NATIONAL STATISTICAL INSTITUTE OF BULGARIA

Quarterly National Accounts Inventory

Macroeconomic Statistics Directorate
SEPTEMBER 2011

Table of contents:

Abbreviations

ANA	Annual National Accounts
BNB	Bulgarian National Bank
BNSI	Bulgarian National Statistical Institute
BoP	Balance of Payment
BS	Business Statistics
CFC	Consumption of Fixes Capital
CIT	Corporate Income Tax
COFOG	Classification of Functions of Government
CPA	Central Product Activity classification
COICOP	Classification of Individual Consumption Expenditures of Households by Purposes
COP	Constant Prices
CPI	Consumer Price Index
CUP	Current Prices
DDI	Domestic Demand price Index
DSS	Demographic and Social Statistics
EC	European Commission
EDP	Excessive Deficit Procedure
ESA'95	European System of National and Regional Accounts - 1995
ESS	European Statistical System
EU	European Union
FISIM	Financial Intermediation Services Indirectly Measured
FNA	Financial National Accounts
FTS	Foreign Trade Statistics

GFCF	Gross Fixed Capital Formation
GDP	Gross Domestic Product
GNI	Gross National Income
GO	Gross Output
HBS	Household Budget Survey
IC	Intermediate Consumption
IIP	International Investment Position
IMF	International Monetary Fund
IPI	Industrial Production Index
ITRS	International Transaction Reporting System
LCI	Labour Cost Index
LFS	Labor Force Survey
MES	Macro Economic Statistics
MoF	Ministry of Finance
NA	National Accounts
NACE, Rev.1	European Classification of Economic Activities, Revision 1
NACE, Rev.2	European Classification of economic activities, Revision 2
NFNA	Non Financial National Accounts
NPISH	Non-Profit Institutions Serving Households
NSP	National Statistical Program
NSS	National Statistical System
PIT	Personal Income Tax
PPI	Producer Price Index
PPP	Purchasing Power Parity
QNA	Quarterly National Accounts

R&D	Research and Development
SDDS	Special Data Dissemination Standard
SITC	Standard International Trade Classification
SUT	Supply and Use Tables
TP	Transmission Program
VA	Value Added
VAT	Value Added Tax
UVI	Unit Value Index

0. Introduction

The aim of this document is to provide a description of data sources and compilation methods, which are used for quarterly national accounts (QNA) in Bulgaria. This description is called "QNA Inventories" and its main purpose is to enable assessment of observance with the European national accounting standard (ESA 95) and related legislation. Structure of the document is similar to the "GNI Inventory" which relates to compilation of annual national accounts. Unlike annual GNI Inventory, the content of QNA Inventories is less detailed and focused on specific quarterly issues.

A template for the QNA Inventories was approved by the Working Group on National Accounts in May 2006. Its structure is broadly based on the GNI Inventory, but adapted to the features of QNA. This document encompasses all proposed chapters, including voluntary chapter dealing with the main quarterly data sources used. The inventories do not cover compilation of quarterly sector accounts or short-term public finance statistics.

The tables with numerical illustrations are referred to the last calculated preliminary estimates and also to the revised quarterly data after the pre-definitive updates of annual national accounts results.

It is intended that QNA Inventories will be regularly updated with the aim to encompass all methodological changes that will be implemented in future. Updating is planned to be done once a year.

Chapter 1 Overview of the system of quarterly accounts

1.1 Organization and institutional arrangements

In the Bulgaria, quarterly national accounts (QNA) are compiled by the Bulgarian National Statistical Institute (BNSI). The position of the BNSI as an agency as well as the mission, task, organizational structure, rights and duties of the BNSI are defined by Act on Statistics, amended on 14 of November 2008.

According to the Statistical Low, BNSI is a government institution with functions to organize, coordinate and produce official statistics independently within the National Statistical System (NSS). The activity of BNSI is conducted according to the approved by Council of Ministers annual National Statistical Program (NSP), based on five years strategic plans and the related documents of European Statistical System (ESS). Once approved by the Council of Ministers and by the Parliament, the NSP has a status of legal document which sets obligations and responsibilities to all parts in the statistical process: both to the observed statistical units and to statistical authorities.

The BNSI consists of Head office and 28 Regional offices. The organization and coordination of statistical work is a matter of competence of the Head office, while the regional offices are engaged for collection of primary data and also the execution of the defined by the head office procedures for statistical control of the incoming data.

Within the organizational structure of the Head office, three directorates are directly engaged in production of statistical information – Macroeconomic statistics, Business statistics and Social and demographic statistics – see the chart below.

According to the Statistical Law, one of the major responsibilities of the Macroeconomic statistics (MES) directorate is production of economic statistics according to the European system of national and regional accounts – ESA'95, including national accounts statistics required for the administrative purposes of EU: own resources statistics, Protocol for the government excessive deficit and debt.

As regards to the responsibilities in the field of NA, two divisions in the MES are involved in the work – Non financial national accounts and Financial statistics. NFNA division is involved in the process of elaboration of the annual and quarterly national accounts for GDP, GNI and other relevant indicators. The integral work of the NA estimates both for preparation of short term and annual indicators provide an opportunity to ensure a close and permanent monitoring of the data sources and consistency between them. The work in the field of NFNA area is distributed among 19 experts. FS division is responsible for the annual financial accounts and EDP and 6 experts are engaged in the unit.

As regards the BNSI's Annual Statistical Program, related to the TP under ESA'95 and national accounts regulations, the responsibilities between the national accounts divisions in terms of annual man days are presented in the following chart.

Sets of accounts	NA divisions	NFNA	FS
	experts	19	6
Annual accounts			
GDP - production, expenditure and income		715	
Labour accounts and labour productivity		240	
Regional GDP		120	
GDP by expenditure approach - detailed expenditure groups		90	
Non-financial accounts by institutional sectors		485	
SUT, Input Output tables		1265	
Financial balance sheets by institutional sectors, revaluation, other changes in volume			610
Quarterly accounts			270
GDP - production, expenditure and income		1420	
Labour accounts and labour productivity		80	
Non-financial accounts by institutional sectors - general government and rest of the world account		285	
Government accounts		215	
Annual non-financial accounts by sub-sectors of general government		95	250
EDP notification of general government deficit and debt		240	
Annual expenditures by sub-sectors and by COFOG groups			
Annual tax statistics and social security contributions			
National accounts for EU own resources purposes			
GNI at market prices		35	
Weighted average VAT rate			60

The production of quarterly national accounts is not organizationally separated from the production of annual accounts. The Non-financial national accounts division is responsible for preparation of annual and quarterly national accounts and since 2008 with the preparation of GDP flash estimates[1]. The integral work on national accounts estimates both for preparation of short term and annual indicators (not separating quarterly estimates from annual estimates) provides an opportunity to ensure a close and permanent monitoring of the data sources and national accounts elements of GDP with an acceptable consistency between short term and structural economic information.

The work in NFNA division is distributed among 19 experts. As regards GDP estimates (at current prices, prices and volume indices) the division is responsible for current quarterly data (since 2008 including quarterly GDP flash estimates) as well as preliminary annual (accumulated quarterly) data and annually updated (pre-defined estimates, before final balancing within the frame of SUT). The work covers production of institutional sector accounts on quarterly and on annual basis, including non-financial accounts for general government and its sub-sectors (quarterly and annual information for receipts and expenditures, expenditures by sub-sectors and by COFOG functions), data on employment and hours worked based on the ESA'95 requirements.

QNA are compiled in close cooperation with other departments of the BNSI. Price indices used for deflation are taken from the Business Statistics Directorate and Consumer Prices Statistics Department. Exports and imports of goods and a significant part of exports and imports of services are compiled by the External Trade Statistics Department. Household final consumption expenditures are estimated mainly using the results from household budget surveys (for which the Household Surveys Department is responsible) and wholesale and retail trade turnover volume indices (derived from Business Statistics Directorate). Processing of quarterly enterprise surveys, which are used as the main data source for QNA, is coordinated by the Business Statistics Directorate.

---

[1] In 2008 an experimental work was carried out for the regular implementation of flash estimates of GDP and its components. Flash estimates are included in the national statistical program for 2009.

A part of data sources is obtained from other institutions. Particularly administrative data related to the general government sector and taxes and subsidies on production are taken from the Ministry of Finance. Balance of payments is compiled by the Bulgarian National Bank. Data inputs to Foreign Trade Statistics (FTS) originate from the administrative sources – National Revenue Agency (for Intrastat) and Customs Agency (for Extrastat).

Quarterly financial accounts are compiled by the Bulgarian National Bank (BNB).

Brief history of quarterly national accounts in Bulgaria

The first quarterly estimates of GDP and other macroeconomic indicators (quarterly estimates for 1994) were published in September 1995. At the beginning GDP levels and volumes were estimated by means production approach and components of the expenditure approach, except imports and exports of goods and services. Since 1998 the quarterly national accounts data for all the GDP components from production and from the expenditure side were estimated within the common methodological framework. In 2007 all data set since 1995 in terms of Eurostat's Data Transmission Program under ESA'95 was established.

The historical quarterly data are published in the BNSI web.

During the years QNA have been developed and innovated, so at present they fulfill most Eurostat's requirements (according to the revised data transmission program of Eurostat under ESA'95).

Since 2008 the experimental work on preparation of flash quarterly accounts estimates was carried out. The experimental calculations were published on the BNSI web page. At present, the official publication of the flash GDP figures is within the frame of the annual national statistical program.

In regards to the NACE Rev.2 established by Regulation (EC) No 1893/2006, the change to NACE Rev. 2 in the national accounts transmission programme took place in September 2011. For purposes of comparability in time, Bulgarian National accounts developed the work in order to convert the data into NACE Rev.2 and to fulfill the derogations to regulation

2223/1996 as amended by Regulation 1392/2007. The project work under Grant agreement was carried out by the experts from National accounts division with the support of the experts from Business statistics and Social and demographic statistics. The overall work included the preparation of the appropriate methodology, practical actions during the transitional periods in order to ensure the compilation of national accounts according to NACE Rev. 2. As a result from the project work, the data were provided to Eurostat in September 2011 starting from 1995 in order to have full set of NA data.

1.2 Publication timetable, revisions policy and dissemination of QNA

Regular estimates of QNA aggregates are published approximately 70 days after the end of the reference quarter. Because this time frame is inconvenient for some users, it was decided to introduce more rapid releases which are generally known as flash estimates. Starting from the estimate for 1st quarter of 2008 as an experimental work, these estimates are published approximately 42-45 days after the end of the reference quarter under the official name "GDP express preliminary estimate".

1.3 QNA compilation approach

Methodology of QNA follows the European System of Accounts (ESA95). Statistical methods used for compiling QNA belong mainly to the group of "direct procedures". This approach is facilitated by availability of relatively extensive direct data sources, represented mainly by the quarterly enterprise survey, household budget survey, labor force survey, administrative fiscal data, balance of payments and international investment position. The use of indirect procedures consisting in desegregation of annual figures with the help of proxy indicators is limited to the cases when sufficient quarterly sources are not available. Principally the same procedure is applied for reconciliation of pre-definitive and final annual national accounts data among quarters.

1.4 Balancing, benchmarking and other reconciliation procedures

Quarterly GDP is compiled independently using two methodological approaches – the production approach and the expenditure approach. The income approach is not involved in the balancing process because gross operating surplus (including mixed income) is derived as a residual item. For the preliminary quarterly estimates, the differences between results of both approaches are presented as an item within the expenditure components and then removed in the balancing process.

Since 2007 experimental work was introduced on the balancing of preliminary quarterly data within the last available SUT framework. The differences between first preliminary annual results and predefined and final annual figures are allocated among the quarters proportionally to the initial quarterly structure of the preliminary estimates within the year. In addition, the direct information observed by the annual enterprise surveys about the periods within the year when the units were being active is used.

1.5 Volume estimates

General procedure for volume measures consists of two steps: First figures at current prices are converted to an average previous year prices using appropriate price indices. Figures at previous year prices are then chain-linked in order to obtain comparable time series of volume measures. Chain-linking of quarterly figures is performed using the annual overlap technique.

1.6 Seasonal adjustment and working-day correction

In 2008, GDP and its components according to the production, expenditure and income approaches are experimentally calculated in terms of seasonally adjusted time series. Since September 2010, the seasonally adjusted data have been officially published. Calculations are made using the Tramo/Seats method. Seasonal adjustment is conducted each quarter. Once a year, within estimate for 1st quarter (published in June), whole time series of adjusted data are revised. Within estimates for the other quarters, revision of adjusted data is limited only to periods for which raw data are revised.

Working-day correction is performed only for selected time series for which this effect is explainable from the economic point of view. Regression approach with one regression variable is applied (i.e. working days and non-working days are distinguished).

1.7 Additional information

The main page related to QNA can be found at:

http://www.nsi.bg/otrasalen.php?otr=4

Complete time series of QNA can be downloaded under:

http://www.nsi.bg/ORPDOCS/GDP_1.2.1_en.xls,
http://www.nsi.bg/ORPDOCS/GDP_1.2.2_en.xls,
http://www.nsi.bg/ORPDOCS/GDP_1.2.3_en.xls
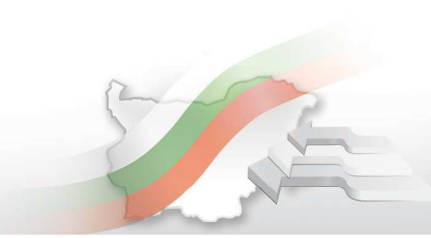
Chapter 2 Publication timetable, revision policy and dissemination of QNA

2.1 Release policy

Regular estimates of QNA aggregates are published approximately 70 days after the end of the reference quarter. Press releases include the main figures for the last quarter, information about possible revisions and a brief analysis of the current development of the economy. Emphasis is put on the output and expenditure components of GDP. Press releases are complemented with an electronic publication and a set of tables with quarterly time series which are available on the BNSI website.

Press releases related to regular estimates can be found at:

http://www.nsi.bg/indexen.php

Because publication delays of regular estimates are inconvenient for some users, it was decided to introduce more rapid releases which are generally known as flash estimates. Starting from the estimate for 1st quarter of 2008 as an experimental work, these estimates are published approximately 42-45 days after the end of the reference quarter under the official name "GDP flash estimates". The scope of preliminary estimates is limited to volume indices and current values at current prices of GDP and its main components from the production and expenditure side.

Calendar of national accounts releases (covering both quarterly and annual national accounts) is a part of the BNSI calendar for all statistical releases based on the annual national statistical program. It can be found at:

http://www.nsi.bg/kalendaren.php?P=179&SP=317

The revisions of quarterly data are conducted regularly after the compilation of the annual national accounts - pre-defined and finally balanced annual national accounts. The revisions

are introduced in March each year when the preliminary estimates of the previous year are prepared, together with the revised annual national accounts data for the years T-2 and T-3.

The revisions of the preliminary quarterly results for previous quarters within the same year could be made only in the cases of significant differences occurred in the source data. Quarters of the current year may be corrected on the basis of more complete and updated quarterly data sources.

In regular practice, the deadline for the first annual national accounts estimates for year "T" is also the deadline for the semi-definitive annual set of national accounts for the year "T-1". That gives possibility, compiling the preliminary annual data for previous year "T", to introduce some adjustments on the already published quarterly results for first three quarters of the that year based on the analyzed and investigated differences between preliminary and pre-definitive annual data for the year before "T-1".

Different revision policy is related to seasonally adjusted figures – see chapter 3.4.

Quarterly non-financial sector accounts, in terms of the EU regulation are released approximately 90 days after the end of the reference quarter as well as short-term public finance statistics (tables 25). Figures for General government sector and the rest of the world are sent to Eurostat. The quarterly non-financial accounts for the government sector are published on the BNSI website. No press release concerning quarterly sector accounts is prepared. The quarterly data are revised in time frame of the annual preparation of the non-financial accounts related to the Eurostat's transmission program under ESA'95 and program for notification of the government deficit and debt under EC government excessive deficit procedure.

2.2 Contents published

Quarterly tables of the ESA95 transmission program are published approximately 70 days after the end of the reference quarter:

Table 0101: Gross value added at basic prices and gross domestic product at market prices (gross value added is published in A10 breakdown);

Table 0102: GDP identity from the expenditure side (without breakdown of gross fixed capital formation);

Table 0103: GDP identity from the income side (compensation of employees and wages and salaries in A10 breakdown);

Table 0111: Employment by industry (numbers of persons and numbers of hours worked in A10 breakdown).

Based on quarterly national accounts data the information on labour productivity in terms of GDP/GVA per employed person and hours worked are published also.

Above mentioned tables are published in raw (non-seasonally adjusted) form and as well as in terms of seasonally adjusted data. Contents of seasonally adjusted (and possibly working-day corrected) data is described in chapter 3.4.

All time series are available from 1st quarter 1995, the figures at previous year's prices and chain-linked series are available from 1st quarter 1996.

2.3 Special transmissions

All compiled tables of the ESA95 transmission program are sent via GESMES to Eurostat. No institution, either domestic or international, is privileged to have the results before the official release.

2.4 Policy for metadata

QNA for Bulgaria subscribes to the Special Data Dissemination Standard (SDDS) established by the International Monetary Fund (IMF).
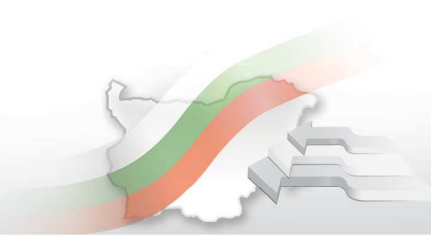
Chapter 3 Overall QNA compilation approach

3.1 Overall compilation approach

Methodology of QNA follows the European System of Accounts (ESA95). Statistical methods used for compiling QNA belong mainly to the group of "direct procedures" (ESA95, §12.04). Direct procedures are based on the availability at quarterly intervals, with appropriate simplifications, of the similar sources as used to compile the annual accounts. This approach is facilitated in BNSI by availability of relatively extensive direct data sources, represented mainly by the quarterly enterprise survey, quarterly conducted household budget survey, and quarterly enterprise survey on employment and labour costs, quarterly labour force survey. The use of indirect procedures consisting in desegregation of annual figures with the help of proxy indicators is limited to the cases when sufficient quarterly sources are not available.

The process of quarterly GDP estimation can be briefly described in following steps:

Acquisition of source data from surveys and administrative sources;

Validation of source data and making possible corrections of the data;

Quarterly conceptual adjustments and adjustments;

Balancing of the production approach and the expenditure approach to GDP at current prices - obtaining the final GDP at current prices;

Conversion of GDP components of the production approach and the expenditure approach from current prices to previous year prices;

Balancing of the production approach and the expenditure approach to GDP at previous year's prices - obtaining the final GDP at previous year prices;

Seasonal adjustment of GDP and its components – separately for current prices and volume measures after chain-linking.

Validation and corrections of source data, included in the second step, consists mainly in eventual correction of obvious mistakes in surveys, etc. The main elements of the checking procedures are the following: comparison of the source data received in the previous quarters and the same quarters of the previous year; consistency between basic data elements used for measuring national accounts indicators – industrial production indices, industrial and trade turnover indices; comparison of price information used for deflation purposes – industrial price indices for exports with the foreign trade export price indices, industrial price indices and consumer price indices.

Conceptual adjustments are made due to differences between business accounting rules and national accounts concepts and definitions. Adjustments for exhaustiveness are made with the aim to cover transactions that are not directly observed via regular statistical surveys or administrative sources. The direct information is used for the adjustments for holding gains/losses in the changes in stocks, income in kind and measurement of small scale business activities, activity of self employed persons, adjustments for employees working without labour contract. When reliable quarterly data for some conceptual adjustment or adjustment for exhaustiveness are not available, estimates based on the quarterly pattern of surveyed data or expert estimates based on the annual accounts from the previous year are used. The procedures of benchmarking, balancing, conversion to previous year's prices and seasonal adjustment are described in following sub-chapters.

From the technical point of view, the computation system is based on Microsoft Excel. Standardized templates are used for some types of computations, e.g. benchmarking and conversion to previous year's prices. The quarterly data are stored in the self prepared software based on "C++" with options to extract the required information (at current and constant previous year prices, volume indices and deflators) at the levels of aggregation of NACE, Rev.2; by type of final demand and primary income categories. Improvements are made in the computing software for inclusion of standard procedures for verification of basic source data from the production side as well as integration of the regularly applied conceptual

adjustments. The exhaustiveness adjustments follow the tabular approach requirements of Eurostat.

Classifications used in QNA

The most important classifications used in QNA include the industrial classification of economic activities NACE, Rev.2, the classification of products CPA 2008 and SITC, the classification of institutional sectors (based on ESA95), the classification of individual consumption by purpose -COICOP and the classification of fixed assets (based on ESA95). In general, classifications used in QNA are more aggregated than those used in ANA due to lower level of detail available from quarterly data sources.

Estimates of output, intermediate consumption, compensation of employees, wages and salaries and employment data (numbers of persons and hours worked) are compiled at the industrial breakdown according to two-digit NACE, Rev.2 classification while ANA use the mixed two-three digit NACE, Rev.2 classification. For publishing purposes almost all data are aggregated to the level of 21 activities (sections of the NACE, Rev.2 classification). The labour accounts quarterly data are presented at A21 NACE, Rev.2 categories.

Exports and imports of goods and services are compiled according to two-digit CPA classification. Moreover, exports and imports of goods are compiled according to two-digit SITC classification. These breakdowns are used for conversion to previous year's prices. ANA use three-digit CPA classification.

The breakdown by institutional sector is used for estimates of output, intermediate consumption, final consumption expenditure, gross capital formation, and compensation of employees, wages and salaries and other taxes/subsidies on production. Breakdown by sub-sector is not compiled (with the exception of sub-sectors of the general government in tables 2501 and 2502).

Household final consumption expenditure is compiled in the breakdown into groups in order to adopt in appropriate way the basic information from household budget survey and retail

trade statistics. For publication purposes this breakdown is transformed into the breakdown into four types of durability (durable goods, semi-durable goods, non-durable goods and services) based on the available COICOP information.

Gross fixed capital formation is published as a total amount. The breakdown by type of fixed assets (dwellings, other buildings and structures, transport equipment, other machinery and equipment, cultivated assets and intangible fixed assets) is possible after the SUT framework.

3.2 Balancing, benchmarking and other reconciliation procedures

3.2.1 Quarterly GDP balancing procedure

GDP is compiled independently using two methods – the production approach and the expenditure approach. The income approach is not involved in the balancing process because gross operating surplus (including mixed income) is derived as a residual item. Principally the differences between results of both approaches are removed in the balancing process and no discrepancies have to be shown in published results (with the exception of chain-linked series, where discrepancies inevitably result from the method of chain-linking).

The simultaneous balancing is done at current prices and previous year's prices using the frame of the last available annual SUT. The production approach is considered as more reliable and in the case of outstanding unbalances, they are presented as an item within the expenditure side of GDP.

Since 2007 as an experimental work the balancing of quarterly national accounts data for GDP was obtained within the frame of the last available annual SUTs. The initially calculated quarterly national accounts indicators from the production and expenditure side (output, intermediate consumption, final consumption expenditures of households, government, investments in fixed capital) are allocated to total frame lines in the SUT and than they were disaggregated by commodity groups of CPA by the respective coefficients of the Supply and Use tables. The direct information for imports and exports of goods and services as well as changes in stocks by commodity types are directly introduced as vectors in SUT frame before

starting the commodity flow balancing. Within the balancing process the biggest discrepancies between total resources and total uses are balanced manually and then the RAS procedure is applied for the rest less significant adjustments. The system of deflation procedures than is applied on the balanced in the SUT format quarterly national accounts aggregates – see the chapter for COP.

3.2.2 Benchmarking of QNA and ANA

Benchmarking represents an integral part of the compilation process and it is conducted at the most detailed compilation level – at two digit level of NACE, Rev.2. Quarterly figures are benchmarked to corresponding annual figures mainly using the pro-rata method, i.e. annual values are split according to the proportions indicated by the four quarterly observations. Ratio of the last available annual value to the sum of corresponding quarterly values is extrapolated to quarters for which no annual data are yet available.

Benchmarking of seasonally adjusted results is described in chapter 3.4.1.

3.3 Volume estimates

3.3.1 General volume policy

General procedure of volume measures calculation consists of two main steps: First figures at current prices are converted to previous year's average prices using appropriate price indices. Figures at previous year's prices are then chain-linked in order to obtain comparable time series of volume measures. This approach was introduced in 1998 in annual accounts and quarterly accounts simultaneously.

The following price statistics are used for quarterly price and volume national accounts calculations:

Producer's price indices – total, for domestic sales and for direct export [2]– received from short term business statistics: quarterly base (Laspeyer's type) price indices (currently 2005=100) and annual base (Laspeyer's type) price indices – for year T-1 based to 2005;

Prices of agricultural products and live animals, quarterly price indices based to the annual average price level of previous year – derived from agricultural statistics department[3];

Consumer price indices[4] – reweighted as Paashe type indices using the actual current information from household budget survey (HBS) by 3 digit COICOPs for the national accounts purposes;

Import's and Export's unit value indices (UVIs)[5] – based on the selected representative commodity items at 3 digit level of SITS and converted to 3 digit and 2 digit CPAs aggregates.

Quarterly producer's price indices to average of the previous year are computed as quarterly base price indices divided by annual base price indices for the previous year. Quarterly figures at average prices of the previous year are computed as values at current prices are divided by quarterly price indices to average of the previous year.

The price indices are used for national accounts deflation purposes in the framework of Supply and Use Tables allowing the application of double deflation procedure for calculation of industry's value added at constant prices. Since 2007 as an experimental work the balancing of quarterly national accounts data for GDP was obtained within the frame of the last available annual SUTs. The system of deflation procedures is applied on the balanced

---

[2] The methodological notes for calculation of producer's price indices are available on the BNSI web site: http://www.nsi.bg/Op_e/Op_e.htm
[3] The methodological notes for calculation of agricultural price indices are available on the BNSI web site: http://www.nsi.bg/AgrRef_e/AgrRef.htm
[4] The methodological notes for calculation of consumer price indices are available on the BNSI web site: http://www.nsi.bg/Cpi_e/CPI_e.htm
[5] The methodological notes for calculation of imports and exports UVIs are available on the BNSI web site (in Bulgarian language only): http://www.nsi.bg/ImpExp/ImpExp.htm
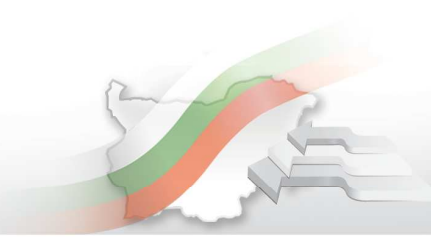
quarterly SUT valued at basic prices (the taxes on products are allocated as total rows in the Supply and Use matrices and distributive margins are allocated in the corresponding rows for trade and transport services).

The general procedure applied for the deflation of gross output and imports in the total supply by commodity and industry is presented in the chart below:

Supply table	current prices				Prices indices		
	Industries, NACE Rev 2	Imports	Taxes on products	Comm supply	PPI	UVI	Taxes
				at basic prices			
Taxes on products, net							
Totals	Output by industry at current prices	Import at constant prices		Supply at constant prices			

The deflation of the domestic gross output takes into accounts the commodity structure of each industry derived after the reconciliation in the frame of Supply matrix. Than the total industry output at constant prices is derived as a sum of the deflated commodity items using PPIs and some related to the service activities CPIs.

The import is deflated by UVIs at the commodity level. For deflation of services the corresponding COICOPs of EU'27 CPI are used.

Taxes are presented in the SUT frame as a total amount on the supply table and as a total amount for each industry and final demand category in the use table. The deflator of the total amount of taxes on products net of subsidies is calculated at the initial stage when each type of taxes and subsidies on products is deflated separately.

The general procedure applied for the deflation of the national accounts aggregates (intermediate consumption by industries, final consumption expenditures, gross capital formation and export) in the Use table is presented in the chart below:

Use table	current prices								price indices		
	Industries, NACE Rev 2	Final consumption			GCF		Export	Total use	DDI	UVI	Taxes
		HHs	Gov	NPISH	fixed assets	stocks					
Commodities, CPA	IC by commodity	Final consumption expenditures by commodities			GCF by commodities						
Taxes on products, net											
Totals at purchasers prices	IC by industry at c	Final consumption expenditures at constant prices			Capital formation at constant prices		Export at constant prices				

In the Use table, the balanced commodity flows at current prices circulating in the domestic market are deflated by the implicitly derived Domestic Demand Price Indices (DDI) as weighted composite price indices:

$$DDI(i) = [GO(i)+M(i)-X(i)]/[GO(i)/PPIt(i)+M(i)/UVIm(i)–X(i)/UVIx(i)],$$

for i = 1-60, P64 CPA

Where:

DDI(i) is Domestic Demand Price Index for commodity "i";

GO(i) is the amount of total production value of commodity "i" estimated for the current quarter at basic prices;

M(i) is the amount of imports of commodity "i" for the current quarter;

X(i) is the amount of exports of commodity "i" for the current quarter;

PPIt(i) is Producer's Price Index of commodity "i" - for domestic market and for exports[6];

UVIm(i) is Price Index for import of commodity "i" – UVIs for goods and EU'27 CPIs for services;

UVIx(i) is Price Index for export of commodity "i" – UVIs for goods and corresponding national CPIs for services.

In current practice (since 2006) the UVIs of exported goods are replaced by producer's price index for direct exports as the last one is based on the pure price observations.

The value added by industries of corporate business (non-financial and financial enterprises) and unincorporated business of households at constant prices is calculated following the double deflation procedure as a difference between gross output and intermediate consumption already measured at constant prices.

The output at constant prices of non-market activities of the government and NPISHhs are measured by applying the cost method. The initially estimated deflators of gross output of non-market activities are than integrated in the SUT frame.

Chain-linking of quarterly figures is performed using the annual overlap technique. The technique of using annual overlaps implies compiling estimates for each quarter at the weighted annual average prices of the previous year, with subsequent linking using the corresponding annual data to provide linking factors to scale the quarterly data upward or downward.

Applying the annual overlap technique, as the annual average of the calculated quarterly figures is the same as the autonomously calculated annual index, there is no need to adjust the quarterly results to the annual results using benchmarking techniques as is the case with other approaches. Furthermore, the percentage changes in the annual figures show no statistical breaks.

A few considerations were taken into account when making the decision to use this method:

---

[6] PPI is used in more general term as for deflation of services gross output relevant CPIs are used.

- quarterly growth rates average to years, so quarterly and annual levels keep in step (temporal additivity);

- the method eliminate the risk of the so-called drift problem;

this is one of methods recommended by Eurostat

In compliance with Eurostat' requirements concerning price and volume measures in national accounts, implementation of NACE Rev 2 should be in conjunction with the chain-linked indices with reference year 2005 were calculated and the values of the GDP components at constant prices of 2005 were determined.

As regards seasonally adjusted volume measures, percentage changes are calculated with respect to the previous quarter and the same quarter of the previous year.

3.3.2 Chain-linking and benchmarking

Quarterly figures expressed at previous year's prices are benchmarked to corresponding annual figures mainly using the pro-rata method. Benchmarking of chain-linked series is not needed due to the fact that quarterly figures are chain-linked using the annual overlap technique.

3.3.3 Chain-linking and seasonal adjustment

Seasonal adjustment of volume measures[7] is performed after chain-linking. GDP is adjusted directly but some aggregates are derived indirectly in terms of previous year's prices (e.g. total final consumption expenditure is derived as a sum of final consumption expenditure of households, general government and NPISHs). Presently, the adjusted figures are not benchmarked to the directly calculated chain-linked annual figures. For further details see chapter 3.4.1.

3.4 Seasonal adjustment and working-day correction

GDP and its components according to the production, expenditure and income approach are prepared also in the seasonally adjusted form on experimental basis. Calculations are made

---

[7] Experimentally calculated in 2008
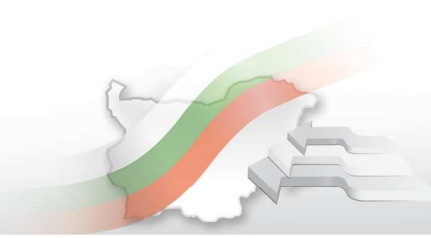
using Demetra - the Tramo/Seats method. Seasonal adjustment is conducted each quarter. Once a year, whole time series of adjusted data are revised.

The set of variables for seasonal adjustment covers gross value added and GDP components from the expenditure side. Quarterly data on the number of employees and hours worked are also subject to seasonal adjustment.

The adjustments are done both in current and constant prices – constant prices of the previous year and chain volume measures with reference year 2005.

Working-day correction is performed only for selected time series for which this effect is explainable from the economic point of view.

http://www.nsi.bg/otrasal-metodologiaen.php?otr=42

3.4.1 Policy for seasonal adjustment

The seasonally adjusted figures are regularly prepared and published on BNSI web site.

Coverage of adjusted figures

The following tables of ESA95 Transmission Program are presented:

Table 0101: Gross value added at basic prices and gross domestic product at market prices (output and intermediate consumption are adjusted separately in A10 breakdown);

Table 0102: GDP identity from the expenditure side;

Table 0103: GDP identity from the income side (A10);

Table 0111: Employment and hours worked (A10).

The time span of raw series covers the period from Q1 1995 to Q2 2011.

Method of adjustment

Choice of method: X-12-ARIMA or TRAMO/SEATS was the most important issue. After experimental calculations TRAMO/SEATS method against X12-ARIMA was favored. The evaluation shown that seasonal adjustments with TRAMO/SEATS applied to Bulgarian time series produces seasonal adjustments series with good quality. The seasonal adjustment of GDP total data was made applying Demetra software. From the technical point of view, software tool Demetra (version 2.04) is utilized for performing this method of adjustment Demetra options are fixed annually (the applied ARIMA model, its parameters, the regression variables quantifying the effects of trading days and holidays), which change only if it is justified by the revision of basic data, or if the character of time series behaviors is strongly modified.

Time consistency

There is no time consistency - the sum of the adjusted quarters of a year does not equal the annual total in all series.

Accounting consistency

GDP is adjusted directly. Discrepancies between GDP and sums of its components according to the three computation methods (expenditure, output and income) are allocated in a specific way for each method without affecting GDP. On the expenditure side, discrepancies are allocated to changes in inventories. More complex procedure is applied on the output side. Discrepancies are allocated to intermediate consumption of all branches. On the income side, discrepancies are allocated to gross operating surplus and mixed income.

Bulgarian national accounts has followed the main methods for seasonal adjustments in the Employment and earnings division, applying them to measure employment based on national accounts estimates.

Revision policy

Revision policy of seasonally adjusted data is different from that applied for raw data. Once a year, whole time series of adjusted data are revised. Simultaneously new identification of models and estimation of their parameters is done. At the same time, possible methodological changes may be implemented (e.g. switch to newer version of the adjustment method). Within

31

estimates for the other quarters, revision of adjusted data is limited only to periods for which raw data are revised.

3.4.2 Policy for working-day correction

Working-day correction is performed only for selected time series for which this effect is explainable from the economic point of view.

Chapter 4 GDP components: the production approach

4.1 Gross value added, (excluding the allocated FISIM)

Non-financial corporations sector and the households sector

Gross value added (GVA) is calculated as a difference between output at basic prices and intermediate consumption at purchasers' prices. The main data source for quarterly estimates of output and intermediate consumption in the non-financial corporations sector (S.11) and the households sector (S.14) is represented by the quarterly enterprise survey (Chapter 10, source 1). Grossed up results are available in the breakdown by industry according to two-digit NACE, Rev.2 classification.

Output is calculated from following indicators:

  + Receipts from sales

      Finished goods

      Services

      Trade turnover

      Other receipts from sales

  + Change in inventories of finished production and work in progress

  + Capitalisation – own account acquisition of fixed assets

  – Costs of tradable goods sold

Intermediate consumption is obtained from the following indicators:

+ Raw materials and Energy consumed;

+ External services

+ Others

Financial sector enterprises

Quarterly estimates of GVA are made separately for the central bank (Bulgarian National Bank), banking monetary institutions, non-banking monetary institutions, insurance companies and pension funds.

Output of the Bulgarian National Bank is computed using the cost method. This means that personal and social costs, depreciation of tangible and intangible assets and intermediate consumption are included in the total output. Intermediate consumption is composed of fee and commission expenses, new currency expenses, purchased services and other operating expenses. The difference between the total output (based on costs) and fee and commissions income is added to intermediate consumption of banking monetary institutions. Input data are taken from the income statement of commercial banks (Chapter 10, source 17).

Banking monetary institutions provide their monthly income statement of commercial banks (published in the BNB web page) and the BNSI uses quarterly aggregated figures (Chapter 10, sources 17). Output is derived from fee and commission income and other operating income. Output also includes FISIM (Chapter 4.2). Intermediate consumption comprises fee and commission expenses, other operating expenses, advertising expenses, audit, legal and tax consultancy expenses, information technology expenses, outsourcing expenses, hire and other purchased services expenses.

Estimates for non-banking monetary institutions are based on the limited quarterly information - statistical survey on employees and labour costs and the estimates are based on the proportions per employee derived from annual pre-defined national accounts.

Estimates for insurance companies are based on the quarterly statistical survey on insurance institutions (Chapter 10, source 5). Output of non-life insurance services is equal to gross premiums written reduced by the change in the provision on unearned premiums, plus the

premium supplements, minus claims paid, gross amount increased by the change in the provision for outstanding claims. Intermediate consumption comprises expenses on material, energy and services, increased by payments of non-life insurance services, and adjusted by mandatory accident insurance underpayment revenues (or overflow payments) and by the estimate of reinsurance balance (based on annual figures).

Non-life insurance services are used for intermediate consumption of all resident sectors, for household final consumption expenditure and a part of services is exported. The distribution among institutional sectors is done in proportion to gross premiums written for each sector (weights are available from annual accounts only). The households´ use of non-life insurance services is broken down into intermediate and final consumption in proportion of premiums paid by households in their capacity of consumers on the one hand and their business activities and as owners occupied dwellings on the other hand to the total amount of premiums paid by the household sector (also using annual weights).

Output and intermediate consumption of life insurance services is calculated similarly. Life insurance services are recorded as household final consumption expenditure and as exports.

Gross value added in the general government sector

Quarterly data sources for the general government sector (S.13) are very similar to annual ones (Chapter 10, source 21). Quarterly data are taken from Ministry of Finance (MoF) – a report on cash execution of budgetary program of government institutions (budgetary organizations both on central and local level, state funds, extra-budgetary funds and accounts) and from the statistical surveys (receipts and expenditures accounts hospitals with the government ownership and National Company Railway Infrastructure, reclassified in the government sector for national accounts purposes). Very important computing tools represent so-called bridges for conversion of the indicators used in national budgetary classification on one hand and indicators of national accounts on the other hand.

Similar data sources for quarterly and annual national accounts enable using similar procedures in compilation of QNA for S.13. The cost method is used for non-market activities. Output is given as a sum of intermediate consumption and GVA elements. Quarterly data on compensation of employees, other taxes on production and other subsidies

on production are available, too. Quarterly consumption of fixed capital structured by sector and sub-sector, by industry and type of product is calculated in the same way as one in ANA.

Gross value added in the sector of non-profit institutions serving households

The sector of non-profit institutions serving households (NPISHhs) is badly covered by quarterly data sources. The share of GVA in this sector on the total GVA and GDP is almost negligible. Quarterly statistical survey of employees, wages and salaries and other labour costs (Chapter 10, source 2) provides the basic indicators on labour force. Total wages (including other personal costs) and the average number of employees in physical persons are utilized for quarterly estimates.

Similar to the general government sector, GVA in the sector of NPISHs is generated by non-market activities. The cost method is used for calculation of output of these activities, i.e. output is derived as a sum of intermediate consumption and GVA elements (compensation of employees, other taxes on production and consumption of fixed capital). Compensation of employees is estimated using total wages (including other personal costs) from the statistical survey. The other items at current prices are estimated using the values per employee from the annual accounts and numbers of employees from the quarterly statistical survey on employment and labor costs.

Conceptual and exhaustiveness adjustments of output and intermediate consumption

Conceptual adjustments are made due to differences between business accounting rules and national accounting rules. Some adjustments are covered by quarterly data sources:

Holding gains/losses from inventories

Non-life insurance services – quarterly total figures from the survey in insurance companies are distributed among sectors and industries using annual shares

Imputed rent for housing services provided by owner-occupiers to themselves

Recording of travel expenses

Wages and salaries in kind

For the rest of conceptual adjustments no quarterly information is available. Therefore their quarterly pattern is taken from annually surveyed data on output and intermediate consumption:

Mark-up factor for operating surplus of own-account production of fixed assets;

Threshold for recording of small tools as GFCF;

Tips

Private use of business cars

Adjustments for exhaustiveness are made with the aim to cover transactions that are not directly observed via regular statistical surveys or administrative sources. Following adjustments are distinguished:

N1 – Producers deliberately not registering – underground, unregistered business activity of households and individuals above the threshold for tax obligations – shuttle traders, hidden additional income from undeclared activity;

N3 – Producers not required to be registered - informal sector, individual housing construction, agricultural production produced by households for their own consumption, income of individuals below the tax threshold;

N4 – Legal persons not surveyed (updating statistical register) – registered but not responded units; employees observed in LFS but not covered by labor business statistics;

N5 – Registered entrepreneurs not surveyed – self employed persons not covered by statistical surveys, presently the administrative register for Personal Income Tax is not used for statistical purposes;

N6 – Producers deliberately misreporting – reporting lower level of income for tax obligations, diminishing gross output and increasing intermediate consumption, workers without labor contract – avoiding obligations to the government for social and health insurance;

N7 – Other statistical deficiencies - wages and salaries in kind, tips and gratuities

Adjustments for the illegal activities (N2) are not included in the estimates.

Individual housing construction is based on quarterly figures on building permissions and new dwellings from the questionnaire (Chapter 10, source 7) and development of the price index of new buildings. Own-account output of agricultural products is derived from the household budget survey and supplementary information derived from quarterly agricultural surveys (Chapter 10, sources 4 and 8). The direct information for adjustments on labor inputs is used – labor force survey and quarterly enterprise's labor statistics (Chapter 10, sources 2 and 10). The rest of adjustments for exhaustiveness are based on the proportional rate of the exhaustiveness adjustments calculated within the latest annual national accounts estimates, quarterly pattern of surveyed data or expert estimates are used.

Conversion of output and intermediate consumption to previous year's prices

The conversion of the quarterly national accounts figures within production accounts by industries is applied in the frame of SUT allowing the application of double deflation procedure for measuring industry value added at constant prices. The last available annual SUT is used to extrapolate and balance the commodity structure at CPA of all quarterly GDP elements from the production and from the expenditure sides.

The following formula is applied for deflation of industry gross output:

$$P1(j) = sum[P1(i,j)/PPI(i)]$$

for i = 1 ... commodity groups of CPA, for j = 1…86 industries of NACE, Rev.2

Where:

P1(j) is the deflated gross output of industry „j" at prices of previous year;

P1(i,j) is the product "i" produced by industry "j" at current prices;

PPI(i) is total producer price index of the product "i", weighted average between domestic price index and direct export price index.

The deflation procedure involves the commodity structure of the total industry gross output as a part of the Supply table already balanced with the Use table for the respective current quarter.

The calculation procedure of industry intermediate consumption at constant prices is based to the same weighting scheme. The following formula is applied:

P2(j) = sum[P2(i,j)/DDI(i)]

for i = 1 … commodity groups of CPA, for j = 1…64 industries of NACE, Rev.2

Where:

P2(j) is the deflated total intermediate consumption of industry "j";

P2(i,j) is product "i" used in the production process as intermediate input of industry "j" at current prices;

DDI(i) is the price index of domestic demand of product "i".

The DDI is an implicit composite price index and the calculations are presented in chapter 3.3.1.

The gross value added of each industry is derived after the procedure of double deflation as a difference between already deflated gross output and intermediate consumption.

Before applying the SUT frame for deflation of quarterly national accounts, free of charge other non-market output (P.132) at previous year's prices is initially calculated by using the cost method i.e. as a deflated amount of total production costs (intermediate consumption P.2 + gross value added B.1g) minus market output (P.11), output for own final use (P.12) and payments for other non-market output (P.131). P.132 is deflated separately for the general government sector and the non-profit institutions sector. Each item is deflated in a specific way:

Intermediate consumption – deflators of total intermediate consumption weighted by direct input coefficients in Use table for each non market activity are used.

Compensation of employees – deflation using development of the average wage in each industry;

Other taxes on production – total consumer price index is used;

Consumption of fixed capital – the procedure is described in chapter 8.2;

Market output (P.11+P.12+P.131) – producer price indices are used.

4.2 FISIM

The allocation of FISIM by institutional sector – users for corresponding aggregates in GDP estimates is made in accordance with Commission Regulation 1889/2002 and Council Regulation 448/98.

The calculation procedures for allocation of FISIM (financial intermediation services indirectly measured) among user sectors in QNA are the same applied in ANA because the main data sources are available at quarterly frequency. Actually the quarterly results are used additively for annual national accounts.

The table below is an extract from the "XLS" spreadsheet where the procedures for calculation of effective rates and the inter-bank referent rates are executed.

			year	2010	2010	2010	2010
Y			year	2010	2010	2010	2010
Q			Quarterly	1	2	3	4
A			Income statement of BANK	996683	1185145	1583701	
A1	CUP		Interest on loans to resident non financial sector	1168579	1157877	1156261	1166316
A2	CUP		Interest on loans to nonresidents	15031	15306	19852	20707
A3	CUP	B3	Interest on deposits with other resident banks	1535	1541	1152	1544
B			Expenditure				
B1	CUP		Interest on deposits from resident non-fin. Sector	437330	424269	410465	401813
B2	CUP		Interest on deposits from nonresidents	45004	42780	38433	41158
B3	CUP		Interest on deposits from other resident banks	1535	1541	1152	1544
C			Assets				
C1			Loans to resident sector ex.banks				
C1a	CUP	C2a+C3a+C5a+C6a+C7a+C8a+C12a	beginning	51164682	50886799	51088625	51745620
C1b	CUP	C2b+C3b+C5b+C6b+C7b+C8b+C12b	End	50886799	51088625	51745620	52049154
C1c	CUP	(C1a+C1b)/2	Average	51025741	50987712	51417123	51897387
C2		#REF!	Loans to resident non financial sector				
C2a	CUP	0	beginning	30928611	30745235	30837246	31350083
C2b	CUP	0	End	30745235	30837246	31350083	31677783
C2c	CUP	(C2a+C2b)/2	Average	30836923	30791241	31093665	31513933
C3			Loans to resident financial sector ex.banks				
C3a	CUP		beginning	905090	888597	923051	958293
C3b	CUP		End	888597	923051	958293	880989
C3c	CUP	(C3a+C3b)/2	Average	896844	905824	940672	919641
C4		D4	Loans with other resident banks				
C4a	CUP		beginning	1334137	1639164	1778566	1780622
C4b	CUP		End	1639164	1778566	1780622	2 253 475
C4c	CUP	(C4a+C4b)/2	Average	1486651	1708865	1779594	2017049
C5			loans central government				
C5a	CUP		beginning	19	77	56225	223372
C5b	CUP		End	77	56225	223372	277389
C5c	CUP	(C5a+C5b)/2	Average	48	28151	139799	250381
C6			loans lokal government				
C6a	CUP		beginning	192184	194404	199463	202306
C6b	CUP		End	194404	199463	202306	229110
C6c	CUP	(C6a+C6b)/2	Average	193294	196934	200885	215708
C7			loans social securiti				
C7a	CUP		beginning	0	0	0	0
C7b	CUP		End	0	0	0	0
C7c	CUP	(C7a+C7b)/2	Average	0	0	0	0
C8			loans to household sector				
C8a	CUP	(C9a+C10a+C11a)	beginning	19123673	19044184	19057694	18997020
C8b	CUP	(C9b+C10b+C11b)	End	19044184	19057694	18997020	18970545
C8c	CUP	(C8a+C8b)/2	Average	19083929	19050939	19027357	18983783
C9			loans to household sector hausing				
C9a	CUP		beginning	8393558	8485514	8556073	8604795
C9b	CUP		End	8485514	8556073	8604795	8709376
C9c	CUP	(C9a+C9b)/2	Average	8439536	8520794	8580434	8657086
C10			loans to household sector Consumption				
C10a	CUP		beginning	9787909	9660137	9606323	9490995
C10b	CUP		End	9660137	9606323	9490995	9362418
C10c	CUP	(C10a+C10b)/2	Average	9724023	9633230	9548659	9426707
C11			loans to household sector business				
C11a	CUP		beginning	942206	898533	895298	901230
C11b	CUP		End	898533	895298	901230	898751
C11c	CUP	(C11a+C11b)/2	Average	920370	896916	898264	899991
C12			loans to NPISHs				
C12a	CUP		beginning	15105	14302	14946	14546
C12b	CUP		End	14302	14946	14546	13338
C12c	CUP	(C12a+C12b)/2	Average	14704	14624	14746	13942
C13			Loans to nonresidents				
C13a	CUP		beginning	561813	579116	591666	757802

40

D13b	CUP		End	3664237	3622924	3448762	3850442
D13c	**CUP**	**(D13a+D13b)/2**	**Average**	**3512121**	**3643581**	**3535843**	**3649602**
D14			Deposits from nonresident banks				
D14a	CUP		beginning	13287888	12236980	11165216	11586368
D14b	CUP		End	12236980	11165216	11586368	10791820
D14c	CUP	(D14a+D14b)/2	Average	12762434	11701098	11375792	11189094
Am			**Income statement of nonresident BANK**				
Am1	CUP	Am1nfe+Am1fe+Am1gov+Am1hh	Interest to residents	136678	134779	145603	169221
Am1n	CUP		Interest on loans to resident non financial sector	136678	134779	145603	169221
Bm			**Expenditure**				
Bm1	CUP	Am1nfe+Am1fe+Am1gov+Am1hh	Interest on deposits from resident Sector	8124	3972	6306	7298
Bm1n	CUP		Interest on deposits from resident non-fin. Sector	8124	3972	6306	7298
Cm			**Assets nonresident BANK**				
Cm1			Loans to resident sector				
Cm1a	CUP	(Cm1nfea+Cm1fea+Cm1gova+Cm1hha	beginning	19985914	19746993	21100866	24523574
Cm1b	CUP	(Cm1nfeb+Cm1feb+Cm1govb+Cm1hhb	End	20064774	17236356	21100866	24523574
Cm1c	CUP	(Cm1a+Cm1b)/2	Average	20025344	18491675	21100866	24523574
Cm1nfe			Loans to resident non financial sector				
Cm1n	CUP		beginning	19985914	19746993	21100866.4	24523574
Cm1n	CUP		End	20064774	17236356.5	21100866.4	24523574
Cm1n	CUP	(Cm1nfea+Cm1nfeb)/2	Average	20025344	18491675	21100866	24523574
Dm			**Liabilities**				
Dm1			Deposits from resident sector				
Dm1a	CUP	(Dm1nfea+Dm1fea+Dm1gova+Dm1hha	beginning	690124	663424	698351	1014267
Dm1b	CUP	(Dm1nfeb+Dm1feb+Dm1govb+Dm1hhb	End	663424	196709	698351	1014267
Dm1c	CUP	(Dm1a+Dm1b)/2	Average	676774	430066	698351	1014267
Dm1nfe			Deposits from resident non financial sector				
Dm1n	CUP		beginning	690124	663424	698351	1014267
Dm1n	CUP		End	663424	196709	698351	1014267
Dm1n	CUP	(Dm1nfea+Dm1nfeb)/2	Average	676774	430066	698351	1014267
EuLbr			LIBOR EUR referent international rete	0.0030	0.0031	0.0034	0.0051
RMl		Am1/Cm1c	Loans to residents from nonresident banks	0.0068	0.0073	0.0069	0.0069
RMd		Bm1/Dm1c	Deposits from residentsts to nonresidents banks	0.0120	0.0092	0.0090	0.0072
RRl		A1/C1c	Loans to resident sector ex. Banks	0.0229	0.0227	0.0225	0.0225
RRd		B1/D1c	Deposits from resident sector ex.banks	0.0105	0.0100	0.0096	0.0091
REF		**B3/D4c**	**Interbank rate (domestic and international)**	**0.0011**	**0.0009**	**0.0007**	**0.0008**
RNl		A2/C13c	Loans to nonresidents	0.0263	0.0261	0.0294	0.0265
RNd		B2/D13c	Deposits from nonresidents	0.0128	0.0117	0.0109	0.0113

The total amount of allocated financial intermediation services for each institutional sector is a sum of estimated financial services as a part of accrual interest on credits and accrual interest on deposits.

Financial services for every institutional sector, as a part of interest payable on credits, are calculated as a multiplication of average sum of stocks of loans for the reference period (quarter) and the difference between effective interest rate on credits and referent inter-bank interest rate.

Financial services for every institutional sector, as a part of accrual interest on deposits, are calculated as a multiplication of average sum of stocks of deposits for the reference period and the difference between reference inter-bank interest rate and effective interest rate on deposits.

Main sources of information are the bookkeeping reports for revenues and expenditures of commercial banks and for stocks of credits and deposits separated by institutional sectors (Chapter 10, sources 17, 18 and 19). Data for households sector are presented by purposes: – dwelling loans; consumer loans; other loans, including loans extended to households for business purposes. Information for relationship between resident and non-resident banks is not separated in bank reports. Therefore, the information for international investment position and for balance of payments (Chapter 10, source 20), and the information for the inter-bank interest rate "EURIBOR" for determining external referent interest rate for estimation of imports of financial intermediation services are used.

Effective interest rates on credits and deposits are evaluated as a relation between interest flows and average sum of stocks for the reference period.

The referent interest rate is calculated as a relation between interest flows between commercial banks and average sum of stocks of credits/deposits. Latest procedure is applied for the internal referent interest rate, determined by resident trade banks for allocation of financial services produced in the country and for exports as well. Insufficient information for interest flows and level of credits/deposits between resident and non-resident banks induce to be used inter-bank interest rate EURIBOR for estimation of imported financial intermediation services.

The annual figures are derived as a sum of quarterly estimates.

FISIM allocated to non-financial enterprises and other financial intermediaries except commercial banks is recorded as intermediate consumption with negative effect on value added.

FISIM allocated to General Government sector as a producer of non-market services for individual and collective consumption is recorded as intermediate consumption and gross output, without impact on the value added. On the expenditure side, FISIM is recorded in "Final consumption expenditure of government" and "Collective consumption", distributed proportionally on the estimated government output by functions.

FISIM allocated to non-profit institutions serving households as a producer of non-market services, is recorded as intermediate consumption and gross output without impact on the value added. On the expenditure side, FISIM is recorded in "Final consumption expenditure of NPISH".

FISIM allocated to households is recorded in national accounts categories according to the information on credits and deposits classified by purposes:

stocks of dwelling loans – this part of financial intermediation services to households is recorded as intermediate consumption;

consumer credits and deposits of households – this part of financial intermediation services is recorded as final consumption expenditures of households;

credits and deposits extended to households for business purposes – this part of financial intermediation services is recorded as intermediate consumption.

Financial intermediation services recorded as intermediate consumption are allocated to the economic activities according to the branch structure of gross output in the economy.

The allocated FISIM is available from 1995 till 2rd quarter of 2011, and it leads to an increase of the nominal level of GDP within an interval between 0.4 and 1.0 %.

For conversion of FISIM to previous year's prices, two deflators are computed – of output and of imports. Deflator of output is used also for deflation of household final consumption expenditure of FISIM and exports of FISIM. Intermediate consumption of FISIM is deflated using weighted average of both deflators.

The allocated FISIM at previous year's prices is derived in the following steps:

The average stocks of loans and deposits are deflated by the general deflator of domestic final demand (final consumption and investment).

The deflated stocks of loans are multiplied by the difference between annual average effective interest rates and annual average referent inter-bank rate of the previous year.

The deflated stocks of deposits are multiplied by the difference between annual average referent inter-bank rate and the annual average effective interest rates of the previous year.

4.3 Taxes less subsidies on products

Taxes on products (D.21)

Ministry of Finance (National Revenue Agency) provides quarterly data (Chapter 10, sources 22 and 23) on taxes on products broken down into following types of taxes:

Value added tax;

Excise duties and consumption taxes – by commodity type: fuel and gas, alcohol, tobacco, other excise goods and services;

Custom duty;

Other taxes on products (e.g. real estate transfer tax, fees on permanent change in use of agricultural and forest lands, admission fee tax, fees for stay at a spa or recreational stay fee).

During the EDP dialogue visit in March 2008 in Sofia one of the important Eurostat's conclusions and recommendations is related to the presently applied concept for recording of taxes and social contributions in national accounts. It was concluded that the procedure for accrual recording of tax revenue is not in line with the Regulation (EC) No 2516/2000 on taxes and social contributions as regards the estimation of the amounts unlikely to be collected. The introduction of the time adjusted cash recording of taxes was recommended.

In September 2008 as regards the recommendations of Eurostat, for the following types of taxes the time adjustment method is experimentally introduced. In September 2010, the time adjusted cash method was officially introduced in NA figures.

Subsidies on products (D.31)

The basic data sources covering other subsidies on products[8] are administrative data from the Ministry of Finance: quarterly cash execution of the budget program by central and local budgetary organizations, central and local semi-budgetary organizations and extra-budgetary funds. Quarterly data are overtaken without any adjustment. The information for agricultural subsidies from EU is obtained from Ministry of Agriculture.

Other subsidies on products include subsidies:

on agricultural products;

on services of transport and culture.

Subsidies on products are recorded as a negative tax on products according to the national accounts methodology. The total subsidies on products are subtracted as a negative correction of total gross value added at basic prices to GDP at market prices.

When converting subsidies on products from current prices to previous year prices, no price indices are available and a substitute calculation is used. It is based on the assumption that there is a correlation between the level of subsidies on products in the particular industry and the level of output in the corresponding industry. Calculation of subsidies on products at previous year prices in individual quarters is based on calculation of output at previous year prices and on its quarterly development within the respective year.

---

[8] No import subsidies (D. 311) are available in Bulgarian economy

Chapter 5 GDP components: the expenditure approach

5.1 Household final consumption expenditure

Estimates of the household final consumption expenditure (HFCE) at current prices are based mainly on the household budget survey (HBS) carried out on monthly basis (Chapter 10, source 8) and from available monthly indices of retail trade turnover (Chapter 10, source 15). The HBS information is available at the level of 46 COICOP groups of expenditure. The data obtained per capita are multiplied by the current population number. In addition, the information from HBS is verified and adjusted after comparison with the monthly indices for retail trade turnover.

Additional information for the expenditures on electricity and heating is derived from the administrative sources – National Energy Company.

HFCE on life and non-life insurance services is calculated using results of quarterly exhaustive surveys in insurance companies.

Imputed rents are calculated by the stratification method using the available quarterly information for newly constructed dwellings and related rentals. Quarterly distribution is estimated according to development of the price index of new dwellings.

Consumption of own-account produced agricultural products is estimated from the quarterly survey on agricultural production (a part related to small households' plots, (Chapter 10, source 4) and HBS (Chapter 10, source 8).

The estimated income in kind from the production and income sides of the accounts are included in the total consumption expenditures of households.

Conversion from current prices into previous year's prices is calculated with the use of consumer price indexes of corresponding consumer groups. The derived figures at constant prices are than compared with the results for household's consumption expenditures as a component of the deflated SUT. The final quarterly figures can be obtained after reconciliation of the eventual differences between these two approaches.

5.2 General government final consumption expenditure

Compilation of general government final consumption comes out from the production approach (see chapter 4), especially from output of non-market services. The substantial part of general government final consumption expenditures is represented by other non-market output, produced by the government. It is calculated as a difference between the output of non-market services and special types of revenue from them (market output, output for own final use and payments for other non-market output sold at economically significant prices).

The data sources for the other part of government final consumption expenditures – social transfers in kind - are administrative data provided by Ministry of Finance, an expenditure side of the cash execution of the budget program (Chapter 10, source 21).

The quarterly national accounts figures on individual and collective consumption expenditures of the government are based on the same administrative source and correspond to the data estimated in quarterly sector accounts of the general government sector.

Conversion from current prices to previous year's prices is realized in the frame of Use table by commodity types - for non-market services (see chapter 4) and for social transfers in kind (main items are as follows: medicaments – domestically produced and imported, medical instruments, transport, health services).

5.3 Final consumption expenditure of non-profit institutions serving households

Final consumption expenditure of non-profit institutions serving households (NPISHs) is equal to the value of goods and services produced by NPISHs and provided to households free of charge (P.132 – other non-market output), both at current prices and previous year's prices. Calculation of P.132 is described in chapter 4.1. No social benefits in kind (D.631) are assigned to the sector of NPISHs.

5.4.a Gross fixed capital formation (GFCF)

Quarterly estimates of GFCF are based mainly on quarterly sample statistical survey on expenditures for acquisition of fixed assets in business units, entrepreneurs, financial institutions, insurance companies, pension funds, health insurance companies and selected

government and other institutions (Chapter 10, source 6). The sample is designed to observe exhaustively all public sector units and a stratification approach is adopted for the private sector investors where the big enterprises are observed exhaustively and the observation probability is proportional for medium and small units according to their size class.

The statistical indicators, included in the quarterly survey are expenditure on acquisition of tangible fixed assets and acquired tangible fixed assets since the beginning of the year and during the quarter under review (by construction and purchase) - as a total and including: buildings, construction equipment, machinery, equipment and means of transport.

Estimates for intangible fixed assets, not included in surveys, are performed by extrapolating annual accounts figures by quarterly changes observed in appropriate indicators from the supply side – domestic output and imports of related services reported in the Balance of Payments (BoP).

A part of the input data is taken from administrative sources, particularly from expenditures and revenues in the cash execution of the budget program of central and local budgetary organizations (Chapter 10, source 21).

Surveys and administrative sources are complemented by information on individual housing construction by households and building permits (Chapter 10, source 7).

The following adjustments are made to the surveyed data:

Correction resulting from discrepancies between quarterly and annual data sources (and its extrapolation for the current year);

Quarterly not surveyed indicators: statistically not recorded investment activity of unincorporated business;

Corrections resulting from applied commodity flow approach and balancing within the SUT framework.

The calculation of GFCF at constant prices is part of the applied deflation procedures within the frame of SUT. The column for GFCF by commodity items in the Use table is deflated by

implicit price indices of total domestic demand (see chapter 3.3.1). Further adjustments on the constant price volumes are possible for the commodity items within GFCF for which a different price changes are observed.

5.4.b Changes in inventories and acquisition less disposal of valuables

The quarterly enterprise sample survey (Chapter 10, source 1) which is conducted among corporations is the source for the estimation of changes in stocks. Inventories at current prices are available for the stocks at the beginning and at the end of the reporting period by type: raw materials, work-in-progress, finished goods and goods for resale.

The source data are used for national accounts purposes at two digit level of NACE. Rev. 2 industry aggregates and additional calculations are introduced mainly in order to transform the data into CPA commodity groups and to apply procedures for elimination of holding gains/losses due to the price changes during the observed period.

The source data do not present the commodity breakdown of the inventory. For raw materials, the transformation of stocks by commodity groups is based on the structural proportions of commodity intermediate consumption for each industry. The assumption that commodities present the characteristic output is applied for stocks finished goods, work in progress and stocks for resale.

Holding gains/losses are calculated separately using appropriate price indexes – monthly domestic PPI, CPI and import prices - for each commodity group. The stocks at the beginning are inflated by appropriate monthly price indices - (T+1m/T) or (T+2m/T) depending on the average transaction period in months. The deflation procedure using the same price indices is applied for the stocks at the end of the period.

In the "Production account' the estimated holding gains/losses in the changes in stocks of finished goods and work in progress are eliminated when the industry's gross output is calculated.

Conversion into previous year's prices is carried out using price indexes used for deflation of commodity flows in SUT.

For quarterly estimates of acquisition less disposal of valuables, no information is available.

5.5 Exports and imports of goods and services

Exports and imports of goods

Primary data on external trade in goods are obtained by means of Intrastat (since 2007) and Extrastat systems (see Chapter 10, source 9) and then transmitted to the External Trade Statistics Department of the BNSI. Monthly results broken down into two-digit SITC and two- and three- digit CPA classification are overtaken for quarterly national accounts compilation.

The Intrastat system is conducted under the Law on Statistics for intra-community trade with goods, adopted in September 2006 and amended in January 2008. The law determines official institutions engaged with conducting statistics for intra-community trade – these are Bulgarian National Statistical Institute (with main functions: to determine thresholds for Intrastat declaration; to develop rules for validating the Intrastat declarations and to validate all the data flows received; to produce, publish, transmit and analyse the information for foreign trade with goods) and National Revenue Agency (with main functions: to create and maintain the Intrastat collecting system; to control the coverage of the obliged companies and the accuracy of the declared transactions; to provide Intrastat data to NSI for further processing).

Exploring Intrastat data as essential information for economic statistics analyses and for national accounts purposes, the quality of the data in terms of coverage of both transactors and transactions is very important – especially as regards the traders below the applied threshold for reporting and also adjustments for non-response.

Exports of goods are valued f.o.b. (free on board) at the customs border of the exporting country. This value consists of the value of the goods at basic prices and the related transport and distributive services up to the point of the border, including the cost of loading onto a carrier for onward transportation.

Imports of goods are valued at c.i.f. price (cost-insurance-freight). The c.i.f. price is the price of the goods delivered at the frontier of the importing country before including any import duties or other taxes on imports or trade and transport costs within the importing country.

Conversion from current prices to previous year prices is realized by means of export and import price indices (unit value indices) at the level of two-digit SITC which are constructed at the Foreign Trade Statistics Department of the BNSI. Since 2006 in addition to the UVIs for export and import of goods, Business Statistics Department produces direct export price indices as a part of total PPIs. In national accounts the exact price index is used after the comparison of the price indices for CPA commodity groups.

Exports and imports of services

Presently the national accounts estimates for exports and imports of services are based on the monthly information of the Balance of Payments (BoP) statistics (Chapter 10, source 20).

Exports and imports of services are adjusted by:

FISIM;

25% of custom duties which are collected from imports of goods from the "third" countries and paid into EU; it is a commission and a settlement of costs connected with custom duties collection (data source: Ministry of Finance);

Direct price indices for conversion of exports and imports of services from current prices to previous year's prices are not available. Service items are reclassified into groups at the level of CPA classification according to converter between service classification and CPA. Then, data on individual groups of services are converted by means of corresponding price indices – mainly by relevant domestic CPIs for export of services and EU CPIs for imported services.

Chapter 6 GDP components: the income approach

6.1 Compensation of employees

Compensation of employees (D.1) is defined as the total remuneration in cash or in kind, payable by an employer to an employee, in return for work done during the accounting period. Compensation of employees has two components:

Wages and salaries payable in cash or in kind;

Employers' social contributions.

Compilation of compensation of employees is structured into following components:

Wages and salaries in cash (quarterly survey on employees, wages, salaries and other labour costs (Chapter 10, source 2);

Wages and salaries in kind;

Employers' actual social contributions (D.121).

Compensation of employees has three breakdowns:

By component;

By kind of activity (two-digit NACE, Rev.2 classification);

By institutional sector (which is divided into market and non-market production).

The quarterly data for wages and salaries are sourced from the statistical questionnaire "Employees, wages and salaries and other labour costs" (Chapter 10, sources 2), quarterly questionnaires on financial results derived from Business statistics directorate and from administrative data sources provided mostly by the Ministry of Finance (Chapter 10, sources 21).

Wages and salaries (D.11) are incomes of individuals from employment and emoluments. In Bulgarian national accounts, they are recorded as gross amounts, i.e. before deduction of contributions of employees to social and health insurance, taxes and deductions agreed with the employee.

Wages and salaries in kind are bonuses for work done paid out in the form of goods and services or other benefits. Quarterly wages and salaries in kind are derived from the quarterly survey "Employees, wages and salaries and other labour costs", an additional estimates are introduced by national accountants for produced goods and services in the production units which are provided to the employees as remuneration in kind – in coal mining, food industry, clothing industry, hotels and restaurants.

The value of wages and salaries is adjusted by the estimation of wages and salaries deliberately not reported, which are connected with employees working without labour contract outside of the official accounting. This estimation is made on the basis of the information from labour force survey and annual data for small and medium-sized non-financial enterprises and unincorporated business.

Employers' actual social contributions (D.121) are estimated on the basis of the quarterly enterprises' survey on employment and labour remuneration and the information from quarterly report of MoF for the cash execution of the budget program of social insurance. The cash data are time adjusted and than reconciled by industries and sectors. The time adjustment procedure applies the time lag of one month for compulsory social contributions made by corporate sector, while there is no time lag for the payments of social contribution made by budgetary institutions. The time lag of one month is also applied for employees' compulsory social contributions. Time lag is not applied for the social contributions payments by self employees and unemployed persons.

6.2 Taxes less subsidies on production

Other taxes on production

The procedure used to estimate other taxes on production in QNA is very similar to that used in ANA as the main data sources are available at quarterly frequency. Input data on other taxes on production are available from the side of recipients, i.e. from financial statements of central and local government (Chapter 10, source 22 and 23).

The following taxes and fees are treated as other taxes on production:

    Taxes on land, buildings or other structures;

Taxes on the use of fixed assets;

Wage bill and payroll taxes;

Business and professional licenses;

Taxes on pollution;

Other taxes.

Other subsidies on production

Data sources used for quarterly estimates of other subsidies on production are also similar to those used in ANA. Input data on other subsidies on production are available from the side of payers – MoF report for cash execution of the budget program by budgetary entities. No adjustment on accrual level is made because recipients are not entitled by regulations to drawing of these subsidies and no obligation arises for general government.

6.3 Gross operating surplus & mixed income

No direct quarterly data sources are available for gross operating surplus and mixed income. This variable is derived as a residual balancing item subtracting compensation of employees and net taxes on production from gross value added.

Chapter 7 Population and employment

7.1 Population

Figures on population are taken from the Demographic Information System based on the population censuses and current demographic statistics. The information is updated on monthly basis and for the purposes of quarterly national accounts a special data base module with the following dimensions: population at the end of the quarter, distribution by sex, distribution by age and by region. The population is calculated as an average of the number of inhabitants on the first and last days of the quarter.

Quantification of the number of residents working abroad

Quantification is based on the labour force survey that separately identifies workers by country of employment. Workers who commute across the border daily or monthly or who are abroad for less than three months are included. Data on the number of residents who work as members of diplomatic missions, institutions of the EU and international organizations are provided by the Ministry of Foreign Affairs.

Quantification of the number of non-residents working in Bulgaria

Numbers of non-resident workers in Bulgaria are provided by the Ministry of Labour and Social Affairs, based on the number of work permits issued. Data are available by individual country and by kind of permit (seasonal workers who stay in Bulgaria for less than one year, cross-border workers, short-term attachment workers, students etc.). The Ministry of Foreign Affairs provides information about the number of non-residents employed by the Bulgarian embassies.

7.2 Employment: persons

Data on employment and hours worked in Bulgarian National Accounts are calculated in terms of persons combining data from Labour Force Survey and enterprise survey on employment and labour costs, in order to carry into effect the national accounts purposes according to the ESA'95. Estimations are undertaken separately by industry, and subsequently added to get the total employment. For each industry, the most reliable source or combination of sources are used, and adjusted as necessary for conceptual differences with NA, lack of coverage, exhaustiveness, etc.

Number of employees

Data on employees are calculated as sum of two elements: Employees working under labour contract, and Employees working under other than labour type of contract or without any contract.

Data on employees working under labour contract are derived from enterprises' survey on employment, wages and salaries and other labour costs (Chapter 10, source 2) with an exception for data in armed forces and conscripts derived from LFS.

The LFS data (Chapter 10, source 10) are adjusted according to the ESA'95 methodology in order to ensure quality and comparability of data used in NA. The LFS provides the information of the number of employees working under civil contract, other type of contract or without any contract.

The quarterly enterprise survey is considered the main source for data on employees for the following reasons:

> more reliable NACE breakdown;

> use of domestic concept;

> good coverage.

Data on armed forces, security and conscripts are added to the number of employees. Data are derived from the LFS as average quarterly number of employees by employment contract in activity L – Public administration and defense, and average quarterly number of conscripts.

The following adjustments on LFS data for employees by other type of contract or without any contract are introduced:

> The numbers of persons working abroad are subtracted in order to meet the domestic concept.

> Persons not declaring the branch of activity are proportionally distributed across all activities.

After the mentioned coverage adjustments and combination of the information from the main sources – enterprises' survey on employment and labour costs, LFS, Farm Structural Survey (FSS)[9], the final estimation of total number of employees can be made.

---

[9] FSS is conducted annually with an interval of two years

Numbers of self-employed

For the case of self-employed, the same procedure has been followed – using data from LFS. Some other sources are used for specific activities – self-employed in Agriculture. The results from the FSS have been incorporated in order to provide data on the contingents of self-employed in Agriculture. Quarterly estimates are prepared on the base of quarterly distribution of self-employed data in Agriculture, according to LFS. The LFS does not include the persons who produce for their own consumption with exception in the cases when this production covers the biggest part of households' consumption. For this reason the Farm Structure Survey is chosen as a main source of information for self-employed in Agriculture but without identifying by main and second job.

Employment: total hours worked

Data on hours worked by employees are calculated as sum of two elements: hours worked by employees under labour contract, and hours worked by employees working by other than labour type of contract or without any contract. The situation is the same like in employed persons, i.e. the quarterly enterprise survey provides data only on hours worked by employees under labour contract on a monthly basis, and the LFS provides information for other type of contract or without contract.

The quarterly enterprise survey is chosen as main source for data on hours worked by employees under labour contract (although such kind of data are available in the LFS also) for the same reason, as for employment data.

The data from Quarterly enterprise survey as well as data from LFS are adjusted according to the general concepts:

Quarterly data are calculated as a sum of monthly hours worked by employees, provided by quarterly enterprise survey;

Data on armed forces, security and conscripts are added to the hours worked by employees in the corresponding activity. Data in this branch are derived from LFS as number of actually worked by employees' number of hours worked by conscripts. As no authentic data are available for working time of conscripts, this is estimated

assuming 40 hours per week as standard. Data on hours worked by this group are converted to quarterly figures.

The hours worked by persons working abroad are subtracted in order to meet the domestic concept.

Average weekly hours worked in the same category are applied for each person worked in the reference period, but not declaring the number of hours.

Number of hours worked on second job is added to the number of hours worked in relative activities.

Data on hours worked by self-employed are estimated using mainly the LFS data for hours actually worked by self-employed in the reference period, adjusted in the same way, presented for employees without labour contract.

Data on hours worked in Agriculture are based on the Farm Structure Survey. Specifically for Agriculture quarterly distribution of hours worked by self-employed is made according to the estimated quarterly distribution of number of self-employed and average hours worked by self-employed, provided by LFS.

Chapter 8 From GDP to net lending/borrowing

This chapter describes the transition from gross domestic product (GDP) to net lending/ borrowing. This transition is carried out through data on primary incomes, current transfers and capital transfers between residents and non-residents.

The principal source of data is represented by the balance of payments (Chapter 10, source 20). The Bulgarian National Bank (BNB) is responsible for compiling the balance of payments of Bulgaria and the BNSI uses the data for the compilation process. BoP components are compiled using basically the International Transaction Reporting System (ITRS) which includes: a) the commercial banks' reports; b) reports of enterprises which have bank accounts abroad, pertaining to the resident's international transactions. In addition, the data on certain BoP components collected by the ITRS is substituted with data from other
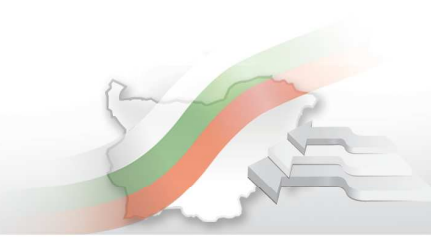
sources: a) direct investment enterprise survey; b) administrative records; c) reports of enterprises having borrowed from abroad.

8.1 Primary income from/to the ROW, gross national income

Compensation of employees (D.1)

Quantification of the number of residents working abroad is based on quarterly data from the Labour Force Survey that separately identifies workers by country of employment. Data on the number of residents who work as members of diplomatic missions, institutions of the EU and international organizations are provided by the Ministry of Foreign Affairs. The average wage is calculated on the basis of data on average employee wages in the national accounts (D.11) of those countries in which Bulgarian residents are employed.

As regards the remittances of residents working abroad additional to the regular information expert estimates under the exhaustiveness procedures are prepared. In 2006 the approach for estimation of undeclared income of residents working abroad (as a part of the economy's "Generation of income" account with an impact on GNI level) was introduced in the BNB balance of payments. The adjustments have been applied since April 2001 as it was the first month in which Bulgarian citizens were allowed to travel to most of the European countries without visa. The estimation procedure is based on the available administrative information about persons leaving the country with reason "Travel". In addition the data from a survey among Bulgarian tour-operators (number of Bulgarians who bought package holidays and made reservations for traveling abroad), and from survey trough households is used for the estimation. The source for the level of minimum wages between EU member states and the cost of living for the respective country are used for estimations.

Compensation of non-resident employees is a part of total compensation of employees included in statistical surveys. It is not separately identified, but indirect methods of calculation are used for its estimation. Numbers of non-resident workers in Bulgaria are provided by the Ministry of Labour and Social Affairs, based on the number of work permits issued. The average gross monthly wage is the proportion of wages excluding other personnel expenses per employee (natural persons) per month.

Taxes and subsidies on production and imports (D.2, D.3)

The source of information for taxes collected by the government on behalf of the Institutions of EU (receipts from trade with third countries, receipts from VAT) and production subsidies granted by the Institutions of EU to resident producers is derived from Ministry of Finance and Ministry of Agriculture.

Property income (D.4)

Interest (D.41), distributed income of corporations (D.42), reinvested earnings on direct foreign investment (D.43) both received from and paid to RoW data are taken from the BoP. BNB provides this data in the form of detailed breakdown of the Income Balance. In the lather step, FISIM correction is made for sums of interests.

Since 2003 (before 2003, no information available) the main source of monthly information for the reinvested earnings from direct investment abroad is the database of the FDI companies data for Outward FDI which is updated quarterly by reports from the non-financial enterprises. The reports cover the capital, the financial result, reinvested earnings and dividends. The reinvested earnings are calculated as a difference between the financial result and the dividends. In the compilation of the reinvested earnings in the balance of payments, the BNB uses data from the following sources: a) Financial sector enterprises – monthly direct reporting for capital, dividends and financial result through Banking Supervision Directorate with the BNB; b) Direct investment enterprises in the non-financial sector – quarterly direct reporting to the BNB for capital, dividends and financial result; c) National Statistical Institute – annual data for capital, dividends and financial result of all non-financial enterprises.

Property income attributed to insurance policy holders (D.44) corresponds to the total income received from investment of insurance technical reserves. It is added to property income (D.4) on the resource side. The basis for the proportional distribution into sectors is taken from the quarterly questionnaire on insurance companies, a part for gross premiums written and claims paid broken down by sector (Chapter 10, source 5).

Gross national income is derived as the sum of gross domestic product and the balance of net primary incomes of residents. The balance of net primary incomes of residents in relation to the rest of the world is calculated as the difference between compensation of employees received and paid, net taxes on production and imports and net property incomes.

8.2 Consumption of fixed capital, net national income, acquisition less disposals of non-financial non-produced assets

The measurement of Consumption of Fixed Capital (CFC) is based on the available information for the corporate sector enterprises. Presently, the Perpetual Inventory Method (PIM) for estimation of CFC of the government institutions and other non-market producers is not introduced in the national accounting practice. The introduction of PIM for General government sector was introduced in 2010 under the revision program of national accounts.

8.3 Current transfers from/to the ROW, net national disposable income

Other current transfers (D.7)

Data source for net non-life insurance premiums (D.71) and non-life insurance claims is the quarterly questionnaire on insurance companies (Chapter 10, source 5). Current international cooperation (D.74) consists of transfers between non-resident and resident government institutional units. Data are derived from BoP. Miscellaneous current transfers (D.75) are also taken from the BoP in BNB.

8.4 Adjustment for the change in net equity, net saving

Adjustment for the change in net equity (D.8) contains only zero values. Net saving is calculated by subtraction of final consumption expenditure from net national disposable income.

8.5 Capital transfers, net lending/borrowing

Within the capital account, the following categories are included: capital taxes – inheritance taxes and donation taxes; capital transfers - the amount of tax accruals never be collected,

capital grants and cancellation or assumption of debt. The main information source is BNB and MoF, National fund.

Net lending/borrowing is derived from net saving by adding net capital transfers and subtracting gross capital formation and acquisition less disposal of non-financial non-produced assets.

Chapter 9 Flash estimates

Flash estimates represent the earliest picture of the economy according to national accounts concepts. The methodology of flash estimates in BNSI is in development process under the experimental project work carried out in 2008. The experimental results for 1st, 2nd and 3rd quarters of the year were published on the BNSI web page.

The first official flash estimate were compiled for 1st quarter of 2009 and were released on 15 May 2009 under the name "GDP express estimate". Flash estimates are regularly published approximately 42-45 days after the end of the reference quarter.

9.1 Flash GDP estimates

In general flash estimates of GDP are compiled using the same methodology as regular estimates. Only the production approach and the expenditure approach are involved in the calculation. Most aggregates are based on preliminary processing of respective data sources. In some cases it is necessary to use alternative data sources which are not employed for compilation of regular estimates.

The flash estimates are prepared for all main national accounts indicators integrated in GDP from the production and expenditure side. The results are available at current and constant (previous year prices and at 2005 year prices. The volume indices of main aggregates are presented in terms of T-4q and T-1q (seasonally adjusted).

Sources and methods for the GDP production approach:

The industry breakdown for the initial calculations is A21 NACE, Rev. 2.

Different estimation procedures are applied regarding the existence of basic information. For the following sectors the complete quarterly data set is available.

Government sector – monthly and quarterly report of MoF on the cash execution of the budget program, available 30 days after the observed quarter;
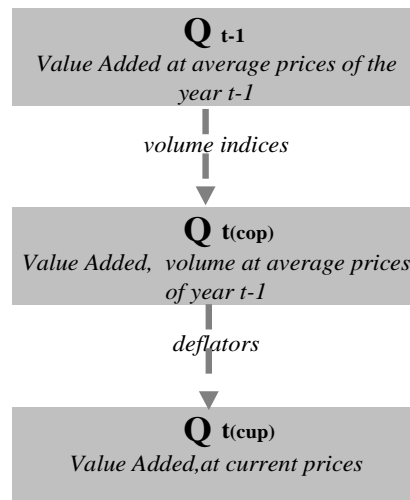
Financial sector institutions – quarterly reports of commercial banks, quarterly survey on insurance institutions;

Data used for imputed rent for owner occupied dwellings.

For these sectors the standard procedure of quarterly estimates is applied, including calculations of gross output, intermediate consumption and value added. The government gross output is presented by its components (market sales, sales of non-market services and other non-market output) for further presentation of government final expenditures for individual and collective consumption.

Taxes on products are available in time of the flash estimate compilation. Subsidies on products are estimated using time series analysis.

For all other sectors the available short term statistics is used. The general procedure is presented in the following chart – the official figures of Value Added of the same quarter of previous year at the average prices of the year is multiplied by appropriate volume indices deriving the constant prices volumes of the observed quarter, than the volumes are inflated by price indices deriving the level of Value Added at current prices.

$$
\boxed{
\begin{array}{c}
\mathbf{Q}_{\,t\text{-}1} \\
\textit{Value Added at average prices of the} \\
\textit{year t-1}
\end{array}
}
$$

volume indices

$$
\boxed{
\begin{array}{c}
\mathbf{Q}_{\,t(cop)} \\
\textit{Value Added, volume at average prices} \\
\textit{of year t-1}
\end{array}
}
$$

deflators

$$
\boxed{
\begin{array}{c}
\mathbf{Q}_{\,t(cup)} \\
\textit{Value Added,at current prices}
\end{array}
}
$$

The following price indices are used in the compilation process:

Quarterly price indices of agricultural production;

Producer's price indices – total production, for domestic market and for exports;

Consumer price indices;

Quarterly labour cost indices – used as price indices for labour inputs.

For obtaining the VA volume levels (at prices of the previous year) for industrial sector activity, monthly indices of industrial production (Chapter 10, source 14) are used based to the same month of the previous year. The quarterly indices are calculated as a simple average of the monthly indices. In addition, for some industries, mainly for electricity, gas and water supply, quantity information is used for verification purposes. The constant price figures are converted at current price by using producer's price indices, assuming no changes in the proportion between intermediate consumption and gross output.

For construction activity, the volume index is implicitly calculated as a weighted average volume index composed of the following industrial production indices for the following NACE classes: mining non-metallic ores, building materials industry, wood production industry and metallurgy – branches with the major contribution to the intermediate input of the construction activity. For Construction activity an another approach was taken – real

wages and salaries index in construction, adjusted for the productivity changes observed in the previous quarters. The level of value added at current prices is calculated applying the quarterly labour cost index for construction.

Value added at constant prices in trade sector is calculated by using monthly trade turnover indices (Chapter 10, source 15) assuming no real changes in trade margins and also no changes in the proportion between trade margin and intermediate consumption. The composite index of CPIs for tradable consumer goods is used as a deflator of value added in trade activity.

For all other service activities (near to 35 % of total value added for the economy and near to 28 % of GDP) the real volumes of value added is estimated by using the employment rate (they have to be adjusted for productivity changes during previous quarters). The current price value than is derived by using relevant CPIs.

Sources and methods for the GDP by expenditure approach:

In the calculations of the GDP by expenditure approach the general approach is applied. The official figures of the same quarter of previous year at the average prices of the year is multiplied by appropriate volume indices deriving the constant prices volumes of the observed quarter, than the volumes are inflated by price indices deriving the levels at current prices.

The source data used in the compilation process are the following:

Retail trade indices on a monthly basis;

MoF report on cash execution of the budget program;

Foreign trade statistics – preliminary results of Intrastat and Extrastat;

Quarterly enterprise survey on expenditures on acquisition of fixed assets – preliminary processing of raw data;

Balance of payments – monthly release of BNB.

The major part of final consumption expenditure of general government represented by free of charge other non-market output is derived from the production side of GDP. Social transfers in kind are based on direct information for monthly cash execution of the budgetary program of the government sector institutions – social security fund.

Final consumption expenditure of non-profit institutions is estimated on the information for previous quarters and on the available information for employment.

Gross fixed capital formation is based mainly on preliminary processing of quarterly enterprise surveys. In addition, separate volume indices are applied to the main elements of GFCF: construction, machinery and equipment – with a domestic origin and imported; other investment expenditures.

Because no information on changes in inventories is available, they are derived as the balancing item. At the preliminary stage of calculation process, changes in inventories are assumed at the same dimension of the previous quarters.

Preliminary processing of Intrastat and Extrastat statistics is used for exports and imports of goods.

Exports and imports of services are based on monthly balance of payments which is less structured than quarterly balance utilized for regular estimates.

9.2 Flash employment estimates

Flash employment estimates are developed for total employment and by A21 economic activity according to the domestic concept (numbers of residents and non-residents working in resident producer units). Press releases include year-on-year indices from raw and seasonally adjusted figures and quarter-on-quarter indices from seasonally adjusted figures. Methodology of flash estimates is the same as in case of regular estimates (see chapter 7.2).

Chapter 10 Main data sources used

The main data sources used for QNA in BNSI are listed in the following table:

No	Data source	Prod. Apr.	Exp. Apr.	Inc. Apr.	Other
1	Quarterly statistical survey on non-financial enterprises	X	X	X	
2	Quarterly survey on employees, hours worked, wages and salaries and other labour costs	X		X	X
3	Receipts and expenditures in agriculture	X		X	
4	Survey on production of agricultural products	X	X		
5	Statistical survey on insurance companies	X	X	X	
6	Survey on expenditures on acquisition of fixed assets		X		
7	Building permissions	X	X		
8	Household budget survey	X	X		
9	Intrastat and Extrastat		X		
10	Labour Force Survey (LFS)	X		X	X

11	Consumer price indices (CPIs)	X	X		
12	Producers' price indices (PPIs)	X	X		
13	Agricultural price indices	X	X		
14	Industrial Production Indices	X	X		
15	Retail trade turnover index	X	X		
16	Survey on transport activities	X	X		
17	Income statement of commercial banks	X			
18	Loans and Advances – BNB monthly document 40B1	X	X		X
19	Attracted Funds by Currencies and information for Interest Expenses – BNB monthly document 40C1	X	X		X
20	Balance of payments	X	X		X
21	Report on cash execution of budgetary program of Government institutions	X	X	X	X
22	Report on VAT declarations and cash receipts	X			X
23	Report on excises	X			X

The columns of the table present how each source data is used – production, expenditure and income approaches for GDP compilation. In the last column, the data for other type of accounts and methodological approaches are shown: population and labour accounts,

quarterly non-financial accounts for government sector and the rest of the world, procedure for allocation of FISIM.

Source 1: Quarterly statistical survey on non-financial enterprises

Quarterly statistical survey on non-financial enterprises is one of the main data sources for compilation of quarterly national accounts indicators following the production approach for compilation of GDP. Results from the survey are also used for estimation of income components of GDP and changes in inventories.

The survey covers enterprises in the non-financial corporations sector and the household unincorporated sector – small units with the single bookkeeping system. The survey is carried out exhaustively for units from public sector and by a sample for units from private sector. The sampling for enterprises in the private sector is stratified random sampling. The universe is stratified in four strata according to the number of employees, as follows: first strata - to 49 employees; second strata - 50 to 99 employees; third strata -100 and more employees. The sampling probability in first strata is 5%, in second – 40%, in third – 100%. All selected units are obliged to fill in the appropriate questionnaire.

Grossing up is made by the re-weighting method.

The statistical questionnaire consists of six parts: Part 1, Receipts and Expenditures; Part 2, Sales of goods and services abroad; Part 3, Employees; Part 4, Taxes on products; Part 5, Inventories; Part 6, Construction companies.

Part 1 collects information for elements of the gross output and intermediate consumption and components for further calculation of income categories. NAD receives the aggregate information for all elements of gross output and intermediate consumption in a standard format at two digit level of NACE, Rev.2.

The information in Part 2, is used mostly for deflation purposes of industry gross output where a sales for exports and other sales of goods and services (in the domestic market) are used as weights for total gross output deflator.

The collected data in Part 5, Inventories, are used for further estimation of physical changes in stocks in national accounts - eliminating holding gains and losses and related adjustments of gross output and intermediate consumption. The basic data are separated by type of inventories at two digit level of NACE, Rev.2 and transmitted to NAD in standard XLS format.

Part 6 contains information on main indicators of the construction activity of the construction companies linked to Part 1 – receipts from sales, expenditures for raw materials, stocks of finished construction work and work in progress at the beginning and at the end of the quarter. The indicators are separated for buildings and infrastructure.

Name of the survey	Survey in non-financial enterprises
Periodicity	Quarterly
Time of availability of the results	First preliminary results: 35 days after the observed period; Complete results: 50 days after the observed period
Main variables used in QNA	Related to "Production accounts": - receipts from sales, - own account GFCF, - changes in stocks of finished goods and work in progress, - book value of tradable goods sold, - expenditures of raw materials and external services. Related to "Generation of income account": - labour remuneration, - social security contributions, - amortization of fixed assets. Related to inventories – stocks at the beginning and at the end of the period: - raw materials, - finished goods,

	- *tradable goods,* - *work in progress*
Further adjustments made to the survey data	*Adjustments related to transition from business accounting to NA concepts:* - *holding gains/losses in change of the inventories;* - *mark up adjustments for profit on own the expenditures on account GFCF;* - *intermediate consumption of insurance services;* - *business trip's daily allowances transferred from intermediate inputs to compensation of employees;* - *income in kind.*

Source 2: Quarterly survey on employees, hours worked, wages and salaries and other labour costs

The survey collects statistical data for employees under labour contract in national economy and their average monthly wages and salaries. Since 2001 year data have been used to calculate quarterly labour cost index (LCI).

The survey is carried out exhaustively for units from public sector and by a sample for units from private sector. The sampling for enterprises in the private sector is stratified random sampling without replacement. The main factors, taken into account in defining sample size are: distributions of enterprises by regions (28 districts, NUTS3); classification of economic activities (2-digit level of NACE, rev.2); Number of employees at the end of the last reference period for which the statistical register is updated. The universe is stratified in four strata according to the number of employees, as follows: first strata - to 49 employees; second strata - 50 to 99 employees; third strata -100 and more employees. The sampling probability in first strata is 5%, in second – 40%, in third – 100%.

The observation units are enterprises – companies, ministries, departments, political, religious, public and other organizations that perform economical activities in Republic of Bulgaria and have at least one employee under labour contract during the reference period.

НАЦИОНАЛЕН СТАТИСТИЧЕСКИ ИНСТИТУТ
РЕПУБЛИКА БЪЛГАРИЯ

www.nsi.bg

The principle of compulsory participation in this survey is laid down in National program for statistical surveys.

The survey covers sections A-S of NACE Rev.2 and the regional coverage is at the level of NUTS3-European Standard for Classification of Regions.

The survey is conducted quarterly with figures for each month of the quarter.

Data are collected by paper questionnaire or by an electronic questionnaire. Respondents' deadline to fill and return the forms is 20 days after the reference period. Current figures from the survey are available 35 days after the reference quarter.

Name of the survey	Quarterly survey on employees, hours worked, wages and salaries and other labour costs
Periodicity	Quarterly
Time of availability of the results	35 days after the reported quarter
Main variables used in QNA	Related to the compilation of Generation of income accounts and labour accounts and for conducting a labour check procedure in terms of coverage and exhaustiveness of the accounts

- Number of employees under employment contract according to the Labour Code or to the Law of State Officials at the end of the month, broken down by full-time / part-time and by sex;
- Number of persons employed working under non-labour contract, self-employed persons and business owners;
- Hours worked, broken down between full-time / part-time employees;
- Days worked and days not worked by reasons – paid holidays, unpaid leave, sick leave;
- Gross wages and salaries paid to employees; |

	- *Non-wage labour costs.*
Further adjustments made to the survey data	*Conceptual adjustments regarding the national legislation and NA definitions, adjustments for labour check and comparison with other information*

Source 3: Receipts and expenditures in agriculture

The survey collects information for receipts and expenditures of agricultural enterprises – farms registered under VAT act. The questionnaire consists of two parts: Part 1, receipts from sales of goods and services; Part 2, Expenditures for production activity, with annexes for more detailed information by type of raw materials and external services used in agricultural production. The information is one of the sources for compilation of quarterly "Production account" for agricultural sector.

Name of the survey	*Receipts and expenditures in agriculture*
Periodicity	*Quarterly*
Time of availability of the results	*35 days after the reported quarter*
Main variables used in QNA	*Related to the compilation of "Production account" in Agriculture* - *receipts from sales of goods and services, separated for agricultural activity (plant growing, live stocks breeding and agricultural services) and for secondary non agricultural activities;* - *production expenditures by types, separated for agricultural activity (plant growing, live stocks breeding and agricultural services) and for secondary non agricultural activities:* - *raw materials* - *external services*

	- *wages and salaries* - *social insurance and other compensations* - *amortization of fixed assets;* - *type of raw materials, energy consumption, seeds for put in, fertilizers and pesticides* - *type of external services*
Further adjustments made to the survey data	*Conceptual adjustments regarding NA definitions*

Source 4: Survey on production of agricultural products

The survey collects information in quantities of agricultural products separated for plant growing and live stock breeding activities. The sample covers big farms in the corporate sector (600 units) and also small household producers (1400 units).

The information is collected by field statisticians in regional statistical offices and the individual questionnaires are disseminated for further statistical processing in Central office of BNSI.

The questionnaire for plant growing is designed as a balance of resources and uses of products (near to 80 items) within the farm. On the resource side the following elements are distinguished: stocks at the beginning of the period, production, losses. On the use side the allocation of resources is separated for internal use in the farm, including production for own consumption and sales outside the farm – to other agricultural producers, to other non agricultural producers and for export. The stocks at the end of the quarter are also presented in the use side.

The live stock breeding and related products are separated by animals. The information is structured in balance form – live stocks at the beginning, animals born, purchased animals, animals sold, live stocks at the end of the period.

The third part of the questionnaire collects information for agricultural products which are processed or directly consumed in the farm – by type of plant growing products and by type of animal products.

The information is used in national accounts for verification purposes and for estimation of households' agricultural activities, including non-market production for own final consumption. The quantity information is combined with the results from agricultural price survey in terms of quantity – price approach.

Name of the survey	Survey on production of agricultural products
Periodicity	Quarterly
Time of availability of the results	35 days after the reported quarter
Main variables used in QNA	Related to the compilation of "Production account" in Agriculture, non-financial sector and unincorporated household sector and final consumption of own produced agricultural products. - production by products – 80 plant growing and 15 animal products, - exports of agricultural products - live stock breeding, - production for internal processing and for direct consumption in households
Further adjustments made to the survey data	Conceptual adjustments regarding NA definitions

Source 5: Statistical survey on insurance companies

The survey covers all commercial insurance companies. Insurance companies use special accounting rules for insurance companies. The statement is used as the main source for quarterly national accounts.

Name of the survey	Statistical survey on the activity of insurance companies
Periodicity	Quarterly
Time of availability of the results	35 days after the reported quarter
Main variables used in QNA	Related to the compilation of Production account and allocation of insurance services to the households as consumers and to the Rest of the World Separated for Life insurance and non-life insurance - Insurance premiums accrued, total and from individuals, - Premiums under active and passive re-insurance, total and with foreign companies, - Claims accrued, total and to individuals, - Claims under active and passive re-insurance, total and with foreign companies, - Commission fees, - Investment income, - Changes in mathematical reserves, - Expenditures for commissions, - Expenditures on external services, - Expenditures on wages and salaries, social insurance contributions, - Depreciation of assets, - Other administrative costs, - CIT accrued, - VAT invoiced

Further adjustments made to the survey data	

Source 6: Survey on expenditures on acquisition of fixed assets

The survey covers the investment activity of performed by all institutional sectors except unincorporated activities of households.

The indicator covers the expenses for investment goods (old and newly created), including delivery costs and cost for transferring the ownership, capitalized expenditures for own account GFCF.

Three main types of assets are distinguished: buildings and infrastructures; machines, equipment and transport means – total and imported.

The results from the survey are the main source for compilation of GFCF

Name of the survey	*Survey on expenditures on acquisition of fixed assets*
Periodicity	*Quarterly*
Time of availability of the results	*40 days after the reported quarter*
Main variables used in QNA	*Related to the compilation of GFCF* *Expenditures on acquisition of fixed assets and acquired assets by type:* - *Buildings and infrastructures;* - *Machines, equipment and transport means;* - *Gross wages and salaries paid to employees;* - *Non-wage labour costs.*
Further	*Conceptual adjustments regarding NA definitions, adjustments*

adjustments made to the survey data	after comparison with other data and balancing the investment commodity flows

Source 7: Building permissions

This data source is derived from administrative files of municipalities and it serves as a supplementary source for estimation of construction part of gross fixed capital formation in household sector. Permissions are split in dwellings and other buildings and structures.

Name of the survey	Building permissions
Periodicity	Quarterly
Time of availability of the results	50 days after the reported quarter
Main variables used in QNA	Related to the compilation of GFCF – supplementary source - own account construction of dwellings and other buildings in households
Further adjustments made to the survey data	

Source 8: Household budget survey

The main objective of the household budget survey is to provide data on the income, expenditure, consumption and other elements of the living standard of the population as well as changes which have occurred during the years.

The unit of observation is every randomly chosen ordinary household irrespective of the number of members and their material and personal status.

The general population from which the sample for the survey is formed comprises all the households in the country. When forming the sample a two stage cluster's sampling on a territorial principle is implemented as follows:

at the first stage the census enumeration areas (clusters) are selected;

at the second stage the households to be surveyed are identified.

The sample size is 3 000 households.

The household budget survey applies the principle of the voluntary participation of households which had randomly come into the sample. Every randomly selected household which is not willing or is not able to participate, is replaced with another from the same cluster and with the same number of members. In 2007, 1 267 replacements of households sample list were made.

Consumer expenditure groups are formed according to the definitions of COICOP. The expenditures for taxes, household plot, purchasing, construction and capital repair of a dwelling, for fines, personal insurance and others which do not have consumer characteristics are shown separately.

Name of the survey	*Household budget survey*
Periodicity	*Monthly*
Time of availability of the results	*35 days after the reference period*
Main variables used in QNA	*Households' expenditures for individual consumption;* *Production for own final consumption of households, other informal activities of households*
Further adjustments made to the survey data	*Conceptual adjustments regarding NA definitions*

Source 9: Intrastat and Extrastat

Primary data on external trade in goods are obtained by means of Intrastat (since 2007) and Extrastat systems and then transmitted to the External Trade Statistics Department of the BNSI. Intrastat is a system for trade within EU surveying especially flows of goods among EU member countries by means of Intrastat questionnaire. Extrastat is a system for statistics of external trade with „third" countries which are not EU members.

Monthly results broken down into two-digit SITC and two- and three- digit CPA classification are overtaken for quarterly national accounts compilation.

The Intrastat system is conducted under the Law on Statistics for intra-community trade with goods, adopted in September 2006 and amended in January 2008. The law determines official institutions engaged with conducting statistics for intra-community trade – these are Bulgarian National Statistical Institute (with main functions: to determine thresholds for Intrastat declaration; to develop rules for validating the Intrastat declarations and to validate all the data flows received; to produce, publish, transmit and analyse the information for foreign trade with goods) and National Revenue Agency (with main functions: to create and maintain the Intrastat collecting system; to control the coverage of the obliged companies and the accuracy of the declared transactions; to provide Intrastat data to NSI for further processing).

The information under Extrastat is delivered by Custom's agency to BNSI for further processing of the official results.

Name of the survey	*Intrastat and Extrastat*
Organisation collecting the source data, purposes for which it is collected	*Intrastat – National Revenue Agency, under the Law on Statistics for intra-community trade with goods* *Extrastat – Custom Agency, for the purposes of Custom's administration*
Periodicity	*Monthly*

Time of availability of the results	Intrastat – preliminary data: 35 days after the reference month, more complete and detailed data: 65 days after the reference month Extrastat – 35 days after the reference month
Main variables used in QNA	Imports and exports of goods
Further adjustments made to the survey data	Conceptual adjustments, Coverage adjustments – flows below the applied threshold for Intrastat declaration

Source 10: Labour Force Survey (LFS)

The main purpose of the Labour force survey is to provide information on the main characteristics of employment and unemployment in the Republic of Bulgaria. The LFS is a sample survey and its objects are non-institutional households. All persons of 15 years of age and over, members of the selected households are interviewed.

The sample used for the survey is a stratified by districts and urban/rural areas two-stage cluster sample with clusters on the first stage - enumeration districts of March 2001 Population Census and on the second – households. The sample size is 19 504 non-institutional households or about 44 000 persons aged 15 years and over.

For weighting and adjustment the results from the survey the current demographic estimates for the total population by districts, urban/rural areas, sex and age groups are used.

Regarding the organization of the survey, interviewers from the Regional Statistical Offices visit the selected households and interview persons living in these households. Filled in questionnaires are coded and data entry is done on PC at the Regional Statistical Offices. Primary data are sent to the National Statistical Institute, where are weighted at national level.

Since the beginning of 2003 quarterly continuous LFS is implemented. In case of the continuous survey all households, covered in the sample, are surveyed within three months,

the sample being evenly spread throughout the quarter. The reference period is a calendar week and it is not the same for separate groups of households.

Data from the Labour force survey are available 52 days after the end of the reference period. Data are disseminated to the public through Bulgarian News Agency that releases data to the Media (agencies, newspapers, radio and television). Main results from the Labour force survey are available on the NSI web site.

Name of the survey	*Labour Force Survey*
Periodicity	*Quarterly*
Time of availability of the results	*35 days after the reference period, advanced preliminary results are available 40 days after the reference period*
Main variables used in QNA	*National labour accounts, labour checks procedure and related adjustments in Production account and Generation of income account*
Further adjustments made to the survey data	*Conceptual adjustments regarding NA definitions*

Source 11: Consumer price indices (CPIs)

The purpose of consumer price survey and consumer price indices is to obtain country representative data for the prices of goods and services and to compute overall and group indices of consumer prices.

The structure of the CPI is a national version of COICOP – the Classification of individual consumption by purpose, which is devised by the National Statistical Institute (NSI) based on COICOP/HICP (Rev.Dec99).

CPI compilation is based on four samples: Consumer basket - sample of goods and services, offered at the consumer market; Geographic coverage - sample of settlements, where

observation points will be sampled; Observation points - sample of stores, shops, restaurants, cafes, etc. in the sample of settlements; Target number of prices – set of prices of goods and services to be priced at the sampled observation points.

Calculation of the CPI is based on the following information: Base prices – annual average prices in the previous year for every item in the consumer basket; Base weights – calculated from the monetary expenditures of households in the previous year. Base prices and base weights are updated every year.

For the compilation of quarterly national accounts for GDP, consumer prices have an important role for measures of volumes and volume changes. For the purposes of national accounts the indices are reweighted to the current households' expenditures.

Name of the survey	Consumer price index
Periodicity	Monthly
Time of availability of the results	25 days after the reference period
Main variables used in QNA	Deflation purposes of national accounts indicators: - production approach: services mainly provided to households - final consumption expenditures of households - export of services
Further adjustments made to the survey data	

Source 12: Producers' price indices (PPIs)

Three Producer Price Indexes are calculated in NSI: Total producer price index; Producer price index on domestic market; Producer price index on direct export.

Indexes for particular economic activity measure the average change in the prices of industrial products, which are produced and sold by Bulgarian enterprises. This is done on the bases of constant sample of groups of products, produced by the activity and sold on the domestic market or directly exported on non-domestic market and that sample is representative for total industrial production.

PPIs are based on the monthly survey on prices applied from Bulgarian producers. That system of price indexes is build to serve the needs of aggregated information as well as the needs of more detailed information (example price changes of particular activities or price changes of main industrial groupings). The survey covers mining, manufacturing industries and production and distribution of electricity, steam, and natural gas and water supply.

Indexes are calculated at the group level (third digit), division level (second digit), at section and subsections of CPA. Indexes are calculated for Main Industrial Groupings (MIGS: Intermediate products, Investment products, Consumer durable products, Consumer non-durable products, Energy products) and for total 'Industry' level.

Producer price indexes are base weighted (Laspeyres) indexes - that is to say they are weighted according to the sales in the base year, currently 2005. After that price relatives are weighted with sales structure in the base year. Producer price indexes at different levels of aggregation are calculated from successive aggregations in which each level of aggregation uses the arithmetic mean of indexes at the level below, duly weighted with sales structure in the base year following the structure of the NACE, Rev.2.

The PPI data is firstly released 30 days after the end of the reference month. The announcement includes the base year Producer price indexes as well as indexes according to the precious month and indexes according to the same month of the previous year.

Name of the survey	*Producer Price Indices (PPIs)*
Periodicity	*Monthly*
Time of availability of the results	*30 days after the reference period*

Main variables used in QNA	*Deflation purposes of national accounts indicators:* - *production approach: industrial activities gross output, a component of the deflator of intermediate consumption;* - *products for own households' consumption – PPI, domestic market;* - *investment in machinery and equipment – domestically produced;* - *holding gains/losses in inventories;* - *export of goods – PPI, export*
Further adjustments made to the survey data	

Source 13: Agricultural price indices

The survey started in 2002 when data on producer prices of several agricultural products was collected. The nomenclature of the surveyed products was gradually increased during the next years and in 2007 the total coverage of the products was realized. Due to their seasonality the vegetables and fruits were the last two groups of products included in the scope of the survey.

In the beginning of 2007 the survey replaced two other surveys carried out till the end of 2006 – the survey on procurement prices of crop products and the survey on procurement prices of live animals and animal products.

The surveyed units are:

Agricultural producers, which production is intended for the market or for the processing industry;

Merchants that buy up agricultural production (for the market or for exportation) directly from the producers;

Enterprises of processing industry which buy up agricultural production for processing directly from the producers.

These units are selected by NSI according to determined criteria defining individual threshold for each product (by volume or by value). The agricultural products produced within the agricultural units and used by the same units are excluded of the scope of the survey.

Name of the survey	*Agricultural price indices*
Periodicity	*Quarterly*
Time of availability of the results	*65 days after the reference period*
Main variables used in QNA	*Deflation purposes of national accounts indicators:* - *agricultural gross output, intermediate consumption of agricultural products of other industries – in the frame of SUT;* - *investment, live stocks breeding*
Further adjustments made to the survey data	*Conceptual adjustments – subsidies on agricultural products*

Source 14: Industrial Production Indices

Currently two types of indexes that represent production of industrial enterprises are calculated and published by NSI.

Index of industrial sales;

Index of industrial production.

For compilation of Industrial production index NSI has accepted method of deflated value of production.

The index is based on monthly survey on sales and stocks of finished products of industrial enterprises.

For calculation the 'industrial production' NSI uses approximation to the 'production value' and the following elements are included:

+ Receipts from sales of finished products, goods and services

- Value of goods purchased for resale in the same conditions as received

+/- Change in stocks of finished products.

The survey is carried out by a stratified sample survey. The enterprises sample is representative at branch group (3-digit) level of NACE, Rev.2. The total population includes all industrial enterprises, which according to NACE, Rev.2 are classified in mining, manufacturing industries and production and distribution of electricity, steam, and natural gas and water supply. The observation unit is enterprise. There are about 29 000 enterprises in the sampling frame and approximately 3 250 units are sampled each month. The sampled enterprises have 11.2% share in terms of the number of the units and 97.1% share in terms of turnover. The stratification criteria is 'number of persons employed'. Firstly, the enterprises are stratified by groups (3-th digit level of NACE, Rev 2) and then in each group they are stratified by number of persons employed. Enterprises with 100 or more employees are surveyed exhaustively. Enterprises employing between 10 and 99 employees are randomly sampled. Industrial enterprises that have less than 9 employees are not observed monthly.

To indicate volume developments, current values must be deflated with suitable price indexes. Industrial sales and industrial production indexes are base weighted (Laspeyres) indexes; currently the base year is 2005.

For calculation of the Sales index deflation of sales values of industrial enterprises is done separately - for sales on the domestic market and for sales on non-domestic market. Sales on domestic market are deflated at the 3 -digit level of NACE.BG with Producer price indexes on domestic market. Enterprises' sales on the external market are deflated with Producer price index on non-domestic market, calculated on the base of monthly survey on prices on non-domestic market.

The source for activity weight is value added at factor costs derived from Structural Business Statistics survey that is based on annual enterprise's accounts and according to the requirements of Regulation 58/97 it is defined as difference between production value and intermediate consumption minus duties and taxes linked to production.

In the case of non-responding enterprise from exhaustive strata imputation is made for each non-respondent enterprise separately using different techniques (estimates based on responses from the same enterprise in previous months, estimates based on responses from similar units, estimates based on ratios within the corresponding NACE activity and size). Non-responses in sampling strata are estimated by adjusting the extrapolation coefficients to make account of response rates.

The Industrial production indexes and Industrial sales indexes are announced 35 days after the end of the reference month. The announcement includes the base year Industrial production and sales indexes as well as indexes according to the previous month and indexes according to the same month of the previous year.

Name of the survey	Industrial Production Indices
Periodicity	Monthly
Time of availability of the results	35 days after the reference period
Main variables used in QNA	Flash estimates of GDP and its components, for checking the coherence of the quarterly national accounts results in production approach
Further adjustments made to the survey data	

Source 15: Retail trade turnover index

Retail trade turnover index is produced on monthly basis. It covers the units in trade sector – detailed by trade activities at 3-digit level of NACE, Rev.2. The indices are based to year 2005, and are referenced to the previous month and to the same month of the previous year. The information is available 35 days after the reference month.

Name of the survey	Retail trade turnover index
Periodicity	Monthly
Time of availability of the results	35 days after the reference period
Main variables used in QNA	Flash estimates of GDP and its components, for checking the coherence of the quarterly national accounts results elements of production approach and of expenditure approach.
Further adjustments made to the survey data	

Source 16: Survey on transport activities

The survey is conducted on a quarterly basis. It covers freight and passenger transport services provided by railways, road transport, pipelines, public urban electrical transport. The activities are observed in terms of quantitative indicators: carried goods (passengers), domestic and international transport; transport performance in t/km (passenger/km) domestic and international transport.

The information is available 60 days after the reference quarter.

Name of the survey	Survey on transport activities
Periodicity	Quarterly
Time of availability	60 days after the reference period

of the results	
Main variables used in QNA	*For checking the coherence of the quarterly national accounts results elements of production approach and of expenditure approach.*
Further adjustments made to the survey data	

Source 17: Income statement of commercial banks

The Income statement is collected by BNB for supervision purposes. The monthly documents for each bank operated in the domestic territory are published on the web page of BNB[10].

The information by specified receipts and expenditures is used for national accounts for banking sector in the frame of "Production account" before allocation of FISIM among user sectors.

Name of the survey	*Income statement of commercial banks*
Organisation collecting the data, and purposes for which it is collected:	*BNB for supervision purposes*
Periodicity	*Monthly*
Time of availability of the results	*30 days after the reported month*
Main variables used in QNA	*Related to "Production accounts": ,* - *financial and operating income and expenses,*

---

[10] http://www.bnb.bg/bnb/home.nsf/fsWebIndex?OpenFrameset

	- *interest income,* - *interest expenses,* - *fee and commission income,* - *fee and commission expenses,* - *administration costs*
Further adjustments made to the survey data	*Adjustments related to transition from business accounting to NA concepts*

Source 18: Loans and Advances – BNB monthly document 40B1

The document is used for supervision purposes of BNB. It contains information about specific provisions for impairment losses and interest income by currencies. The documents for each bank operating in domestic territory are published on the web page of BNB.

In national accounts, the information is used for allocation of FISIM among user sectors.

Name of the survey	*Loans and Advances – BNB document 40B1*
Organisation collecting the data, and purposes for which it is collected:	*BNB for supervision purposes*
Periodicity	*Monthly*
Time of availability of the results	*30 days after the reported month*
Main variables used in QNA	*Related to the procedures for allocation of FISIM:* *stocks and interest income by sectors, in BGN and Euro* - *Central government*

	- *Credit institutions*
	- *Non-credit institutions*
	- *Corporations*
	- *Retail exposures – residential mortgage loans to individuals, consumer loans*
Further adjustments made to the survey data	*Adjustments according to the procedures for FISIM allocation*

Source 19: Attracted Funds by Currencies and information for Interest Expenses – BNB monthly document 40C1.

The document is used for supervision purposes of BNB. It contains information about attracted funds separated for credit institutions and institutions, other than credit institutions – stocks and interest expenses. The documents for each bank operating in domestic territory are published on the web page of BNB.

In national accounts, the information is used for allocation of FISIM among user sectors.

Name of the survey	*Attracted Funds by Currencies and information for Interest Expenses – BNB monthly document 40C1.*
Organisation collecting the data, and purposes for which it is collected:	*BNB for supervision purposes*
Periodicity	*Monthly*
Time of availability of the results	*30 days after the reported month*
Main variables	*Related to the procedures for allocation of FISIM:*

used in QNA	*stocks and interest expenses by sectors, in BGN and Euro* - *Credit institutions* - *Institutions, other than credit institutions* - *Individuals and households*
Further adjustments made to the survey data	*Adjustments according to the procedures for FISIM allocation*

Source 20: Balance of payments

Balance of payments provides a systematic record of transactions with non-residents. Data from balance of payments are used in national accounts for compiling the external account of goods and services, the external account of primary incomes and current transfers, the capital account and the financial account.

Name of the survey	*Balance of Payments*
Organisation collecting the source data, purposes for which it is collected	*Bulgarian National Bank,- according to 5th edition of IMF BoP manual*
Periodicity	*Monthly*
Time of availability of the results	*35-37 days after the reference month*
Main variables used in QNA	*Current account, Capital account and Financial account components*
Further adjustments made	

to the survey data	

Source 21: Report on cash execution of budgetary program of Government institutions

The report is delivered by Ministry of Finance and it contains information for receipts and expenses in cash in budgetary institutions classified by sub-sectors: institutions of the central government, semi budgetary institutions – national radio and TV, universities, hospitals and others; local government; compulsory social insurance. Data are structured by chapters of the state budget, by items of budgetary classification and by functions.

Data are officially presented and provided in accumulated form since the beginning of the fiscal (calendar) year.

The report is a main source for compilation of general government national accounts in terms of quarterly national accounts for GDP and Tables 2501 and 2502 of the Data transmission program under ESA'95.

Name of the survey	*Report on cash execution of budgetary program of Government institutions*
Organisation collecting the source data, purposes for which it is collected	*Ministry of Finance, for the administration of the budget program*
Periodicity	*Monthly*
Time of availability of the results	*30 days after the reference month*
Main variables used in QNA	*Government accounts:* *– production and generation of income accounts* *– use of disposable income account: final expenditures for*

	individual consumption, final expenditures for collective consumption; – capital account: GFCF, capital taxes and capital transfers, net lending/net borrowing
Further adjustments made to the survey data	Conceptual adjustments: treatment of EU flows in National Fund, time adjusted approach Coverage adjustments – institutional reclassification of units from other sectors to general government sector: Public hospitals, Bank Consolidation Company;

Source 22: Report on VAT declarations and cash receipts

The report contain the aggregated information delivered by National Revenue Agency (NRA) on regular monthly basis at T+25 days after the tax period. The tax period is one month as it is defined in the Law on VAT, art. 87(2). The monthly data is available for the period from 1998. The structure of the files provided by NRA includes declared amounts as well as cash payments and refunds. The present structure of the file, according to the last amendments in the Law on VAT in 2007, has the following VAT elements:

Declared VAT for payments, cell 50 of Tax Declaration;

Deducted VAT by registered units (taxpayers),

Actual payments

  of which: for previous years

Declared amounts for tax refunding, cell 80 of Tax Declaration;

  of which:

within a period of 45 days according to art. 92(1) of Law of VAT

within a period of 30 days according to art. 92(3) and 92(4) of Law of VAT

Total amount refunded

of which:

within a period of 45 days according to art. 92(1) of Law of VAT

within a period of 30 days according to art. 92(3) and 92(4) of Law of VAT

VAT revenues from tax audit

of which: for previous years

VAT payments on imports

The information by elements of VAT receipts and VAT declared is used for applying a procedure for time adjusted cash recording in national accounts.

Name of the survey	Report on VAT declarations and cash receipts
Organisation collecting the source data, purposes for which it is collected	National Revenue Agency, collected under the VAT act for the administration of government revenues
Periodicity	Monthly
Time of availability of the results	25 days after the reference month
Main variables used in QNA	Transition from GVA at basic prices to GDP at market prices; Government tax revenues, Table 25
Further adjustments made to the survey data	Conceptual adjustment – time adjusted cash procedure

Source 23: Report on excises

Since 2006 the responsible institution for providing information on excises (on domestic production and on imports) is Customs Agency. Before 2006, for the provision of the data for excise taxes two institutions were responsible: Customs agency was providing data for excise taxes on imported goods and NRA was providing data for excises on domestically produced goods and services.

In the report, the information is provided by Customs Agency by taxable commodity in quantity, value and tax rate applied according to the Excise tax act.

The information on excises in time adjusted basis is provided by Customs Agency according to the agreed methodological procedure.

Name of the survey	Report on excises
Organisation collecting the source data, purposes for which it is collected	*Customs Agency, collected under the Excise tax act for the administration of government revenues*
Periodicity	*Monthly*
Time of availability of the results	*25 days after the reference month*
Main variables used in QNA	*Transition from GVA at basic prices to GDP at market prices;* *Government tax revenues, Table 25*
Further adjustments made to the survey data	*Conceptual adjustment – time adjusted cash procedure*
Further	*Conceptual adjustments: treatment of EU flows in National*

adjustments made to the survey data	*Fund, time adjusted approach*
	Coverage adjustments – institutional reclassification of units from other sectors to general government sector: Public hospitals, Bank Consolidation Company;