

DRŽAVNI ZAVOD ZA STATISTIKU  
CROATIAN BUREAU OF STATISTICS

# Croatian Quarterly National Accounts

## Inventory based on ESA 2010 methodology

*Grant agreement 04121.2015.002-2015.168*

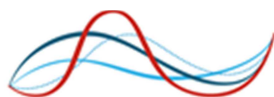
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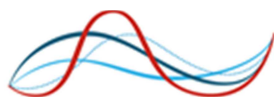
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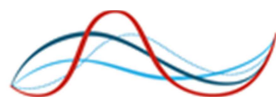
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## 0. INTRODUCTION

This document is produced within the framework of GRANT AGREEMENT nr. *04121.2015.002-2015.168*

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 Croatia based on ESA 2010 methodology.

## 1. OVERVIEW OF THE SYSTEM OF QUARTERLY NATIONAL ACCOUNTS

The Central Bureau of Statistics (CBS) has been compiling quarterly GDP since 1999. In the compilation of the quarterly GDP, two methods are used: direct methods (administrative data sources and surveys) and indirect methods (indicators).

### 1.1. ORGANISATION AND INSTITUTIONAL ARRANGEMENTS

Quarterly and annual national accounts are compiled by the Central Bureau of Statistics - Economic Statistics Directorate. The Economic Statistics Directorate calculates the GDP/GNI figures in accordance with the UN System of National Accounts (SNA 2008) and the European System of National and Regional Accounts (ESA 2010) manuals.

GDP is calculated according to three approaches: production, expenditure and income approach. The production approach is a leading one because of more reliable data sources and better coverage. The expenditure approach is the leading one in constant price estimation due to the very detail process of deflation it enables.

There is no separate organisational unit for quarterly national accounts. In total, 6 persons are included in the quarterly GDP calculation, 3 from the production and income side and 3 from the expenditure side. They are responsible for quarterly as well as annual GDP calculations. The compilation is organised in two separate departments: GDP production and income approach and GDP expenditure approach.

Employment and population data is compiled in the Supply and Use department, both annually and quarterly. The same department have been started to work on Employment flash estimate.

## 1.2. PUBLICATION TIMETABLE, REVISIONS POLICY AND DISSEMINATION OF QNA

An official releases calendar is available on the CBS website approximately one month before the beginning of the year.

Regular estimates of QNA aggregates are published at 58-60 days after the end of the reference quarter (Wednesday). Detailed breakdown of quarterly GDP volume estimate by production and expenditure approach is published in the regular release. GDP volume estimate by production and expenditure approach. At the CBS data base (Statistics in line) at T+60-62 days (Friday) are published all quarterly GDP data. The data are available at current prices, constant prices of the previous year and constant prices of a reference year (2010 = 100). Real growth rates are calculated by using basic chain-linked indices, where the referent year (2010 = 100) is the base year. Real growth rates are calculated from the original as well as seasonally adjusted data series.

The QNA revisions policy allows revisions in the current year when improved or new data become available. In practice this means that Q1-Q3 data (of the year t) are not revised until Q4 data are published (in February of the year t+1) to give the first annual estimates for year t. These are current revisions. After the publication of the Q4 data, quarterly accounts are revised only due to reconciliation with annual accounts data. Revisions due to compilation of annual national accounts (ANA) are made twice a year. The first revision is carried out when the preliminary annual data (sum of four quarters) become available and the second one when the annual data have been determined. In both cases quarters of the current year and two previous years are corrected. The exception to the general rule is seasonally adjusted data - they are revised in the context of the whole time series.

## 1.3. QNA COMPILATION APPROACH

Methodology of QNA follows the European System of Accounts (ESA 2010). The quarterly national accounts compilations are based on the same principles, concepts, classifications and definitions as the annual national accounts.

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

At the Central Bureau of Statistics, the quarterly GDP estimation by production approach is primarily an indicators based system, where the quarterly GDP at current and constant prices are produced by extrapolation of previous year value added using value and volume indicators.

GDP by expenditure approach in current prices is primarily based on direct data sources such as: regular monthly and quarterly Central Bureau of Statistics surveys, Ministry of Finance GFS data, Balance of Payment data (Croatian National Bank) and other administrative data sources.

As the production approach, due to more reliable and exhaustive data sources, is taken as a benchmark, the discrepancy on the expenditure side is calculated as a residual. The statistical discrepancy appears only on the expenditure side, and it comes from the balancing process between production and expenditure sides in current prices. The statistical discrepancy is not published as a separate item, but together with changes in inventories.

#### 1.4. BALANCING, BENCHMARKING AND OTHER RECONCILIATION PROCEDURES

In order to ensure data quality of the GDP components, analytical and logical controls, crosschecks and comparisons between the various data sources are carried out as part of the compilation.

In practice, the balancing of quarterly GDP by the production approach and quarterly GDP by the expenditure approach is conducted in the following way: as the quarterly GDP according to the production approach is considered more reliable, the quarterly GDP obtained by the expenditure approach is adjusted to it. The sum of all expenditure components, including changes in inventories, has thereby been matched to the overall quarterly GDP by production. The residual as absorbed on the expenditure side is the statistical discrepancy.

The balancing variables are P.52+P.53 (change in inventories plus net acquisition of valuables) for the expenditure approach and B.2G+B.3G (gross operating surplus and mixed income) for the income approach.

The income approach is not involved in the balancing process because gross operating surplus (including mixed income) is derived as a residual item.

The estimate of the annual provisional data is obtained by summing up four quarters (T+60 days after reference year). However, the annual estimate is calculated using more reliable data sources. The quarterly GDP (QGDP), on the basis of the production approach, is calculated at the same detailed breakdown than the annual one, at 60 NKD 2007 divisions

(NKD 2007 is fully compatible with NACE Rev.2) - see Table 3, sub-heading 1.3.0 in Inventory of AGDP/AGNI. The quarterly GDP for some activities compilation is done at the more detail level (4-digit NKD). Both, annual and quarterly GDP have been calculated at current prices, constant previous year prices and chain linked volumes (reference year 2010=100).

Adjustment of quarterly GDP figures according to the revised annual data for the period from 2000 to 2016 was carried out by using the ECOTRIM programme. The ECOTRIM programme has been developed by Eurostat, and provides a set of mathematical and statistical techniques which are used for temporal disaggregation of data series.

During the process of adjustment, the discrepancy between estimated quarterly data and final annual data is minimised. The result is the achievement of consistency of quarterly and annual data, that is, the sum of quarterly data is equal to annual data in every year.

Seasonally adjusted time series may be revised with every release irrespective of whether the original time series has been revised or not.

## 1.5. VOLUME ESTIMATES

Quarterly GDP data focus on short-term movements of the economy, while the main purpose of the quarterly GDP estimate is the calculation of the volume changes. The purpose of the valuation in volume terms is to assess the dynamics of economic development irrespective of price fluctuations.

The quarterly time series at constant prices are expressed at prices of the previous year, by dividing current prices by indices expressed in average prices of the previous year. Volume estimates are calculated at prices of the previous year. This system guarantees up-to-date price structures in the calculation of volume estimates. Basic chain-linked indices are calculated from the time series at prices of the previous year, linking them to the reference year 2010 (2010 = 100). Real growth rates are calculated by using the series of chain-linked indices.

The calculation of GDP at previous year prices means that the previous year is taken as base year. In this way, the structural changes in relative prices that occurred between two consecutive years in an economy are taken into account. The measurement of the real GDP movement in year  $t$  relative to year  $t-1$  requires that GDP in both years is valued at the same prices. This means that GDP in year  $t$  at constant prices, i.e. previous year prices is compared with GDP of year  $t-1$  at current prices. Time series calculated at previous year prices could not be used for real growth rate calculations since data are not comparable (each year is valued at previous year's prices).



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To obtain comparable series, the method of chain-linking is applied, where indicators in the form of indices referenced to the previous year are chain-linked to a single reference year. The choice of the reference year does not affect the growth rate changes, as they always remain the same. Currently, the year 2010 is used as the reference year.

For the purpose of quarterly chain-linking the recommended annual overlap method is applied. This technique is used for calculating quarter-on-quarter growth rates, which are considered the most important figures for business cycle analysis.

#### 1.6. SEASONAL ADJUSTMENT AND WORKING DAY CORRECTION

In Croatia seasonally adjusted series of quarterly GDP and its components are available for all three methods of calculation: production, expenditure and income (Table 0101, 0102, 0103, 120 and 121).

Also included in seasonal adjustment are time series on number of persons employed (Table 0110).

Working-days correction (calendar adjustment) is performed for all quarterly NA series which are seasonally adjusted.

#### 1.7. ADDITIONAL INFORMATION

The main page related to quarterly GDP in the Republic of Croatia can be found at:

<https://www.dzs.hr/>

Regular electronic publications can be downloaded from:

[https://www.dzs.hr/Hrv\\_Eng/publication/2017/12-01-01\\_02\\_2017.htm](https://www.dzs.hr/Hrv_Eng/publication/2017/12-01-01_02_2017.htm)

Complete time series of quarterly GDP can be downloaded from:

<https://www.dzs.hr/Hrv/publication/StatisticsInLine.htm>





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## 2. PUBLICATION TIMETABLE, REVISIONS POLICY AND DISSEMINATION OF QNA

### 2.1. RELEASE POLICY

The publication timetable is determined by the Statistical Calendar for a particular year. External users can find the Statistical calendar on the Central Bureau of Statistics website and in published form.

An official release calendar is available on the Central Bureau of Statistics website approximately two months before the beginning of the respective year. The calendar of national accounts releases can be found at:

[https://www.dzs.hr/Hrv\\_Eng/kalendar/2017/Kalendar2017.pdf](https://www.dzs.hr/Hrv_Eng/kalendar/2017/Kalendar2017.pdf)

Regular estimates of QNA aggregates are published at t+58-60 days (always Wednesday) after the end of the reference quarter. Data are released to all users by issuing the press release, as electronic statistical release, on the Internet. At 11:00 am copies of the press release and statistical release as well as data series are available both in a Croatian and in an English version on the CBS website. Data are available at detailed breakdown of quarterly GDP volume estimate by production and expenditure approach (reference year 2010). They are expressed in original form.

At the CBS data base (Statistics in line) at T+60-62 days (always Friday) are published all quarterly GDP data. The data are available at current prices, constant prices of the previous year and constant prices of a reference year (2010 = 100). Real growth rates are calculated by using basic chain-linked indices, where the referent year (2010 = 100) is the base year. Real growth rates are calculated from original as well as seasonally adjusted data series.

The quarterly data become final when they are adjusted to the annual data. Revisions of quarterly data due to compilation of annual national accounts (ANA) are made twice a year. The first revision is carried out when the preliminary annual data (sum of four quarters) become available and the second one when the annual data have been determined. In both cases quarters of the current year and two previous years are corrected.

### 2.2. CONTENTS PUBLISHED

#### **Press Release “First Quarterly Gross Domestic Product estimate” at T+60 days time**

External users can obtain the quarterly GDP first estimate on the official Central Bureau of Statistics website in the form of a Press release.

The contents published are:

1. Volume indices of GDP by expenditure and production approach (Q/Q-4), as well as
  - a. Largest positive contribution to GDP volume index by type of expenditure
  - b. Contribution of domestic and net foreign demand
  - c. Largest positive and negative contribution to GDP volume index by economic activities
2. Annual provisional volume index (sum of fourth quarters) at T+60 days time after the end of the year, as well as
  - a. Largest positive contribution to GDP volume index by type of expenditure and economic activities
  - b. Largest negative contribution to GDP volume index by type of expenditure and economic activities

**CBS database Statistics in line: at T+62 days time**

The following quarterly tables of the ESA 2010 Transmission Programme are published at T+62 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). All time series are available from the 1st quarter 2000, only figures at previous year prices and chain-linked series are available from the 1st quarter 2001.

**Table 0102:** Gross domestic product at market prices by the expenditure approach. All time series are available from the 1st quarter 2000, as well as figures at previous year's prices and chain-linked series.

External users can obtain quarterly GDP data on the official Central Bureau of Statistics website in the form of Excel tables. The following tables are published and can be downloaded in Excel form:

Table 12.1.1.1 GDP by expenditure approach at current prices

Table 12.1.1.2 GDP by expenditure approach at constant previous year prices

Table 12.1.1.3 GDP by expenditure approach, at constant previous year prices, real growth rates, comparison with corresponding quarter of previous year

Table 12.1.1.4 GDP by expenditure approach at constant previous year prices, 2010 reference year

Table 12.1.1.5 GVA and GDP by production approach at current prices

Table 12.1.1.6 GVA by production approach at constant previous year prices

Table 12.1.1.7 GVA by production approach at constant previous year prices, real growth rates, comparison with corresponding quarter of previous year

Table 12.1.1.8 GVA by production approach at constant previous year prices, 2010 reference year

Table 12.1.1.9 GDP volume estimate, original and seasonally adjusted data (comparison to the same quarter of the previous year) and seasonally adjusted data (comparison to the previous quarter)

Transmission tables 0103, 0110, 120 and 121 are regularly sent to Eurostat but not published in the Republic of Croatia at the moment.

### 2.3. SPECIAL TRANSMISSIONS

Quarterly GDP of the Republic of Croatia subscribes to the Special Data Dissemination Standard (SDDS) established by the International Monetary Fund (IMF)

### 2.4. POLICY FOR METADATA

Metadata related to national accounts can be found at:

<http://www.hnb.hr/dsbb/edsbb.htm>



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### 3. OVERALL QNA COMPILATION APPROACH

#### 3.1. OVERALL COMPILATION APPROACH

Quarterly current price data on gross output have been obtained from the quarterly surveys of enterprises received from the Financial Agency (FINA) until the first quarter of 2013. Since then the main data sources are quarterly and monthly CBS surveys as well as data from the Tax Administration Office.

The calculation of the GVA at current and constant prices is mainly based on data obtained from regular surveys of the Croatian Bureau of Statistics, the Croatian National Bank, the Ministry of Finance, the Croatian Financial Services Supervisory Agency, the Croatian Post and Electronic Communications Agency and the Croatian Institute for Pension Insurance.

Tax Administration data on taxable and non-taxable values of goods and services is also used in the process of value added estimation next to data from different surveys.

Gross value added is derived directly by using indicators for output, such as production or turnover, to extrapolate value added. For constant prices the base is the current price value of year t-1. These are multiplied with various indicators expressed as indices based on the average of the previous year. Current price values of the respective quarter are then obtained by inflating the same quarter in constant prices with appropriate price indices expressed with respect to the average of the previous year as well.

The calculation of value added at current and constant prices based on various indicators is carried out at the 2-digit, 3-digit or 4-digit NKD 2007 levels for most of the activities. Input indicators (number of employed persons in most cases) at the 4-digit NKD 2007 level are used for extrapolation of service activities.

Data on taxes and subsidies on products are consistent with General Government Accounts and EDP Unit and the main data source is the Ministry of Finance.

The GDP at market prices is derived from GVA at basic prices by adding taxes less subsidies on products.

The compilation of the GDP according to the expenditure approach at current prices is based on data from regular surveys of the Croatian Bureau of Statistics, the Ministry of Finance, the Croatian National Bank, the Financial Agency and other administrative data sources.

Final consumption expenditure of households is compiled from regular surveys of the Croatian Bureau of Statistics on turnover data for retail trade and for hotels and restaurants. Data on resident consumption abroad and non-resident consumption in Croatia are taken from the Balance of Payments.

The list of services consumed by households is extensive. They are compiled as follows. Imputed rent is extrapolated from previous year values by using volume indices from the production approach as well as implicit deflators. Expenditures of transport services are extrapolated from previous year values by using volume indices (passenger-kilometres) and appropriate consumer price indices (CPI). Expenditure on other services, which are still not covered by regular surveys of the Croatian Bureau of Statistics, is extrapolated from the previous year values by using volume indices (number of employees) and appropriate consumer price indices (CPI).

Government final consumption expenditure is compiled according to the cost method. The main data sources are annual government final consumption expenditure and quarterly government finance statistics data (provided by the Ministry of finance every quarter). Additional data sources are the Quarterly Statistical Report on revenues and expenses of Budget and Budgetary Users (PR-RAS).

The non-profit institutions serving households expenditure (NPISH) are calculated by using the Report of revenues and expenses of non-profit institutions (PR-RAS-NPF) for the components of the final consumption expenditure of NPISH (annual calculations), Insured persons – pension scheme (four-digit NACE 2007), Average monthly gross earnings of persons in paid employment, Consumer price indices, Industrial producer price indices of the domestic market. Additional data source is the Quarterly Statistical Report on Income and Expenditures of Non-Profit Organizations.

In practice, three methods are used to calculate the quarterly GFCF: the commodity flow method, the extrapolation of the annual data by quarterly volume indices and quarterly surveys on gross fixed capital formation. The CBS have used all three methods to estimate the GFCF. Changes in inventories were calculated by using data from the Quarterly Statistical Report on Business Results of Entrepreneurs until the fourth quarter of 2012. In the 2013 quarters, the changes in inventories were calculated by using the data of the Quarterly Statistical Report and Croatian Bureau of Statistics data on changes in inventories. The statistical discrepancy was also included in this category (the difference in the GDP calculation by production and expenditure approach).

Import and export of goods and services are based on the Balance of payments data of the Croatian National Bank.

The income approach is not involved in the balancing process because gross operating surplus (including mixed income) is derived as a residual item.

### 3.2. BALANCING, BENCHMARKING AND OTHER RECONCILIATION PROCEDURES

GDP is calculated on the basis of three approaches: the production approach, the expenditure approach and the income approach. A description of each approach is provided in the following paragraphs. GDP at market prices is the final result of the production activity of resident producer units. It can be defined in three ways:

On the basis of the production side, GDP can be measured as:

(B.1g) gross value added (at basic prices)  
+ (D.21) Taxes on products  
- (D.31) Subsidies on products  
= (B.1\*g) Gross Domestic Product at market prices

From the expenditure side, GDP can be measured as:

(P.3)+final consumption expenditure of households  
+ final consumption expenditure of NPISH  
+ final consumption expenditure of General Government  
= total final consumption expenditure  
(P.51)+ gross fixed capital formation (P.52)+ changes in inventories  
(P.6)+ exports of goods and services (P.7)- imports of goods and services  
(B.1\*g) = Gross Domestic Product at market prices

From the income side, GDP can be measured as:

(D.1) Compensation of employees  
+ (B.2g/B.3g) Gross operating surplus / Mixed income

- + (D.2) Taxes on production and imports
- (D.3) Subsidies on production
- = (B.1\*g) Gross Domestic Product at market prices

While each method should, conceptually, produce the same estimate of GDP, if the three measures of GDP are compiled independently using different data sources, then different estimates of GDP result. The discrepancy in the results between the Output approach and the other two approaches (Expenditure approach and Income approach) are consolidated in a residual item; this residual is considered to be part of the changes in inventories for the expenditure side and part of the Gross Operating Surplus for the income side.

### 3.3. VOLUME ESTIMATES

For the compilation at constant prices, various indicators from regular surveys of Croatian Bureau of Statistics are used as well as data from other institutions. Appropriate volume indices at constant prices are used for compilation in agriculture, forestry and fishing activities, industrial production, construction and transport. The calculation is done at the 2-3- and 4-digit NKD 2007 levels.

Volume estimate for trade, hotels and restaurants, transport, communication and financial activities are calculated by deflating revenues by appropriate price indices.

Input indicators (number of employed persons in most cases) at the 4-digit NKD 2007 level are used for most other service activities.

Individual components of the GDP by expenditure categories at constant prices are calculated by deflating current market price data, using indices at prices of the previous year.

Data on household consumption at constant prices are calculated by using appropriate CPI sub-indices. Deflation takes place at very detailed level.

With respect to government expenditures and expenditures for non-profit institutions serving households, an assumption of constant productivity has been applied so that the wage and salary indices at constant prices can be calculated by dividing the data on current expenditures on wages and salaries by indices of the number of persons employed. Expenditures on other goods and services were deflated by using appropriate CPI sub-indices and industrial producers' price indices.

Gross fixed capital formation data are deflated: construction by implicit deflator from the production approach, equipment is deflated by the producer price indices for capital and by

foreign countries PPI indices on non-domestic market for imported capital goods. Other GFCF is deflated by the same indices as at the annual level.

Changes in inventories of final goods and work in progress are deflated by prices of industrial products. Changes in inventories of raw materials are deflated by industrial producers' price indices and import prices of raw materials. For the deflation of changes in inventories of goods purchased for resale, a relevant CPI is used.

Export of goods is deflated by using Industrial producer price indices on the non-domestic market (after 2011) and Fisher-type unit value indices (before 2011). Imports of goods is deflated by using foreign countries Industrial producer price indices on the non-domestic market (after 2011) and Fisher-type unit value indices (before 2011).

The deflation of exports of tourist services is based on the use of appropriate price indices of the CPI using the structure of tourist consumption as weights. Deflation of imports of tourist services is based on the use of the CPI of the destination countries of residents, using exchange rates and using the structure of tourist consumption as weights.

Exports of other services are deflated using relevant consumer price indices-services. Imports of other services are deflated using HICP-EU, taking into account exchange rate.

#### 3.4. SEASONAL ADJUSTMENT AND WORKING DAY CORRECTION

##### **Seasonal adjustment and working-days correction**

In Croatia seasonally adjusted series of quarterly GDP and its components are available for all three methods of calculation: production, expenditure and income. Also included in seasonal adjustment are time series about number of persons employed (Table 0110) and exports and imports by geographical breakdown (Table 120 and 121).

Working-days correction (calendar adjustment) is performed for all QNA series which are seasonally adjusted. A revision of statistical models for seasonally adjusted series is performed only when raw data are revised.

Models for seasonal adjustment of time series in National Accounts were revised last time in the first quarter 2018 for time span from 2000q1 to 2018q1.

Previously used regression models were tested including tests for calendar effects, choice of filters for seasonal and trend-cycle estimation and selection of critical values for identification of extreme irregular values (sigmalim). Economic interpretation of calendar effects and identified irregularities were taken into account during revision. For each time series calendar



regression variables, SARIMA model and filters for seasonal and trend-cycle estimation were selected and for all time series default sigmalim limits were set.

### **Coverage of adjusted and published figures**

Breakdown and level of detail is in accordance with the ESA 2010 Transmission Programme. The following tables of ESA 2010 Transmission Programme are currently adjusted and sent to Eurostat:

- Table 0101 – Gross value added at basic prices and gross domestic product at market prices
- Table 0102 – GDP identity from the expenditure side
- Table 0103 – GDP identity from the income side
- Table 0110 - Population and employment
- Table 0120 – Exports of goods (fob) and services by Member States of the EU / third countries
- Table 0121 – Imports of goods (fob) and services by Member States of the EU / third countries

With respect to tables 0101, 0102, 120 and 121 separate seasonal adjustment is carried out for current prices (label "V") and previous year prices, reference year (2010=100, label "L"). The remaining tables (0103 and 0110) are produced in current prices only (label "V") and, due to that reason, only series in current prices are seasonally adjusted.

### **Method of adjustment**

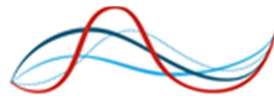
The TRAMO-SEATS method is used as implemented in Demetra version 2.2 (release year: 2008) for all series in QNA. The choice between additive and multiplicative models is performed by using built-in test in TRAMO-SEATS.

### **Time consistency**

At present, seasonally and working-days adjusted quarterly data are not consistent with the annual non-adjusted data.

### **Accounting consistency**

At the Croatian Bureau of Statistics, GDP is seasonally adjusted by the direct method. The calculation of quarterly GDP by the production approach is considered to be more reliable due to the existence of exhaustive data sources and a very detailed level of calculation. Due to that reasons, discrepancies between GDP according to three computation methods is allocated



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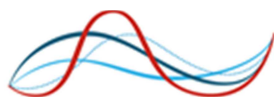
to the changes in inventories on the expenditure side and to the gross operating surplus and mixed income on the income side.

### **Revision policy**

Currently at CBS there is no official revision policy for seasonally adjusted data. Statistical models for seasonal and working-days adjustment are changed when a new base year is adopted and when the coverage of certain variables changes.

### **Policy for working-days correction**

Currently working-days (calendar) adjustment is performed for all time series which are also seasonally adjusted. The Croatian calendar of national holidays has been defined and is used in Demetra 2.2. Two regressors are used in TRAMO-SEATS: working days (as opposed to non-working days) and Easter effect. The significance of six Easter days is tested for every single series. The Leap year effect is considered not to be important for QNA series and consequently this type of adjustment is not carried out.



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## 4. GDP COMPONENTS: THE PRODUCTION APPROACH

In this chapter the main focus is on the sources and methods for estimation of gross value added for both current prices and volume terms (chapter 4.1). Value added is described by industry breakdown A10 and within each of industry; calculation process is explained at 2-, 3- or 4-digit NKD 2007 levels.

The method for estimation of FISIM is explained in chapter 4.2 as well as calculation of taxes and subsidies on products at basic prices (chapter 4.3). These variables correspond to table NAMAIN\_T0101 of the ESA2010 transmission programme.

For the calculation of quarterly gross domestic product (QGDP), Central Bureau of Statistics uses the following approaches: the production approach, the expenditure approach and the income approach. The calculation of quarterly GDP by the production approach is considered to be more reliable due to the existence of exhaustive data sources and a very detailed level of calculation.

Quarterly GDP is calculated solely as value added (QGVA) without calculating gross output and intermediate consumption. The quarterly estimates of taxes and subsidies on products are added to the estimation of QGVA in order to obtain QGDP at market prices.

The classification of business entities by activities is in line with the NKD 2007, which is directly comparable to the NACE Rev. 2 classification. The product classification, which was used for the calculation of GVA in current and constant prices by activities, is harmonized with the National Nomenclature of Industrial Products and Services, which is comparable to the PRODCOM classification.

The calculation is done at the 2-, 3- or 4-digit NKD 2007 levels.

### 4.1. GROSS VALUE ADDED

The calculation of the GVA at current and constant prices is mainly based on data obtained from regular surveys of the Croatian Bureau of Statistics, the Croatian National Bank, the Ministry of Finance, the Croatian Financial Services Supervisory Agency, the Croatian Post and Electronic Communications Agency and the Croatian Institute for Pension Insurance.

Tax Administration data on taxable and non-taxable values of goods and services (source 25 as listed in chapter 10) are also used in the process of gross value added compilation.

Gross value added is derived directly through using indicators for output, such as production or turnover, to extrapolate value added. For constant prices the base is the current price of year t-1. Current prices of year t-1 are multiplied with various indicators expressed as indices based on the average of previous year. Current prices of respective quarter are then obtained by inflating the same quarter in constant prices with appropriate price indices expressed on the average of previous year as well.

The calculation of value added at current and constant prices based on various indicators is done at the 2-, 3-digit or at 4-digit NKD 2007 levels for most of the activities. Input indicators (number of employed persons in most cases) at the 4-digit NKD 2007 level are used for extrapolation of service activities.

#### 4.1.1. AGRICULTURE, FORESTRY AND FISHING (A)

Calculations of value added for the agriculture, forestry and fishing activities (NKD A) are done separately for agriculture (NKD 01), for forestry (NKD 02) and for fishing (NKD 03).

Main data sources used to extrapolate value added in the agriculture (NKD 01) are indicators based on various monthly and quarterly surveys conducted by CBS's agriculture department. Data on number of livestock and poultry, net weight of livestock and poultry slaughtered in abattoirs (source 1) and indicators of produced and collected cows' milk (source 2) are used for estimation of animal production. For crop production the main data source used is data on actual yields of early crops, early estimates of important early and late crops, estimations of areas of important crops and data on autumn sowing. At the time when first and second prospects for real income in agriculture are available, data are also included in the calculation.

An additional data source is the Economic Accounts for Agriculture- EAA (source 6). The breakdown of the agriculture activity's output is based on EAA data. Data are on an annual basis, and they are included in the compilation process at the time when they become available and especially during the process of reconciliation.

Furthermore, data on value of purchase and sale of agricultural products (source 14) are taken into consideration as additional data sources in the process of calculation of value added for agriculture (NKD 01).

To calculate value added at constant prices, data are extrapolated based on annual current prices for year t-1 using the changes in quantities. Current prices for agriculture activity are obtained using agricultural price indices (source 3) expressed on the average of the previous year.

Data on forestry products and felled timber (source 4) for the reference period are used in the process of extrapolation of value added for forestry (NKD 02). Due to the lack of more detailed information from this source, number of persons in paid employment by activities (source 20) and number of insured persons (source 23) are used in the process of calculation for the activity as well. Average monthly gross earnings (source 21) are used in order to get current values from the constant prices estimate.

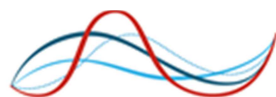
Value added for fishing (NKD 03) is estimated using available quantitative indicators on caught fish and other organisms (source 5) as well as average monthly gross earnings (source 21) as indicator of changes in prices. For the same reasons as for NKD 02, number of persons in paid employment by activities (source 20) and number of insured persons (source 23) are used in the process of calculation of constant prices for this activity as well.

#### 4.1.2. MANUFACTURING, MINING, QUARRYING AND OTHER INDUSTRIES (B, C, D, E)

The estimation of gross value added for the activities manufacturing, mining, quarrying and other industries (NKD B, C, D and E) is carried out at 2-digit NKD levels.

For the manufacturing industries (NKD B, C and D), value added for the respective quarter in previous years' prices is obtained by the extrapolation based on annual gross value added of the previous year in current prices using the corresponding industrial production volume indices (source 8). Appropriate industrial producer price indices at the 2-digit NKD levels (source 9) are used to calculate value added in current prices.

In the absence of appropriate indicators that would show the movement of gross output either at value or volume changes, for the activity Water supply, sewerage, waste management and remediation activities (NKD E) the number of insured persons (source 23) is used for the extrapolation of value added at constant prices. This input indicator is available at 4-digit level so the estimation at constant prices is done at that level of detail as well. In order to estimate gross value added at current prices for NKD E, two different indicators are used. Appropriate industrial producer price indices (source 9) are used as a deflator for NKD 36 - Water collection, treatment and supply and NKD 37 - Sewerage. For NKD 38 (Waste collection, treatment and disposal activities) and NKD 39 (Remediation activities and other waste management services) corresponding price indices are not available and, due to that fact, the index on average monthly gross earnings for persons in paid employment (source 21) is used as deflator.



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#### 4.1.3. CONSTRUCTION (F)

The approach to calculating value added in the construction industry (NKD F) is based on data on construction works (new constructions and reconstructions, maintenance and repair works on existing constructions) done within the territory of the Republic of Croatia. The volume changes of construction works (source 10) are based on the number of hours worked on sites and are used as an indicator for value added in constant prices.

Gross value added for NKD F is calculated at 2-digit NKD levels. Extrapolation of value added at constant prices for NKD 41 (Construction of buildings) is based on the volume indices of construction works for buildings. For NKD 42 (Civil engineering) and NKD 43 (Specialized construction activities) weighted volume indices based on data for total construction work, for buildings and for civil engineering works are used.

Current prices are obtained by inflating the constant price estimates with an implicit price indices based on input indices (material, services, wages and salaries, depreciation and other i.e. appropriate price indices for mentioned inputs are used) at 2-digit NKD levels. The structure of inputs is derived from the annual financial reports for enterprises.

#### 4.1.4. WHOLESALE AND RETAIL TRADE, TRANSPORTATION AND STORAGE, ACCOMMODATION AND FOOD SERVICE ACTIVITIES (G, H, I)

Despite the fact that value added for NKD G, H and I is usually shown at aggregated level, calculations are carried out separately for each of those activities at detailed levels.

Main data sources used for compiling value added in NKD G (Wholesale and retail trade; repair of motor vehicles and motorcycles) are retail trade indices (source 12) and trade and other services' indices (source 13). Estimations are carried out separately for each activity: for NKD 45 - Wholesale and retail trade and repair of motor vehicles and motorcycles, for NKD 46 - Wholesale trade, except of motor vehicles and motorcycles and for NKD 47 - Retail trade, except of motor vehicles and motorcycles.

Turnover indices by main activities of business entities which are based on the monthly report on trade and other services (source 13) are the main variables used in the process of previous year's prices estimation for the NKDs 45 and 46. Current prices values are obtained by inflating of volume changes with weighted indices composed of appropriate consumer price indices (source 22), industrial producer price indices (source 9) and retail trade price indices of goods (source 12) at detailed level. For retail trade, except of motor vehicles and motorcycles (NKD 47) value and volume indices of retail sales (source 12) as well as price

indices are used for the extrapolation of current and constant prices estimates for the respective quarter.

Compilation of value added for Transportation and storage (NKD H) is carried out at 4-digit NKD level due to the availability of a number of different indicators.

For NKD 49 – Land transport and transport via pipelines, estimations are carried out separately for railway transport, for road transport, for urban transport and for transport via pipelines. Constant price estimates for railway transport and for road transport are based on the indicators where the units of measurement are the number of passengers-kilometers and the number of ton-kilometers carried out by these transport modes. Indicators based on number of passengers carried by busses and trams are used for extrapolation of constant price estimates for urban transport. For transport via pipelines indicators which measure oil and gas transport are used (source 15).

For NKD 50 - Water transport activities, seawater and coastal transport, indicators are used (source 15) as well as realized inland waterway transport of goods on rivers (source 18). Furthermore, input indicators as number of persons in paid employment by activities (source 20) and number of insured persons (source 23) are used in the process of estimates of constant prices.

Quantitative indicators on traffic of passengers in airports (source 17) are data sources in the process of gross value estimation for the NKD 51 – Air transport. Indices on realized transport in ton-kilometers in air transport are taken into account as well. Data on the transshipment of goods (source 16) with respective quantitative indicators and input indicators (source 20 and source 23) are the main sources in the process of compilation of constant prices for NKD 52 - Warehousing and support activities for transportation.

Above mentioned quantitative indicators are used in the process of value added estimation in constant prices for division H – Transportation and storage (except for NKD 53- Postal and courier activities) while current prices are obtained by inflating each of those activities at 4-digit NKD level with appropriate consumer price indices (source 22).

The data sources for the calculations for the NKD 53 - Postal and courier activities are based on quarterly reports on realized revenues from postal and courier services (source 19) and it is used for estimation on gross value added at current prices. Values on postal and courier services are deflated by appropriate consumer price indices (source 22) in order to obtain constant prices.



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Accommodation and food service activities (NKD I) consists of accommodation activities (NKD 55) and food service activities (NKD 56). Value added at current prices for NKD 55 and NKD 56 is based on the turnover indices by main activities of business entities (source 13). Data are matched with other available indicators such as data on turnover of tourists (number of tourist arrivals and tourist nights) and on taxable and non-taxable value of goods and service. Weighted deflators composed of appropriate consumer price indices (on 4- or 5- digit COICOP levels) are used for estimation of value added at constant prices.

#### 4.1.5. INFORMATION AND COMMUNICATION (J)

The calculations of value added for NKD J – Information and communication are carried out at 4-digit NKD level and then data are grossed-up at the 2- and 1-digit NKD levels. Main data sources for obtaining value added in constant prices (except for NKD 60.20- Television programming and broadcasting activities, NKD 61.10 – wired telecommunication activities and for NKD 61.20 – wireless telecommunication activities) are input indicators - number of persons in paid employment by activities (source 20) and number of insured persons (source 23).

For getting current price estimates, appropriate consumer price indices (source 22) are used if available. Where consumer price indices are not available or not appropriate, deflators are based on average monthly gross earnings data (source 21).

Value added at current prices for NKD 60.20 is estimated using data on television services revenues (source 24) and deflated by appropriate consumer prices indices (source 22) in order to obtain constant prices.

Value added at current prices for NKDs 61.10 and 61.20 is estimated using indicators on the value of telecommunication services in mobile and fixed (immobile) networks (source 24). Next to these indicators, data on total revenue realised from telephone services in the fixed network and total revenue realised from telephone services in mobile network are also used for the estimation of value added. Values are deflated by appropriate consumer prices indices (source 22) in order to obtain constant prices.

#### 4.1.6. FINANCIAL AND INSURANCE ACTIVITIES (K)

Financial and insurance activities (NKD K) consist of financial services (NKD 64), Insurance, reinsurance and pension funding (NKD 65) and activities auxiliary to financial services and insurance activities (NKD 66). For each of those activities, value added is extrapolated using different indicators.





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Value added in constant prices for activity NKD 64 - Financial service activities, except insurance and pension funding is calculated using values of credit institutions' net interest income and net income from commissions and fees (source 26) as indices based on the average of the previous year. In addition to those indicators, number of persons in paid employment by activities (source 20) and number of insured persons (source 23) are used as well. Average monthly gross earnings data (source 21) are used to obtain the current prices in the NKD 64 activities.

Values of gross written premium for non-life insurance and gross written premium for life insurance (source 27) together with number of persons in paid employment by activities (source 20) and number of insured persons (source 23) are used for estimation of value added in constant prices in the NKD 65 - Insurance, reinsurance and pension funding, except compulsory social security. Appropriate consumer price indices (source 22) are used for obtaining the current price estimates.

Due to the lack of appropriate indicators, number of persons in paid employment by activities (source 20) and number of insured persons (source 23) are used for estimation of value added at constant prices for NKD 66 – Activities auxiliary to financial services and insurance activities. Current price estimates at 4-digit NKD level are calculated using average monthly gross earnings data (source 21).

#### 4.1.7. REAL ESTATE ACTIVITIES (L)

The calculations of value added for NKD L – Real estate activities are carried out at 4-digit NKD level and then gross-up to the 2- and 1-digit NKD levels. Data sources for obtaining value added in constant prices are volume indices of construction works for buildings. Next to construction works indices, input indicators - number of persons in paid employment by activities (source 20) and number of insured persons (source 23) are use as well.

Current price estimates are obtained by inflating with weighted indices based on producer building material price indices (source 11), consumer price indices (source 22) and on data on average monthly gross earnings for persons in paid employment (source 21).

#### 4.1.8. PROFESSIONAL, SCIENTIFIC, TECHNICAL, ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES (M, N)

Despite the fact that value added for NKDs M and N is usually shown at aggregated level, calculations are done separately for each of those activities at 4-digit NKD level and then grossed-up to the 2- and 1-digit NKD levels. Input indicators - number of persons in paid

employment by activities (source 20) and number of insured persons (source 23) are the main data sources for obtaining value added in constant prices.

Tax Administration data on taxable and non-taxable values of goods and services (source 25) are used as additional data source for the extrapolation of value added for service activities.

Current prices at 4-digit NKD level are calculated using appropriate consumer price indices (source 22) when available. Where consumer price indices are not available or not appropriate, deflators are based on average monthly gross earnings data (source 21). CBS is aware that prices indices play a very important role in the development of good constant price estimates and CBS has started their compilation based on quarterly surveys on prices for a number of different types of service activities (SPPIs sub-indices) but those data are available too late for inclusion in the process of quarterly GVA compilation for now.

#### 4.1.9. PUBLIC ADMINISTRATION AND DEFENCE, EDUCATION, HUMAN HEALTH AND SOCIAL WORK ACTIVITIES (O, P, Q)

The process of value added compilation at current and constant prices for the following activities: public administration and defence, education, human health and social work activities is the same as for professional, scientific, technical, administrative and support service activities (section 4.1.8). In addition to above mentioned estimation procedures, GFS data from the Ministry of Finance - Revenues and expenses for consolidated general government (source 28) are also used in order to estimate the trend for those activities.

#### 4.1.10. OTHER SERVICE ACTIVITIES (R, S, T, U)

Value added compilation at current and constant prices for the group of other service activities (which are presented together) is the same as for professional, scientific, technical, administrative and support service activities (section 4.1.8).

## 4.2. FISIM

Financial intermediation services indirectly measured (FISIM) are estimated as service charge which is paid indirectly by the user of primary monetary services: deposits holding and loan lending services. FISIM applies only to loans and deposits provided by or deposited with, financial institutions in sub-sectors S.122 deposit-taking corporations except the central bank, and S.125 other financial intermediaries except insurance corporations and pension funds.

FISIM is calculated and allocated in accordance to the Council Regulation 448/98, the Commission Regulation 1889/2002 and ESA2010 chapter 14.

For the calculation of the FISIM and its allocation among user sectors, all the necessary data were provided by the Croatian National Bank (CNB). For the sub-sector S.122 the CNB Monetary and Financial Statistics Department provides figures for stocks of loans and deposits at economic sector level (S.11-S.15) on quarterly basis. The average value of stocks of loans and deposits is calculated as average of four quarters. The CNB also has direct information from the profit and loss account of credit institutions on accrued interests according to sectors (S.11-S.15). FISIM produced by units of sub-sector S.125 is calculated for the units involved in financial leasing services.

Duties are divided between the CBS and the CNB. The Bank is responsible for calculation and allocation of data on imports and exports of FISIM, while the statistical office is responsible for the remaining estimates.

Majority of data necessary for FISIM calculations is available around t+67 days after the accounting period. As the t+60 days are a deadline for GDP quarterly figures, the data comes too late for the quarterly calculation.

For the current quarter an estimate is made using the following data obtained by CNB: Interest received, interest paid, income from commissions and fees for payment services and other banking services and expenses on fees and commissions. After calculating annual FISIM according to regulation, quarterly data has been revised.

#### 4.3. TAXES LESS SUBSIDIES ON PRODUCTS

##### Taxes on products

CBS calculates quarterly gross domestic product at market prices by adding taxes on products and subtracting subsidies on products on gross value added at basic prices.

Taxes on products include following categories:

Value added type taxes (D.211)

Taxes and duties on imports excluding VAT (D.212)

Taxes on products, except VAT and import taxes (D.214)

- Excise duties and consumption taxes (D.214 A)
- Taxes on financial and capital transactions (D.214 C)
- Car registration taxes (D.214 D)

- Taxes on lotteries, gambling and betting (D.214 F)
- Taxes on insurance premiums (D.214 G)
- Other taxes on specific services (D.214 H)
- General sales or turnover taxes (D.214 I)

For VAT, import duties and excise duties the direct source of data are data bases from the Ministry of Finance which in turn are based on information from Tax authority. Data on taxes are provided on a monthly basis with the breakdown of taxes by type. Ministry of Finance provides information on revenues of budgetary units of the central and local government in terms of cash receipts. For cash based aggregates an adjustment to accrual accounting is done using time adjusted method, with a variable time lag. It is due to one month delay in payments of these taxes and is necessary to ensure that the cash is attributed to the period when the activity to generate the tax liability takes place. This allows quarterly taxes to be adjusted with the annual sum of the quarters being made equal to the yearly total, which has already been adjusted.

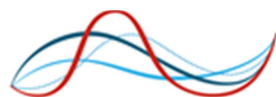
#### Subsidies on products

Subsidies on products are current unrequited payments that general government or the institutions of the European Union make to resident producers. These subsidies are mainly given for agriculture, forestry and fishing. There are also subsidies in shipbuilding, transport, tourism and stimulating of processing activities.

The main data sources for the compilation of quarterly subsidies on products from general government sector are budgetary data received from the Ministry of Finance. Data for local government are extracted from quarterly financial statements and are on accrual bases. Central government data are shown as actual payments in the accounting period and are on cash basis.

Data are received from Ministry of Finance without proper breakdowns according to actual purpose of the subsidies that is of crucial importance for the national accountants. Before they are included in the NA system, data on subsidies on products are carefully examined for the purpose of adjusting to the accrual principle of recording.

Total amount of subsidies on products are subsidies received from the general government sector while there is no recorded subsidies on products received from EU.



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## 5. GDP COMPONENTS: THE EXPENDITURE APPROACH

Apart from the production approach, the expenditure approach of the GDP compilation is the second most important approach in Croatia. The expenditure approach measures the sum of final uses of goods and services of resident institutional units decreased by the value of import of goods and services. The expenditure approach sums up the following components of the demand side: final consumption expenditure of households, non-profit institutions serving households and the government, gross capital formation, exports of goods and services decreased by imports of goods and services. The GDP (E) is estimated separately, in detailed structure. Finally, all these seven final uses for goods and services entering the economy are summed up. The GDP (E) for Croatia, however, does not include acquisitions decreased by disposals of valuables.

In this chapter the main focus is on the sources and methods for estimation of QGDP by expenditure approach at current and constant prices in detail by components: households final consumption expenditure (chapter 5.1), Government final consumption expenditure (chapter 5.2), NPISH final consumption expenditure (chapter 5.3), Gross capital formation including Gross fixed capital formation and Changes in inventories (chapter 5.4) and Exports and Imports of goods and services (chapter 5.5).

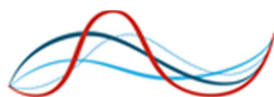
These variables correspond to table NAMAIN\_T0102 of the ESA2010 transmission programme.

### 5.1. HOUSEHOLD FINAL CONSUMPTION

The Household Final Consumption Expenditure (HFCE) is shown according to the national concept which is equal to the HFCE by the domestic concept less direct purchase of non-resident households on domestic territory plus direct purchases of resident households abroad.

The estimation of household final consumption expenditure is based on statistical surveys as primary data sources. Retail trade turnover data, hotels and restaurants turnover data and Balance of payments data on resident consumption abroad and non-resident consumption in the Republic of Croatia are the primary data sources, but they are supplemented with many other data sources.

The main source for the calculation of expenditure on goods and services are: turnover data for retail trade (source 29) and for hotels and restaurants (source 13), regular CBS monthly and quarterly branch statistics survey data (source 30, 31), the Croatian National Bank data (source 42) and other administrative data sources (source 28).



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The main source for calculation on goods at current prices is retail trade turnover data according to the trade activities (source 29; 37 categories of turnover distributed to be as much similar to COICOP classification). It is estimated that around 12 per cent of the purchases by households do not constitute final consumption. Instead, they constitute either intermediate consumption or gross fixed capital formation of small entrepreneurs and unincorporated enterprises. The deduction is made for the next groups of products: Gasoline, Pharmaceutical products, Materials for maintenance and repair of residential units (iron goods, paints, coatings, varnishes, various glass, bricks, gypsum, cement, water pipes, ceramic tiles, wood, wallpaper, sanitary equipment, Other d. N. (Used commodities, agricultural machinery, livestock feed, tools and the like above).

Other data sources for calculating expenditure on goods are: the consumption of own production is calculated on the basis of the volume indices and implicit deflators from the production approach. Constant prices of goods are calculated at very detail level using different CPI-sub indices.

Imputed rent of owner occupiers is calculated on the basis of the volume indices and implicit deflators from the production approach. Electricity consumption is estimated on the basis of the data on electricity consumed by households (administrative data sources, primarily HEP - Croatian Electricity Company; source 32).

Expenditures on hotels and restaurants are estimated on the basis of the data on turnover according types of services (catering services) and type of accommodation facilities (number of tourists and tourist nights; source 13,30,31). The turnover on hotels and restaurants is increased by the turnover rates of rooms rented out in private property of citizens. Constant prices are calculated using CPI-sub indices (source 22). The structure of consumption is used as weights.

Data on turnover in hotels and restaurants and corresponding indices are based on the Quarterly Report on Trade and Other Services (USL-1 form). According to the Regulation on Short-term statistics, accommodation and food service activities (NACE 55 and NACE 56) are part of the list of service sector activities which are included in Quarterly Report on Trade and Other Services (USL-1 form). The main purpose of the survey is the measuring of turnover changes in service activities. The USL-1 survey is conducted by using the sample method. Sample results are grossed up to estimates for the whole population. The sample covers all large and medium-sized (employing 50 or more persons), while micro-sized and small business entities are selected by using a random stratified sample method.

All relevant data from the regular CBS surveys have been used for the HFCE on services, (HBS, transport and communication services, education services, health, recreation and culture, other services) as well as the administrative data (data from the Ministry of Finance, the Ministry of Economy, Labour and Entrepreneurship, the Ministry of Interior, accounting statements and all other disposable data sources).

For transport services indices based on the number of passenger kilometres by type of transport (source 15) are used as volume indices as well as different CPI sub-indices.

For all other services (education, health, culture and recreation, other services), due to the lack of data on output for certain personal services, the quarterly index of employment is used as extrapolator instead (source 20). Constant prices are calculated using CPI-sub indices.

Household final consumption expenditure according to the national concept is obtained by adding the expenditures of resident households abroad and by subtracting expenditures of non-resident households in the domestic territory from household final consumption expenditure according to the domestic concept. These data are taken from the balance of payments and they are compiled by the Croatian National Bank.

The consumption of residents abroad and consumption of non-residents in the Republic of Croatia is based on data from the Balance of Payments, which has been regularly compiled and published by the Croatian National Bank (source 42). The resident consumption abroad is deflated by different foreign countries CPI indices, using the structure of consumption by countries as weights. The exchange rate conversion has been taken into account. The non-resident consumption in the Republic of Croatia is deflated by different domestic CPI sub-indices, using the structure of consumption as weights. The TOMAS survey structure of consumption has been used as weights.

The Tomas survey is the only longitudinal survey on various characteristics of tourists in Croatia, conducted for the eighth times by the Institute for Tourism since 1987. The survey takes place during the three summer months (June to September) at the all coast counties (85 destinations). By personal questionnaire-interview method a sample of tourists from all over the world (15 country destinations) are asked on attitudes and expenditures of tourists in Croatia.

Final consumption expenditure of households at current prices as the largest GDP expenditure approach category is deflated by relevant sub-indices of the consumer price index. The overall implicit deflator for household final consumption expenditure does not deviate significantly from the overall consumer price index.



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## 5.2. GOVERNMENT FINAL CONSUMPTION

Government final consumption expenditure is calculated according to the cost method. Main data sources are annual government final consumption expenditure (source 34) and quarterly government finance statistics data (provided by Ministry of finance every quarter source 33). Final consumption expenditure equals output minus (-) sales plus (+) social benefits in kind related to expenditure on products supplied to households via market producers. Output is derived as a sum of compensation of employees, consumption of fixed capital, other taxes on production and intermediate consumption.

Compensation of employees in current prices is obtained by appropriate indices of compensation of employees provided by the Ministry of Finance (compensation of employees' data of general government; the index based to the average of the previous year; source 33). Estimates in constant prices are obtained by extrapolation, using an input indicator based on employment and classified by NACE activities which are characteristic for S.13 (three-digit NACE 2007 source 23 and 34). Annual shares of this category in individual and collective estimates (based on COFOG classification) are applied to get the split-up in individual and collective estimates for each quarter.

Consumption of fixed capital and other taxes less subsidies on production in current prices are obtained in previous year's prices by inflating constant price estimate with appropriate industrial producer price index/IPPI (source 9) and consumer price index/CPI (source 22). Both consumption of fixed capital and other taxes less subsidies on production in previous year's prices are approximations only, due to lack of quarterly data sources. Fixed shares of these categories in compensation of employees and intermediate consumption at annual level (in previous year's prices; shares are separate for collective and for individual consumption) are applied to get quarterly estimation of these categories in previous year's prices. Annual data on consumption of fixed capital are calculated using the PIM method (further information can be found in the Croatian GNI Inventory and its Annex).

Intermediate consumption in current prices is derived by preparing weighted data, which are constructed by extrapolation of previous year's estimates with input indicators based on employment and quarterly government finance statistics data (source 23, 33 and 34). Intermediate consumption in constant prices is derived by deflating the current price estimates by a deflator constructed from its component series. This deflator of intermediate consumption is based on a weighted index covering expenditure on materials, raw materials, energy, various services and other expenditure (elements from book keeping report), which means the same stratification which is applied at annual level is used at quarterly level as well (source 9, 22 and 34) Annual shares for this category in individual and collective estimates



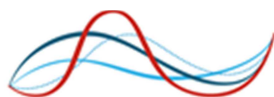
(based on COFOG) are applied to get the split-up into individual and collective estimates for each quarter (source 34).

Calculation of intermediate consumption at constant prices at quarterly level was improved in both its stratification level as well as choice of corresponding consumer and industrial producer price indices.

Quarterly sales is obtained by applying the same share of this category in gross output both in current and previous year's prices as used at annual level, due to lack of information when it comes to quarters. The annual shares of this category in individual and collective estimates (based on COFOG classification) are applied to get the split-up in individual and collective estimates for each quarter (source 34). The Ministry of Finance provides quarterly GFS data on sales of goods and services category as cumulative data (source 33). These data have been analysed for quarterly purposes but are not used in the present calculations because they are cash based data. For this reason, a trend-indicator approach is used as the second best solution.

Social benefits in kind (D.631) in current prices are approximate estimates due to lack of quarterly data sources. The same share of this category in gross output of individual consumption at annual level is assumed to obtain estimates for each quarter (source 34). Constant prices are derived by deflating the current price estimates by corresponding consumer price index/CPI (source 22). The Croatian Health Insurance Fund (HZZO) provides approximately 90% of the component quarterly data (on cumulative bases on this category every quarter (source 36). Four years of quarterly data (starting with Q1 2010) have been analysed. The main conclusion is that they are cash based data and their quarterly quality is too volatile. Hence, these data are not used in the present calculations and the above trend-indicator approach is used as the second best solution. Starting from Q2017 quarterly PR-RAS data are used for D.631.

There is quarterly survey on budgetary units (source 35). Data are processed by Fina (which is institution authorized for data processing) and delivered to CBS on a cumulative bases (I-III, I-VI and I-IX). Special effort and attention has been paid to quality of these data, and the results for the main GFCE categories have been analysed for a longer period of time. They are not used in present QNA calculations due to lack of accuracy, lack of units' coverage and the fourth quarter absence. They are used as additional analytical information.



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### 5.3. NPISH FINAL CONSUMPTION

Final consumption expenditure of non-profit institutions serving households (NPISH) is equal to the value of goods and services produced by NPISH and provided to households free of charge both in current and previous year's prices. Expenditure components are calculated according to the cost method. Final consumption expenditure equals output minus (-) sales. Output is derived as a sum of compensation of employees, consumption of fixed capital, other taxes on production and intermediate consumption. Sales are estimation due to lack of quarterly data sources.

Compensation of employees in current prices is obtained by appropriate quarterly constructed weighted indices based on average monthly gross earnings. Average monthly gross earnings (source 21 and 37) as well as their nominal indices are classified by NACE 2007 activities which are characteristic for S.15. Weights used for calculating the index reflect importance of compensation of employees of appropriate NACE 2007 activities in total annual compensation of employees of NPISH sector (source 37). Estimations in previous year's prices are obtained by extrapolation, using an input indicator based on employment and classified by NACE 2007 activities which make part of NPISH sector by default (source 23 and 37).

Consumption of fixed capital and other taxes less subsidies on production in current prices are obtained from estimates in previous year's prices by inflating constant price estimates with appropriate industrial producer price index/IPPI (source 9) and consumer price index/CPI (source 22). Both consumption of fixed capital and other taxes less subsidies on production in previous year's prices are approximate estimates due to lack of quarterly data sources. Fixed shares of these categories in compensation of employees and intermediate consumption at annual level are applied to get quarterly estimates in previous year's prices. Annual data on consumption of fixed capital are calculated using the PIM method (further information can be found in the Croatian GNI Inventory and its Annex).

Intermediate consumption in current prices is obtained from estimates in previous year's prices by applying a deflator constructed from its component series. This deflator is based on weighted index covering expenditure on materials, energy, office material, various services and other expenditure, which means the same stratification which is applied at annual level (source 9, 22 and 37). Estimations in previous year's prices are obtained by extrapolation, using an input indicator based on employment and classified by NACE 2007 activities which are part of NPISH sector (source 23 and 37).

Calculation of intermediate consumption at constant prices at quarterly level was improved in both its stratification level as well as choice of corresponding consumer and industrial producer price indices.

Sales, both in current and previous year's prices, are assumed to have the same share of this category in gross output in current or previous year's prices as at annual level (source 37) due to lack of quarterly information.

There is a quarterly survey on non-profit institutions (source 38). Data are processed by Fina (which is institution authorized for data processing) and delivered to CBS on cumulative bases (I-III, I-VI and I-IX). These data have been converted to main categories of NPISHs final consumption expenditure and thoroughly analysed for a longer period of time. They are not used in present QNA calculations due to lack of accuracy, lack of units' coverage and the fourth quarter absence.

#### 5.4. GROSS CAPITAL FORMATION

In practice, three methods are used to calculate the quarterly GFCF: the commodity flow method, the extrapolation of the annual data by quarterly volume indices and quarterly surveys on gross fixed capital formation. The CBS have used all three methods to estimate the GFCF.

At the present calculation of GFCF the extrapolation of the annual data by quarterly volume indices is dominant method, since the statistical surveys for non-financial institutions, banks and saving-banks, insurance companies were cancelled in the beginning of 2013 due to expensive costs. Quarterly volume indices are: volume indices of construction works (separate Buildings and Civil engineering works) and industrial production volume indices of capital goods. There are also quarterly imports data on Machinery and transport equipment. Cultivated biological resources and intellectual property products are calculated by disaggregating available annual data using Ecotrim.

According to accepted derogation GFCF by type of assets are going to be produced in 2020.

From the start of quarterly GDP calculation (1999) since last quarter of 2012 the quarterly questionnaire provided data on investments in fixed assets, identifying separately tangible and non-tangible assets. The tangible assets are divided into dwellings, other buildings and structures, machinery and equipment (including installation) and other tangible assets. Machinery and equipment are subdivided into domestic and imported. The definitions used in the surveys are consistent with those used in the annual survey.

The statistical surveys for non-financial institutions, banks and saving-banks, insurance companies were cancelled and also during the years the quality of data becomes less accurate. At the moment there are only the statistical surveys covering government institutions and non-profit institutions left.

Quarterly estimates for gross fixed capital formation (GFCF) at constant prices are derived by using appropriate price indices and the investment structure (by asset) from the last annual calculation. Construction is deflated by the implicit price deflator for the construction activity obtained from the production approach (source 11, 21, 22). Equipment is deflated by the producer price indices for capital goods (source 9). Imported equipment is deflated by relevant components of the UVI for imports (source 41). Other GFCF was deflated by the CPI (source 22). The calculation of imported equipment has been improved. The improvements achieved are briefly described below.

Imported equipment is deflated by the foreign countries export price indices (corresponding producer price non-domestic indices) starting from the first quarter of 2011 (source 51).

The methodology consists of the calculation of weighted indices using foreign countries industrial producer price indices on non-domestic market by NACE, exchange rate and structure of Croatian imports of selected NACE groups of products. Other GFCF is deflated by the same indices as at the annual level.

#### Changes in inventories

Changes in inventories equal the value of the entries into inventories minus the value of withdrawals and the value of any recurrent losses of goods held in inventories. The inventories consist of the following four categories: materials and supplies, work in progress, finished goods and goods for resale.

The quarterly surveys of enterprises collected the necessary information on these four categories. Changes in inventories have been calculated as the difference between the levels of the inventories at the beginning and the end of the quarter revaluated at the average price of the quarter using appropriate deflators.

Changes in inventories were calculated by using data from the Quarterly Statistical Report on Business Results of Entrepreneurs until the fourth quarter of 2012. In the 2013 quarters, the changes in inventories were calculated by using the data of the Quarterly Statistical Report (source 45, 46, 47, 48) and Croatian Bureau of Statistics data on changes in inventories (source 50, 29). The statistical discrepancy was also included in this category (the difference in the GDP calculation by production and expenditure approach).

The components of the quarterly estimates of changes in inventories at current prices are deflated separately in the following way: Finished goods and work in progress are deflated by the producer price index (source 9). Materials and raw materials are deflated by the producer price index for intermediate goods (source 9) (except energy) and the import price indices (source 41). Goods for resale are deflated with the CPI-indices (source 22).

## 5.5. EXPORTS AND IMPORTS

The Balance of Payments of the Republic of Croatia is regularly compiled and published by the Croatian National Bank. It is the main source of data for the calculation of exports and imports in the compilation of gross domestic product according to the expenditure approach at current prices.

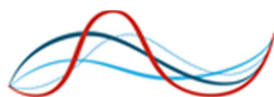
The balance of payments of the Republic of Croatia represents a systematic overview of the value of economic transactions performed by the Croatian residents with foreign countries within a particular period. Starting from 2014, the balance of payments is compiled according to the sixth edition of that manual (BPM6). Also, with the beginning of the implementation of BPM6, the balance of payments historical data for 2000-2013 have been revised in line with the new methodology.

### **Exports and imports of goods**

The report of the Central Bureau of Statistics on foreign trade in goods of the Republic of Croatia constitutes the basic data source for the balance of payments items related to exports and imports (source 40). With the accession of the Republic of Croatia to the European Union on 1 July 2013, data on the foreign trade in goods of the Republic of Croatia are obtained from two different sources: Intrastat forms for collecting statistics on the trade in goods between EU member states (Intrastat) and the Single Administration Document for collecting statistics on the trade in goods with non-EU member states (Extrastat). These data are adjusted, in accordance with the recommended compilation method, for coverage and classification.

The application of the Balance of Payment Manual (BPM6) has led to the following changes in the balance of payments current account:

- Data on exports and imports include only goods that are a subject to the change of ownership between residents and non-residents. In other words, goods that are exported or imported for finishing, working or processing are no longer seen as a part of the international trade in the balance of payments. The manufacturing services on physical inputs owned by others (finishing, working or processing) are in the BPM6 included in the services' account. Hence, the balance of payments includes only the net



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value of a service, which implies a processing fee and not the value of remanufactured goods.

- It should be said that, contrary to BPM5, data series from 2000 onwards, which follows the methodology of BPM6, cover only goods involving a change in ownership between residents and non-residents. In other words, goods imported and exported for the purpose of finishing, treatment or processing are no longer included in the trade in goods data. Starting from 2014, imports and exports of goods for cross-border processing are monitored by the CNB under a special statistical research since, for the balance of payments purposes, the goods which do not involve a change in ownership are excluded from the CBS data on the foreign trade in goods of the Republic of Croatia. The results of this statistical research are compared and supplemented by CBS data on imports and exports of goods which do not involve a change in ownership.
- It should be noted that with the implementation of BPM6, repairs of goods are no longer included in goods imports and exports, but become part of the services account. Data series from 2000 onwards have also been revised accordingly. The treatment of fuel and other goods included in the supply of foreign transport equipment in Croatia or of domestic transport equipment abroad remains unchanged, i.e. within goods exports and imports.
- Based on the Survey on Consumption of Foreign Travellers in Croatia and Domestic Travellers Abroad, the item of goods exports has been modified by the estimated value of goods sold to foreign travellers and tourists and taken out of the Republic of Croatia. The item of goods imports is adjusted for the estimated value of goods imported personally by the Croatian citizens from the neighbouring countries (shopping expenditures). This treatment is also in compliance with BPM6.
- BPM6 changes the treatment of personal property carried by persons who change residence. Such transfers of goods are not included in the BOP statistics under BPM6 in line with the criteria that ownership of goods remains unchanged. Under BPM5, this was recorded under imports/exports of goods and capital transfers.

For further adjustment of data on trade in goods within the balance of payment statistics of the Republic of Croatia with the Balance of Payments Manual, 6th edition (BPM6), the Croatian National Bank excluded transactions that did not involve a change in ownership between residents and non-residents from imports and exports goods. On the other hand, transactions between residents and non-residents done on the territory of the Republic of Croatia, in which goods did not cross the state border, were included into imports and exports. The adjustment was implemented on trade in goods data in the balance of payments for 2014, 2015 and subsequent years and the revised data were released on 31 March 2017 on

CNB web page. Due to lack of reliable data required for previous periods data adjustment, the data on trade in goods in the balance of payments in the second half of 2013 were not revised.

### **Exports and imports of services**

Transportation, travel and other services are reported separately under the services account. CNB conducts several surveys (direct reporting) used for the collection of data on import and export of services completely in line with BPM6 and ESA 2010. CNB makes estimations of CIF/FOB coefficient as well as the share of resident/non-residents in the transportation of imported goods. Furthermore, when actual arrangements for paying freight costs differ from fob terms of delivery, rerouting is made. There are very detail instructions to providers of data what should be included such as: "In this survey data on revenue and expenditure should be recorded on accrual bases, not on cash bases".

Transportation, travel and other services are reported separately under service account.

Revenues and expenditures on the basis of transportation are calculated as follows. Revenues and expenditures arising from transportation of goods and passengers, as well as the value of accompanying services, which together constitute the total value of these services, are compiled on the basis of the results of the Research on transactions related to international transportation services, carried out by the CNB.

As of January 2011, due to the abolishment of the ITRS, this item has been compiled on the basis of data from export customs declarations of the CBS and estimates of the Road Freight Transporters Association. Expenditures on the basis of road freight transportation equal transportation and insurance costs related to imports of goods which belong to non-residents and which are estimated by adjusting the value of imports at c.i.f. parity to the value of imports f.o.b.

### **Travel services**

Revenues from services rendered to foreign travellers and tourists, as well as expenditures incurred by domestic travellers and tourists abroad are shown under the position „Travel“. The Croatian National Bank started to carry out the Survey on Consumption of Foreign Travellers in Croatia and Domestic Travellers Abroad and use its results for compiling the Travel position. Starting from the first quarter of 2012, the balance of payments data on revenues from services rendered to foreign travellers and tourists are not computed using the standard methodological combination of volume indicators and estimated average consumption from the Survey on Consumption of Foreign Travellers, but are based on a combination of the estimated level of tourism consumption in 2011 and an econometrically

computed indicator – the first principal component of a group of variables that are assumed to follow the dynamics of tourism revenue (foreign tourist arrivals and nights, the number of foreign travellers at border crossings, total tourist consumption according to the CNB survey, the number of the employed in accommodation and food service activities, the revenues of hotels and restaurants, the price index of hotel and restaurants services, the real retail trade turnover index, currency outside banks, the value of foreign credit card transactions, the banks' turnover in transactions with natural persons in the foreign exchange market and the industrial production EU-27).

The „Other services“ position is compiled by using different data sources: apart from revenues and expenditures related to insurance services and communication and construction services, which have been determined by the CNB special statistical research since 2001, the values of all other services were adopted from the ITRS until the end of 2010, when the reporting by transaction types was abolished. As of 2011, the uniform statistical survey is used for estimating the position of other services, which encompasses 30 different types of services, the classification of which is prescribed by the IMF's Balance of Payments Manual, 6th edition. That survey also includes communication services, as a result of which a special survey on communication services was abolished, while insurance and construction services continued to be monitored through separate surveys.

With the transition to BPM6, the services account includes also manufacturing services on goods owned by others, the most important part of which is processing of goods. In addition, it also covers assembly, labelling, packing and similar services undertaken by entities that do not own the goods concerned. Under BPM6, the balance of payments includes only the net value of the service, including a fee related to finishing, and not the value of the goods themselves. Such services are monitored in the Survey on foreign trade in services (US-PB) starting from 2011. As of 2014, a separate statistical research was introduced to monitor imports and exports of goods for finishing and processing and the related services. CBS data on imports and exports of goods are used to identify enterprises that receive/provide processing services.

With the application of BPM6, maintenance and repair services are included in Services and are no longer a part of the goods account. Starting from 2011, these services are monitored separately in the Statistical research on revenue and expenditure on foreign trade in services.

A novelty introduced under BPM6 with regard to financial services is the inclusion of financial intermediation services indirectly measured (FISIM), which means that a part of investment income is reclassified from Primary income to Services. It involves income of financial institutions which exceeds the reference interest rate. The reference rate is the rate that



contains no service element; the rate prevailing for interbank borrowing and lending is a suitable choice as a reference rate. FISIM for loans is the margin between lending rate and funding costs calculated on the basis of the reference rate. For deposits, FISIM is the margin between the interest rate calculated on the basis of the reference rate and the interest payable to depositors. BPM6 takes into account only FISIM of financial corporations and only on loans and deposits in their balance sheets (money market funds and investment funds do not produce FISIM). In our case, FISIM is calculated in full conformity with international methodology.

### **Constant prices**

In order to deflate exports and imports of goods, the detailed division of total exports and imports in accordance with the Standard International Trade Classifications (SITC) was used. The value in current prices by certain items was deflated by Fisher's unit value indices (source 41).

Calculation of exports and imports of goods and services as well as exports and imports of other services have been significantly improved. The improvements achieved are briefly described below.

Exports of goods are deflated by the corresponding producer price indices on non-domestic market (source 44) started from the first quarter of 2011.

CBS started to produce industrial producer price indices on non-domestic market on monthly bases and published results for the first time from the January of 2011. Starting with the first quarter of 2011 exports of goods is deflated by the corresponding industrial producer price indices on non-domestic market by NACE. Only a few items are deflated by the corresponding UVI.

Imports of goods are deflated by the foreign countries industrial producer price indices on non-domestic market (source 51) started from the first quarter of 2011.

For the calculation of weighted indices foreign countries industrial producer price indices on non-domestic market by NACE are used, as well as exchange rates and the structure of Croatian imports by NACE. Starting with the first quarter of 2011 imports of goods is deflated by the corresponding industrial producer price indices on non-domestic market by NACE.

Deflation of exports of tourist services is based on the use of appropriate price indices of the CPI using the structure of tourist consumption as weights. Deflation of imports of tourist

services is based on the use of the CPI of the destination countries of residents, as well as exchange rates and using the structure of tourist consumption as weights.

Exports of transport services were deflated by the relevant CPI indices. Imports of transport services were deflated using the total unit value index for imports (before 2011) and implicit deflator for goods (after 2011).

Exports of other services are deflated using relevant consumer price indices-services. Imports of other services are deflated using HICP-EU, taking into account exchange rates.

### **Exports and imports of goods and services by geographical breakdown-constant prices**

Exports and imports of goods and services by geographical breakdown at current and constant prices (transmission table 120 and 121), according to accepted derogation should be provided for the first time at the end of 2017. Data in current prices by weighted indices are deflated. The process is describe in the text below.

#### **Import of goods**

Weighted indices are used as deflators for calculation of import of goods in constant prices. They are calculated separately for Eurozone market and non-Eurozone market. Geographical breakdown has been done according to CBS data on structure of import by country of destination/origin, starting with IQ2012.

Weighted indices have been calculated using foreign countries' quarterly industrial producer price indices on non-domestic market and total, exchange rates and structure of import by country of destination/origin.

Date base includes: CBS data base on foreign trade in goods, Eurostat, OECD price statistics data base; Agency for Statistics of BiH and SORS (Statistical Office of the Republic of Serbia) data bases; CNB (Croatia National Bank), CBBH (Central Bank of BiH) and National bank of Serbia data bases.

#### **Export of goods**

Weighted indices are used as deflators for calculation of export of goods in constant prices. They are calculated separately for Eurozone market and non-Eurozone market. Geographical breakdown has been done according to CBS data on structure of export by country of destination/origin, starting with IQ2012.

Weighted indices have been calculated using quarterly industrial producer price indices on non-domestic market of Croatia, exchange rates and structure of export by country of destination/origin.

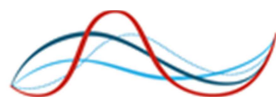
Date base includes: CBS data base on foreign trade in goods and Short-term statistics in industry, CNB (Croatia National Bank), CBBH (Central Bank of BiH) and National bank of Serbia data bases

#### Import of services

Weighted indices are used as deflators for calculation of import of services in constant prices. They are calculated separately for Eurozone market and non-Eurozone market. Geographical breakdown has been done according to structure of import of services by country, starting with IQ2012.

Weighted indices have been calculated using quarterly harmonized indices of consumer prices (HICP) and consumer price indices (CPI), exchange rates and structure of import of services by country.

Date base includes: Eurostat, OECD price statistics data base; Agency for Statistics of BiH and SORS (Statistical Office of the Republic of Serbia) data bases, CNB (Croatia National Bank), CBBH (Central Bank of BiH) and National bank of Serbia data bases.



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## 6. GDP COMPONENTS: THE INCOME APPROACH

The income approach to the GDP calculation is shown in this chapter. The sources and methods for the following variables are described: compensation of employees (ch.6.1), taxes less subsidies on production (ch.6.2) and gross operating surplus & mixed income (ch.6.3).

These variables correspond to table NAMAIN\_T0103 of the ESA2010 transmission programme.

When calculating GDP in the Croatian national accounts system, the emphasis is on the production and expenditure approaches. The income approach is used as a residual method and not as an approach to calculating surveyed income at origin. On annual bases compensation of employees, other taxes on production, other subsidies on production are calculated based on the same data sources as for production approach. The income approach provides estimates of the GDP and its income components at current market prices. Calculation of QGDP by production approach is considered to be more reliable due to the existence of exhaustive data sources and a very detailed level of calculation and provides benchmarked values for the calculation of QGDP by the income approach.

Main items of the income approach are, for the GDP calculation, following:

- Compensation of employees (D.1),
- Taxes on production and imports (D.2),
- Subsidies (D.3),
- Gross operating surplus (B.2) and gross mixed income (B.3).

### 6.1. COMPENSATION OF EMPLOYEES

Compensation of employees (D.1) is total remuneration, in cash or in kind, provided by an employer to an employee in return for work done by the latter during an accounting period.

Compensation of employees includes two components:

- Wages and salaries paid in cash or in kind,
- Social contributions of employers, i.e. actual and imputed.

Basis for the calculation of quarterly data are the annual value of the compensation of employees of the previous year at the division level of NKD. The main data source for the annual estimation of compensation of employees is the Register of Annual Financial Statements for all units who are profit tax payers. Data on state budget and beneficiaries of the state budget and non-profit institutions are collected from the Ministry of finance database. From Tax Administration database data are used for the calculation of aggregates for unincorporated units, which include craftsmen and free-lancers. Data for agriculture are collected from Economic accounts of agriculture. Only a smaller part of the value is based on the estimate.

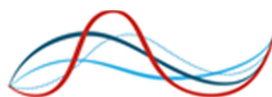
The main quarterly indicator used in the process of estimation of compensation of employees is the average monthly gross earnings (source 21). This indicator is considered to be suitable for estimation which is carried out by applying nominal indices of average monthly gross earning to the values of compensation of employees for the same quarter of the previous year. This indicator is applied at division level of NKD. When annual data become available, quarterly estimates are reconciled to annual ones.

#### 6.1.1 Gross wages and salaries

Gross wages and salaries (D.11.) as the biggest component of the compensation of employees are made out of two components: wages and salaries in cash and wages and salaries in kind. Current quarterly estimates of gross wages and salaries (D.11.) are prepared by averaging the monthly estimates of gross earnings (source 21) for each activity which we find the most suitable indicator. This indicator is considered to be suitable for estimation which is carried out by applying nominal indices of average monthly gross earning to the values of social contributions for the same quarter of the previous year.

#### 6.1.2 Employers' social contributions

The employers' social contributions (D.12.) reflect the expenditure incurred by the employers for ensuring an entitlement to social benefits for their employees especially in case of old age end sickness. The employers' social contributions (D.12.) are calculated as residual value and consists the difference between compensation of employees and gross wages and salaries (D.11.).



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## 6.2. TAXES LESS SUBSIDIES ON PRODUCTION

Taxes less subsidies on production and imports (D.2-D.3) are defined as the sum of taxes less subsidies on products (D.21-D.31), which have been described in section 4.3, and other taxes less subsidies on production (D.29-D.39).

Other taxes on production are compulsory, unrequited payments, in cash or in kind levied by general government or EU institutions in respect of the production and import of goods and services, the employment of labour, the ownership or use of land, buildings or other assets necessary for production process.

The majority of other taxes on production are revenues of the local government. According to the HR National Tax List Other taxes on products are divided into:

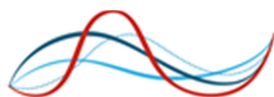
- Taxes on land, buildings or other structures
- Taxes on the use of fixed assets
- Business and professional licences
- Taxes on pollution

The main data sources for D.29 category is Ministry of finance data collected from P1 and P2 monthly reports, annual report of the Environmental protection and energy efficiency Fund (EPEEF) and data for the fee collected by the Croatian Radio and Television company (CRT).

Other subsidies on production (D.39) are payments received from the general government sector and different payments (defined as D.39 in ESA 2010) received from the institution of the EU. Main data sources for D.39 (S.1) are data received from the Ministry of Finance while the Paying Agency for Agriculture, Fisheries and Rural Development provides data for D.39 (S.2).

## 6.3. GROSS OPERATING SURPLUS & MIXED INCOME

Gross operating surplus and mixed income are calculated from the generation of income account as a residual item by deducting compensation of employees, taxes on production and adding subsidies on production, from GVA calculated from the production side.



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## 7. POPULATION AND EMPLOYMENT

Population and employment data correspond to table T0110 and T0111 of ESA 2010 Transmission Programme. The calculated variables are: Population, Employment (employees and self-employed), and Hours worked. Employment and hours worked by industry A\*10.

### 7.1. POPULATION

The main data source for the population figures is the demographics statistics. Data for the total population for the period 2008Q1-2016Q4 (including Q12017) have been presented on the basis of the 2011 Census as the annual averages of the total population. Data for the period 2000Q1-2007Q4 are estimated. The quarterly figures correspond to the estimated population in the middle of the relevant quarter.

### 7.2. EMPLOYMENT: PERSONS

The main data source for Employment is Labour Force Survey (LFS). Data obtained from LFS are number of persons employed by Division of NACE rev 2 at 2 digit level (employees and self-employed). The Labour Force survey measures the economic activity of total population in a short survey period of one week. A reference week, for the survey conducted continuously since 1998, is determined as the last week of each month containing neither public holidays nor non-working days, while since 2007, the reference week has been considered every week during the year. National accounts are also used LFS as the main source of data for employment calculations. These surveys cover legal entities of all types of ownerships, government bodies, and bodies of local and regional self-government units on the territory of Republic of Croatia. The survey on persons in paid employment in legal entities includes all persons who have signed a work contract, regardless of the type of work contract and whether they work full time or less than full time. Data on persons in employment in crafts and free-lances obtained from the Croatian Institute for Pension Insurance. The Croatian Institute for Pension Insurance also provides data on employed insured persons-private farmers. Data on registered unemployment are obtained from the Register on Unemployed Persons kept by the Croatian Employment Service. The Register contains data on all unemployed persons in Croatia. Labour Force Survey data on registered unemployment collected through interviewing private households. LFS results are estimated on the basis of the representative statistical sample. T110 and T111 have two different concepts: National concept (NC) and Domestic concept (DC) for T111. The definition of the NC and DC are different. NC includes residents employed by resident and non-resident producer units. DC includes residents and non-residents employed by resident producer units. To move from the national concept to the

domestic concept, residents working abroad should be subtracted, while non-residents working within the economic territory should be included. As embassies, consulates and some military bases of the reporting country are part of the economic territory; their staffs are included in both concepts. The only distinction is that foreign workers in those organizations are not included in the national concept. International organizations (like the European Commission and the OECD) do not belong to any territory, and are therefore only included as residents working abroad in the national concept.

The data sources for table T111 (employment by industry) which are conducted by the Labour Market Statistic Department for the purposes of employment calculation in National Accounts is insufficient. Therefore, some further improvements, related to the following categories of employees and self-employed, should be made:

- The conscripted forces,
- Persons below 15 years old and above 65 years old,
- Persons living in institutional or collective households (religious institution, prisons, etc.),
- Non-resident employees working for a resident employer ( cross-border workers ),
- Non-resident seasonal workers,
- Staff of Croatian embassies and consulates abroad,
- Employees working on Croatian ships,
- Other exhaustiveness adjustments.

Three large groups of non-residents can be identified: First, workers from neighboring countries who work in construction. The second group consist of seasonal workers in the service industries, such as tourism. The third important group consist of non-resident workers in Croatian privatized companies.

Cross-border work is widespread, but it is often illegal, because the most people who live in border places have dual citizenship. The Croatian Ministry of Foreign and European affairs provides information about the number of non-residents employed by Croatian embassies. The calculation of the number of residents working abroad is based on the quarterly data of the survey conducted by CNB that identifies workers by country of employment. Data on Croatian residents abroad can also be identified from other sources such as Ministry of Internal Affairs and Croatian Chamber of Commerce.

Total employment, Employees and Self-employed



Total employment = Total employees + Total self-employed (quarterly table T111, quarterly table T110-include Total Population)

Quarterly data on number of employees include number of persons in paid employment in legal entities and persons in employment in crafts. Quarterly data on number of self-employed include owners of crafts and trades, insured private farmers, freelancers and estimation of the exhaustiveness.

Data on employment in CBS are available from many sources (RAD1G, LFS, JOPPD, CPII, FSS). In the future challenge will be in combining these sources in order to obtain exhaustiveness estimates of Total employment, employees and self-employed.

### 7.3. EMPLOYMENT: TOTAL HOURS WORKED

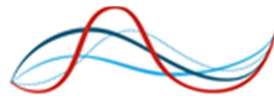
Total hours worked represents the aggregate number of hours actually worked as an employee or self-employed person during the accounting period, when their output is within the production boundary.

Hours worked can be defined in many different ways.

For employees:

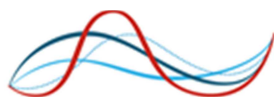
- Paid hours of work = paid hours actually worked + paid hours of absence,
- Hours actually worked = paid hours actually worked + unpaid hours worked (voluntary work and unpaid overtime),
- Contractual/agreed hours = paid hours of work – paid overtime hours,
- Usual hours of work = average hours actually worked in normal weeks (including usual paid and unpaid overtime).

For self-employed and unpaid family workers, paid or contractual hours are difficult to measure and distinguish. The National Accounts use, without exception, actual annual hours worked as measure.



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According to ESA 2010 (11.27) “Hours worked is the most appropriate measure of labor input for the National Accounts“. The general approach is to use reliable estimates of yearly hours worked from various sources and combine them with the number of workers. Hours worked should not include daily meal breaks, sick leave, parental leave or holiday leave and this is reason why estimation of hours worked is not always straightforward. Labour Force Survey (LFS) conducted by the Department of Labour Market Statistics gives the data on hours worked at 2 digit level of NACE rev.2 with definition corresponding to the one defined by ESA 2010 (11.28). However, Croatian LFS include daily meal break in their estimation of hours worked for years before 2015 and these need to be corrected when using LFS data for years before 2015.



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## 8. FLASH ESTIMATES

In this chapter would be briefly described some flash estimate data if there are.

### 8.1. FLASH GDP ESTIMATE

There is no current plan for real flash estimate at T+45 days.

### 8.2. FLASH EMPLOYMENT ESTIMATE

With respect to employment, Croatian Bureau of Statistics (the CBS) currently transmits quarterly data at t+70 days. In order to shorten the transmission time (30 and 45 days after the reference period), the CBS has decided to examine the feasibility of compiling employment flash estimates. In order to perform this, the CBS is currently participating in the project “Feasibility study for compiling employment flash estimates” which started on 01/05/2017 and will last until 31/3/2019 as a part of the European Grant 2017: ESA 2010.

The transmission of estimated employment data includes both retrospective and real time estimates, i.e. from the last two quarters of 2015 until the last quarter of 2018. Currently there is no reference literature (guide) on the methods for time series modelling related to employment. However, the guide on GDP flash estimates may be used as a substitute where several methods are offered (such as ADL, ARIMA, VAR, etc.) Developing mentioned estimation methods, along with assessing its quality, will eventually result in the shorter transmission deadlines of quarterly employment data in the future.

### 8.3. OTHER EXISTING FLASH ESTIMATE, IF ANY

There is no any other flash estimate.

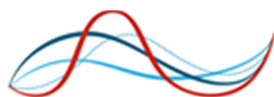


## 9. MAIN DATA SOURCES USED

Main data sources used in production process are listed in this Chapter. Ordinal numbers of data sources are used in other chapters of this Inventory when referring to the data sources.

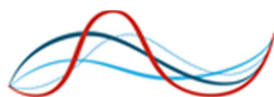
The main data sources used for QNA in the Republic of Croatia are listed in the following table:

No.	Name of the data source	Prod.	Exp.	Inc.	Other
1.	Livestock and poultry slaughtering	X			
2.	Cows' milk and dairy products	X			
3.	Agricultural quarterly price indices	X	X		
4.	Exploitation of forests	X			
5.	Catches of fish and other organisms	X			
6.	Agricultural economic accounts	X			
7.	First and second prospects for real income in agriculture	X			
8.	Industrial production volume indices	X			
9.	Industrial producer price indices	X	X		
10.	Construction work indices	X	X		
11.	Producer building material price indices	X	X		
12.	Retail trade indices	X	X		
13.	Trade and other services' indices	X	X		
14.	Value of purchase and sale of agricultural products	X	X		
15.	Transport of passengers by transport modes	X	X		
16.	Transshipment of goods	X			
17.	Traffic of passengers in airports	X	X		
18.	Inland water transport	X			



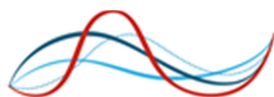
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19.	Postal and courier and services	X	X		
20.	Number of persons in paid employment by activities	X	X		X
21.	Average monthly gross earnings	X	X	X	
22.	Consumer price indices	X	X		
23.	Insured persons (pension scheme)	X	X		X
24.	Data on television services and electronic communications	X	X		
25.	Taxable and non-taxable value of goods and services	X			
26.	Net interest income and net income from commissions and fees	X			
27.	Gross written premium (Non-life and Life insurance)	X			
28.	Quarterly taxes from VAT, customs duties and subsidies	X	X	X	
29.	Retail trade data/ Value indices by branches/ detail breakdown		X		
30.	Non-Commercial Tourism Activity in Apartments and summer houses		X		
31.	Tourists arrivals and nights		X		
32.	Data about accomplished sale of electricity		X		
33.	Government Finance Statistics – GFS 2001		X		
34.	Report of revenues and expenses, receipts and expenditure (PR-RAS)		X		
35.	Report of revenues and expenses of budget users (S-PR-RAS)		X		
36.	Data on social benefits in kind		X		



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37.	Report of revenues and expenses of non-profit institutions (PR-RAS-NPF)		X		
38.	Short report of revenues and expenses of non-profit institutions (S-PR-RAS-NPF)		X		
39.	Industrial production volume indices-capital goods		X		
40.	Foreign trade in goods		X		
41.	Unit Value Indices		X		
42.	Balance of Payment data		X		X
43.	Cross- border traffic data		X		
44.	Industrial producer price indices on non-domestic market		X		
45.	Report of revenues and expenses, receipts and expenditure (S-PR-RAS) – Gross capital formation (Gross fixed capital formation and changes in inventories)		X		
46.	Report of revenues and expenses, receipts and expenditure (PR-RAS)- Gross capital formation (Gross fixed capital formation and changes in inventories)		X		
47.	Report of revenues and expenses of non-profit institutions - Gross capital formation (Gross fixed capital formation and changes in inventories)		X		
48.	Short report of revenues and expenses of non-profit institutions - Gross capital formation (Gross fixed capital formation and changes in inventories)		X		
49.	Building permit issued		X		
50.	Producers' stock index of industrial final products – gross indices		X		
51.	Eurostat data base - Industrial producer price indices on non-domestic market		X		



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### Source 1: Livestock and poultry slaughtering

The reports on livestock and poultry slaughtering (PO-52/M and PO-52/M/OBRT forms) are submitted on monthly basis, separately for legal entities and for tradesmen. This survey serves to collect data on the number of slaughtered livestock by types and categories, their weight before slaughtering (gross weight), the weight of dressed carcass (net weight) and data on coefficients of utilisation.

Name of survey:	The reports on livestock and poultry slaughtering (PO-52/M and PO-52/M/OBRT forms)
Link to surveys undertaken at the European level:	Survey is undertaken according to Council Regulation (EC) No 1165/2008 of the 19. November 2008 concerning livestock and meat statistics and repealing Council Directives (EEC) Nos. 93/23, 93/24 and 93/25
Periodicity:	Monthly
Time of availability of results:	Results are available 22 days after the end of the survey period
Main variables used in QNA:	Indices on net weight of livestock and poultry slaughtered in abattoirs
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

### Source 2: Cows' milk and dairy products

Data on the production of milk and dairy products are taken over from the Croatian Agricultural Agency – the Central Laboratory for Milk Control. There are about forty dairies operating in the Republic of Croatia for which the Laboratory makes analysis of purchased milk and from which it collects data on the production. The coverage includes industrial and registered small dairies, classified into section C- Manufacturing, class 10.51 Operation of dairies and cheese making, according to the NKD 2007. The Laboratory processes the collected data and submits them to the Croatian Bureau of Statistics for further processing according to previously defined deadlines and in a suitable format.

Name of data source:	Cows' milk and dairy products
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Organization collecting the data:	Croatian Agricultural Agency, Central Laboratory for Milk Control
Periodicity:	Monthly
Time of availability of results:	Results are available 40 days after the end of the survey period
Main variables used in QNA:	Indices on produced and collected cows' milk
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

### Source 3: Agricultural quarterly price indices

Agricultural price indices for the Republic of Croatia are calculated on the basis of prices data obtained through monthly surveys on sale and purchase of agricultural products as well as through other surveys carried out by the Croatian Bureau of Statistics, from administrative data of the Ministry of Agriculture and from other administrative sources.

Price indices of agricultural goods output comprises crop and animal output (livestock, poultry and animal products).

Name of survey:	Monthly Report on the sale of agricultural, forestry and fishery products from own production - legal entities and tradesmen (PO-31a / M)
	Monthly Report on purchase of agricultural, forestry and fisheries - family farms (PO-31b / M )
Link to surveys undertaken at the European level:	According to Eurostat Recommendation given in Handbook for EU Agricultural Price Statistics, Version 2.0, Eurostat, 2008 Handbook for EU Agricultural Price Statistics, Version 2.0 Eurostat 2008.
Periodicity:	Monthly
Time of availability of results:	Results are available 45 days after the end of the survey period





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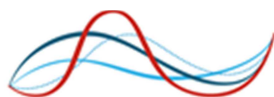
Main variables used in QNA:	Price indices of agricultural goods output
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

#### Source 4: Exploitation of forests

Data on forestry products and felled timber for the reference period are obtained by collection and processing of data on reporting units engaged in forestry and timber felling activities as defined in the NKD 2007 section A Agriculture, Forestry and Fishing, division 02 Forestry and logging.

Data referring to state-owned forests are collected by extracting data from the ŠUM-22/3M form for state-owned forests and ŠUM-24/3M forms for privately-owned forests.

Name of survey:	Quarterly Reports on the exploitation of forests (ŠUM-22/3M form and ŠUM-24/3M form)
Link to surveys undertaken at the European level:	<p>European Parliament and Council Regulation No 614/2007 of 23. May 2007 concerning the Financial Instrument for the Environment (LIFE+) – Commission statement OJ:L 149, 09. June 2007</p> <p>Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market, OJ L 295, 12.11.2010, p. 23</p> <p>Agreement on the content and explanatory notes of the JFSQ (Joint Forest Sector Questionnaire) at the beginning of each year within the Inter-secretariat Working Group (IWG).</p> <p>IWG Agreement of 1990 on Forestry statistics (for coordination of statistical activities between OECD, EUROSTAT and the Conference of European Statisticians (UN/CES).)</p>
Periodicity:	Annual and Quarterly
Time of availability of results:	Despite the fact that the surveys are conducted quarterly, only annual data on the exploitation of forests are published. For the purpose of QNA calculation, quarterly data are provided to



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	NA based on Gentlemen Agreement 45 days after the end of the survey period.
Main variables used in QNA:	Quantity of forestry products and felled timber
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)

### Source 5: Catches of fish and other organisms

Data on catches and production of sea fish and other sea organisms are taken over from the Ministry of Agriculture – the Directory of Fisheries, in line with the Co-operation Agreement. Collected data are processed in the Directory of Fisheries and forwarded to the Croatian Bureau of Statistics according to previously arranged deadlines and in a form suitable for the further processing.

Reporting units are legal entities and parts thereof as well as individual fishermen who are engaged in commercial fishing or production of sea fish and other sea organisms according to the records of the Ministry of Agriculture – the Directory of Fisheries on issued licenses.

Name of survey:	Data on catches of fish and other organisms / Ministry of Agriculture – the Directory of Fisheries
Link to surveys undertaken at the European level:	Regulation (EC) 1921/2006 of the European Parliament and of the Council of 18 December 2006 on the submission of statistical data on landings of fishery products in Member States and repealing Council Regulation (EEC) 1328/91
Periodicity:	Quarterly
Time of availability of results:	Despite the fact that the data are taken over from the Ministry of Agriculture on quarterly basis, only annual data on the catches of fish and other organisms are published. For the purpose of QNA calculation, quarterly data are provided to NA based on Gentlemen Agreement 45 days after the end of the survey period.
Main variables used in QNA:	Quantity of cached fish and other organisms
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)

### Source 6: Agricultural economic accounts

Economic accounts for agriculture for the Republic of Croatia are based on survey data of the Croatian Bureau of Statistics, administrative data from the Croatian Agricultural Extension Service and the Paying Agency for Agriculture, Fisheries and Rural Development. Economic accounts in agriculture cover the whole agricultural production (by both private family farms and legal entities).

Name of data source:	Release on agricultural economic accounts
Organization collecting the data:	Croatian Bureau of Statistics
Periodicity:	Annual
Main variables used in QNA:	Gross value added of agriculture mainly as benchmark value for agriculture activity

### Source: 7 First and second prospects for real income in agriculture

The first and second forecast of real income in agriculture for the Republic of Croatia have been calculated on the basis of survey data of the Croatian Bureau of Statistics, administrative data of the Croatian Agricultural Extension Service and the Paying Agency for Agriculture, Fisheries and Rural Development. The forecasts of real income cover the whole agricultural production (by both private family farms and legal entities).

Name of data source:	Release on first prospects for real income in agriculture and Release on second prospects for real income in agriculture
Organization collecting the data:	Croatian Bureau of Statistics
Periodicity:	Annual
Main variables used in QNA:	Gross value added of agriculture mainly as benchmark value for agriculture activity



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### Source 8: Industrial production volume indices

Industrial production volume indices are calculated on the basis of data collected for the Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M form).

The IND-1/KPS/M Survey covers enterprises and parts thereof employing 20 or more persons and performing one or several industrial activities listed in the NKD 2007 sections B Mining and quarrying, C Manufacturing and D Electricity, gas, steam and air conditioning supply.

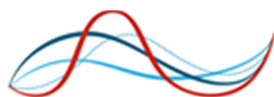
Name of survey:	Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M form)
Link to surveys undertaken at the European level:	According to Council Regulation (EC) No 1165/98 on Short-Term Statistics and the Eurostat's Recommendations for Publishing of STS Data (of January 2009)
Periodicity:	Monthly
Time of availability of results:	Results are available 30 days after the end of the survey period
Main variables used in QNA:	Industrial production gross volume indices, according to NKD 2007 sections and divisions
Further adjustments made to the survey data:	There is no need for further adjustments of published data

### Source 9: Industrial producer price indices

The Industrial producer price index measures changes of producer prices of manufactured goods produced in the Republic of Croatia and sold by producers on the domestic (Croatian) and/or non-domestic (non-Croatian) market. Data are collected through the Monthly survey on Industrial Producer Prices (IND-3/KPS/M form)

The reporting units included in the IND-3/KPS/M Survey are selected enterprises (legal entities and tradesmen) that produce selected products as defined in the Nomenclature of Industrial Products – NIP 2010., classified in the NKD 2007 activity sections B, C D and E (only division 36).

Name of survey:	Monthly Survey on Industrial Producer Prices (IND-3/KPS/M)
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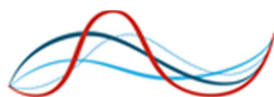
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	form)
Link to surveys undertaken at the European level:	Concepts and definitions used in the IND-3/KPS/M Survey are harmonized with the EU Methodology of Short-Term Business Statistics (Theme 4, ISSN 1725-0099; European Communities, 2006) as well as with the Commission Regulation (EC) No. 1503/2006 on definitions of variables, list of variables and frequency of data compilation.
Periodicity:	Monthly
Time of availability of results:	Results are available 10 days after the end of the survey period
Main variables used in QNA:	Industrial producer price indices according to NKD 2007 sections and divisions
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

#### Source 10: Construction work indices

Data on construction are collected through reporting method by using the Monthly Report on Construction (GRAD-21/M form) and the Quarterly Report on Construction (GRAD-21/3M form). The Monthly and the Quarterly Reports on Construction are collected from business entities (legal entities and crafts) and parts thereof employing 20 or more persons classified in the Register of Business Entities to section F Construction according to the NKD 2007. About 950 reporting units are included in the sample.

Name of survey:	Monthly Report on Construction (GRAD-21/M form) and Quarterly Report on Construction (GRAD-21/3M form).
Link to surveys undertaken at the European level:	The volume indices of construction works are based on the number of hours worked on sites, according to the Methodology of short-Term Business Statistics, Interpretation and Guidelines, Theme: Industry, Trade and Services, ISSN 1725-0099, European Communities, 2006
Periodicity:	Monthly and Quarterly
Time of availability of results:	Results are published 65 days after the end of the survey period. For the purpose of QNA calculation, quarterly data are



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	provided to NA based on Gentlemen Agreement 50 days after the end of the survey period
Main variables used in QNA:	Total volume indices of construction works
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

### Source 11: Producer building material price indices

Producer building material price indices are calculated on the basis of data collected through the Monthly Survey on Industrial Producer Prices (IND-3/KPS/M form) which is used for the calculation of industrial producer price index – total as well as of its two sub-indices – the industrial price index on the domestic market and on the non-domestic market.

Name of survey:	Monthly Survey on Industrial Producer Prices (IND-3/KPS/M form)
Link to surveys undertaken at the European level:	Concepts and definitions used in the IND-3/KPS/M Survey are harmonized with the EU Methodology of Short-Term Business Statistics (Theme 4, ISSN 1725-0099; European Communities, 2006) as well as with the Commission Regulation (EC) No. 1503/2006 on definitions of variables, list of variables and frequency of data compilation
Periodicity:	Monthly
Time of availability of results:	Results are available 15 days after the end of the survey period
Main variables used in QNA:	Monthly building material producer price indices on domestic market
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

### Source 12: Retail trade indices

Data on retail trade indices are based on the Monthly Report on Retail Trade (TRG-1 form). Observation units are business entities (legal entities and tradesmen) registered in the retailing trade as a main activity (section 47 of the NKD 2007.) as well as selected business entities engaged in other activities if performing the retail trade activities.

Name of survey:	Monthly Report on Retail Trade (TRG-1 form)
Link to surveys undertaken at the European level:	The methodology for this survey is based on the Council Regulations Nos. 1165/98 (Annex C), 1158/05, 1503/06 and 1893/06 concerning short-term statistics.
Periodicity:	Monthly
Time of availability of results:	Results are available 45 days after the end of the survey period
Main variables used in QNA:	Value and volume indices of retail sales and price indices
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

### Source 13: Trade and other services' indices

Data on trade and other services' indices are based on the Monthly Report on Trade and Other Services (USL-M form) and administrative data sources (data bases of value added tax reports).

The USL-M survey is a continuation of the previous survey (USL-1 form), which was conducted in the quarterly dynamics. The main purpose of the survey is the measuring of turnover changes in service activities. The USL-M survey is conducted by using the sample method. A sample is selected once a year. It is based on size and on annual turnover of business entities related to previous year. Information on size of business entities is obtained from the Statistical Business Register and data on annual turnover from the regular monthly survey (USL-M form) and from administrative data sources (data bases of value added tax reports).

The turnover indices calculated from the value added tax databases have been obtained from the data on the total deliveries (both taxable and non-taxable ones). Deliveries recorded in



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the value added tax databases may differ from the definition of turnover applied in statistical surveys, which affects the comparability of data.

Name of survey:	Monthly Report on Trade and Other Services (USL-M form)
Link to surveys undertaken at the European level:	The methodology for this survey is based on the EU Council Regulation No. 1165/98 (Annex D) on short-term statistics and its amendments. It is fully in line with the regulation's concepts and definitions.
Periodicity:	Monthly
Time of availability of results:	Results are published 75 days after the end of the survey period. For the purpose of QNA calculation, quarterly data are provided to NA based on Gentlemen Agreement 50 days after the end of the survey period
Main variables used in QNA:	Turnover indices by main activities of business entities
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

#### Source 14: Value of purchase and sale of agricultural products

Value of purchase and sale of agricultural products for the Republic of Croatia are calculated on the basis of data obtained through monthly surveys on sale and purchase of agricultural products as well as through other surveys carried out by the Croatian Bureau of Statistics, from administrative data of the Ministry of Agriculture and from other administrative sources.

Name of survey:	Monthly Report on the sale of agricultural, forestry and fishery products from own production - legal entities and tradesmen (PO-31a / M)
	Monthly Report on purchase of agricultural, forestry and fisheries - family farms (PO-31b / M )
Link to surveys undertaken at the European level:	According to Eurostat Recommendation given in Handbook for EU Agricultural Price Statistics, Version 2.0, Eurostat, 2008  Handbook for EU Agricultural Price Statistics, Version 2.0 Eurostat 2008.





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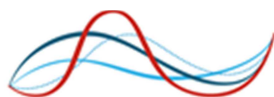
Periodicity:	Monthly
Time of availability of results:	Results are available 45 days after the end of the survey period
Main variables used in QNA:	Value of purchase and sale of agricultural products
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

#### Source 15: Transport of passengers by transport modes

Data on transport are collected through weekly, monthly and quarterly statistical surveys. The purpose of the surveys is to collect data on the transport of passengers and goods and to calculate the performance indicators on transport expressed in ton-kilometers and passenger-kilometers. Observation and reporting units on the rail transport, road passenger transport, urban transport, pipeline transport, seawater and coastal transport, and air transport are national carriers, that is, operators registered in the Register of Business Entities of the Croatian Bureau of Statistic.

Data on the registered road motor vehicles and trailer vehicles are obtained from the Ministry of the Interior. The first registration of road vehicles includes new and used vehicles.

Name of survey:	Statistical Report on Road Transport of Goods (PA/T-11 form), Quarterly Report on Road Transport of Passengers (PA/M-11 form), Quarterly Report on Urban Transport (PG/T-11 form), Quarterly Report on Railway Transport (PŽ/T-11 form), Quarterly Report on Seawater and coastal transport (PP/T-11 form), Quarterly Report on Pipeline Transport (PC/T-11 form)
Link to surveys undertaken at the European level:	The survey (PA/T-11 form) is in line with the statistical standards of the EU (Regulation no. 70/2012 of the European Parliament and the Council, Revised Edition, and all legal



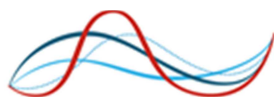
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	amendments and regulations).  The survey (PŽ/T-11 form) is in line with the statistical standards of the EU (Regulation no. 91/2003 of the European Parliament and the Council, and all legal amendments and regulations).
Periodicity:	Quarterly
Time of availability of results:	Results are available 42 days after the end of the survey period
Main variables used in QNA:	Quantitative indicators on the transport of passengers and goods
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)

#### Source 16: Transshipment of Goods

Data on transshipment of goods are collected on the Quarterly Report on the Transshipment of Goods (PR/T-11P form). The purpose of the survey is to collect data on transshipment in seaports, inland waterway ports and other places. Data on the transshipment of goods are submitted by business entities registered in the Statistical Business Register in class 52.24 Transshipment according to the NKD 2007. Business entities that perform transshipment for own accounts are not included.

Name of survey:	Quarterly Report on the Transshipment of Goods (PR/T-11P form)
Periodicity:	Quarterly
Time of availability of results:	Results are available 40 days after the end of the survey period
Main variables used in QNA:	Transshipment of goods in 000 tons
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)



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### Source 17: Traffic of passengers in airports

Data on traffic of passengers in airports are collected by the Monthly Survey on the traffic in airports (PZ/M-21 form). The purpose of the survey is to collect data on the number of aircraft movements as well as on the traffic of passengers and freight in airports and air landing places of the Republic of Croatia. Observation units and reporting units are airports in the Republic of Croatia. Traffic of passengers in airports includes the number of passengers who have departed or arrived on commercial operations.

Name of survey:	Monthly Survey on the traffic in airports (PZ/M-21 form)
Link to surveys undertaken at the European level:	The survey is in line with the statistical standards of the European Union (Regulation no. 437/2003 of the European Parliament and of the Council as well as all statutory amendments and Regulation).
Periodicity:	Monthly
Time of availability of results:	Results are available 40 days after the end of the survey period
Main variables used in QNA:	Traffic of passengers in airports (number of passengers)
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)

### Source 18: Inland water transport

Data on realized inland waterway transport of goods are collected by the Report on Arrivals of Vessels into Ports of Inland Waterways and by the Report of Departures of Vessels from Ports of Inland Waterways. The purpose of the survey is to collect data on transport of goods in inland waterways of the Republic of Croatia. Collected are the data on quantity of goods transported as well as on ton-kilometers as units of transport performance. Observation units are all arrived or departed vessels on inland waterways.

Name of survey:	Report on Arrivals of Vessels into Ports of Inland Waterways and the Report of Departures of Vessels from Ports of Inland Waterways (PR/M-21a and PR/M-21b forms)
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Link to surveys undertaken at the European level:	The survey is in line with the statistical standards of the European Union (Regulation no. 1365/2006 of the European Parliament and of the Council as well as all statutory amendments and Regulation).
Periodicity:	Monthly
Time of availability of results:	Results are available 40 days after the end of the survey period
Main variables used in QNA:	Realized inland waterway transport of goods on rivers (ton-kilometers)
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)

#### Source 19: Postal and courier services .

Data on postal and courier services are collected and delivered by the Croatian Post and Electronic Communications Agency based on quarterly reports collected from all operators in the Croatian postal and courier market.

Name of survey:	Quarterly Reports on the postal and courier services market
Periodicity:	Croatian Post and Electronic Communications Agency (HAKOM)
Time of availability of results:	Quarterly
Main variables used in QNA:	Based on the agreement between the two institutions, Croatian Post and Electronic Communications Agency delivers data on television and telecommunication services 50 days after the end of the quarter
Further adjustments made to the survey data:	Value of postal and courier services

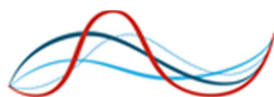
### Source 20: Number of persons in paid employment by activities

The number of persons in paid employment in legal entities is derived from data processing of regular annual and monthly surveys, which comprises 70% of persons in paid employment in each NKD 2007 division. These surveys cover legal entities of all types of ownership, government bodies, and bodies of local and regional self-government units on the territory of the Republic of Croatia. Data are collected through the report filled in by legal entities on the basis of the records of persons in employment. Data on persons in employment in crafts and trades and freelancers are processed according to the records on pension insurance beneficiaries obtained from the Croatian Institute for Pension Insurance.

Name of survey:	Monthly Reports on employees and salaries paid (RAD-1 form)
Link to surveys undertaken at the European level:	Survey is carried out on the basis of national legislation (registered employment)
Periodicity:	Monthly
Time of availability of results:	Results are available 30 days after the end of the survey period
Main variables used in QNA:	Number of persons in paid employment in legal entities by activities
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)

### Source 21: Average monthly gross earnings

Data on average monthly gross earnings are based on a regular monthly survey covering 70% of persons in employment in each NKD 2007 division. The survey comprises persons in employment in legal entities of all types of ownership, government bodies, and bodies of local and regional government and self-government units, on the territory of the Republic of Croatia. Persons employed in crafts and trades and freelancers and insured private farmers are not covered, so data on their payments are not included in the data on average gross earnings. Data on earnings are collected by a report form to be filled in by legal entities on the basis of their respective payrolls



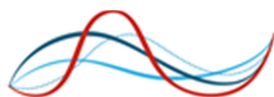
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Name of survey:	Monthly Reports on employees and salaries paid (RAD-1 form)
Link to surveys undertaken at the European level:	Survey is carried out on the basis of national legislation
Periodicity:	Monthly
Time of availability of results:	Results are published 60 days after the end of the survey period. For the purpose of QNA calculation, quarterly data are provided to NA based on Gentlemen Agreement 52 days after the end of the survey period
Main variables used in QNA:	Average monthly gross earnings of persons in paid employment
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices (compared to the average of the previous year)

#### Source 22: Consumer price indices

The CPI in the Republic of Croatia is calculated on the basis of a representative basket consisting of about 794 different items. About 36 110 prices are collected each month in a fixed panel of outlets in nine geographical locations. The classification of products used in the CPI is based on the Classification of Individual Consumption by Purpose (COICOP). The COICOP breaks consumer expenditure into 12 different divisions of consumer goods and services.

Name of survey:	Consumer price indices
Link to surveys undertaken at the European level:	Classification of Individual Consumption According to Purpose – COICOP  Eurostat Recommendations on Harmonized Indices on Consumers Prices
Periodicity:	Monthly
Time of availability of results:	Results are available 15 days after the end of the survey period
Main variables used in QNA:	Consumer price indices on a very detail level of COICOP



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Further adjustments made to the survey data:	For the purpose of QNA calculation, CPI are calculated compared to the average of the previous year
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### Source 23: Insured persons (pension scheme)

The Croatian Institute for Pension Insurance (HZMO) is a public institution established by the Act on Pension Insurance whose main activity is to provide rights of employees, farmers, crafts and others persons in the domain of mandatory pension insurance. HZMO collects, publishes and provides data on the number of insured persons by insurance type and economic activities (OS-1 form). Data are published on activity sections level of the NKD 2007 (compatible with NACE Rev.2). According to an agreement between the institutions, HZMO provides data on the number of insured persons by different insurance types on 4-digit NKD 2007 level.

Name of data source:	Report on the insured persons in the pension scheme (OS-1 form)
Organization collecting the data	Croatian Institute for Pension Insurance (HZMO)
Periodicity:	Monthly
Time of availability of results:	Based on the agreement between the two institutions, HZMO delivers data on the number of insured persons in the pension scheme 20 days after the end of the quarter
Main variables used in QNA:	Number of insured persons in the pension scheme
Further adjustments made to the survey data:	Quantitative indicators are calculated as indices based on the average of the previous year

### Source 24: Data on television and electronic communications services

Data on television and telecommunication services are delivered by the Croatian Post and Electronic Communications Agency based on quarterly reports collected from all operators in the Croatian electronic communications market. Data on television services include total television services revenue. Telecommunication services include the telecommunication



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traffic realized by all operators on electronic communications through fixed and mobile telephone networks.

Name of data sources:	Quarterly Reports on the electronic communications market
Organization collecting the data:	Croatian Post and Electronic Communications Agency (HAKOM)
Periodicity:	Quarterly
Time of availability of results:	Based on the agreement between the two institutions, Croatian Post and Electronic Communications Agency delivers data on television and telecommunication services 50 days after the end of the quarter
Main variables used in QNA:	Value of television services revenue, value of telecommunication services in mobile and immobile networks
Further adjustments made to the survey data:	Values are calculated as indices based on the average of the previous year

#### Source 25: Taxable and non-taxable value of goods and services

Tax Administration data on taxable and non-taxable values of goods and services are used in the calculation of the GVA at current prices. These data are obtainable from value added tax (VAT) declarations submitted by entrepreneurs on monthly and quarterly bases. The data are collected separately for legal entities and natural persons. The calculation is done for each group at the 2-digit NKD 2007 level.

Name of data sources:	Tax Administration database extract with data on taxable and non-taxable values of goods and services
Organization collecting the data:	Ministry of Finance / Tax Administration Office
Periodicity:	Monthly
Time of availability of results:	Based on the agreement between the two institutions, the Tax Administration Office delivers data on taxable and non-taxable values of goods and service 50 days after the end of the quarter





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Main variables used in QNA:	Indices based on the average of the previous year are calculated and used as additional data source for the calculation of quarterly GVA
Further adjustments made to the survey data:	Values are calculated as indices based on the average of the previous year

#### Source 26: Net interest income and net income from commissions and fees

In order to monitor monetary developments and to achieve effective supervision of the banking system, the Croatian National Bank (HNB) requires from all credit institution to complete and submit statistical reports (RDG1-1 form). These Statistical Reports are used for making macroeconomic monetary statistics and for the analysis of financial condition of credit institution over which HNB has oversight.

Credit institutions have an obligation to complete and submit non-consolidated statistical reports on a quarterly basis no later than 25 days from the end of the last reporting quarter. The Report shows all income and expenditures and financial results of the bank during a given period.

Name of data sources:	Aggregated statistical report of credit institutions
Organization collecting the data:	Croatian National Bank
Periodicity:	Quarterly
Time of availability of results:	Reports are available 45 days after the end of reporting period on the Croatian National Bank's web site
Main variables used in QNA:	Net interest income and net income from commissions and fees
Further adjustments made to the survey data:	Values of net interest income and net income from commissions and fees are calculated as indices based on the average of the previous year

**Source 27: Gross written premium (Non-life insurance and Life insurance)**

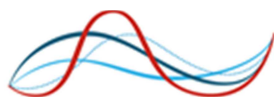
The Croatian Financial Services Supervisory Agency is a supervisory body whose scope of activities and competence covers the supervision of financial markets, financial services and supervised entities providing those services.

According to the Statistical Standards for Insurance, all insurance companies are required to keep statistical data on insurance operations, risks covered, insured events and claims. Furthermore, all insurance companies have an obligation to complete and submit tables which are part of the Statistical Standards for Insurance. Through the SP-1-O form (Statistical Insurance data for period), insurance companies provide data on gross written premiums for non-life insurance as well as on gross written premiums for life insurance for the reference period.

Name of data source:	Monthly statistical report on insurance
Organization collecting the data:	Croatian Financial Services Supervisory Agency
Periodicity:	Monthly
Time of availability of results:	Results are available 15 days after the end of the survey period on the Croatian Financial Service Supervisory Agency's website
Main variables used in QNA:	Values of gross written premium for Non-life insurance and gross written premium for Life Insurance
Further adjustments made to the survey data:	Values are calculated as indices based on the average of the previous year)

**Source 28: Quarterly taxes from VAT, excise duties, customs and subsidies**

Name of data source:	Revenues and expenses for consolidated general government
Organization collecting the data:	Ministry of Finance
Periodicity:	Monthly



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Time of availability of results:	Based on the agreement between the two institutions, Ministry of Finance delivers data on quarterly taxes and subsidies on products 45 days after the end of the quarter
Main variables used in QNA:	Quarterly taxes from VAT, excise duties, customs and subsidies

#### Source 29: Retail trade data/ Value indices by branches/ detail breakdown

Retail trade data are based on turnover of all goods sold and provided on the market in a month, irrespective of whether paid up or not. It also includes the value added tax. Turnover in retail trade is divided into 38 product groups within division 47 of the NKD 2007.

Name of survey:	Retail trade data
Link to surveys undertaken at the European level:	Methodology for this survey is based on the Council Regulations No 1165/98 (Annex C), 1158/05, 1503/06 and 1893/06 Concerning Short-Term Business Statistics.
Periodicity:	Monthly
Time of availability of results:	Results are available 45 days after the end of the survey period
Main variables used in QNA:	Turnover of retail trade data ;detailed breakdown by groups of product

#### Source 30. Non-profit Tourism Activity in Apartments and summer houses

The subject of this survey are tourists (owners of apartments and summer houses, members of their families, other relatives and friends) who stay in apartments and summer houses, specifically in parts of apartments and houses that are not intended for renting (“private non-rental accommodation”).

Name of survey:	Non-profit Tourism Activity in Apartments and summer houses
Periodicity:	quarterly



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Time of availability of results:	Results are available 45 days after the end of the survey period
Main variables used in QNA:	Non-commercial tourists turnover

### Source 31: Tourists arrivals and nights

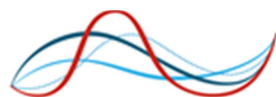
Data on turnover of tourists (number of tourist arrivals and tourist nights) are collected from a regular monthly report (TU-11 form). This release contains data on the number of registered persons (owners, their family members, other relatives and friends) in apartments and summer houses for which the sojourn tax is paid as well as the number of registered tourist nights spent in apartments and summer houses

Name of survey:	Tourists arrivals and nights
Link to surveys undertaken at the European level:	All accommodation facilities are categorised according to the Regulation on Classification, Minimum Standards and Categorization of Accommodation Facilities (NN, No 57/95, 110/96, 24/97, 61/98, 137/98, 19/99, 39/99, 52/99, 43/00, 52/00, 57/00, 63/00, 18/01, 33/01, 48/02, 108/02, 132/03, 175/03, 73/04, 106/04, 84/05, 12/06 and 67/06).
Periodicity:	monthly
Time of availability of results:	Results are available 50 days after the end of the survey period
Main variables used in QNA:	Number of accommodation facilities

### Source 32: Data about accomplished sale of electricity

Data are taken from Croatian Electricity and show accomplished sales of electricity.

Name of data source :	Croatian Electricity (HEP)
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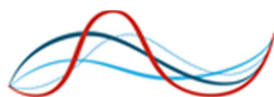
Periodicity:	Quarterly
Time of availability of results:	Results are available 50 days after the end of the survey period
Main variables used in QNA:	Accomplished sales of electricity
Further adjustments made to the survey data:	Electricity consumption is estimated on the basis of the data on electricity consumed by households

### Source 33: Government Finance Statistics

Government finance statistics (GFS) show the economic activities of government, including government revenue, expenditure, government deficit, transactions in assets, transactions in liabilities, other economic flows and balance sheets.

Ministry of Finance provides quarterly GFS data for the internal purposes of the CBS. Data are collected for central government units, extra-budgetary users and for 53 biggest local and regional self-government units.

Name of data source:	GFS – Government Finance Statistics data
Organization collecting the data:	Ministry of Finance
Periodicity:	quarterly and annual
Time of availability of data:	Based on agreement between two institutions, Ministry of Finance delivers data for the CBS - national accounts needs at T+45 days
Main variables used in QNA:	Data on wages and salaries, social contributions, use of goods and services, social security benefits in kind, social assistance benefits in kinds, sales of goods and services.
Further adjustments made to the collected GFS data:	Indices are calculated on the average of the previous year – compensation of employees. Nominal indices are calculated (alternative) – use of goods and services. Sales of goods and services have been analyzed but not used in present QNA calculations because they are cash-based data.



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### Source 34: Report of revenues and expenses, receipts and expenditure (PR-RAS)

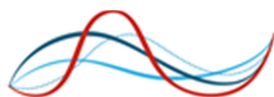
The report of revenues and expenses, receipts and expenditure give a systematic overview of revenues and expenses, receipts and expenditure and of financial results at quarterly and annual level. Financial statements provide an objective and actual picture of the financial position, business operations and cash flows of budget, budgetary and extra-budgetary users.

Name of data source:	Report of revenues and expenses, receipts and expenditure (PR-RAS)
Organization collecting the data:	Ministry of Finance
Periodicity:	Quarterly and annual
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS - national accounts needs at T+40 and T+60 days (T+70 days – local and territorial (regional) government units; extra-budgetary users)
Main variables used in QNA:	Components of Final consumption expenditure of general government – at annual level – calculated by the Government Accounts and EDP department of the CBS  The same components of Final consumption expenditure have been analyzed at quarterly level but not used in the present QNA calculations due to lack of units coverage and accuracy
Further adjustments made to the collected PR-RAS data:	Detailed descriptions are part of the Croatian GNI Inventory (Chapters 3 and 5)

### Source 35: Report of revenues and expenses of budget users (S-PR-RAS)

The report of revenues and expenses of budget users gives a systematic overview of revenues and expenses for the period from January 1 to March 31 and from January 1 to September 30. Financial statements provide an objective and actual picture of the financial position, business operations and cash flows of budget users at quarterly level.

Name of data source:	Report of revenues and expenses of budget users (S-PR-RAS)
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Organization collecting the data:	Ministry of Finance
Periodicity:	quarterly (01-03; 01-09)
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS - national accounts needs at T+40 days
Main variables used in QNA:	Components of Final consumption expenditure of general government have been analyzed at quarterly level but not used in present QNA calculations due to lack of units coverage and accuracy
Further adjustments made to the collected S-PR-RAS data:	Detail descriptions are part of the Croatian GNI Inventory (Chapters 3 and 5) – applied for data adjustments at annual level

#### Source 36: Data on social benefits in kind

The Croatian Health Insurance Fund (HZZO) is a quasi-public body that administers the universal health care system in the Republic of Croatia. The HZZO is the country's national social health insurance fund and is the primary source of health financing.

The HZZO provides approximately 90 % components data of the category social benefits in kind (D.631) at annual level (used for the CBS estimates).

Name of data source:	HZZO financial report; Economic activity indicators of HZZO – Table 1 (data on revenues and expenses)
Organization collecting the data:	Croatian Health Insurance Fund - HZZO
Periodicity:	quarterly and annual
Time of availability of data:	Based on agreement between two institutions, HZZO delivers quarterly data from Table 1 for the CBS - national accounts needs at T+50 days
Main variables used in QNA:	Data provided by HZZO at quarterly level have been analyzed but not used in present QNA calculations because they are volatile cash-based data



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### Source 37: Report of revenues and expenses of non-profit institutions

The account of revenues and expenses gives a systematic overview of revenues and expenses and of financial results for the period from January 1 to June 30 and from January 1 to December 31. Financial statements provide an objective and actual picture of the financial position and business operations of non-profit organizations.

Name of data source:	Report (account) of revenues and expenses of non-profit institutions (PR-RAS-NPF)
Organization collecting the data:	Ministry of Finance
Periodicity:	half-year (01-06) and annual (01-12)
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS - national accounts needs at T+45 and T+120 days
Main variables used in QNA:	Components of Final consumption expenditure of NPISHs – at annual level. The same components of Final consumption expenditure of NPISHs have been analyzed at a half year level but not used in present QNA calculations due to lack of units coverage and accuracy
Further adjustments made to the collected PR-RAS-NPF data:	Detail descriptions are part of the Croatian GNI Inventory (Chapters 3 and 5)

### Source 38: Short report of revenues and expenses of non-profit institutions

This short account of revenues and expenses gives a systematic overview of revenues and expenses for the period from January 1 to March 31 and from January 1 to September 30. Financial statements provide an objective and actual picture of the financial position and business operations of non-profit organizations.

Name of data source:	Short report (account) of revenues and expenses of non-profit institutions (S-PR-RAS-NPF)
Organization collecting the data:	Ministry of Finance





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Periodicity:	quarterly (01-03; 01-09)
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS-national accounts needs at T+40 days
Main variables used in QNA:	Components of Final consumption expenditure of NPISHs have been analyzed at quarterly level but not used in present QNA calculations due to lack of units coverage and accuracy
Further adjustments made to the collected S-PR-RAS-NPF data:	Detail descriptions are part of the Croatian GNI Inventory (Chapters 3 and 5) – applied for data adjustments at annual level

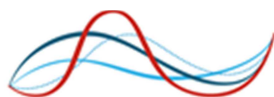
#### Source 39: Industrial production volume indices-capital goods

Industrial production volume indices are calculated on the basis of data collected for the Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M form).

The IND-1/KPS/M Survey covers enterprises and parts thereof employing 20 or more persons and performing one or several industrial activities listed in the NKD 2007 sections B Mining and quarrying, C Manufacturing and D Electricity, gas, steam and air conditioning supply.

Name of survey:	Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M form)
Link to surveys undertaken at the European level:	According to Council Regulation (EC) No 1165/98 on Short-Term Statistics and the Eurostat's Recommendations for Publishing of STS Data (of January 2009)
Periodicity:	Monthly
Time of availability of results:	Results are available 30 days after the end of the survey period
Main variables used in QNA:	Industrial production gross volume indices, according to NKD 2007 sections and divisions
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

#### Source 40: Foreign trade in goods



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After the accession of the Republic of Croatia to the European Union, on 1 July 2013, data on foreign trade in goods statistics of the Republic of Croatia are acquired from two different sources: the Intrastate form for the statistics on the trading in goods between EU Member States (Intrastate) and the Single Administrative Document for statistics on the trading in goods with non-EU countries (Extrastat).

Data source for the statistics on the trading in goods with EU Member States is the Intrastate form used by reporting units to report on arrivals and/or dispatches on the monthly basis, that is, in a month in which goods physically enter or leave the territory of the Republic of Croatia. The reporting units are all business entities, value added tax payers, whose value of trading in goods with EU Member States exceeds the exemption threshold determined for the reference year.

Data sources for the statistics on the trading in goods with third countries, that is, non-EU countries, are Single Administrative Documents on export and import of goods. The Croatian Bureau of Statistics receives the reviewed Single Administrative Documents from the Customs Administration of the Republic of Croatia in the form of data records.

Name of survey:	Foreign trade in goods of the Republic of Croatia
Link to surveys undertaken at the European level:	The legal basis for the Extrastat is the European legislation related to the statistics on the trading in goods with third countries (Regulation (EC) No 471/2009 of the European Parliament and of the Council, the Commission Regulation (EU) No 92/2010 and the Commission Regulation (EU) No 113/2010), the EU Customs Regulations Implementation Act (NN, No. 54/13), the Official Statistics Act (NN, No 103/03, 75/09 and 59/12), the Annual Implementation Plan of Statistical Activities of the Republic of Croatia, the Programme of Statistical Activities of the Republic of Croatia, the Customs Administration Act (NN, No. 68/13) and the Ordinance on Filling the Single Administrative Document (NN, No. 77/13)
Periodicity:	Monthly, quarterly, annually
Time of availability of results:	Results are available 50 days after the end of the survey period, and second version after 62 days after the end of survey period
Main variables used in QNA:	Exports and imports of goods by NACE and by SITIC classification

#### Source 41: Unit value indices

Export and import price indices are calculated as unit value indices, in other words, indices of the change of the export and import value per quantity unit of exported/imported goods, that is, per kilogram as a uniform and comparable quantity unit for all goods.

Name of survey:	Unit value indices
Link to surveys undertaken at the European level:	The basic methodological principles for the calculation of export/import prices can be found in the publication entitled <i>Methods Used in Computing the United Nations Price Indexes for External Trade, Volume I, Statistical Papers, Series M No. 82, UN, 1991</i> , as well as in the materials entitled <i>Statistics on the Trading of Goods, User Guide, Annex 8, Foreign Trade Indices, Methodology and Sources, Eurostat</i> .
Periodicity:	quarterly, annually
Time of availability of results:	Results are available 50 days after the end of the survey period
Main variables used in QNA:	Exports and Imports Unit value indices by NACE and SITIC classification

#### Source 42: Balance of Payment data

The balance of payments of the Republic of Croatia represents a systematic overview of the value of economic transactions performed by the Croatian residents with foreign countries within a particular period.

Name of survey:	Balance of Payment data
Link to surveys undertaken at the European level:	It is compiled in accordance with the recommendations of the International Monetary Fund ( <i>Balance of Payments Manual, Fifth Edition, 1993</i> ).
Periodicity:	quarterly
Time of availability of results:	Results are available 52 days after the end of the survey period, and second version 62 days after the end of the survey period



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Main variables used in QNA:	Exports and imports of goods and services
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#### Source 43: Cross- border traffic

The data for cross-border traffic of passenger cars, buses and their passengers in the road cross-border traffic and the cross-border traffic of passengers in railway traffic, maritime traffic, inland waterway traffic and air traffic are the records of the border police of the Ministry of the Interior.

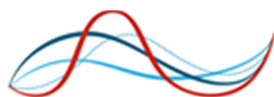
Name of survey:	Cross- border traffic
Periodicity:	Monthly, Quarterly
Time of availability of results:	Results are available 42 days after the end of the survey period
Main variables used in QNA:	Quantitative indicators on the transport of Cross- border traffic

#### Source 44: Industrial producer price indices on non-domestic market

The Industrial producer price index measures changes of producer prices of manufactured goods produced in the Republic of Croatia and sold by producers on non-domestic (non-Croatian) market. Data are collected through the Monthly survey on Industrial Producer Prices (IND-3/KPS/M form)

The reporting units included in the IND-3/KPS/M Survey are selected enterprises (legal entities and tradesmen) that produce selected products as defined in the Nomenclature of Industrial Products – NIP 2010., classified in the NKD 2007 activity sections B, C D and E (only division 36).

Name of survey:	Monthly Survey on Industrial Producer Prices (IND-3/KPS/M form)
Link to surveys undertaken at the European level:	Concepts and definitions used in the IND-3/KPS/M Survey are harmonized with the EU Methodology of Short-Term Business Statistics (Theme 4, ISSN 1725-0099; European Communities, 2006) as well as with the Commission Regulation (EC) No.



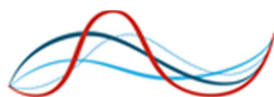
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	1503/2006 on definitions of variables, list of variables and frequency of data compilation.
Periodicity:	Monthly
Time of availability of results:	Results are available 10 days after the end of the survey period
Main variables used in QNA:	Industrial producer price indices according to NKD 2007 sections and divisions
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

#### Source 45: Report of revenues and expenses of budget users (S-PR-RAS)

The report of revenues and expenses of budget users give a systematic overview of revenues and expenses for the period from January 1 to March 31 and from January 1 to September 30. Financial statements provide an objective and actual picture of the financial position, business operations and cash flows of budget users at quarterly level.

Name of data source:	Report of revenues and expenses of budget users (S-PR-RAS)
Organization collecting the data:	Ministry of Finance
Periodicity:	quarterly (01-03; 01-09)
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS - national accounts needs at T+45 days
Main variables used in QNA:	Gross fixed capital formation by type of assets and changes in inventories broken down into four types of inventories: finished goods, work-in-progress, raw materials and supplies of traded goods
Further adjustments made to the collected S-PR-RAS data:	Detail descriptions are part of the Croatian GNI Inventory (Chapters 5) – applied for data adjustments at annual level



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#### Source 46: Report of revenues and expenses, receipts and expenditure (PR-RAS)

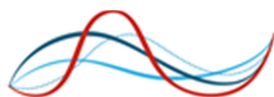
The report of revenues and expenses, receipts and expenditure give a systematic overview of revenues and expenses, receipts and expenditures and of financial result at quarterly and annual level. Financial statements provide an objective and actual picture of the financial position, business operations and cash flows of budget, budgetary and extra-budgetary users.

Name of data source:	Report of revenues and expenses, receipts and expenditure (PR-RAS)
Organization collecting the data:	Ministry of Finance
Periodicity:	Quarterly and annual
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS - national accounts needs at T+40 and T+60 days (T+70 days – local and territorial (regional) government units; extra-budgetary users)
Main variables used in QNA:	Gross fixed capital formation by type of assets and Changes in inventories broken down into four types of inventories: finished goods, work-in-progress, raw material and supplies and trade goods
Further adjustments made to the collected PR-RAS data:	Detail descriptions are part of the Croatian GNI Inventory (Chapters 5)

#### Source 47: Report of revenues and expenses of non-profit institutions

The account of revenues and expenses give a systematic overview of revenues and expenses and of financial result for the period from January 1 to June 30 and from January 1 to December 31. Financial statements provide an objective and actual picture of the financial position and business operations of non-profit organizations.

Name of data source:	Report (account) of revenues and expenses of non-profit institutions (PR-RAS-NPF)
Organization collecting the data:	Ministry of Finance



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Periodicity:	half-year (01-06) and annual (01-12)
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS - national accounts needs at T+45 and T+120 days
Main variables used in QNA:	Gross fixed capital formation by type of assets and changes in inventories broken down into four types of inventories: finished goods, work-in-progress, raw material and supplies of traded goods
Further adjustments made to the collected PR-RAS-NPF data:	Detail descriptions are part of the Croatian GNI Inventory (Chapters 5)

#### Source 48: Short report of revenues and expenses of non-profit institutions

Short account of revenues and expenses give a systematic overview of revenues and expenses for the period from January 1 to March 31 and from January 1 to September 30. Financial statements provide an objective and actual picture of the financial position and business operations of non-profit organizations.

Name of data source:	Short report (account) of revenues and expenses of non-profit institutions (S-PR-RAS-NPF)
Organization collecting the data:	Ministry of Finance
Periodicity:	quarterly (01-03; 01-09)
Time of availability of data:	Data are processed by FINA (institution authorized for data processing) for the CBS-national accounts needs at T+40 days
Main variables used in QNA:	Gross fixed capital formation by type of assets and changes in inventories broken down into four types of inventories: finished goods, work-in-progress, raw material and supplies traded goods
Further adjustments made to the collected S-PR-RAS-NPF data:	Detail descriptions are part of the Croatian GNI Inventory (Chapters 5) – applied for data adjustments at annual level



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#### Source 49: Building permits issued

The monthly Report on Issued Building Permits is collected from the competent administration bodies in counties, major cities and county seats as well as the administrative body of the City of Zagreb and the Ministry of Construction and Physical Planning which issue documents, specified in the Physical Planning and Building Act (NN, No 76/07, 38/09, 55/11, 90/11, 50/12, 55/12 and 80/13), by which the construction is approved (building permits, main design certificate and decision on construction requirements) as well as legal decisions for construction on the basis of the Act on Procedures and Building Requirements for Investment Stimulation (NN, No 69/09, 128/10, 136/12 and 76/13).

Name of data source:	Building permits issued
Organization collecting the data:	The data are collected by using the reporting method on the Monthly Report on Issued Building Permits (GRAD-44a form)
Periodicity:	monthly
Time of availability of data:	T+45 days
Main variables used in QNA	Building permits issued on Building

#### Source 50: Producers' stock index of industrial final products – gross indices

Indices of producers' stock of finished products are chain volume indices of finished products as defined in the Nomenclature of Industrial Products – NIPUM 2009.

Name of survey:	Monthly Survey on Industrial Production Volume Index and Indices of Stocks, Persons Employed and Labor Productivity in Industry
Link to surveys undertaken at the European level:	Concepts and definitions used in the IND-3/KPS/M Survey are harmonized with the EU Methodology of Short-Term Business Statistics (Theme 4, ISSN 1725-0099; European Communities, 2006) as well as with the Commission Regulation (EC) No. 1503/2006 on definitions of variables, list of variables and frequency of data compilation.
Periodicity:	Monthly





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Time of availability of results:	Results are available 10 days after the end of the survey period
Main variables used in QNA:	Indices of producers' stock of finished products

#### Source 51: Eurostat data base - Industrial producer price indices on non-domestic market

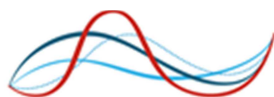
The Industrial producer price index measures changes of producer prices of manufactured goods produced in particular country and sold by producers on non-domestic market.

Name of survey:	Monthly Survey on Industrial Producer Prices on non-domestic market
Link to surveys undertaken at the European level:	Concepts and definitions used in the IND-3/KPS/M Survey are harmonized with the EU Methodology of Short-Term Business Statistics (Theme 4, ISSN 1725-0099; European Communities, 2006) as well as with the Commission Regulation (EC) No. 1503/2006 on definitions of variables, list of variables and frequency of data compilation.
Periodicity:	Monthly
Time of availability of results:	Results are available 10 days after the end of the survey period
Main variables used in QNA:	Industrial producer price indices according to NACE 2007 sections and divisions
Further adjustments made to the survey data:	Indices are calculated compared to the average of the previous year

#### Source 52: Adjustment for the change in net equity of households in pension fund reserves

The adjustment for the change in the net equity of households in pension fund reserves is equal to the total value of the actual social contributions payable into private funded pension schemes.

Name of survey:	Adjustment for the change in net equity of households in
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	pension fund reserves
Link to surveys undertaken at the European level:	No
Periodicity:	Monthly
Time of availability of results:	Results are available 90 days after the end of the survey period,
Main variables used in QNA:	Monthly payments of 2nd. pillar contributions
Further adjustments made to the survey data:	There is no need for further adjustments of published data