

National Accounts

Metadata

National Bureau of Statistics of the Republic of Moldova (NBS)

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3. Statistical presentation

3.1. General description

National Accounts represent a coherent and detailed set of macroeconomic indicators providing a comparable and complete image of the economic activity of the country. The indicators obtained because of developing the national accounts represent the most complex macroeconomic analysis tools, which generate the real possibility for the society to measure its performance and to adjust its future conducts.

National Accounts are presented via goods and services account, production account, operation account, allocation of primary income account, secondary distribution of income account, use of gross disposable income account, capital account, and the Rest of the World account. The accounts are developed for total economy, by economic activities and institutional sectors. The accounts are balanced by inducing a **balancing item**, which represents the **macroeconomic indicators**.

The connection among the indicators of the accounts from every institutional sector is reflected in the **Table of Integrated Economic Accounts**.

The accounts are developed in line with the methodology of the **United Nations' National Accounts System, version 2008 (SNA-UN-2008)**, compatible with methodology of the **European System of Accounts, version-2010 (SNA-UN-2008/ESA-2010)**.

To be complex and accurate, the national accounts are adjusted to the **unobserved economy elements**. Estimations are produced in line with the SNA-UN-2008/ESA-2010 version and the OECD recommendations reflected in the publication "Measurement of Unobserved Economy", edition 2002.

This area covers the following selection of variables:

Gross Domestic Product (GDP) and the main aggregates. Data are registered in current and constant prices and include the deflator index.

Aggregates of final consumption, which include the breakdown in final consumption of households, public administration, non-profit institutions serving households sector, are registered in current and

constant prices and include the deflator index.

Gross Fixed Capital Formation, changes in stocks, exports and imports of goods and services are registered in current and constant prices and include the deflator index.

Incomes, economies and the net lending or borrowing are registered in current prices.

Auxiliary indicators: data on population and employment and earnings, purchasing power parity, contribution to GDP growth, etc.

Data are published in:

- national currency;
- current and constant prices;
- population and employment are assessed in persons; employment is measured also in number of total worked hours.

When recalculating the macroeconomic indicators in constant prices, **the previous year is taken as the basic year**. When reconciling the quarterly calculations with the annual ones, the macroeconomic indicators are recalculated also in the prices of **a fixed basic year**.

3.2. Concepts and definitions

3.2.1. Definitions

This area covers the main aggregates of the accounts, which are presented via the following variables: **GDP and its components, employment, final consumption aggregates, economies and net lending or borrowing, exports and imports of goods and services**.

The above-mentioned variables are developed on annual basis, but the majority of them are also calculated on quarterly basis.

All the national accounts variables are reflected in national currency, except for population (assessed in persons) and employment (assessed in persons, places of work, and worked hours).

Economic activity – the process that leads to the production of a similar set of outputs (goods, services), which characterizes the most aggregated categories of classification of economic activities.

Institutional sector – regrouping of institutional units in assemblies, from the point of view of main functions performed and sources of financing.

Institutional unit – the resident economic unit (having an interest centre thus developing an economic activity not less than one year on the given territory), being able to take decisions exercising its main function and/or being the owner of assets (has both accounting documents including all the economic and financial operations performed during the period, as well as a balance of its assets and liabilities).

Institutional resident units – are classified by institutional sectors: non-financial corporations, financial corporations, public administration, households, non-profit institutions serving households.

Non-financial corporations sector comprises the non-financial institutional units whose main function is to produce non-financial goods and services for market purposes and whose main resources derive from sale of production.

Financial corporations sector includes the institutional units, whose main function is funding i.e. collection, transformation and redistribution of financial assets. The main resources of these units constitute the funds resulting from the commission works performed, interests, securities, bonds and interest received. This sector includes crediting and security companies, insurance companies and other financial corporations.

Public Administration sector includes the institutional units, whose main function is to produce non-market services intended for individual and collective consumption and to perform operations of redistribution of state incomes. The resources of these units are formed based on the mandatory contributions made by other institutional sectors.

Non-profit institutions serving households sector regroups the institutional units, that render non-market services to households and whose resources, come from voluntary contributions made by households, also from ownership incomes. The sector includes social organizations, political parties, trade unions, religious cults, cultural and sports association etc.

Household sector includes separate units and groups of units, performing simultaneously the function of consumers and, eventually, the function of entrepreneurs. The main resources of these units are the remuneration of employees, the ownership incomes and transfers from other sectors, or the incomes in the result of sale of production.

Rest of the World - the economic relations with other countries are reflected in the “Rest of the World”, that brings together all non- residential institutional units, in the cases in which they interact with residents.

Gross Domestic Product (GDP) – the main macroeconomic aggregate of the System of National Accounts, that characterizes the final result of production activity of resident producing units, and which corresponds to the value of goods and services, produced by these units for final consumption.

Gross Value Added (GVA) is the balancing item of production account and is measured as the difference between the value of goods and services produced (assessed in basic prices) and intermediate consumption (assessed in purchaser’s prices), thus representing the new value created in the production process. The GVA is calculated before calculating the fixed capital consumption. The GVA is distributed by economic activities (NACE rev.2).

Production – includes all goods manufactured and services rendered during a reporting period.

Production of goods and services for market purposes represents the production which is or can be sold at prices of economic significance.

Production of services for non-market purposes constitutes the production provided for other institutional units for free or at prices which are not economically significant.

Intermediate Consumption (IC) represents the value of goods and services (except the consumption of fixed capital) which are transformed or totally consumed during the production process.

Taxes on production and import (TPI) cover the taxes on products and other taxes on production activity.

Taxes on products (TP) – taxes paid proportionally to the quantity or the value of goods and services produced, sold or imported by the residents. Here are included the value added tax, excises, taxes on imported goods and services.

Other taxes on production (OTP) constitute all the taxes, except the taxes on products, which are paid by the enterprises and organizations during their participation in the production process.

Subsidies include subsidies on products and other subsidies on production.

Subsidies on products – amounts paid per unit of good and service produced or imported.

Other subsidies on production – amounts granted by budget for covering losses.

Net taxes on products – taxes on products minus subsidies for products. When calculating the gross added value, the production is evaluated in basic prices, where the intermediary consumption is assessed in purchaser's price, thus the difference between the taxes and subsidies by products must be included in the gross added value. The resulted Gross Domestic Product is assessed in market prices.

Net taxes on production and imports – taxes minus subsidies for product and imports.

Remuneration of employees (D.1) represents the total remuneration in monetary or in kind, paid by the employer to the employee for the work performed in the reporting period. The remuneration of employees includes (a) earnings (direct salaries, bonuses and allowances) and (b) social contributions of employers.

Earnings (D.11) include payments for time worked, time not worked and in kind. They include payments for piecework or for shiftwork, bonuses, allowances, tips, commissions, etc. They are recorded in the period in which work is accomplished. However, additional bonuses or other exceptional payments (thirteenth month salary, payments for previous periods etc.) are recorded when due to be paid.

Direct salaries, bonuses and allowances refer to gross amounts before deduction of taxes and social insurance contributions (individual social insurance contributions, individual premiums for medical insurance, income tax, etc.) paid by the employer on behalf of employee.

Social contributions to be paid by employers – represent the payment made by the employers to the state or private social insurance funds for guarantying their employees the right to receive social benefits in case of certain events or some special conditions, which may have a negative impact on the employees' wellbeing – sickness, work accidents, retirement, unemployment etc. These payments include mandatory, conventional, contractual and voluntary contributions that insure against social risks or needs.

Social contributions imputed to employers – represent the social benefits paid directly by the employers without the participation of the social insurance funds.

Gross Operating surplus/ Gross mixed income (OS/MI) is the balancing item of the Income Generation Account, and represents the part of new created value which remains at the producers after the remuneration of employees and the payment of net taxes on production and import. "Gross" indicates if this indicator includes or not the consumption of fixed capital in the process of production. The income from the production process of the enterprise, which is households' ownership is called gross mixed income, because it reflects the work remuneration, done by the owner of enterprise, as well as the profit from entrepreneurial activity.

Gross National Incomes (GNI) represents the primary incomes of resident institutional units in the result of their direct participation in the production process and from property, when making a certain asset available to another institutional unit (this being called property income). The GNI replaces and is conceptually equivalent with the Gross Domestic Product.

Ownership Incomes – include the incomes, receivable or payable, paid by institutional units on the use of financial assets, land and other non-financial, non-production assets.

Gross Disposable Income measures the part from new created value, that nation has, for final consumption and gross economy. This is equal to balance of primary incomes (gross) minus incomes transmitted as current transfers plus current incomes received by resident units from the rest of the world.

Transfer represents the transaction in which one institutional unit provides a good, service or asset (financial or non-financial) to another unit, without receiving from the last any goods, services or assets in return as counterpart. There are current, capital and social transfers in kind.

Current transfers include the current taxes on incomes and welfare, payments for social security, voluntary payments and gifts which do not have capital character, fines etc.

Capital transfers constitute operations with unique character and considerable as value, related to the procurement or sale of the participants' assets in these operations. Here are also included taxes on capital, subsidies for investments and other capital transfers.

Expenditures for final consumption represent the expenses of households and public administration for individual and collective goods and services, as well as the expenses of the non-profit institutions serving households sector.

Expenditures for final consumption of households represent the expenses of households for procuring goods and services used to directly meet the human individual needs of the resident households.

Expenditures for final consumption of public administration for individual services and goods cover the expenses of public administration for procurement of goods and services for the individual benefit of households.

Expenditures for final consumption of public administration for collective services include the services provided from the National Public Budget account by enterprises and organizations for the benefit of collectives or some groups of households.

Expenditures for final consumption of non-profit institutions serving households sector represent the expenses of these units for procuring goods and services so as to supply them free of charge to households as social transfers in kind.

Adjustments for modifying the net assets of households in pensions' funds reflect the modification of the net value of households' assets in pensions' funds. They are determined as the sum of the contributions to the non-state pensions' fund and the net income from investing the reserves of the non-state pensions' fund minus the services paid by non-state pensions' funds and the pensions paid from the non-state pensions' funds.

Gross Economy represents the balance of use of gross disposable income and measures the part from gross disposable income which is not used for the expenditure of final consumption.

Gross Capital Formation measures the net value of resident units' acquisitions of goods and services, produced but not consumed in the current period, and includes the gross fixed capital formation, the stocks variation.

Gross Fixed Capital Formation (GFCF) represents the value of tangible assets, purchased by the resident units in order to be used in the production process.

Changes in stocks (CS) represent the difference between stocks at the beginning and at the end of period. The stocks represent the goods which are not included in the gross fixed capital formation existing in the production unit. By convention, households (as consumers) do not have stocks. Also, the branches of public administration and of non-profit institutions serving households sector with non-market production purposes do not have stocks, except the strategic ones.

Net lending (+) or borrowing (-) represents the balancing item, which reflects the resources, payable by the national economy to the rest of the world (if it positive), or receivable from the rest of the world (if it is negative).

Exports of goods and services represent the transactions of goods and services (sale, barter, donations,

etc.) made by residents to the non-residents.

Imports of goods and services represent the transactions of goods and services (procurement, barter, donation, etc.) made by non-residents to residents. The imports and exports of goods are calculated in FOB (franco bord) prices. The FOB prices include the value of goods in producer's prices plus the value of services incurred until the exporting state border crossing (including the costs incurred for the subsequent transportation) plus the paid export taxes (minus received tax exemption) .

Balancing item of the external balance of goods and services represents the difference between exports and imports of goods and services; they can be calculated separately for transactions of goods and services.

Acquisitions less disposals of non-produced non-financial assets. The non-produced non-financial assets include the assets which are necessary for the production process, but which do not result from the production process (natural assets – land, deposits, etc.; non-material assets – copyright, patents, licenses, etc.).

Fixed capital consumption represents the decrease of the fixe capital value, used in the production process during the reported period, as a result of the physical and moral wear and tear, or as a result of some deterioration.

The population and labour force. Although not strictly some aggregates of national accounts, these variables are widely used in the context of national accounts. Employment and its components are important economic indicators and are used to development of the derived indicators; to convert the accounts' aggregates from the absolute value into relative value, thus allowing the comparison of economies of different sizes.

Employment covers all the persons employed in some productive activity that falls within the production boundary of the system of the national accounts. Employment includes both employees (paid work based on a working contract for another resident unit or in a private household) and self-employed (employers – owners of the unincorporated enterprises without the status of a legal entity (own business) with at least one permanent employee; own account workers - own business without employees, unpaid contributing workers in a family business etc.). Employment may be divided depending on the economic activity; this breakdown is not offered by national accounts, but by the respective area.

Population includes persons, local citizens or foreigners, who have permanent residence on the territory of the country, even though they are temporarily absent on a specific date. A person living or intending to live, for at least one year, is considered to be settled on the respective territory. As a rule, the total population does not include the foreign students, the members of foreign armies established in a country.

Labor force employment covers all the persons employed in one of the production activities (within the production limits of the national accounts). Labor force employment includes the employees (work based on an individual work contract for another resident unit or particular population household, and is remunerated) and non-employees (employers – owners of enterprises without the status of a legal entity, own account workers, etc.). The labor force employment may be divided depending on the economic activity; this breakdown is not offered by national accounts, but by the respective area.

Input for changing the GDP. The GDP changes may be referred to the changes occurred in its components, which show which component has strongly contributed to the economic growth and which of them did not. The contribution of the component depends on its size and growth. Thus, a small component, with a strong growth and a larger component with a rather modest growth may contribute to the GDP growth in the same way. The growth contributions may be presented in two ways: as inputs in percentage points to the GDP growth (ideally, the contributions will represent 100%) or as actions for GDP growth (ideally, the contributions will represent GDP growth). For instance, a value of 1.3 means

that if all the other components remained unchanged, the GDP would grow by 1.3%, determined by the increase of one single specific component. If the volume series are not expressed in constant prices of a basic fixed year, but are derived from the data related to the previous year prices, the components will not contribute to the GDP growth.

Purchasing power parity. Some annual variables are also measures according to the purchasing power standards. These are “fiction” currency units which eliminate the difference in the purchasing powers, meaning the different levels of prices among countries. Hence, the same nominal aggregate in two countries with different price levels may have as a result different values of the purchasing power. The figures expressed in purchasing power standards are derived from the figures expressed in the national currency, using the purchasing power parity as a conversion factor. These parities are obtained as a weighted average of the relative ratio of prices related to a homogeneous basket of goods and services, both being comparable and representative for every country.

Principles of evaluation. In the System of National Accounts the evidence of economic operations is made in prices used at the moment of transactions (current prices).

Current market price includes marketing and transport margins, taxes on products and excludes the subsidies on products. In order to eliminate the influence of various taxes and subsidies in different branches of the economy on the structure of production and generation of income, branch indicators are valued at basic prices.

Basic Price is the amount receivable by the producer for a unit of good or service excluding any taxes on products and including subsidies on products. Non-market production is evaluated at current prices using market prices at similar goods and services sold on the market, when it is possible to determine them, or, by expenditures on production when market prices are not available. In the NAS, such indicators as gross value added, gross operating surplus, stock variation are calculated, excluding holding gains, which are defined as the value of production generated due to changes in prices during the period when the products were held in stocks.

Reevaluation in constant prices. The evaluation in constant prices represents the recalculation of flows and stocks in prices of the previous period, called the basic year. The aim of the evaluation in constant prices is to assess the dynamics of the economic development regardless of the price modifications. This can be obtained by breaking down the changes of values over the time in changes of price and volume. The price, value and volume are linked through the following basic formula:

$$\text{values} = \text{volume} \times \text{price}$$

The basic year for calculating the constant prices is traditionally a stable year, year of comparison. All the available dynamic series are recalculated afterwards in the prices of the new basic year.

The disadvantage of this practice is the following: being more away from the basic year, the more irrelevant becomes the structure of the basic year price for the economic reality. This refers, especially, to the economic activities with dynamic areas and rapidly changing prices, such as information technologies and communication. The recalculation of the volumes, in these cases, in prices of a far-away year, leads to serious distortions. This is why the Commission Decision 98/715/EC requests for the **basic year to be the previous year**, thus guaranteeing for the volumes to be measures using the most recent structure of prices.

Price indexes (deflators) are calculate by dividing implicitly an aggregate, measured in current prices, by the same aggregate measures in constant prices (for the same period), the result being multiplied by 100. The aggregated national accounts are compiled in value (nominal terms, current prices) and volume (constant prices). The prices (deflators) are implicitly derived from the other two (value and volume). Some direct price observations enter the volume compilation of individual variables, while the deflators

are **aggregated values of price evolution** (for direct observation of price dynamics, please consult price statistics from the Eurostat online database). **For instance:**

GDP deflator index is the ratio of GDP calculated in current market prices to the volume of gross domestic product calculated in prices of the previous year. Unlike price indices for goods and services, the gross domestic product deflator characterizes the change in work remuneration, gross operating surplus/gross mixed income), fixed capital consumption resulting from changes in prices and nominal net taxes.

3.2.2. Unit of measurement

Data are published in national currency, current prices, volume components, and purchasing power standards (PPS). The main aggregates and the aggregates by economic activities are also available in increasing/decreasing rates (%).

Population and labor force employment are measures in persons. Labor force employment is measured also in total number of works hours.

3.2.3. Formula of calculation

Gross Value Added (GVA) = *production volume (PV) – intermediary consumption (IC)*

Gross Domestic Product (GDP) – is developed via three methods:

a. Production method

$GDP = \text{Gross Value Added (GVA)} + \text{Taxes on products (TI)} - \text{Subsidies on products (SP)}$

b. Use method

$GDP = \text{Final Consumption (FC)} + \text{gross Fixed Capital Formation (GFCF)} + \text{Stocks variation (SV)} + \text{Export of goods and services (E)} - \text{Import of goods and services (I)}$

c. Income method

$GDP = \text{work remuneration (WR)} + \text{gross operating surplus / gross mixed income (GOS/GMI)} + \text{taxes on production and import (TPI)} - \text{subsidies (S)}$

GDP components via the income method are available only in current prices, because the purely monetary flows cannot be broken down in a natural way in volume components.

Gross National Income (GNI) = $GDP + \text{Remuneration of work of resident-employees by the non-residents} - \text{Remuneration of work of non-resident employees by the residents} + \text{property incomes receivable from the "rest of the world"} - \text{property incomes payable to the "rest of the world"}$

Gross National Disposable Income (GNDI) = $\text{Gross national income} + \text{capital transfers receivable from the "rest of the world"} - \text{capital transfers payable to the "rest of the world"}$

Gross economies = $\text{Gross national Disposable Income} - \text{Expenditures of final consumption}$

Net lending (+) / borrowing (-) = $\text{Gross economy} + \text{capital transfers receivable from the "rest of the world"} - \text{capital transfers payable to the "rest of the world"} - \text{gross capital formation} - \text{acquisitions less disposals of non-produced non-financial assets}$

3.3. Used classifications

Economic activity: the Classifier of Activities in Moldova Economy (*CAEM - Clasificarea Activităților Economiei Moldovei in Romanian*) is used to develop the national accounts variables by economic activities; the CAEM is harmonized with NACE (Classification of Economic Activities in the European Community), rev.2, widely used in statistics and in other areas.

Economic activities (according to the CAEM) are presented according to the following:

• Agriculture, forestry and fishing	A
• Mining and quarrying	B
• Manufacturing	C
• Electricity, gas, steam and air conditioning supply	D
• Water supply; sewerage, waste management and remediation activities	E
• Construction	F
• Wholesale and retail trade; repair of motor vehicles and motorcycles	G
• Transportation and storage	H
• Accommodation and food service activities	I
• Information and communication	J
• Financial and insurance activities	K
• Real estate activities	L
• Professional, scientific and technical activities	M
• Administrative and support service activities	N
• Public administration and defence; compulsory social security	O
• Education	P
• Human health and social work activities	Q
• Arts, entertainment and recreation	R
• Other service activities	S
• Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	T

Ownership forms. The Gross Domestic Product is grouped according to the Classifier of Ownership Forms in the Republic of Moldova: public, private, and other.

3.4. Scope

3.4.1. Sector coverage

The accounts are presented by economic activities according to NACE rev. 2. in quarterly and annual basis. Presentation of institutional sectors is made only on an annual basis for five institutional sectors of the domestic economy: non-financial corporations, financial corporations, public administration, non-profit institutions serving households, population households. Economic relations with other countries are made through the sector "Rest of the world", which at the moment is presented by three accounts: account of goods and services, primary income and current transfers account and capital account.

3.4.2. Statistical population

National Accounts combine the data from more statistical sources. The concept of statistical population is not strictly applied in the national Accounts context.

3.4.3. Geographical coverage

Calculations are developed and disseminated without the data of enterprises and organizations from the left side of the River Nistru and Bender municipality.

3.4.4. Time coverage

Dynamic series, developed according SNA-UN-2008/ESA-2010 methodology are available starting with 2010.

3.5. Level of disaggregation

The accounts are developed by total economy, economic activities, and institutional sectors. The gross Domestic product is presented also by ownership forms.

3.6. Periodicity of dissemination

Quarterly
Annually

3.7. Timeliness

Quarterly – on the 75th day after the reported period;

Annually: preliminary data – March 15 of the year following the reported year (t+1);
semi definitive data – June 15 of the year following the reported year (t+1);
updated data – December 29 of the year t+2.
final data – December 29 of the year t+3

3.8. Revision

National data are revised in line with the national calendar timetable (see point 3.7.).

Data on national accounts are subject to continuous revision routine as soon as entry data are available. Data are also subject to revision when the new annual data are published, to ensure coherence between quarterly and annual data.

For the quarterly estimations on national accounts, the main reasons for revision are:

- revision of annual accounts;
- revision of methods or parameters for seasonal adjustment.

3.9. Period of reference

The period of reference is the quarter and the calendar year.

4. Data Collection and Processing

4.1. Data source

4.1.1. Statistical surveys

Data from different sources are used to develop the accounts:

1. Statistical surveys carried out by NBS:

- Annual Structural Survey of Enterprises;
- Households Budgets Survey
- Earning
- Labor Force Survey
- Balance of agricultural production
- Annual and infraannual surveys on industry, constructions, services, trade
- Population census data

4.1.2. Administrative sources

1. Information developed and supplied by the Ministry of Finance: the National Public Budget structured in the State Budget, the Territorial-Administrative Units' Budget, State Social Insurance Budget, Compulsory Health Insurance Funds;
2. Information from National Bank of Moldova: Balance of payment, financial-banking data
3. Information developed and supplied by the State Tax Service and Customs Service;
4. Information regarding the financial market activity developed and supplied by the National Commission for Financial Markets;
5. Financial (accounting) reports of entities, collected, processed, and centralized by NBS;
6. Other sources of administrative data supplied by local and central public authorities.

It should be mentioned that there is no single source of information for developing the national accounts. Especially, different sources are used for calculating the GDP through the different methods mentioned above in compartment 3.2 “Concepts and definitions” (point 3.2.1 – definitions and point 3.2.3 – calculation formula). When more than one of these methods is used, the results are, usually, balanced, meaning they are “forced” to be coherent, so as to obtain one single value for the GDP.

4.1.3. Estimations

Activities «missing» the basic information used for compiling national accounts, either because they are hidden activity, illegal, informal or that is production of households for own use or as a result of shortcomings in the system of data collection, are defined as **non-observed economy** and their inclusion in the national accounts is called measurement of non-observed economy.

Estimates are produced by economic activities and sectors - **formal, informal, illegal, household**

production for own consumption.

Production hidden in the formal sector - legal production unregistered by administrative and fiscal bodies and unreported to them by economic agents with the purpose of tax, social insurance contributions evasion etc.

Production hidden in the informal sector - production produced by those unincorporated enterprises from "households" sector, that are not registered and / or size of which by the number of employees is under the established level and that are producing production for the market.

Household production for own consumption — economic activity, the result of which households consume or accumulate the goods and services produced by themselves.

Illegal production - production of goods and services whose sale, distribution or possession is prohibited by law and which typically is legal, but becomes illegal when carried out by unauthorized persons.

Illegal sector currently is not estimated.

4.2. Characteristics of the statistical survey**4.2.1. Objective and background**

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4.2.2. Statistical unit

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4.2.3. Circle of units covered in the survey

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4.2.4. Survey periodicity

A number of information sources (statistical, financial-banking, and administrative) are used for compiling the national accounts; these data are collected at different time intervals, the most frequent being the quarterly and annual collection of data.

4.2.5. Data collection

National Accounts combine data from different statistical sources. The techniques for data collection vary widely, depending on the compilation method, the source of available statistical data, concrete account from the system, deadlines for data publication, as well as many other factors.

4.3. Data processing and compilation**4.3.1. Data validation**

Data are verified and analyzed from quality point of view, especially the internal coherence and coherence with other data.

4.3.2. Compilation/extrapolation of data

The quarterly calculations are performed on discreet basis, using statistical, financial-banking, administrative, and other information. Calculations are made in current prices and in average prices of the previous year.

The preliminary annual calculations represent the sum of four quarters. The annual updated calculations are developed based on the precised annual information from statistical, financial-banking, administrative and other reports. After finalizing the annual data, the quarterly calculations are reconciled with the annual ones, and recalculated in constant prices (prices of the fixed basic year) and are seasonally adjusted.

4.3.3. Adjustments

Though the estimations in the average prices of the base period offers the possibility of comparison over time between the increase in volume of GDP and its components, the series resulted do not indicate accurately the trend of economic developments because time series contain seasonal influences, the working days and irregular factors.

One of the requirements for developing the quarterly dynamic series is to eliminate the **seasonal factors**.

The purpose of seasonal and working days adjustment is to obtain a series that would reflect real economic development expressed as growth conjectural rates (quarter comparable with the previous quarter).

Seasonal fluctuations may be related to the cyclical nature of the agricultural production and the non-uniform supply of agricultural raw material to the activities involved in its processing; the different level of transportation means' loading; changes in the structure of the households' final consumption. The seasonal adjustment of the dynamic series ensures information which is more adequately distributed by time and volume of seasonal fluctuations, thus influencing the level of economic activities for the sub-annual periods of the registered series.

The information obtained when applying the seasonal adjustments to the data series plays an important role in analyzing the current economic situation, especially in determining the economic cycle development stage. Such information is useful for forecasting the changes of the economic cycle and serve as basis for taking decisions for economic activities' development.

In the context of quarterly seasonal adjustments, it is usually considered that the dynamic series includes three main components:

- cyclic trend component;
- seasonal component;
- irregular component;

The cyclic trend component represents the basic trajectory or the general direction, expressed in figures, meaning the combination of the long-term trends with the dynamics of the economic cycle.

The seasonal component includes concrete seasonal effects and systematic calendar effects, which do not have a stable annual distribution over the time, such as the effects of some working days and holidays with no fixed date.

Concrete seasonal effect – an effect considered to be rather stable from the point of view of annual distribution over the time, direction, and value. The possible causes for the emergence of these effects may be: natural factors, administrative factors, legislative measures, social/cultural traditions, and calendar effects with time-stable annual location (such as New Year, Independence Day, etc.).

Systematic calendar effect – an effect that influences the data series and has no time-stable annual distribution, being provoked by calendar divergences from year to year (the working days effect, the events' influence effect, the leap year effect).

The irregular component combines the effects, which when there is no additional information, are considered to be unpredictable from the point of view of appearance time, coverage area and duration (for instance strokes, force majeure situations, and other).

The correlation between the initial series and the mentioned components may be described within the framework of the additive and multiplicative models. The model of the temporary series is represented as follows:

Additive option

$$Z_t = C_t + S_t + I_t$$

Multiplicative option

$$Z_t = C_t * S_t * I_t$$

where:

Z_t – initial series;

C_t – cyclic trend component;

S_t – seasonal component;

I_t – irregular component.

There are numerous methods / models incorporated in the softwares that are used for the decomposition of the time series.

The seasonal adjustment of data series was performed using DEMETRA program and TRAMO-SEATS method.

Quarterly series subject to seasonal adjustment are series estimated at current prices and series estimated at average prices of 2010. While series in current prices seasonally adjusted provide an overview of general development in absolute values of which the seasonal factor was eliminated, seasonally adjusted series calculated based on 2010 can be used for volume comparisons between any two quarters of adjusted time series.

Seasonal adjustments' application and cyclic trend assessment represent an analytical revision of the initial information. The substance of the new dynamic series adjusted from seasonal point of view and that of the cyclic trend component is different from the substance of the initial dynamic series, and they cannot be substitute each other, because of the following:

- initial data reflect real events which happen in economy, while the seasonally corrected information and the cyclic trend represent the reconciliation of initial data with the annual data, subsequently used for developing the forecasts and taking decisions;
- the seasonally adjusted data are subject to revision to the extent of appearance of precised information and new quarters;
- it is much easier to identify errors in the seasonally adjusted series, and this fact leads to additional analysis and processing of information from the initial data series.

According to international standards, seasonally adjusted GDP is obtained by direct method, which leads to a statistical discrepancy between the GDP and the sum of its independently seasonally adjusted components.

4.3.4. Quality assurance

The quality of statistical data is assured by observing the Fundamental Principles of Official Statistics adopted by the UN General Assembly on 29 January 2014, as well as those set forth in the national Law on Official Statistics no. 93 of 26 May 2017.

In its activity of producing statistical information, NBS pays huge importance to ensuring high quality of data. In this respect, a number of measures for quality assurance are carried out at every stage of the statistical process: organization of statistical surveys, collection, processing, and development of statistical information.

Important efforts are undertaken to ensure the plenitude and quality of data presentation by the respondents included in the statistical surveys.

Errors, inconsistencies, and suspicious data are brought to light so as to be verified and corrected.

The primary data are verified and analyzed from internal coherence point of view (within the questionnaire), temporal coherence (with data from previous periods), with data of other similar units, as well as with data available from other statistical surveys and administrative data sources. The missing or inconsistent data are imputed, if needed.

To ensure the quality of the primary data, meetings (seminars) are organized with interviewers – respondents for explaining the definitions, the correct way to fill in the questionnaires, especially when they are modified or implemented.

4.4. Data accuracy

4.4.1. Non-response rate

Not applicable

4.4.2. Sampling errors

Not applicable

5. Comparability and Coherence

5.1. International comparability

The methodology for developing the national accounts is in full compliance with the **United Nations' National Accounts System, version 2008 (SNA-UN-2008)**, compatible with methodology of the **European System of Accounts, version-2010 (SNA-UN-2008/ESA-2010)**.

Methodology of non-observed economy is in full compliance with **SNA-UN-2008/ESA-2010** and with the recommendations from the manual "Measurement of Non-observed economy", edition 2002.

5.2. Comparability over the time

The indicators from the current period are fully comparable with the data series from the previous years.

5.3. Coherence with other statistics

The data from other statistical areas, such as Labor Force Survey, Structural Survey of Enterprises, Households Budgets Survey, Balance of Payments, External Trade Statistics, may be used for cross-verifications.

6. Institutional Mandate (normative-legal basis)

The NBS activity is based on respecting the Republic of Moldova Constitution, the Law on Official Statistics No. 93 dated 26.05.2017, other legislative and normative acts, NBS management decisions and orders.

The Law on Official Statistics regulates the organization and operation of the unique system of official statistics, establishing the general principles for collecting, processing, centralizing, diminishing, and stocking statistical information (art.1).

Art. 5 of the Law provides that the production of statistical information is based on respecting the following principles: impartiality, objectiveness, relevance, transparency, confidentiality, cost-efficiency etc.

Being the central statistical body, the National Bureau of Statistics is an administrative authority created under the Government for leading and coordinating the activity in the statistics area.

In accordance with Government Decision 935 of 24.09.2018 on the organization and operation of the NBS, the Bureau exercises the following tasks:

- Coordinates the national statistical system on the development and production of official statistics;
- Elaborates and implements strategies for the development of the national statistical system, annual and multiannual statistical programs;
- Elaborates the normative and institutional framework necessary for the achievement of the strategic objectives in its field of activity, as well as the mechanisms for their implementation in practice;
- Performs the management and control of the achievement in quality conditions of the programs and statistical plans adopted at central and regional level;
- Harmonizes and aligns national statistical indicators, methodologies, methods and techniques with international regulations and standards;
- Promotes the statistical culture in the society.

The legislative and normative acts ruling the activity of the NBS are available on its official page www.statistica.gov.md, under About NBS (<http://www.statistica.gov.md/pageview.php?l=en&idc=323&>)

7. Confidentiality

7.1. Principles

According to art. 19 of the Law on Official Statistics No. 93 dated 26.05.2017, producers of official statistics shall take all regulatory, administrative, technical and organizational measures to protect

confidential data and prevent their disclosure.

Chapter VII of the above-mentioned law stipulates that the data collected, processed and stored for the production of statistical information are confidential if they allow the direct or indirect identification of the respondents.) The following shall not be considered confidential:

- a) data that can be obtained from publicly accessible sources according to the legislation;
- b) individual data on address, telephone, name, type of activity, number of employees of legal entities and individual entrepreneurs;
- c) data referring to public enterprises, institutions and organizations funded from the budget, submitted at the request of the public administration authorities.

According to the Law on Official Statistics, art. 20, access to confidential information is granted to the persons who, according to their official functions, participate in the production of statistical information shall have access to individual data in so far as individual data are necessary for producing this information.

The same article stipulates that the access to individual data, which do not allow the direct identification of respondents, may be given for scientific survey projects, whose expected results do not refer to identifiable individual units, under the regulation approved by the central statistical authority.

Art. 23 (5) of the Law stipulates that the the statistical information cannot be disseminated to users if it refers to 1-3 statistical units.

7.2. Practical assurance of the confidentiality rules

To ensure the protection of confidential statistical data in compliance with the Law on Official Statistics No. 93 dated 26.05.2017, the National Bureau of Statistics undertakes all the regulatory, administrative, technical, and organizational measures to protect the confidential statistical information and prevent its disclosure.

In compliance with the above-mentioned law, the employees of producers of official statistics, including temporary employees who, according to their official functions, have direct access to individual data shall be obliged to observe the confidentiality of these data during and after termination of employment.

Before being disseminated, the statistical data are verified if they meet the protection requirements set for confidential data. If the statistical data contain confidential information (see p. 7.1), they are not disseminated, but aggregated at the minimum available level which ensures the protection of data confidentiality.

8. Access to Information and Dissemination Format

8.1. Access to information

8.1.1. Calendar of statistical publications

Annually the Advance release calendar is developed by NBS.

8.1.2. Access to the calendar of statistical publications

The press release calendar is posted on the NBS official page www.statistica.gov.md.

8.1.3. Access to statistical data

According to the Law on Official Statistics No. 93 dated 26.05.2017, art. 23:

- a) Producers of official statistics shall be obliged to disseminate the statistical information within the deadlines specified in the programme of statistical works and in the press-release calendar.
- b) The dissemination of statistical information laid down in the programme of statistical works to all categories of users shall be made free of charge and under equal access conditions in terms of volume, quality and time of dissemination

The program of statistical work may be accessed on the web page www.statistica.gov.md, under About NBS / legislative and normative acts (<http://www.statistica.gov.md/pageview.php?l=en&idc=323&>)

The NBS web page www.statistica.gov.md represents the most important information source for ensuring users' access to different statistical information and transparency about the NBS activity.

All the operative information, informative notes, time series, as well as the statistical publications developed by NBS are placed on its official web page.
8.2. Dissemination format
8.2.1. Operative information / Analytical notes
The operative information and analytical notes are published on the official page of NBS: http://www.statistica.gov.md under Press Releases, according to the Press Release Calendar.
8.2.2. Publications
Publications developed by NBS containing statistical data regarding national accounts: <ul style="list-style-type: none"> - “<i>National Accounts. Regional accounts</i>” – annual publication containing data on national accounts by total economy, economic activity, and institutional sectors, highlighting the balance items (macroeconomic indicators) to balance the accounts and data on regional accounts; - “<i>Reconciliation of quarterly calculations for the Gross Domestic Product with the annual ones</i>” – annual publication containing quarterly data regarding the Gross Domestic Product by categories of resources and uses in current and constant prices reconciled under the year; seasonal adjustment of the Gross Domestic Product by categories of resources and uses in constant prices; data on indicators’ analysis; - “<i>Measurement of Unobserved Economy in the Republic of Moldova</i>” – publication containing information regarding the conceptual bases of the unobserved economy; methods for estimating the elements of unobserved economy in the Republic of Moldova; information sources used for estimating the elements of unobserved economy in the Republic of Moldova; synthesis and analysis of obtained results; - Other statistical publications: “<i>Statistical Yearbook</i>”, <i>The statistical pocket-book "Moldova in figures"</i>, operative information and informative notes (quarterly, annual), etc. Access to publications: <ul style="list-style-type: none"> - in electronic format, on NBS official page www.statistica.gov.md, under Products and services / Publications http://www.statistica.gov.md/pageview.php?l=en&idc=350&nod=1&) - in hardcopy format – in NBS library (more details at the address http://www.statistica.gov.md/libview.php?l=en&idc=340&id=2400) - or may be procured at the NBS office (more details at the address www.statistica.gov.md, under Publications http://www.statistica.gov.md/pageview.php?l=en&idc=350&id=2219)
8.2.3. Databases/time series
<ul style="list-style-type: none"> - Statistical databank http://statbank.statistica.md, under Economic statistics / National accounts - NBS official page: http://www.statistica.gov.md under: <ul style="list-style-type: none"> • <i>Press Release</i> • <i>Statistics by themes / Economic statistics / National accounts</i> • <i>Publications</i> - Special Data Dissemination Standard (SDDS): http://www.statistica.gov.md/SDDS/NSDP/
8.2.4. Questionnaires/data sent upon request from international organizations
UN, Eurostat, CIS, and other international questionnaires.
8.2.5. Requests for additional data
NBS makes available for users additional statistical information beyond the data presented in the statistical publications, informative notes, operative information, as well as the data placed on the official web page in the limits of available information, in line with the Law on Official Statistics. Request can be sent personally, by post, by e-mail or via online web form – www.statistica.gov.md heading Products and services / Statistical data request http://www.statistica.gov.md/solicitare_informatii_statistice.php?l=en

9. Useful References (links)	
9.1. Accessibility of documentation on methodology	
The methodology is available on the official page www.statistica.gov.md , under Metadata heading (http://www.statistica.gov.md/pageview.php?l=en&idc=351&nod=1&).	
9.2. Accessibility of documentation on Evaluation Reports	
The NBS assessment reports are available on the official page www.statistica.gov.md , under About NBS / Assessments and opinions on NBS / Assessment reports (http://www.statistica.gov.md/pageview.php?l=en&idc=399&id=2739).	
9.3. Accessibility of information on user surveys	
User surveys are available on the official page www.statistica.gov.md , under About NBS / Assessments and opinions on NBS / User surveys (http://www.statistica.gov.md/pageview.php?l=en&idc=399&id=2740).	
9.4. Other useful references	
IMF Special Data Dissemination Standard (SDDS)	http://www.statistica.gov.md/SDDS/?lang=en
EUROSTAT database	http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database
UNData database	http://data.un.org/Browse.aspx
UN Economic Commission for Europe database	http://w3.unece.org/pxweb/Dialog/