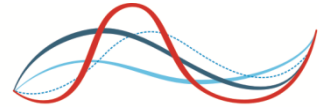REPUBLIC OF CROATIA

CROATIAN BUREAU OF STATISTICS

QUALITY REPORT FOR STATISTICAL SURVEY

Annual GDP calculation

For 2017

Organisational unit: National Accounts Aggregates Department
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0. Basic information

- Purpose, goal, and subject of the survey

The purpose of the survey is the calculation of gross domestic product (GDP) at current prices, constant prices of the previous year and constant prices of the reference year (2015. = 100). The calculation is performed according to the methodology of the European System of National and Regional Accounts (ESA 2010) and it is available according to the following approaches.

According to the production approach at current and constant prices: output, intermediate consumption, value added, aggregates broken down by activities

According to the expenditure approach at current and constant prices: final consumption expenditure of households, government and non-profit institutions serving households (NPISH), gross fixed capital formation, change in inventories, export and import of goods and services

According to the income approach at current prices: compensation of employees, taxes and subsidies on production and import, gross operating surplus and mixed income

- Reference period

Calendar year

- Legal acts and other agreements

Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts in the European Union, OJ L 174/1, 26.3.2013; Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community, OJ L 310, 30.11.1996, Council Regulation (EC, Euratom) No 1287/2003 of 15 July 2003 on the harmonisation of gross national income at market prices (GNI Regulation), OJ L181, 19.7.2003;
Council Regulation (EC) No 448/98 of 16 February 1998 completing and amending Regulation (EC) No 2223/96 with respect to the allocation of financial intermediation services indirectly measured (FISIM) within the European system of national and regional accounts (ESA), OJ L 58, 27.2.1998;
98/715/EC: Commission Decision of 30 November 1998 clarifying Annex A to Council Regulation (EC) No 2223/96 on the European system of national and regional accounts in the Community as concerns the principles for measuring prices and volumes, OJ L 340, 16.12.1998;
Commission Regulation (EC) No 113/2002 of 23 January 2002 amending Council Regulation (EC) No 2223/96 with regard to revised classifications of expenditure according to purpose, OJ L 21, 24.1.2002; Commission Regulation (EC) No 1889/2002 of 23 October 2002 on the implementation of Council Regulation (EC) No 448/98 completing and amending Regulation (EC) No 2223/96 with respect to the allocation of financial intermediation services indirectly measured (FISIM) within the European System of national and regional Accounts (ESA), OJ L 286, 24.10.2002; 2002/990/EC: Commission Decision of 17 December 2002 further clarifying Annex A to Council Regulation (EC) No 2223/96 as concerns the principles for measuring prices and volumes in national accounts, OJ L 347, 20.12.2002

Accounting Act (OG, Nos, 78/15 and 120/16)
Ordinance on the Manner of Keeping the Register of Annual Financial Statements and the Manner of Receiving and Checking the Completeness and Accuracy of Annual Financial Statements and Annual Report (NN, Nos 1/16)
Ordinance on the Form and Content of Additional Data for Statistical and Other Purposes (NN, No. 2/17)

- Classification system

National Classification of Activities 2007
Classification of Products by Activities
National Classification of Spatial Units for Statistics 2012. – NKPJS 2012.
Classification of Individual Consumption by Purpose – COICOP
Classification of the Functions of Government – COFOG

- Concepts and definitions

The Macroeconomic Statistics Directorate applies ESA 2010 methodological guidelines as well as working papers and manuals published by Eurostat and other statistical organisations. Certain deviations from the ESA 2010 methodology are still present. For the purpose of consistent application of methodologies, the Croatian Bureau of Statistics conducts data revisions. In recent years, special attention is also given to the problem of consistent recording of data through different national accounts domains.

The main data sources for the annual GDP calculation are the Register of Annual Financial Reports of Enterprises (enterprises, banks and savings banks, insurance companies and other financial institutions) kept by the Financial Agency (FINA), the annual financial report for budgets and budgetary users, statistical report for non-profit institutions, annual data of the Tax Administration for non-incorporated units and self-employed persons, statistical surveys, financial statistics and the balance of payments data of the Croatian National Bank, fiscal statistics of the Ministry of Finance and other available data sources.

The calculation has been done on the basis of available statistical data according to the National Classification of Economic Activities, 2007 version, at the division level at current and constant prices. Business entities are grouped within activities as institutional units and not as kind-of-activity units.

GDP is calculated in American dollars and euros in total and per capita on the basis of the total calculated GDP at current prices, the average exchange rate for American dollar and euro of the Croatian National Bank and the estimated total mid-year population.

Population data have been updated according to the population estimate of the Republic of Croatia for the period from 2001 to 2010, calculated on the basis of the 2011 Census, in order to achieve the continuity of the population estimate for the years prior to the 2011 Census and the population estimates for the years after the 2011 Census. The annual average of the total population was calculated as the average of the situation as on 31 December of the previous year and 31 December of the current year.

- Statistical units

Following the ESA 2010 guidelines, two types of units and two corresponding ways of subdividing the economy are used in national accounts: (a) institutional unit; (b) local kind-of-activity unit (local KAU). The first type is used for describing income, expenditure and financial flows as well as balance sheets. The second type of units is used for the description of production processes, for input-output analysis and for regional analysis.

An institutional unit is an economic entity characterised by decision-making autonomy in the exercise of its principal function. A resident unit is regarded as an institutional unit on the economic territory where it has its centre of predominant economic interest if it has decision-making autonomy and either keeps a complete set of accounts, or is able to compile a complete set of accounts.

A local KAU groups all the parts of an institutional unit in its capacity as producer which are located in a single site or in closely located sites, and which contribute to the performance of an activity at the class level (four digits) of the NACE Rev. 2.

An institutional unit comprises one or more local KAUs; a local KAU belongs to one and only one institutional unit.

The Croatian annual GDP is calculated at the institutional unit level, using mainly administrative data sources. Regional accounts are based on LKAU. Sector accounts are compiled at the institutional unit level.

- Statistical population

The national accounts population of a country consists of all resident statistical units (institutional units or local KAUs). A unit is a resident unit of a country when it has a centre of predominant economic interest on the economic territory of that country, that is, when it engages for a longer period (one year or more) in economic activities on this territory.

National accounts are exhaustive. This means that all resident statistical units are covered.

1. Relevance

1.1. Data users

Primary users of the national accounts data in Croatia are the Ministry of Finance, the Ministry of Economy, financial institutions, the Croatian National Bank, the Croatian Chamber of Economy, scientific and academic institutions that conduct macroeconomic research as primary activity, as well as newspapers specialised in the field of macroeconomics international organisations such as IMF and OECD.

1.1.1 User needs

National accounts data provide key information for economic policy monitoring and decision making, for forecasting, for administrative purposes, for informing the general public about economic developments (directly or indirectly via news agencies) and as input for economic research.

1.1.2   User satisfaction

Views and opinions of users of national accounts statistics can be collected and analysed as one of the tools to "measure" the relevance of national accounts data.

Users may send their inquiries and suggestions to the following e-mails: stat.info@dzs.hr (information and user requests) and press@dzs.hr (journalist requests).

1.2.   Completeness

In most countries, national accounts cover the domains of the main aggregates of national accounts, government accounts, sector accounts, regional accounts, as well as supply and use tables. However, the content of the data on these domains as well as the (details of the) various breakdowns (by regions, sector, industry, product, etc.) may deviate per country, depending on national needs and available sources.

The ESA 2010 Transmission Programme, consisting of 22 tables across all national accounts domains defines the minimum national accounts data set that must be available in all EU Member States.

The link for derogations from the ESA 2010 Transmission Programme is provided below (please see page 41 for Croatia):
https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:195:FULLfrom=EN

1.2.1   Data completeness rate

Data completeness rate is 100%.

2. Accuracy and reliability

2.1.   Sampling error

Not applicable.

2.1.1   Sampling error indicators

The indicator for this survey is not applicable.

2.1.2   Bias due to sample selection process

The indicator for this survey is not applicable.

2.2.   Non-sampling error

Not applicable.

2.2.1   Coverage error

There is no accurate information about the units out of coverage, but the assumption is that their number is very low. The Statistical Business Register continuously checks all relevant administrative sources.

2.2.2   Over-coverage rate

The indicator for this survey is not applicable.

2.2.3   Measurement errors

Controls are conducted on all relevant data sources and calculations.

2.2.4   Non-response errors

Not applicable.

2.2.5   Unit non-response rate

The indicator for this survey is not applicable.

2.2.6   Item non-response-rate

The indicator for this survey is not applicable.

2.2.7   Processing errors

Not applicable.

2.2.8   Imputation rate

The indicator for this survey is not applicable.

2.2.9   Editing rate

The indicator for this survey is not applicable.

2.2.10 Hit rate

The indicator for this survey is not applicable.

2.2.11 Model assumption error

Not applicable.

2.3.   Data revision

2.3.1   Data revision – policy

National accounts data are subject to continuous revisions as new input data become available. They are called routine revisions and entail regular revisions of country data and of the European aggregates.

More rarely, exceptional revisions (called benchmark revisions) will result from major changes in data sources, classifications or methodology. For example, when changing from ESA 95 to ESA 2010, a benchmark revision was carries out at the country level and at the euro area/EU data level.

Two working groups developed proposals for a more harmonised approach tor benchmark and routine revisions. The one under the auspices of Directors of Macroeconomic Statistics (DMES) dealt with the benchmark revision policy, while the other one under the auspices of

the Committee on Monetary, Financial, and Balance of Payments Statistics (CMFB) on the European Harmonised Revision Policy dealt with routine revisions.

Regarding the revision policy for national accounts, the Croatian Bureau of Statistics published in English in April 2020 a national revision policy for the domain of national accounts named "Revision Policy for the Domain of National Accounts and Government Finance Statistics/Excessive Deficit Procedure Statistics". The Croatian Bureau of Statistics and Eurostat reached an agreement during the preparation of the draft revision policy". The document in available on the website of the Croatian Bureau of Statistics.

2.3.2 Data revision – practice

While revisions should be seen as a process for a progressive improvement of the quality of national accounts as, for example, better sources and/or methods become available, the availability of metadata on revisions is a key element for understanding the national accounts data and revisions between subsequent First Releases.

Therefore, information on the main reasons for revisions and their nature (new source data available, new methods, etc.), as well as possible quantitative and qualitative assessment of the average size of revisions, is required.

The benchmark data revision was conducted in 2019. The revision included the following elements of methodological improvements: improvements in the calculation and allocation of financial intermediation services indirectly measured (FISIM) and insurance services, improvements in the calculation of imputed dwelling rents, correction of the categories of gross output, intermediate consumption and value added due to a double recording of the production in agriculture activity, the inclusion of the non-collected value added tax due to the business insolvency and bankruptcy, improvements in the calculation of the non-observed economy, as well as the exclusion of the land rental costs and paid royalties for the exploitation of oil, gas and other natural resources from intermediate consumption. In accordance with the revised external statistics and the new calculation of the indicators of tourism revenues in the balance of payments, a revision of the calculation of export of services and household final consumption expenditure has been conducted. The value of the import of used vehicles from the EU by natural persons has been included in the calculation of the import of goods. Subsidies have been broken down into subsidies on products and other subsidies on production for the period from 1995 to 1999. The revision also included methodological improvements in the calculation of subsidies: subsidies exclude sojourn tax and subsidies to shipyards. Subsidies to shipyards have been recorded as investment grants since 2013. The general government coverage includes numerous public enterprises that have not passed the market/non-market test for two consecutive years, as well as enterprises included in the government sector based on qualitative criteria. Among others, this also includes all tourist boards, port authorities and majority of regional development agencies. A revision of taxes has been conducted since 2015 by switching to the new data source and the correction of the recording of annual levy on public roads for the period from 2002 to 2009. In accordance with the updating of the Statistical Business Register, the updating of the NKD activities has also been conducted as part of the subject revision. The revision is published in First Release "Annual Gross Domestic Product, 1995 – 2017, Revised Data".

After every revision of annual data, the revision of quarterly GDP, regional GDP, sector accounts and SuT was conducted.

2.3.3   Data revision – average size

The indicator for this survey is not computed.

2.4.   Seasonal adjustment

The objectives of seasonal adjustment are to identify and remove seasonal fluctuations and calendar effects, which can mask short-term and long-term movements in a time series and impede a clear understanding of underlying phenomena. Seasonal adjustment is therefore a fundamental process in the interpretation of time series (ESS guidelines on seasonal adjustment, 2015 Edition, Annex, point 1).

For the selected sub-annual national accounts data, such as the quarterly main aggregates, time series are usually not only published in their unadjusted form, but also with various types of adjustment (e.g. seasonal, calendar, trend-cycle).

According to the ESA Transmission Programme, quarterly data are to be provided in non-seasonally adjusted form, as well as in seasonally adjusted form (including calendar adjustments, where relevant) except for previous year's prices.

The provision of quarterly data that only include calendar adjustments is voluntary.
For sector accounts, seasonal adjustment (including calendar adjustments, where relevant) is compulsory for a limited set of series.

For Croatian quarterly national accounts, the estimation of seasonally adjusted series generally includes calendar adjustments, but seasonal adjusted series are not comparable to annual data. The adjustment of quarterly GDP figures according to the revised annual data was carried out by using the ECOTRIM programme. The ECOTRIM has been developed by Eurostat performing a set of mathematical and statistical techniques that are used for temporal disaggregation of data. Since February 2015, for QNA, the applied seasonal adjustment model is X-13 ARIMA using JDemetra+ version 2.1.0. where three common outliers (i.e. regressors) have been detected in seasonal adjustment procedure – additive outlier (AO), level shift (LS) and temporary change (TC). There is also an additional variable defined in the form of a ramp reflecting the impact of the global economic crisis. The original data are comparable to the annual data, while the seasonal adjusted data are not comparable to the annual data.

3. Timeliness and Punctuality

3.1.   Timeliness

3.1.1   Time lag – first results

Time lag – first results is T+2 months.

3.1.2   Time lag – final results

Time lag – final results is T+21 months.

3.2.   Punctuality

3.2.1   Punctuality – delivery and publication

Delivery and publication is 1.

4. Accessibility and clarity

The Croatian Bureau of Statistics always publishes First Releases after the new calculation is done. First Releases are available on the website and in a limited number of hard copies. National accounts data are also disseminated in Statistical Yearbook, Statistical Information, Croatia in Figures and Statistics in Line.

The regularly updated data versions can be found in the MS Excel form using the link below: https://www.dzs.hr/Eng/Publication/StatisticsInLine.htm.

4.1. News release

First release 12.1.4. Annual Gross Domestic Product, 1995 –- 2017, Revised Data, of 21 October 2019

4.2. Other publications

Statistical Yearbook of the Republic of Croatia, Statistical Information, Statistics in Figures

4.3. On-line database

Statistics in Line 12.1. Gross Domestic Product

4.4. Micro-data access

The conditions under which certain users can have access to microdata are regulated by the Ordinance on the Conditions and Manner of Using Confidential Statistical Data for Scientific Purposes.

4.5. Documentation on methodology

The general methodological framework for the compilation of national accounts in the EU is ESA 2010.

In addition, several handbooks have been developed to help compilers to produce national accounts data. Some of the most important methodological manuals are the Handbook on Quarterly National Accounts, the Manual on Regional Accounts Methods, the Eurostat Manual of Supply, Use and Input-Output Tables, the Manual on Government Deficit and Debt.
Furthermore, guidance manuals on specific topics are available, e.g. Compilation Guide on Land Estimation, Compilation Guide on Inventories, Manual on Measuring Research and Development in ESA 2010.

The manuals above specifically apply to EU national accounts statistics. However, international equivalents are also available: SNA 2008, Quarterly National Accounts Manual, Handbook on Input-Output Table Compilation and Analysis, Government Finance Statistics Manual.

The national accounts documentation of the Croatian Bureau of Statistics on sources and methods is available in English "Croatian Quarterly National Accounts Inventory based on ESA 2010 methodology" and "Inventory of the methods, procedures and sources used for the compilation of deficit and debt data and the underlying government sector accounts according to ESA 2010" on the website of the Croatian Bureau of Statistics

5. Comparability

5.1.   Asymmetry for mirror flows statistics

Mirror statistics between countries is the subject of Eurostat examinations. Over time, this issue has become increasingly important.

5.2.   Comparability over time

5.2.1   Length of comparable time series

The length of comparable time series is 23.

5.2.2   Reasons for break in time series

Not applicable.

6. Coherence

6.1.   Coherence – short-term and structural data

The indicator for this survey is not applicable.

6.2.   Coherence – national accounts

The indicator for this survey is not computed.

6.3.   Coherence – administrative sources

The indicator for this survey is not computed.

7. Cost and burden

7.1.   Cost

Not available.

7.2.   Burden

Not available.