I	396,8	111,9	284,9	2,1	1,9
		II	455,6	133,8	321,8	2,0	1,8
		III	450,1	134,7	315,3	1,8	1,6
		IV	547,8	203,6	344,2	1,9	1,7
<b>66</b>	Insurance and pension funding, except compulsory social	I	99,7	58,7	41,0	0,3	0,3
		II	112,8	71,0	41,8	0,3	0,2

	security	III	104,8	50,7	54,1	0,3	0,3
		IV	128,8	81,2	47,5	0,3	0,2
<b>67</b>	Activities auxiliary to financial intermediation	I	29,1	12,0	17,1	0,1	0,1
		II	33,0	15,8	17,2	0,1	0,1
		III	33,6	20,4	13,2	0,1	0,1
		IV	43,0	20,9	22,1	0,1	0,1
	<b>Total NACE J</b>	I	525,6	182,6	343,0	2,5	2,3
		II	601,4	220,7	380,8	2,4	2,1
		III	588,4	205,8	382,6	2,2	2,0
		IV	719,5	305,7	413,8	2,3	2,1

**4.1.5.1.** In 2005, in Lithuania there were 13 banks (1 central bank and 12 commercial banks, 3 of them foreign bank branches operating in Lithuania), 1 central credit union and 64 credit unions, 24 insurance companies (8 life insurance and 16 non-life insurance companies), 34 pension funds, 15 financial leasing companies, 19 collective investment undertakings, 37 other financial intermediation enterprises and 199 auxiliaries to financial intermediation and to insurance companies (90 insurance brokers, 14 financial brokerage firms, 10 management enterprises, 47 other enterprises with activities auxiliary to insurance and pension funding (insurance agents), 38 other companies with activities auxiliary to financial intermediation). The data in activity NACE 67 are supplemented with information on activity of unincorporated (individual) enterprises provided by the Structural Business Survey (SBS).

**4.1.5.2.** All commercial banks and foreign bank branches, as well as central credit union and other credit unions, are supervised by the Bank of Lithuania (the Central bank). The Bank of Lithuania is an autonomous and independent institution and is distinguished from commercial banks in the compilation of the Lithuanian national accounts. Financial statements of banks and credit unions are quarterly provided by the central bank to Statistics Lithuania.

**4.1.5.3.** Insurance Supervisory Commission of the Republic of Lithuania supervises all the insurance companies and provides quarterly summarized information on their activities to Statistics Lithuania.

**4.1.5.4.** All the branches of foreign banks are supervised and treated like other resident banks.

**4.1.5.5.** All other financial intermediaries report directly to Statistics Lithuania. The Financial services statistics division of Statistics Lithuania collects them and prepares summarized report for National accounts purposes by grouping all companies by NACE codes. From year 2004, some financial auxiliaries (some A, B and C category financial brokerage companies and management companies) quarterly have provided their own financial statements (profit and loss account and balance sheet) through the Lithuanian securities commission to Statistics Lithuania.

**4.1.5.6.** Pension funds in Lithuania started their activity in 2004. At the first time their reports have been provided since second quarter of 2004, their activity has been estimated and results have been included into National Accounts.

**4.1.5.7.** Financial intermediation, except insurance and pension funding (NACE **65**) activity includes:

- 65.11 Central banking
- 65.12 Other monetary intermediation
- 65.21 Financial leasing
- 65.22 Other credit granting
- 65.23 Other financial intermediation

**4.1.5.8.** Data sources for the NACE activity 65 are:

Data quarterly provided by the Bank of Lithuania:

- Profit (Loss) Statements and Balance Sheets of the Bank of Lithuania;
- Profit (Loss) Statements and Balance Sheets of Commercial Banks and Foreign Bank Branches Operating in Lithuania;
- Profit (Loss) Statements and Balance Sheets of Credit Unions and Central Credit Union.

Data collected by Statistics Lithuania, Financial services Statistics Division:

- Annual and quarterly survey on activity of financial intermediation enterprises **F-03** (*leasing companies (NACE 65.21), factoring companies and pawnshops (NACE 65.22), other financial intermediation enterprises (NACE 65.23)*);

**4.1.5.9.** The method currently used to calculate **output** of commercial banks (NACE 65.12), leasing companies (NACE 65.21), credit unions (NACE 65.12) and central credit union (NACE 65.22) is as follows:

+	Interest income
+	Income on ownership securities
–	Interest expenses
–	Income receivable from the investment of their own funds
+	Service and commission income
+	Realised profit (loss) *)
+	Other income
=	<b>OUTPUT</b>

\*) – **Realised profit (loss)** consists from:

- 1) operations with foreign currency;
- 2) operations with debt securities;
- 3) operations with ownership securities;
- 4) operations with other financial instruments.

**4.1.5.10.** The output of investment companies (NACE 65.23) is estimated as follows:

	Income from financial activity
–	Expenses for financial activity
+	Income from other activity
=	<b>OUTPUT</b>

**4.1.5.11.** The output of Other financial intermediaries (NACE 65.23) and Pawnshops and factoring companies (NACE 65.22) is estimated as a sum of typical activity income and income from other activity.

**4.1.5.12.** The output of the Central Bank (NACE 65.11) is measured as a sum of costs in accordance with the Annex 1 to the Council Regulation (EC) No 448/98 on FISIM. Due to this Regulation the Central bank is not included in the calculation of FISIM and its output is measured as total cost of production. The formula for calculation is as following:

$$P.1=P.2+D.1+D.29-D.39+K.1$$

	Intermediate consumption
+	Compensation of Employees
+	Other taxes
-	Subsidies
+	Consumption of fixed capital
=	<b>OUTPUT</b>

**4.1.5.13. Intermediate consumption** of banks and credit unions is calculated as a sum of these components:

- Rent of premises and household expenses
- Office equipment maintenance expenses
- Raising qualification and business trip expenses
- Advertising and marketing expenses
- Transport, post and communication services expenses
- Payment to organization servicing the bank (or credit union)
- Other operational expenses
- Services and commissions expenses
- Other expenses

**4.1.5.14. Intermediate consumption** of Leasing companies, Investment companies and Other financial intermediaries covers:

- Rent of long-term tangible assets

- Expenses for services
- Business trip expenses
- Other material costs
- Commissions expenses
- Expenses on other activity

**4.1.5.15.** The activity of **Insurance and pension funding, except compulsory social security (NACE 66)** includes:

66.01 Life insurance

66.02 Pension funding

66.03 Non-life insurance

**4.1.5.16.** Data sources for the activity 66 are:

- Quarterly Financial Statements provided by Insurance Supervisory Commission of the Republic of Lithuania: Profit (Loss) Account and Balance Sheet
- Annual survey on activity of insurance companies **F-02** conducted by Financial services statistics division
- Quarterly Financial Statements on pension funding provided by Insurance Supervisory Commission of the Republic of Lithuania and The Securities Commission of the Republic of Lithuania: Changes in net assets and Balance Sheet

**Note:**

*Accounting system provided by Insurance Supervisory Commission of the Republic of Lithuania has changed since 2001 and this report meets EU requirements for insurance companies' accounting.*

**4.1.5.17. Output** of insurance companies is estimated separately for life and non-life insurance.

**4.1.5.18.** The table below shows scheme used in the calculation of output for life and non-life insurance and provides the results of calculation in 2005:

**Table 11. Calculation procedures for Insurance in 2005, at current prices, LTL million**

		NACE 66.01				NACE 66.03			
		IQ	IIQ	IIIQ	IVQ	IQ	IIQ	IIIQ	IVQ
	Total actual premiums earned	61.6	65.2	71.1	87.1	168.6	176.6	154.7	175.1
+	Total premium supplements	8.8	18.9	11.5	9.5	11.0	3.4	6.6	0.6
-	Total claims due	11.4	15.9	11.5	10.8	104.4	87.8	79.0	78.1
-	The change in other technical provision	43.5	52.1	55.4	59.4	-3.5	4.5	0.7	0.9



=	Insurance service	15.5	16.1	15.7	26.4	78.7	87.7	81.6	96.7
+	Other income of insurance companies	0.7	2.0	0.5	1.3	2.8	3.9	3.5	0.3
=	<b>OUTPUT</b>	<b>16.2</b>	<b>18.1</b>	<b>16.2</b>	<b>27.7</b>	<b>81.5</b>	<b>91.6</b>	<b>85.1</b>	<b>97.0</b>

**4.1.5.19.** Total actual premiums earned consist of the sum of gross premiums written and change in the gross provision for unearned premiums.

**4.1.5.20.** Total premium supplements are comprised of Income from portfolio investments and Income from portfolio investments for reinsurance.

**4.1.5.21.** Total claims due is calculated as follows:

Total claims due = Claims paid when insurance (assurance) event occurs + Gross amount of change in the provision for claims – Claims settlement costs

**4.1.5.22.** Change in other technical provision is calculated in following way:

*For life insurance:*

Change in other technical provision = Gross amount of Change in Life assurance provision + Gross amount of Bonuses and rebates paid + Gross amount of Change in provision for bonuses and rebates + Change in other technical provision, not shown under other headings

*For non-life insurance:*

Change in other technical provision = Gross amount of Bonuses and rebates paid + Gross amount of Change in provision for bonuses and rebates + Change in the equalisation provision + Gross amount of Changes in other technical provision, not shown under other headings

**4.1.5.23.** Other income of insurance companies includes other income from insurance and income from other activity.

**4.1.5.24.** **Output** of pension funding (NACE 66.02) is measured as a sum of costs.

**4.1.5.25** The production of pension funding is shown in the table.

**Table 12. Output of the Pension Funds in 2005, at current prices, LTL million**

		NACE 66.02			
		IQ	IIQ	IIIQ	IVQ
	<b>OUTPUT</b>	2.0	3.1	3.4	4.0

**4.1.5.26.** The table below lists the components used in the calculation of **intermediate consumption** for insurance:

- Reinsurance balance
- Income from portfolio investments for reinsurance, reinsurers' share

- Rent of long-term tangible assets
- Expenses for services
- Business trip expenses
- Commissions for total insurance business
- Other material costs
- Other costs of insurance activity
- Costs of other activity

**4.1.5.27.** Reinsurance balance consists from the components listed below

- Outward reinsurance premiums
- Change in the provision for unearned premiums, reinsurers' share
- Claims paid when insurance (assurance) event occurs, reinsurers' share
- Change in the provision for claims, reinsurers' share
- Claims settlement costs, reinsurers' share
- Reinsurance commissions and profit participation
- Change in life assurance provision (only for life insurance)
- Changes in other technical provision, reinsurers' share, not shown under other headings
- Bonuses and rebates paid, reinsurers' share
- Change in provision for bonuses and rebates, reinsurers' share

**4.1.5.28.** The table below lists the components used in the calculation of **intermediate consumption** for pension funding:

- Management costs
- Other costs

**4.1.5.29. The activities auxiliary to financial intermediation (NACE 67) include:**

- 67 Activities auxiliary to financial intermediation
- 67.1 Activities auxiliary to financial intermediation, except insurance and pension funding
- 67.11 Administration of financial markets
- 67.12 Security broking and fund management
- 67.13 Activities auxiliary to financial intermediation n.e.c.
- 67.2 Activities auxiliary to insurance and pension funding
- 67.20 Activities auxiliary to insurance and pension funding

**4.1.5.30.** Data sources for activity 67:

- Quarterly and annual survey on activity of financial intermediation enterprises **F-03** (*Activities auxiliary to financial intermediation (NACE 67.1); Activities auxiliary to insurance (NACE 67.2)*) conducted by Financial services statistics division.
- Quarterly Financial Statements on financial brokerage firms and management enterprises provided by The Securities Commission of the Republic of Lithuania: Profit (Loss) Account and Balance Sheet

- Income tax declaration of individual (personal) enterprises received from State tax inspectorate.

**Note:**

*Starting from year 2003, these data are supplemented by the data on activity of associations of Lithuanian banks, Lithuanian credit unions, Lithuanian insurers and other similar associations.*

*For the estimations, data from the annual survey on activity of non-profit institutions (F-16) conducted by the Social Statistics division of Statistics Lithuania are used.*

**4.1.5.31. The output** of activities auxiliary to financial intermediation is made up of income from commissions and income from other activity.

**4.1.5.32.** These data are supplemented by data from Income tax declaration of individual (personal) enterprises. Their results formed the households' sector of NACE 67.

**4.1.5.33. Intermediate consumption** of NACE 67 (of S.12 sector) comprises the following components:

- Rent of long-term tangible assets
- Expenses for services
- Business trip expenses
- Other material costs
- Commissions expenses
- Costs on other activity

**4.1.5.34.** The results of calculation of output, intermediate consumption and value added of NACE 67 in 2005 by institutional sectors are summarised in the table below:

**Table 13. Production data for the Activities auxiliary to financial intermediation in 2005, at current prices, LTL million**

		NACE 67							
		S.12				S.14			
		IQ	IIQ	IIIQ	IVQ	IQ	IIQ	IIIQ	IVQ
	<b>OUTPUT</b>	25.8	29.8	30.4	39.7	3.2	3.2	3.2	3.2
–	<b>INTERMEDIATE CONSUMPTION</b>	11.2	15.0	19.6	20.1	0.8	0.8	0.8	0.8
=	<b>VALUE ADDED</b>	14.6	14.8	10.8	19.6	2.4	2.4	2.4	2.4

## 4.1. 6. Rents

**4.1.6.1.** Main sources of information for the rents calculations are annual. Improvement in estimation of land in rents calculation was made.

**4.1.6.2.** The price of households' land per hectare for the years starting from 1999 was taken from the decisions of Special Commission to the Ministry of Finance. Since 2005 the available information on average market prices on land transactions of current year was derived from the Centre of Registers, which is acceptable for NA needs.

**4.1.6.3.** The Treasury Department of the Ministry of Finance provides annual and quarterly data on land tax paid by individual persons.

**4.1.6.4.** The consumption of fixed capital (CFC) on the stock of owner-occupied dwellings is the part of total CFC (K.1) for the stock of dwellings and estimated as it mentioned below in Chapter 8.2.

**4.1.6.5.** The owners of private land are paying taxes on land. According to the Law on land taxes of 1 July 2000, the yearly tax rate for the land constitutes 1.5 per cent of the land's value. The taxes paid by individual persons for the land associated with the owner-occupied dwellings are estimated with reference to the annual and quarterly data provided by the Treasury Department of the Ministry of Finance.

**4.1.6.6.** Land on which multi-apartment buildings stand is not privatized. Thus the value of land is based only on single family houses. Annual land belonging to the private households is taken out of the total stock of land (built-up territory) and information source for the price indicator is the Cadastre of Land. Annual changes in stock of land associated with owner-occupied dwellings are distributed over quarters using proportional method.

**4.1.7. Owner-occupied dwelling services.** The data sources, which are used to estimate output of owner-occupied dwellings services, are:

- Households Budget Survey (HBS) which provides information used to estimate intermediate consumption of the owner-occupied dwelling services.
- The Construction and Investment Statistics Division provides data on dwellings stock.

**4.1.7.1.** The data sources, which the Construction and Investment Statistics Division uses for the estimation of dwellings stock, are:

- The information on stock of dwellings from the reports GF-01 of enterprises, whose balance sheets include dwellings.
- Annual data on stock of dwellings from the Centre of Registers.

**4.1.7.2.** Department of Land Management and Law to the Ministry of Agriculture produce information on summer houses. This information is available on the website of the Ministry of Agriculture.

**4.1.7.3.** The total stock of dwellings is separated into two main groups by ownership:

- The public dwelling,
- The private ownership dwelling.

**4.1.7.4.** Additionally, the stock of dwellings received from the Construction and Investment Statistics Division is distributed by location (urban, rural) and by kind of dwellings (multi-apartment and individual houses).

**4.1.7.5.** The annual data of multi-apartment area come from stock of dwelling in public sector. We take public ownership stock of dwelling without hostels and service apartments. The quarterly data of area is equal to

$$Q_i : Q_{i-1} + (M_n - M_{n-1})/4, \text{ if } Q_0 = M_{n-1},$$

*Q* – quarterly data,  
*M* – annual data,  
*i* – quarter,  
*n* – year.

**4.1.7.6.** After the consolidation of the results, it became clear that privately rented out area constituted approximately 9 percent of total private area in the biggest cities. Thus, the assumption is made that private rented out area makes up 9 percent of total private dwelling stock in each of five biggest cities. Total rented out area in private sector in five main cities Vilnius, Kaunas, Klaipėda, Šiauliai and Panevėžys is distributed by location into four main groups:

- centre;
- near the centre;
- uptown (far from the centre);
- personal houses.

**4.1.7.7.** Privately actually rented out area (for the actual rents) constitute 0,2 percent of total private area in private dwellings. The remainder is actually rented space in multi-apartment. Quarterly actually rented out area in multi-apartment and private dwellings respectively, allocated as follows:

$$Q_i : Q_{i-1} + (M_n - M_{n-1}) \times 30\%, \text{ if } Q_0 = M_{n-1},$$

*Q* – quarterly data,  
*M* – annual data,  
*i* – quarter,  
*n* – year.

**4.1.7.8.** Information on summer houses is available in the Cadastre register but it is not complete. Instead of this information the data from the Ministry of Agriculture have been used as the information source. The total area of summer houses is thus estimated. 90 percent of the privately owned summerhouses are assumed to be in the rural area and 10 per cent in the urban area. 0,2 of all summerhouses (area) are assumed to be rented.

**4.1.7.9.** For garages, it is assumed, that only single family houses built after 1980 have a garage. An average size (20 m<sup>2</sup>) is assumed and the total area is obtained by multiplication. 0.2 per cent of the stock of garages is assumed to be rented. The distribution between urban and rural is as for individual dwellings. Quarterly rented out garage and summer houses area allocated from the annual data:

$$Q_i : Q_{i-1} + (M_n - M_{n-1})/4, \text{ if } Q_0 = M_{n-1},$$

*Q* – quarterly data,  
*M* – annual data,  
*i* – quarter,  
*n* – year.

## 4.2 FISIM

**4.2.1.** In quarterly calculation of FISIM the same data sources are used as for annual estimates. The availability of main sources and appropriate level of detail at quarterly frequency allows to use the same methods and similar assumptions for both sets of estimates. Nevertheless, quarterly results are adjusted when the final annual data became available.

**4.2.2.** According to Commission Decision (EC) No 1889/2002 the calculation and allocation of FISIM among user sectors should be carried out using the reference rate defined as ‘method 1’ in point 1(b) of Annex III to Council Regulation (EC) no 448/98. The internal reference rate is calculated as the ratio of interest receivable on loans between S.122 and S.123 to stocks of loans between S.122 and S.123. Quarterly information on the assets and liabilities of the monetary financial institutions is provided by the Bank of Lithuania. The same institution provides data on interest’s rates with many breakdowns.

**4.2.3.** The allocation of FISIM among industries is made proportionally to the output for each industry for the same quarter of the previous year.

More detailed description of calculation of FISIM is given in the annual GNI inventory.

## 4.3. Taxes less subsidies on products

**4.3.1.** Net taxes on products are obtained by deducting subsidies on products (D.31) from taxes on products (D.21).

**4.3.2.** Taxes on products are taxes that are payable per unit of some good or service produced or transacted. Estimates of taxes on products are based on the quarterly administrative data sources, i.e. information from the tax authorities, central and local government budget executions, extra-budgetary fund (The Fund for Decommissioning of Ignalina Nuclear Power Station). The data is obtained on cash and based on national classification on taxes and other revenue for budgetary institutions. The simple time - adjustment is made every quarter for accruals of VAT and excises. The methods used to compile data on a quarterly basis are consistent with the methods used to compile annual data.

**4.3.3.** Taxes on products (D.21) are divided into: value added type taxes (VAT) (D.211), taxes and duties on imports excluding VAT taxes (D.212) and taxes on products, except VAT and import taxes (D.214). The value added type taxes, as well as import duties and excise duties, are composed of taxes paid to general government and taxes paid to the European Union.

**4.3.4.** The main data sources for estimation of subsidies on products (D.31) are quarterly central and local government budget reports and data on subsidies for agriculture from EU Funds (European Agricultural Guidance and Guarantee Fund and others) are obtained from the Ministry of Finance. Data sources are available on cash basis. Every quarter an adjustment is made on the subsidies for agriculture, aiming for recording of them at the time when the transaction which gives rise to the subsidy occurs. Subsidies on products (D.31) consist mainly of other subsidies on products (D.319) since there are no import subsidies (D.311) in Lithuania.

## Chapter 5. GDP components: the expenditure approach

### 5.0. Second estimate $t + 60$

**5.0.1.** The expenditure approach has been estimated according to the breakdown based on the methodology used for compilation of quarterly national accounts.

**5.0.2.** Models used for the estimation of GDP components are similar to production approach (*see GDP by production approach – Table 4*).

**5.0.3.** Regressors used to estimate expenditure components are: average monthly earnings, number of employees, industrial production, turnover in trade, income of National Budget and etc. Table below presents indicators which are used to estimate the expenditure components.

**Table 14. The list of regressors groups used for expenditure approach**

	Aggregates	Regressors groups	Remarks
1	Households consumption expenditure	Average monthly earnings; Average number of employees; Turnover of retail trade.	
2	Government consumption expenditure	Income of National Budget, Average monthly earnings in public sector; Expenditure of Central Government, Value of production in Public administration and defence; compulsory social security; Seasonal factors.	Evaluating this GDP expenditure approach component individual and collective expenditures are estimated separately.
3	NPI serving households	Significant regressors weren't found	ARIMA model was used.
4	Gross fixed capital	Import, export and production of capital goods;	Evaluating gross fixed capital formation P161,

	formation	Investment in tangible fixed assets; Construction work carried out; Value of production in construction; Average monthly earnings; Average number of employees; Seasonal factors.	P162, P163, P164, P165 and P166 are estimated separately.
5	Changes in inventories	Significant regressors weren't found	ARIMA model was used.
6	Acquisitions less disposals of valuables	Significant regressors weren't found	ARIMA model was used.
7	Exports of goods and services		Balance of Payments indicator, produced by Bank of Lithuania
8	Imports of goods and services		Balance of Payments indicator, produced by Bank of Lithuania

#### 5.0.4. Third estimate t+90

**5.0.5.** The compilation of the quarterly GDP, estimated by expenditure approach, is methodologically closely linked up with the annual estimates of expenditure-based GDP. It, however, usually is complete at a lesser level of detail than the annual estimates.

**5.0.6.** The value of quarterly GDP, estimated by expenditure approach, is balanced with the results of quarterly GDP, estimated by production approach, making the adjustments for some groups of goods and services of household final consumption and, mainly, changes in inventories.

**5.0.7.** The quarterly data are revised, when the annual data are available.

**5.0.8.** Quarterly GDP from the expenditure side includes final consumption expenditure, gross capital formation as well as balance of export and import of goods and services.

**5.0.9.** Expenditures on final consumption are incurred by households, non-profit institutions serving households and general government.

**5.0.10.** Gross capital formation is comprised from gross fixed capital formation, changes in inventories and acquisition less disposable of valuables.



**Table 15. Structure of the GDP expenditure components in 2005, per cent:**

<b>Final expenditure components of GDP</b>	<b>I Q</b>	<b>II Q</b>	<b>III Q</b>	<b>IV Q</b>	<b>2005</b>
Final consumption expenditure	83,7	85,4	79,1	84,8	83,2
Household consumption expenditure	65,6	65,0	63,2	63,7	64,3
NPISH consumption expenditure	0,2	0,2	0,2	0,2	0,2
Individual consumption expenditure of government	10,0	11,6	7,5	11,2	10,1
Collective consumption expenditure of government	7,9	8,6	8,3	9,7	8,7
Gross fixed capital formation	19,0	21,9	24,3	24,9	22,8
Changes in inventories	1,5	1,5	3,0	-1,4	1,1
Acquisition less disposable of valuables	0,0	0,0	0,1	0,1	0,0
Export of goods and services	56,5	56,2	57,4	59,6	57,5
Import of goods and services	60,7	65,0	63,9	68,0	64,6
<b>Total GDP</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## **5.1 Household final consumption expenditure**

**5.1.1.** The quarterly estimates of the household final consumption expenditure (HFCE) basically follow the same scheme of calculations as the annual estimates. The compilation is based on Classification of Individual Consumption by Purposes (COICOP). at two-digit level. Data are obtained using the tabular approach method, which was introduced by Eurostat in the Phare 1997 project. This set of analytical tables in consecutive order shows the transition way from initial data and all adjustments made by each source used. According to these analytical tables estimates of HFCE are being constructed of commodities chosen, basing on the reliability, from a variety of independent sources. There are some cases where a combination of sources is used to make the best estimation of the division.

**5.1.2.** HFCE estimates mainly are based on data from quarterly Household budget survey (HBS), monthly survey on retail trade turnover (RT); quarterly survey on market services and quarterly data from the Balance of Payments In addition, quarterly data from output, insurance companies and other statistical sources are also being used.

**5.1.3.** In compliance with principal requirements for HFCE estimates data sources used are adjusted for statistical, coverage and definitional reasons before taken them into final estimates of HFCE.

**5.1.4.** Due to the fact that persons living in institutions other than households have been excluded from HBS and expenditures of richest households are underestimated in this survey, necessary adjustment are made for complete coverage. Data received from surveys on RT turnover and market services are also adjusted to ensure exhaustiveness.

**5.1.5.** According to the ESA'95 rules HFCE is valued at purchaser's prices paid by households including any taxes on products. Wages and salaries in kind are valued at purchases prices in case if goods and services are purchased by enterprises and provided to employees, and at basic prices if provided goods and services are produced by the enterprises. Own consumption of produced agriculture products is valued at basic prices.

**Table 16. Structure of HFCE purposes in 2005, per cent**

COICOP	I Q	II Q	III Q	IV Q	2005
1.Food and non-alcoholic beverages	25,6	27,0	26,8	26,5	26,5
2.Alcoholic beverages, tobacco and narcotics	6,6	6,6	6,7	6,5	6,6
3.Clothing and footwear	7,6	8,6	8,0	8,1	8,1
4.Housing, water, electricity, gas and other fuels	16,7	14,1	12,6	14,1	14,3
5.Furnishing, household equipment and routine maintenance of the house	5,4	5,2	5,5	6,6	5,7
6.Health	5,2	4,9	4,7	5,1	5,0
7.Transport	14,1	14,0	16,0	15,1	14,9
8.Communication	2,9	2,6	2,5	2,6	2,6
9.Recreation and culture	5,8	6,7	7,1	6,0	6,4
10.Education	1,0	0,8	0,7	0,7	0,8
11.Restaurants and hotels	2,9	3,4	3,5	2,6	3,1
12.Miscellaneous goods and services	6,2	6,2	5,9	6,2	6,1
<b>Total final consumption expenditure of households on the economic territory</b>	100,0	100,0	100,0	100,0	100,0

## 5.2 General government final consumption expenditure

**5.2.1.** General government final consumption expenditure (P.3) consists of individual (P.31) and collective (P.32) consumption expenditure. The split between individual and collective consumption expenditure is drawn on the basis of quarterly data, provided by the Ministry of Finance (MoF) and the Social Security Funds (SSF). The Ministry of Finance provides data on the State (central government) budget revenue and expenditure, the local government budget revenue and expenditure and extra-budgetary funds. The source data from the MoF are broken down by economic and functional (COFOG 2<sup>nd</sup> level) classifications of expenditure. Data provided by SSF is not available by COFOG, but most expense concerns only the divisions for Health (07) and Social Protection (10). In addition, quarterly statistical survey is used for the public hospitals. The methods used to compile data on a quarterly basis are consistent with the methods used to compile annual data.

**5.2.2.** Final consumption expenditure of general government is valued at the costs of production. Final consumption expenditure (P.3) is equal to the sum of their output (P.1), plus the expenditure on products supplied to households via market producers, part of social transfers in kind (D.6311 + D.63121 + D.63131), minus the payments by other units, market output (P.11) and own-account capital formation (P.12) and minus payments for the other non-market output (P.131).

**5.2.3.** The split to individual and collective consumption expenditure is done according to functional classification of expenses.

**5.2.4.** Individual consumption expenditure consists of these COFOG divisions:

- 07 – Health (07.1 – 07.4 groups)
- 08 – Recreation, culture and religion (08.1-08.2 groups)
- 09 – Education (09.1 – 09.6 groups)
- 10 – Social protection (10.1 – 10.7 groups)

**5.2.5.** Collective consumption expenditures are calculated as the residual item, i.e. as the difference between total final consumption expenditure of general government and individual consumption expenditure.

**5.2.6.** The following quarterly structure of government final consumption expenditure is presented in the tables below:

**Table 17. Government final consumption expenditure in 2005**

		1Q	2Q	3Q	4Q	2005
	<b>Structure of components of government final consumption expenditure, %</b>					
P.31	Individual consumption expenditure	55,9	57,3	47,4	53,6	<b>53,7</b>
P.32	Collective consumption expenditure	44,1	42,7	52,6	46,4	<b>46,3</b>
<b>P.3</b>	<b>Final consumption expenditure</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

	<b>Quarterly distribution of government final consumption expenditure, %</b>					
P.31	Individual consumption expenditure	20,8	28,4	19,7	31,1	<b>100,0</b>
P.32	Collective consumption expenditure	19,0	24,5	25,3	31,1	<b>100,0</b>
<b>P.3</b>	<b>Final consumption expenditure</b>	<b>20,0</b>	<b>26,6</b>	<b>22,3</b>	<b>31,1</b>	<b>100,0</b>
	<b>Government final consumption expenditure, % of GDP</b>					
P.31	Individual consumption expenditure	10,0	11,6	7,5	11,2	<b>10,7</b>
P.32	Collective consumption expenditure	7,9	8,6	8,3	9,7	<b>8,7</b>
<b>P.3</b>	<b>Final consumption expenditure</b>	<b>17,9</b>	<b>20,2</b>	<b>15,7</b>	<b>20,9</b>	<b>18,7</b>

### **5.3. Final consumption expenditure of non-profit institutions serving households**

**5.3.1.** The founding, owning, activity, re-organization and liquidation of non-profit institutions serving households is regulated by the Law of the Republic of Lithuania on Public Institutions (No.1-1428, passed on 3 July 1996). Non-profit institutions cover political parties, trade unions, professional and learned societies, consumer' associations, social, cultural and sports clubs, charities and aid organizations, religious organizations. From 19 November of 1996, the register of non-profit organizations was established. Its data are included in the Statistical Business Register.

**5.3.2.** Non-profit institutions are the producers of non-market production. Final consumption expenditure of NPISHs is equalled to their output minus sales and consists of expenditures on various types of goods and services provided to households free or at prices that are not economically significant. It is not a considerable part of GDP.

**5.3.3.** The principal data source used for final consumption of NPISH is a special survey of Non-profit institutions conducted by the Social statistics division in Statistics Lithuania. All non-profit institutions, which are registered as non-profit institutions S.15, fill in the annual report F-16. This survey covers main cost elements: compensation of employees, social security contributions, consumption of fixed capital, purchases and sales of goods and services.

**5.3.4.** Final consumption expenditure of NPISHs is valued at the costs of production.

**5.3.5.** Quarterly estimates are based on mathematic-statistical approaches, when annual data are split into quarters using the DEMETRA and ECOTRIM software.

## 5.4. Gross capital formation

### 5.4.1. Gross fixed capital formation (GFCF)

**5.4.1.1.** In the quarterly calculations of gross fixed capital formation, the following breakdown by type of asset is used: residential buildings, non-residential buildings, other constructions, machinery and equipment, transport equipment.

**Table 18. Structure of the Gross fixed capital formation in 2005, per cent**

	Dwellings	Other buildings and structures	Transport equipment	Other machinery and equipment	Cultivated assets	Intangible fixed assets	Total Gross fixed capital formation
<b>2005Q1</b>	12,4	37,6	13,0	30,5	1,7	4,7	100,0
<b>2005Q2</b>	8,4	49,3	8,8	28,3	1,3	3,9	100,0
<b>2005Q3</b>	7,25	53,2	7,4	27,7	1,1	3,4	100,0
<b>2005Q4</b>	11,0	46,9	8,6	28,8	1,0	3,7	100,0

**5.4.1.2.** The volume of investment in buildings and constructions is assumed to move in line with the volume of construction and same indicators are used as for production-based GDP for this branch.

**5.4.1.3.** The estimate includes the gross output of construction firms, the value of any building materials provided directly by owners, and houses built by the owners themselves.

**5.4.1.4.** The following table details the calculation of construction output:

1		Gross output of building volume
2	+	Own account construction of enterprise
3	+	Secondary activity-construction by establishments in other industries
4	+	Taxes
5	+	Non-construction activities of other industries which are included in construction projects (architects services, transfer costs, etc.)
6	-	Current repairs(construction repair work)
7	-	Non-construction activity by construction enterprises
	=	Capital spending on construction

**5.4.1.5.** Figures about investments for residential buildings are also based on the permits survey. Information on the number of square meters and average price per square meter is also used for the estimation. To obtain the current value of residential buildings, non-residential, other constructions the construction cost index is used.

**5.4.1.6.** The calculation of gross fixed capital formation for machinery and equipment is based on the industry survey and foreign trade statistics. They contain all the necessary information for the commodity flow approach. Products which has to be classified entirely or largely as investment goods, they are identified and grouped using the product statistics. Export is deducted from domestic output and imports. In order to obtain purchasers prices, additions are made for distribution margins and other costs for training, assembly of machinery and equipment, commissioning etc. and the overall VAT.

**5.4.1.7.** Constant price estimates for machinery and equipment are produced by deflating, where possible, the individual components of capital formation or by estimating investment flows in constant prices. The current value of imports is deflated using the import price index for each division for capital goods, while the difference between output and exports is deflated using the wholesale price index for investment goods for each division. The sum of these deflated values is used as an indicator for deriving quarterly constant price estimates of investment.

**5.4.1.8.** Transport equipments are split into two major categories of products: motor vehicles of the various types and other transport equipment. Constant price estimates for transport equipment are done in the same way as for machinery and equipment. The basic sources for information on transport equipment, metal products and machinery are the industrial surveys and the foreign trade statistics.

**5.4.1.9.** Other products are composed of purchased own produced software, entertainment, literature or artistic originals, mineral exploration and cultivated assets.

**5.4.1.10.** Data sources on outlays on other products are: the data from surveys on investment and services, data from agricultural statistics.

**5.4.1.11.** For constant price calculations the each kind of assets is deflated by price index.

## **5.4.2. Changes in inventories and valuables**

**5.4.2.1.** Estimates of quarterly changes in inventories are based on the statistical business survey of non-financial enterprises (F-01 – quarterly), on the reports of Agricultural partnerships and on the survey of farmers. Holding gains/losses are calculated using information on changes in stocks derived from the mentioned sources combining them with a range of price indices, and suitable assumptions about stock-holding periods.

**5.4.2.2.** We separate estimation of changes in inventories by stage of raw materials, work in progress, finished products and goods for resale.

**5.4.2.3.** Data on inventories in the survey of enterprises is valued in FIFO method according to the Lithuanian Law of Bookkeeping. The results are aggregated by 31 kind of activity.

## 5.5. Export and import

**5.5.1.** Data on exports and imports are used from the Balance of Payments compiled by the Central Bank. The BOP includes information on exports and imports of goods and of services. Estimates for exports and imports are quarterly.

**5.5.2.** Appropriate FISIM is added to exports and imports services.

**5.5.3.** All the exports and imports of goods and services are distributed by destination:

Member States of the EU;

Institutions of the EU;

Third countries and international organizations

**5.5.4.** Exports and imports are estimated at current prices, at previous year prices and chain-linked volumes.

## Chapter 6 GDP components: the income approach

### 6.0. Second estimate t + 60

**6.0.1.** The income approach has been evaluated according to the breakdown based on the methodology of quarterly national accounts.

**6.0.2.** Models used for the estimation of GDP component are similar to production approach (*see GDP by production approach – Table 4*).

**6.0.3.** Regressors of the models of income approach components have been: average monthly earnings, average number of employees, turnover of retail trade, income of National Budget, expenditure of the Central Government, the value of production in Public administration and defense, value of compulsory social security, construction, construction works carried out, imports, exports and production of capital goods, investment in tangible fixed assets and etc.

**Table 19. The list of regressors groups used for income approach**

	Aggregates	Regressors groups	Remarks
1	Wages and salaries	Average monthly earnings; Average number of employees; Seasonal factors.	
2	Social contributions	Average monthly earnings; Average number of employees;	Social contributions are counted from report of State Social Insurance Fund Board

		Seasonal factors.	of the Republic of Lithuania. Econometric model is using if report is late.
3	Operating surplus and mixed income	Retail and wholesale trade indicators; Production indicators; Statistical data of the State Tax Inspectorate (value added tax);	
4	Consumption of fixed capital	Production indicators; Average number of employees; Investment in tangible fixed assets; Seasonal factors.	

#### 6.0.4. Third estimate t+90

Quarterly calculation of GDP by income approach consists of compilation of the following quarterly variables data: compensation of employees, including two components (wages and salaries and employers' social contributions), taxes on production and imports, subsidies on production and imports and consumption of fixed capital. These components and GDP amount via the production approach at current prices is a base calculating the last item of income approach the Gross operating surplus and the Mixed income as a residual item.

**Table 20. GDP by income approach in 2005, at current prices, LTL mill.**

years/quarter	Compensation of employees	Wages and salaries	Employer's social contributions	Oper. surplus and mixed income	Consumption of fixed capital	Taxes on production and imports	Subsidies on production and imports	Gross domestic product
<b>2005</b>	<b>29417,9</b>	<b>23331,0</b>	<b>6086,9</b>	<b>26303,7</b>	<b>9460,7</b>	<b>8212,9</b>	<b>1334,9</b>	<b>72060,4</b>
<b>I</b>	6361,2	4988,8	1372,4	5064,3	2282,8	1777,5	428,2	15057,7
<b>II</b>	7394,6	5916,3	1478,3	6210,4	2329,2	2053,1	251,3	17736,0
<b>III</b>	7440,7	5888,7	1552,0	7317,6	2388,3	2154,3	155,4	19145,6
<b>IV</b>	8221,4	6537,2	1684,2	7711,3	2460,4	2227,9	500,0	20121,1



**Table 21. Structure of GDP income components in 2005, per cent**

years/quarter	Compensation of employees	Wages and salaries	Employers' social contributions	Oper. surplus and mixed income	Consumption of fixed capital	Taxes on production and imports	Subsidies on production and imports	Gross domestic product
<b>2005</b>	<b>40,8</b>	<b>32,4</b>	<b>8,4</b>	<b>36,5</b>	<b>13,1</b>	<b>11,4</b>	<b>1,9</b>	<b>100,0</b>
<b>I</b>	42,2	33,1	9,1	33,6	15,2	11,8	2,8	100,0
<b>II</b>	41,7	33,4	8,3	35,0	13,1	11,6	1,4	100,0
<b>III</b>	38,9	30,8	8,1	38,2	12,5	11,3	0,8	100,0
<b>IV</b>	40,9	32,5	8,4	38,3	12,2	11,1	2,5	100,0

## 6.1 Compensation of employees

**6.1.1.** Compilation of quarterly data is performed for purpose derive all above mentioned income indicators overall economic, only **Compensation of employees'** and his components are disseminated by kind of activities.

**6.1.2.** Compensation of employees' and his components: wages and salaries and employers social contributions indicators in quarterly National Account has 17 activity breakdown, but finally are published by A6 NACE classification aggregates with a distinction for manufacturing (D).

**Table 22. Compensation of employees by kind of activity, at current prices, LTL mill.**

	2005Q1	2005Q2	2005Q3	2005Q4	2005
<b>D.1</b>	<b>6361,2</b>	<b>7394,6</b>	<b>7440,7</b>	<b>8221,4</b>	<b>29417,9</b>
A + B	111,6	173,2	249,7	158,5	692,9
C - E	1733,7	1846,5	1911,5	1998,2	7489,9
D	1491,0	1608,1	1677,8	1753,4	6530,3
F	487,9	625,7	749,5	733,7	2596,7
G - I	1745,9	1831,0	2087,1	2143,7	7807,6

J + K	539,4	579,5	623,5	669,6	2411,9
L - P	1742,7	2338,8	1819,5	2517,9	8418,8

**Table 23. Wages and salaries by kind of activities, at current price, LTL mill.**

	2005Q1	2005Q2	2005Q3	2005Q4	2005
<b>D.1</b>	<b>4988,8</b>	<b>5916,3</b>	<b>5888,7</b>	<b>6537,2</b>	<b>23331,0</b>
A + B	83,9	142,4	207,8	124,5	558,6
C - E	1387,6	1516,1	1537,9	1630,7	6072,4
D	1201,3	1332,3	1364,5	1448,5	5346,6
F	384,9	511,3	600,7	593,7	2090,5
G - I	1394,0	1498,5	1695,5	1756,5	6344,5
J + K	409,5	453,3	484,5	521,2	1868,5
L - P	1328,9	1794,7	1362,4	1910,6	6396,5

**6.1.3. Wages and salaries (D.11)** comprise all remuneration in cash and in kind for work and working relationship in accounting period (before reducing by payments of income tax, payments to social security fund, pension scheme, aliments, fines and penalties, loans and others.

**6.1.4.** The main sources of quarterly data for estimating wages and salaries are:

- 1) the quarterly statistical survey on main financial indicators of non-financial enterprises (F-01);
- 2) income tax declarations of unincorporated (individual) enterprises from Tax inspectorate (in first quarterly compilation are used annual data of previous year divided into quarters with respect to seasonally fluctuation in similar activities of non- financial enterprises);
- 3) quarterly survey on financial-economic indicators of agricultural partnerships and farmer's farms;
- 4) quarterly data on revenues and outlays in the central and local budgets from the Ministry of Finance;
- 5) reports of the central and commercial banks, data from Insurance Supervisory Commission of the Republic of Lithuania and data about financial intermediation activities of the Securities Commission of the Republic of Lithuania;
- 6) statistical survey of NPISH;
- 7) quarterly statistical survey on wages and salaries;
- 8) the Household budget survey;
- 9) the Labour cost survey.

**6.1.5.** The data of Household budget and Labour cost surveys are used to determine amount of wages and salaries in kind and especially to compile of remuneration in cash - like tips, in those activities where they are used.

**6.1.6. Employers' actual social contributions (D.121)** cover payments made by employers to Social security fund. Payments made by private and public employers are treated in the same way, but payments by self-employed persons to the Social security fund are included in mixed income.

**6.1.7.** The main source used to estimate employers' social contributions is Social Security Funds report. The later figure is allocated to industries using accounting data. The total is distributed by each activity according to structure from the accounting data.

**6.1.8. Employers' imputed social contribution (D.122)** represent social benefits, paid directly by the employers to their employees or to other entitled persons without the participation of insurance companies or autonomous pension funds and without the generation of special fund or separated reserves for such purpose. The estimation of imputed social contributions are based on the Labour cost survey data.

## **6.2 Taxes less subsidies on production**

**6.2.1. D.29 Other taxes on production** consist of all 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.

**6.2.2.** Other taxes on production (D.29) consist of compulsory, unrequited payments in cash or in kind which are levied by the general government, in respect of the production of goods and services, the employment, the ownership or use of land, buildings or other assets used in production. These taxes are payable whether or not profits are made. Estimates of taxes on production are based on the quarterly reports on taxes and other revenue of central and local government budgets and extra-budgetary fund (The Guarantee Fund).

**6.2.3.** Other taxes on production (D.29) consists of taxes on land and immovable property, conveyance taxes, contributions to the Guarantee Fund, tax on market place, pollution taxes and other taxes on production n.e.c.

**6.2.3. D.39 Other subsidies on production** includes subsidies on salaries or on particular type employment like handicapped persons, or on cost of training schemes organized or financed by enterprises, subsidies to reduce pollution, subsidies to lighten producers operating costs.

**6.2.4.** Taxes and subsidies on production in Lithuanian national accounts are compiled on the basis of quarterly data from the Tax Inspectorate and from the Central and Local budgets data sources.

**6.2.5.** Other taxes on production and other subsidies on production are a composite part of **all taxes and subsidies on production and imports (D2)**, which are shown in quarterly national accounts for total economy.

## **6.3. Gross operating surplus & mixed income**

**6.3.1.** Gross operating surplus for the national economy is a balancing item and can be expressed either in gross or in net terms due consumption of fixed capital.

**6.3.2.** Total operating surplus net is calculated as GDP, less compensation of employees, less taxes on production and imports plus subsidies on production and imports, and less consumption of fixed capital. Gross operating surplus is the same equation without deducting consumption of fixed capital.

**6.3.3.** Mixed income is a balancing item of the generation of income account of the sector of households. But neither operating surplus nor mixed income are calculated by sectors or by activities in the quarterly income account, only for total economy.

## **Chapter 7. Population and employment**

### **7.1. Population**

**7.1.1.** Population covers all Lithuanian citizens living in the country or being abroad for no longer than 6 months; foreigners who are temporary licensed to live in Lithuania; foreigners who are licensed to live in Lithuania but are being abroad for no longer than 6 months; foreigners who are licensed to live in Lithuania for one year or longer period of time.

**7.1.2.** Quarterly information on total population is provided by the Demographic Statistics Division of Statistics Lithuania. The main data sources used by the accountants of abovementioned Division for estimations of the figure are Population census and Register of population.

**7.1.3.** Estimates of total number of population are based on the last made Population census and adjusted by the amounts of live births, deaths and migration information, collected from the administrative data sources. Data on population is provided for the beginning of period.

**Table 24. Population in 2005, at beginning of period, thousand**

	Quarters			
	<b>2005Q1</b>	<b>2005Q2</b>	<b>2005Q3</b>	<b>2005Q4</b>
Population	3425,3	3419,1	3413,1	3408,7

### **7.2. Employment: persons**

**7.2.1.** Currently in the National accounts employment data are estimated in national and domestic concepts. Employment covers all persons – both employees and self-employed – engaged in some productive activity that falls within the production boundary of the system.

**7.2.2.** Quarterly data on total employment, economically active and unemployed persons in national concept presented in table 0110 is provided by the Employment Statistics Division according to the Labour Force Survey (LFS). Data on employment presented in table 0110 is adjusted by National Accounts Division by the number of conscripts (Information on conscripts is provided by Ministry of Defense).

**7.2.3.** Since 2002 LFS is the main original source for employment in the national accounts.

**7.2.4.** The Lithuanian LFS started in April 1994 as a semi-annual survey with one reference week in the second and fourth quarter each. Since the third quarter of 2002 the survey has been redesigned as a continuous survey. The survey covers the whole country. Both private and collective households are surveyed. Participation in the survey is voluntary.

**7.2.5.** The sampling method is a one-stage simple random sample of 4000 households, using the Population Register as a sampling frame. All persons in the household of the sampled individual are also surveyed, so that the total sample per quarter is:

**Table 25. Sample size in 2005, persons**

	<b>2005 Q1</b>	<b>2005Q2</b>	<b>2005Q3</b>	<b>2005Q4</b>
Persons aged 15 and older	10309	9965	9944	10014
All, included persons younger than 15 years old	12309	11881	11840	11917

**7.2.6.** The sample is constructed as follows: having selected a simple random sample of the fixed number of persons of the sampling frame, the members of their households are also added. The interview must be carried out face-to-face. It is on the average about 20 minutes.

**7.2.7.** Each quarter 25 percent of the sampled households are replaced.

**7.2.8.** The target population covers all residents 15 years and older living in private and collective households, including those who are temporarily abroad for a period of less than one year. The population also includes foreign nationals who have been living in Lithuania at least a year. An additional sample was selected and children under the age of 15 years were surveyed since 2002.

**7.2.9.** Information on conscripts is provided by the Ministry of Defense.

**7.2.10.** In the national accounts only one specific adjustment for military (activity L) is made: include specifically conscripted forces from the administrative source.

**7.2.11.** Number of employed person in the national concept (NC) is obtained as follows:

$$\text{Employment (NC)} = \text{Employment (LFS)} + \text{Conscripts (Ministry of Defense)}.$$

**7.2.12.** On a national basis employment cover such categories as in the LFS:

All residents 15 years and older living in private and collective households

Residents working for non-residents producer units;

Resident workers under the age of 15 years

**7.2.13.** And the following are not covered on a national basis:

Non-residents working with resident producer units;

Resident workers living permanently in an institution;

Working prisoners.

**7.2.14.** The concept underlying the NA estimates is thus domestic employment; adjustments on temporary workers abroad are done. This adjustment is applied for employees. Data on temporary workers abroad were received during the Labor Force Survey.

**Table 26. Number of temporary workers abroad in 2005, thousand**

	2005Q1	2005Q2	2005Q3	2005Q4
Temporary workers abroad	20,4	15,9	17,1	19,2

**7.2.15.** Equation on evaluating of employment in domestic concept (DC) can be written as follows:

$$\text{Employment (DC)} = \text{Employment (NC)} - \text{temporary workers abroad (LFS)}.$$

### **7.3. Employment: total hours worked**

**7.3.1.** Since 1995 the hours worked were estimated on the basis of LFS data on actually worked hours per week for total employment, employees and self-employed.

**7.3.2.** The concept of working hours in the original source (Labour Force Survey) is according to ESA95 definition in a national base. The specific indicators (such as annual holidays and leaves, sickness leaves, maternity or parental leave, strikes, time spent at the place of work waiting or standing, overtime and other) are a part of LFS.

**7.3.3.** In the national accounts only one specific adjustment is made for military: include specifically working hours of conscripted forces from the administrative source.

**7.3.4.** In national concept total hours worked per quarter is the amount of employed persons multiplied by actually worked hours per week and the number of worked weeks per quarter.

**7.3.5.** Total hours worked in domestic concept is equal to total hours worked in national concept adjusted by the number of hours worked by temporary workers abroad:

$$\text{Total hours worked (DC)} = \text{Total hours worked (NC)} - \text{hours worked by temporary workers abroad}.$$

## **Chapter 8: From GDP to net lending/borrowing**

### **8.1. Primary income from/to the ROW (D.1 to D.4), gross national income**

**8.1.1.** The Rest of the world (ROW) accounts provide an overall view of the economic relationships linking the national economy with the ROW.

**8.1.2.** The account of the remaining world covers payments, which were received by the country, and payments, paid by the country to foreign countries.

**8.1.3. Compensation of employees D.1.** Compensation of employees D.1 to and from the rest of the world (ROW) is based on information from the quarterly Balance of payments (BOP) statistics.

**8.1.4.** The data of this indicator are specified more exactly with the annual Balance of Payment data.

**8.1.5. Property income D.4.** In the national accounts, property income is split up into interest D.41, distributed income of corporations D.42, and reinvested earnings D.43, on foreign direct investment. The main sources used to estimate the property income paid to/ receivable from the rest of the world (ROW) is the quarterly Balance of Payments (BOP), compiled by the Bank of Lithuania.

**8.1.6.** Position D.41 includes the FISIM value, which is preliminary and which later shall be specified more precisely during the inspection.

**8.1.7.** Investment income data D.4 are being specified more exactly with the annual payment balance data of the Bank of Lithuania.

**8.1.8. Taxes on production and imports D.2 and subsidies D.3.** Quarterly data on taxes on production and imports D.2 to the ROW and subsidies D.3 from the ROW are based on information from the Ministry of Finance (MOF).

**8.1.9. Gross national income.** Gross national income is derived from Gross domestic product (GDP) by adding primary income receivable by unit resident in Lithuania and by subtracting primary income payable by resident units to non-resident units.

## **8.2. Consumption of fixed capital (K1), acquisition less disposal of non-financial non produced assets (K2)**

**8.2.1.** For the calculation of consumption of fixed capital (CFC) the perpetual inventory method (PIM) on the basis of the time series of gross fixed capital formation (GFCF) and the service lives have been applied. The depreciation schedule in PIM is assumed to be linear.

**8.2.2.** The separate estimations have been applied for dwellings and roads and bridges. The quantity multiplied by price method (**QxP**) based on quality adjusted replacement costs, was used for dwellings and for roads and bridges. The geometric depreciation model with the assumptions on the declining balance rate 1.6 by Katz method has been applied separately for public, privately rented out and owner-occupied dwellings. The service life of a dwelling is assumed to be equal to 80 years. In the case of roads and bridges the double declining balance rate approach was used. The central average lifetime 60 years, which corresponds to a geometric depreciation rate of 3.3 % was applied in the absence of reliable information to distinguish the series of GFCF of roads and bridges. For both dwellings and roads and bridges backward data from 1995 have been estimated.

**8.2.3.** Presently, CFC at current and constant prices are estimated for the following breakdowns: by 5 sectors; by kind of activity (A31); by 8 types of tangible assets: residential and non-residential buildings; roads and bridges; other structures; transport equipment; machinery and equipment (excluding office machinery, hardware, radio, TV); office machinery, hardware; radio, TV and communications; and 2 types of intangible assets: software and other intangible.

**8.2.4.** The starting point for quarterly estimates of the consumption of capital is the annual value at constant prices, which are converted to current prices separately with the same breakdown level using annual gross fixed capital formation price indices of the current year. The same price indices are applied for all activities by type of assets. Exception for Transports equipment is done. Different prices have been estimated for each institutional sector and activity. Estimation of CFC of the whole economy is done by summing up CFC by each type of assets, activity and each sector.

**8.2.5.** Due to new transmission program the new annual breakdown of CFC by activity (A60) need to be calculated. This is done by applying average structure of gross fixed capital formation for all economy and five sectors.

**8.2.6.** Then annual figures of each sector are distributed over quarters using an empirical formula:

$$1) Q1_t = (12 D_t + 5 D_{t-1} - 1 D_{t+1}) : 64$$

$$2) Q2_t = (20 D_t - 1 D_{t-1} - 3 D_{t+1}) : 64$$

$$3) Q3_t = (20 D_t - 3 D_{t-1} - 1 D_{t+1}) : 64$$

$$4) Q4_t = (12 D_t - 1 D_{t-1} + 5 D_{t+1}) : 64;$$

Q1: to Q4: Quarterly values of the first to fourth quarter, D: annual figures, t: reporting year

**8.2.7.** Whenever annual GFCF for t and (t+1) years are not yet available, the forthcoming quarters forecast is made by using linear times series model with autoregression and regression components for total economy and separately for each sector and each type of assets by activities.

**8.2.8.** The recalculation of quarterly consumption of fixed capital figures are done each year when the annual estimates are generally revised.

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

**8.3.1.** Information on Current taxes on income and wealth (D.5) and Social contributions and benefits (D.6) from / to the ROW is available from the Bank of Lithuania sources. Provisional data for these indicators are revised when the Bank of Lithuania prepared the annual data.

**8.3.2.** In the category of Current transfers the integrated current international cooperation (D.74) and miscellaneous current transfers (D.75), which are payable to resident institutional units of government are reflected in the ROW accounts. These data are taken from the Ministry of Finance (MOF).

**8.3.3.** In the current transfers of other sectors the Workers' remittances and other transfers are included. Information about these transfers is obtained from the quarterly BOP of Lithuania.

**8.3.4.** Current transfers the central government and other sectors of the economy transferred to ROW is recorded in the quarterly BOP of Lithuania.

**8.3.5.** The data of this indicator are specified more exactly with the annual BOP data.

**8.3.6.** The balance of payments differences between the government and other sectors, the tax position is shown in the Ministry of Finance (MOF) reports.



**8.3.7.** Net national disposable income is derived by subtracting from net national income, the net current transfers which are the result of transfers to and from the ROW.

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

**8.4.1.** Adjustment for the change in net equity of households in pension fund reserves is not available.

**8.4.2.** Net savings are derived by subtracting final consumption expenditures from net national disposable income.

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

**8.5.1.** Information about capital transfers (D.9) from the ROW are obtained from the Ministry of Finance data sources. Information for other domestic sectors of the economy for the capital transfers are taken from the quarterly BOP.

**8.5.2.** Information about capital transfers payable to the ROW are received from the Ministry of Finance as well.

**8.5.3.** Information about capital transfers paid by other sectors is taken from the quarterly BOP of Lithuania.

**8.5.4.** Net lending/borrowing is derived as following: Net savings plus Net capital transfers minus Gross capital formation and plus Consumption of fixed capital.

## **Chapter 9: Flash estimates**

### **9.1. Flash GDP estimate**

**9.1.1.** In order to get quarterly GDP estimate the first month after the end of the quarter ( $t + 30$ ), it is important to have appropriate statistical data. In such a short time there is no statistical data available, to calculate GDP by expenditure or income approaches. Only the output method can be used to evaluate the first estimate of GDP. This method is the most reliable. GDP is also considered as the sum of value added by kind of activity.

**9.1.2.** The methodology for calculation of the first GDP estimate is different from the methodology used in the National accounts compilation. Gross value added is estimated at 2-digit level of NACE.

**9.1.3.** Econometric models with regression components are used to estimate the gross value added of every activity. To estimate the value added of each activity one of the models – linear, linear for logarithmic values (multiplicative), errors, co-integration, changes, logarithmic changes – is used.

**9.1.4.** Statistical data for the reference quarter or the data for two corresponding months have been provided by the Divisions of Statistics Lithuania as such: Price Statistics, Construction and

Investment Statistics, Industry Statistics, Foreign Trade Statistics, Domestic Trade Statistics, Transport and Service Statistics, Agriculture and Environment Statistics. Besides, the Ministry of Finance, Bank of Lithuania, the Insurance Supervisory Commission of the Republic of Lithuania (results of insurance activity), the State Social Insurance Fund Board of the Republic of Lithuania, the State Tax Inspectorate provides the statistical data.

**9.1.5.** Statistical data for the last month of every quarter is always been forecasted. The time series models are used for this forecasting.

**9.1.6.** In the table there are presented GDP (first estimate) at current prices and growth rate (estimated at constant prices in base of 2000) compared to corresponding period of 2004 year.

**Table 27. Flash estimate of GDP in 2005**

	<b>GDP at current prices, LTL mill</b>	<b>Growth rate, %</b>
<b>Period</b>	<b>t+30</b>	<b>t+30</b>
2005 I	14921	5.5
2005 II	17129	8.2
2005 III	19144	7.6
2005 IV	19320	8.2

## **9.2. Flash employment estimate**

**9.2.1.** The flash estimate of employment is calculated in two-digit level of NACE. Data of employees and self employed are estimated using different time series models.

**9.2.2.** Data are estimated for the quarter (t + 45) on 6 economic activities. Historical data (from 1995) of employment for the estimation is used. Total data of employment are aggregated from above mentioned employees and self employed data using balancing methods.