

~ Methodology ~

**ANNUAL NATIONAL ACCOUNTS**

**GROSS DOMESTIC PRODUCT**

**INTRODUCTION**

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Gross domestic product (GDP) is the most important macroeconomic aggregate in the system of national accounts, at the same time being a measure of the total economy development.

The calculation of gross domestic product for Republika Srpska is based on methodological postulates of the European System of Accounts ESA 2010. Republika Srpska Institute of Statistics revised previously published data in accordance with the international methodology ESA 2010.

GDP may be calculated through three main approaches:

- production approach, according to which GDP represents the sum of gross value added (GVA) per activity, plus taxes and minus subsidies on products;
- income approach, where it represents the sum of compensation of employees, consumption of fixed capital, net taxes on production, operating surplus and mixed income;
- expenditure approach, in which it consists of final consumption of goods and services, gross fixed capital formation and value of exports minus value of imports of goods and services.

**SOURCES OF DATA**

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Administrative sources of data and results of official statistical surveys are used for the calculation of GDP in Republika Srpska, with estimates of non-observed economy and imputed rent also being included.

The most important sources of data on which the GDP compilation is based are financial reports of enterprises and other business entities in the non-financial sector, banks, insurance companies and other financial institutions, other legal entities, budget and non-budgetary funds. Data on entrepreneurs are obtained directly through statistical reports, and for individual agricultural production estimates are made based on data obtained from municipal estimators and data from the Labour Force Survey. Value of construction activity of households is estimated using the indicators obtained through the Household Budget Survey, and value of imputed rent is based on the "User cost" method, that is, on the OECD's recommendations.

## METHODOLOGICAL BASIS

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### Production approach, current and constant prices

According to production approach, gross domestic product represents the sum of gross value added at basic prices, plus taxes and minus subsidies on products. GDP is an indicator of economic activity of resident institutional units of an area in certain time period. It is calculated for the level of total economy only, and it is presented at current and constant prices.

Macroeconomic aggregates calculated by production approach are presented on the level of sections of the Classification of Economic Activities KD BiH 2010, which is in its content and structure fully harmonised with the EU Classification of Economic Activities NACE Rev.2. Grouping by section of activities is done based on the main activity of institutional units with headquarters in Republika Srpska.

According to the functional approach, institutional units are grouped into institutional sectors:

- S11. Non-financial sector - covers business entities in which profit is realised through the production of goods and services, that is, those that realise their income at the market.
- S12. Financial sector - covers resident institutional units participating or assisting in financial intermediation, such as financial enterprises, commercial banks, the Central Bank, microcredit organisations, privatization and investment funds, insurance companies, etc.
- S13. General Government sector - covers all institutional units which are non-market producers providing goods and services for final consumption, both individual and collective consumption, and all this free of charge or at prices which are lower than market prices. This includes public non-market enterprises, funds of compulsory social insurance, government and its units at all level of government in Republika Srpska.
- S14. Household sector - covers persons or group of persons as consumers, and as well as entrepreneurs that produce goods and services for the market.
- S15. Sector of non-profit institutions serving households - covers non-market institutional units which serve households, such as social, recreational and sports clubs, professional associations, trade union organisations, political parties, religious organizations etc.

Main categories in the calculation of gross domestic product by production approach are: output, intermediate consumption and gross value added.

**Output** is valued at basic prices, and defined as the value of all goods and services produced by resident producers during the accounting period. There are three categories of production: market production, production for own final consumption and other non-market production.

**Intermediate consumption** at purchase prices includes value of goods and services spent as inputs in the production process, and it consists of costs of raw materials and materials, costs of fuel and energy, costs of services and other costs. Consumption of fixed capital is not a part of intermediate consumption, but it is calculated and presented as a separate category.

**Gross value added** is equal to the difference between output and intermediate consumption, and it is presented at basic prices which include subsidies and exclude all taxes on products.

Calculation of gross value added is done based on the principal activity of business entities, not based on activities of their business units.

**Taxes on products** are taxes that are paid by produced or/and proceeded product or service. Those are: value added tax, excises, customs, tax on overnight stays and taxes on lottery.

**Subsidies** are current non-returnable payments of government institutions to residential producers, with the aim to increase their level of production, regardless of these being subsidies on products or other subsidies on production. **Subsides on products** are paid per unit of produced goods and services.

**F I S I M** (Financial Intermediation Services Indirectly Measured) is defined as the difference between the interest receivable by financial intermediaries on their loan (active interests) and deposit assets and the interest payable on deposit and loan liabilities (passive interests) for institutional units of financial intermediation. Financial Intermediation Services Indirectly Measured are not allocated per institutional sectors, which means that in the accounts of goods and services and in the accounts of production for the level of total economy they are an integral part of intermediate consumption, while in the accounts by institutional sector they are a part of gross/net value added, gross/net operating surplus and gross/net mixed income. This item corrected gross value added for the total economy level.

**Gross Domestic Product** is expressed at market prices, and it represents the sum of gross value added by activity, corrected for financial intermediation services indirectly measured (FISIM), minus subsidies and plus taxes on products.

**Non-observed economy – NOE estimates**, excluding the part regarding illegal activities N2, are an integral part of official data on GDP in Republika Srpska and they are built in its income components. Estimates are done by activity and by type of producers, in accordance with the following non-exhaustiveness types<sup>1)</sup>:

- N1 - Producers deliberately not registering - underground;
- N3 - Producers not required to register;
- N4 - Legal persons not surveyed;
- N5 - Registered entrepreneurs not surveyed;
- N6 - Producers deliberately misreporting;
- N7 - Other statistical deficiencies.

**Gross domestic product at constant prices** is an important indicator of the level and indicator of measuring economic development, showing economic growth between different periods, while eliminating the influence of price changes. It is expressed at previous year prices, at prices of the year 2010 (chain-linked values) and as real growth rates.

The calculation of gross domestic product at previous year prices implies that for each year the year preceding it is taken as the base year. A series of data presented in this way may be used to calculate real growth rates between two consecutive years only, because the data are not comparable in a longer time series. In order to compare data in a longer time series, it is necessary

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<sup>1)</sup> Eurostat's Tabular Approach to Exhaustiveness - Guidelines, p.8 , 15. March 2005, Luxembourg

to apply the chain-linking method, which serves to confine the data to one selected reference year (2010=100). Differently from data in previous year prices, data series given at prices of the reference year are non-additive, that is, the sum of data for lower levels does not equal the data on the higher level of aggregation.

Gross value added at constant prices is, as in the account at current prices, the difference between output and intermediate consumption. Real growth rate of GVA by activity and real growth of GDP is the ratio between accounted values at constant prices in the current year and accounted values at current prices in the previous year.

Single deflation method for output or single extrapolation method are used for the gross domestic product calculation at constant prices, depending on available indicators.

Single extrapolation method represents extrapolation of output in the base year with adequate physical scope indices.

Single deflation method represents deflation of output in the current year with adequate price indices.

### **Income approach, current prices**

GDP by income approach is compiled simultaneously with the compilation of GDP by production approach, and it is based on the income generated by the production of goods and services. Sources of data for the calculation of income components are the same as those for GDP by production approach.

Income components of Gross domestic product are compensation of employees, other taxes on production, other subsidies on production and net operating surplus/mixed income.

**Compensation of employees** represents employees' income in cash or in kind in a given period of time, and it consists of net wages and other personal income, taxes and contributions on wages and other personal income. According to the ESA concept, compensation of employees is a broader term compared to gross wage as an accounting category, because they also include per-diem, subsistence expenses, family separation allowance, allowance for food and transportation, jubilee awards, fees, severance payments, management boards remuneration, etc.

**Other taxes on production** include all taxes which are not paid per unit of produced goods or services, such as taxes on property, taxes on use of land, taxes on issued permits and licenses, recompense for travelling abroad, etc.

**Other subsidies on production** are subsidies which cannot be shown per unit of products or services, such as subsidies on wages and salaries of employees, subsidies on interest rates, etc.

**Consumption of fixed capital** is calculated value of used fixed assets during an accounting period.

**Net operating surplus** refers to non-financial and financial sector and imputed rent from the household sector, and it emerges after compensation of employees, net taxes on production and consumption of fixed capital are extracted from gross value added.

**Net mixed income** emerges after compensation of employees, net taxes on production and consumption of fixed capital in the household sector are extracted from gross value added.

### **Expenditure approach, current prices**

Gross domestic product by expenditure approach shows how the calculated GDP is spent and whether all consumption in a certain period is provided from GDP for that period. The calculation is based on the Household Budget Survey results, results of branch statistics, administrative sources of data and the Balance of Payments of the Central Bank of Bosnia and Herzegovina.

Basic categories for the calculation of gross domestic product by expenditure approach are: final consumption expenditure of households, final consumption expenditure of non-profit institutions serving households, final consumption expenditure for general government, gross fixed capital formation and value of exports minus value of imports of goods and services.

**Household final consumption expenditure** consists of expenditure incurred by resident households for consumption of goods and services, used for direct satisfaction of personal needs of the community members. The calculation of household consumption is based on results of the Household Budget Survey, consumer price indices, number of citizens and as well as data available from branch statistics surveys.

**Final consumption expenditure of non-profit institutions serving households (NPISHs)** consists of goods and services which NPISHs provide to households free of charge or at prices that are not economically significant and are transferred as social transfers in kind.

**Final consumption expenditure of general government** consists of expenditure for individual and collective consumption. Individual government expenditure refers to non-market services to population (education, health, social, culture, recreation, sport, etc.) and expenditure for market goods and services (medicines, orthopedic equipment, medical services, etc.) provided free of charge or at economically insignificant prices to the population. Collective government expenditure consists of expenditure for administration, defense, economic, research, development and similar purposes.

**Actual individual consumption** consists of household consumption expenditure, NPISHs and individual government expenditure.

**Final consumption expenditure** consists of expenditure for actual individual and collective government consumption.

**Gross capital formation** consists of gross fixed capital formation into fixed assets, changes in inventories and investments in net value of valuables.

Gross fixed capital formation into fixed assets consists of investments of business entities, entrepreneurs and physical entities, which are related to new fixed assets, intangible fixed assets and costs of ownership transfer.

Changes in inventories are related to inventories of materials and supplies, finished products, goods for resale and production in progress.

**Data on export and import of goods and services** are based on external trade statistics, Balance of Payments of the Central Bank of Bosnia and Herzegovina, including estimate of turnover between entities as well.

## **PUBLISHING**

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Gross domestic product and gross value added-production approach and Gross domestic product-income approach are published in the releases, as preliminary data (15<sup>th</sup> July) and as final data (15<sup>th</sup> November). Gross domestic product - expenditure approach is published through release (15<sup>th</sup> November). Detailed data on gross domestic product are also published in the thematic bulletin of National accounts (15<sup>th</sup> December).

## **PROTECTION OF DATA**

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Individual data are protected pursuant to the Law on Statistics of Republika Srpska ("Official Gazette of Republika Srpska", No. 85/03) and in accordance with the Rules of protection of confidential data.

**Prepared by:**

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