

## THE IMPACT OF THE EVOLUTION OF MACROECONOMIC INDICATORS ON THE SUSTAINABLE DEVELOPMENT OF ENTERPRISES FROM REPUBLIC OF MOLDOVA

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### *Abstract*

*The paper studied the impact of the evolution of macroeconomic indicators on the sustainable development of enterprises from Republic of Moldova. The article discusses factors, conditions, indicators and features of the development process. At the same time, structural changes and features of socio-economic development at the level of macroeconomic indicators and sectors of the national economic system were analyzed and highlighted. The research in question has demonstrated the dependence of sustainable development on the evolution of macroeconomic indicators. The paper used a quantitative and qualitative analysis using the correlation coefficient to assess the impact on sustainable development of enterprises in the Republic of Moldova, and especially those in the Transnistrian region. The data on the evolution of macroeconomic indicators are from the database of the national statistical office of the Republic of Moldova and the Transnistrian region.*

*Key words:* sustainable development, agricultural sector, National Public Budget, economic growth

### INTRODUCTION

The content and effectiveness of an economic development policy is the reaction to the acceptance or rejection of this policy by civil society, economic agents, potential foreign investors, and state intervention in specific work. The specifics and general trend of such acceptance or rejection and the spectrum of the economic development process at the national level depend on, and at the same time constitute, public policy. This policy includes, on the one hand, elements of combined social-democratic and administrative development, and, on the other hand, elements of a free - market economy.

The policy of overcoming the economic crisis should reflect the trends of restarting the real sector of the economy as a concentrated expression of economic science and economic theories. In our opinion, the development and implementation of policies for the development of the real sector of economy and the structure of the economic and social system requires the following actions:

- identification and implementation of liberal policy for the development of the real sector of the economy as an integral part of the policy of social-democratic development,
- promotion of innovation,
- technical and scientific factors and the human factor in various activities that are relatively most profitable in an open economy,
- acceleration of structural changes in the real sector of the economy corresponding to a free and developed market economy.

### MATERIALS AND METHODS

Research in the field of determining the impact of the evolution of macroeconomic indicators on sustainable development is carried out with the application of the following methods: monographic method, table method, average and relative size method, correlation and regression method. The practical investigations were carried out on the basis of data from agricultural enterprises in the Republic of Moldova.

## RESULTS AND DISCUSSIONS

In the structure of this economy, small and medium-sized business should account for about 60-70%, the allocation of more profitable industries for the Republic of Moldova in international trade, which would have a more favorable cost of production, and the introduction of stimulating management policies (monetary, budgetary, tax, customs policies) in these activities, which will strengthen and develop the real sector of the economy. The nature, characteristics and effectiveness of socio-economic development policies are reflected and expressed through a system of macroeconomic and social indicators [5]. Among them, the following parameters play an important role:

- the nominal and real dynamics of GDP in the country and GDP per capita,
- the impact of GDP on overcoming economic imbalances and real growth in the welfare of the population,
- the state of equilibrium or imbalance of the fiscal system, which is reflected in the deficit or surplus of this system;
- structure of the deficit, coverage of the country's deficit and debt, and consequences of non-compliance with strictly necessary social requirements,
- quantitative correlations between nominal and real macroeconomic indicators and their impact on inflation dynamics, structure, and price indices [2, 5, 9].

An important role in the system of socio-economic parameters is played by: fiscal policy and the process of its optimization, reflecting the level of taxes and the amount of money collected from citizens and firms, the marginal rate of the tax burden as a limiting lever or stimulating socio-economic development.

Another group of parameters is:

- dynamics, balance or imbalance of aggregate supply and demand in domestic markets:
- structure and volume of exports and imports, taking into account their volume in GDP;

- the nature of competition and the ability of local companies to withstand the economy and competition in the open market;

- the degree of liberalization or monopolization of the economy and their impact on the cost of production and innovation progress.

The following group of indicators includes:

- the degree of economic system monitoring, expressed in the amount of money in circulation;
- the volume and structure of loans, the speed of money circulation and their impact on economic development;
- structure and specifics of payments and financial transactions balance;
- the structure and relationship of exports and imports that affect economic growth [2, 5, 14].

Finally, a separate group of parameters consists of:

- the specifics of the country's balance of payments, which affects economic development;
- structure and volume of internal and external public debt and private companies,
- dynamics and structure of investments, as well as their impact on the economy,
- employment and unemployment rate [1, 7].

Based on the analysis of macroeconomic indicators and the production function between the "labor" and "capital" factors calculated over the past decade, we can conclude that the efforts made in the national economy were higher than the obtained results.

During this period, labor productivity increased by 45.5%. Gross fixed capital formation increased by 68.2%, average wages increased by 53.3%, and nominal GDP grew at a slower pace and increased by 44% (Table 1).

Negative migration trends and the decrease in the share of business activity from 60% to 40% "weakened" GDP growth from capital and productivity growth, since such large-scale growth is not enough to ensure future sustainable, balanced and convergent dynamic development towards European integration.

Table 1. Main indicators of national accounts, 2014-2018.

Indicators	Years				
	2014	2015	2016	2017	2018
Employed population: mil. people	1.2	1.2	1.2	1.2	1.3
Gross fixed capital accumulation, billion, lei	27.4	35.4	35.7	39.9	46.1
GDP, billion lei	133.5	145.8	160.8	178.9	192.3
Labor productivity, mil. lei	0.11	0.12	0.13	0.15	0.16
Average salary, lei	4,089.7	4,538.4	4,997.8	5,587.4	6,268.0

Source: Own calculation on the basis of data from the NBS of the Republic of Moldova [6].

According to the analysis results, the author came to the conclusion that the specifics of the development policy, based on consumption, have caused inefficient GDP growth by an average of 4.5-5% over the past decade, using and quantitatively changing the existing production capital, which has a significant physical and moral deterioration. Faster growth of average wages and fixed capital compared to labor productivity, which limited the domestic economic potential, "washed away" "financial resources and savings of economic agents and the population, and increased imbalances in the economic and social sectors."

The size of these imbalances is reflected in slow and insufficient growth in terms of social needs of GDP in comparable prices, exports, the number of people employed in the economy, on the one hand, and slow growth in labor productivity, on the other hand, the volume of investment in the real economy, industrial and agricultural production.

At the same time, we are convinced that internal and external public debts, unemployment and poverty increase the price index for essential products, inflation increases and the minimum consumer basket becomes more expensive, and the purchasing power of the LEU decreases (Table 2).

In the conditions of "erosion" of the GDP and resources of economic agents, reduction of exports, remittances and investments, insufficient monetization of the real economy, devaluation of leu, it is impossible to update

the entire economic system and implement radical socio-economic changes.

Table 2. The dynamics of socio-economic development of the Republic of Moldova

Indicators	Years				
	2014	2015	2016	2017	2018
GDP, billion lei	133.5	145.8	160.8	178.9	192.3
Industrial production, billion, lei	43.5	45.7	47.6	52.7	56.2
Agricultural, billion, lei	27.3	27.2	30.4	34.1	32.6
NPB revenues, billion, lei	42.5	43.7	46.0	53.4	58.0
NPB expenditures, billion, lei	44.4	46.4	48.5	54.5	59.6
Disposable income (average per person per month) – total, lei	1,770.3	1,956.6	2,060.2	2,244.9	2,383.1
Expenditures of the population (on average per person per month) – total, lei	1,956.3	2,009.2	2,201.5	2,238.9	2,407.9
Budget deficit, billion lei	-1.9	-2.7	-2.5	-1.2	-1.6
Fixed capital, billion, lei	27.4	35.4	35.7	39.9	46.1
Investment in assets, billion lei	21.2	21.1	19.7	23.5	27.5
Employed population: mil. people	1.2	1.2	1.2	1.2	1.3
Monetary aggregate MO billion lei	17.5	15.5	17.3	19.1	21.1
Total loans, MDRL lei	41.3	42.7	39.5	38.1	39.6
External public debt, billion dollars	2.04				
Average salary, lei	4,089.7	4,538.4	4,997.8	5,587.4	6,268.0
Exports, billion dollars	3.31	1.97	2.05	2.43	2.71
Imports, billion US dollars	6.25	3.99	4.02	4.83	5.76
Trade balance, billion dollars	-3.0	-2.1	-2.0	-2.4	-3.1
Internal public debt, MDRL lei	7.1	7.225	21.520	22.579	23.058
Unemployment rate, %	4.9	4.9	4.2	4.1	3.0

Source: Own calculation on the basis of data from the NBS and the Ministry of Finance of the Republic of Moldova [4, 6].

As a result, serious economic imbalances are widening and structural reforms are difficult to be implemented.

In order to avoid further critical situation typical for the local economic sector, the author proposes to change radically the investment monetary, structural policy, foreign trade policy for the priority sector of the economy, including the minimum interest rate for the agricultural and agro-industrial sector, and compensate partially the difference in the rate in the program of agricultural subsidies and foreign aid funds.

The characteristics, trends and contradictions of development and ineffective dynamics of indicators determine the specifics of the process and ways to overcome the crisis and economic development, as well as the features of the policy of economic development in the future [11, 13].

The specifics of the development process is characterized by a violation of the ratio of supply and demand; the proportions between the global product and the money supply that drives this product, the imbalance between national costs and incomes, etc.

The large-scale and ineffective nature of the policy of reforming the economic system has a stronger impact on the growth dynamics of the real sector of the economy (Table 2). From these tables, we can see that, on the one hand, the annual growth rates of GDP, agricultural and industrial production in 2014-2018 are lower than the growth rates of investments in long-term production activities than the price index for products, food and non-food products, interest rates on loans, taxes collected in the budget from the real sector and, accordingly, income. At the same time, the National Public Budget increased in 2018 in relation to 2017 by 8.6% and expenses - by 9.4%. The average interest rate on loans in 2018 was about 10%.

The feature of the national economic system is the transformation of this system into a market economy without the necessary financial resources, that is, in the absence of a sufficient amount of "economic blood". Considering that the national currency in 2014-2018 depreciated significantly, it is obvious that the money supply serves an inefficient economic turnover. Taking into consideration that the monetization of the

economic system is insufficient, and the purchasing power of the currency is significantly reduced and the interest rate is exaggerated, it is impossible to carry out effective transformations in the economic system. The result is enormous economic imbalances, and the necessary structural changes are problematic. In order to avoid a critical situation typical for the domestic sector of the economy in the future, it is necessary to change the policy of developing the real sector of the economy radically.

The internal public debt of Moldova in 2016 has increased by more than 14.29 billion lei (3 times), reaching at the end of December a record annual amount of 21 billion 519.6 million lei. The growth of this debt in 2016 was due to the increase in the issue of government securities in the primary market by 953 million lei, as well as the issue of government securities in the amount of 13 billion 341.2 million lei for the Ministry of Finance to fulfill payment obligations arising from state guarantees provided to the National Bank for guaranteeing urgent loans provided earlier to three problematic and now liquidated banks: Banca de Economii, Banca Socială and Unibank. In dynamics, the internal public debt had been continuing to grow and in 2018 it amounted to 23,058 billion lei.

At the beginning of 2020, the internal public debt of Moldova amounted 14,914 billion lei. The decrease in the internal state debt to the NBM occurs through the repurchase by the Ministry of Finance of government securities to be redeemed within the limits specified in the Law on the State Budget for the relevant year, or by early repayment.

One of the characteristics of economic policy and the specifics of economic development in the context of the financial and economic crisis of a global and regional scale is determined by the specifics of fiscal policy. The specifics of this policy determines the specifics of the development mechanism in the context of the economic crisis, which regulates factors affecting global demand, structural changes in the economic system, production volumes and price levels,

government revenues and expenditures, the development of activities that have competitive advantages in international exports [13].

GDP per capita (PPP basis) is the gross domestic product converted to international dollars on a purchasing power parity basis, divided by the total population. The international dollar has the same purchasing power as the United States dollar. The purchasing power between two countries, A and B, is the ratio of the number of monetary units of country A required to purchase the same amount of product in a country as one monetary unit of country B can acquire in country B. PPP can be expressed in the currencies of both countries. In practice, this indicator is usually calculated across a large number of countries and expressed in terms of a single currency. The US dollar is commonly used as the base or settlement currency. According to the data from Figure 1. in 2019, the figure was 7,703 (US \$ per person, PPP).

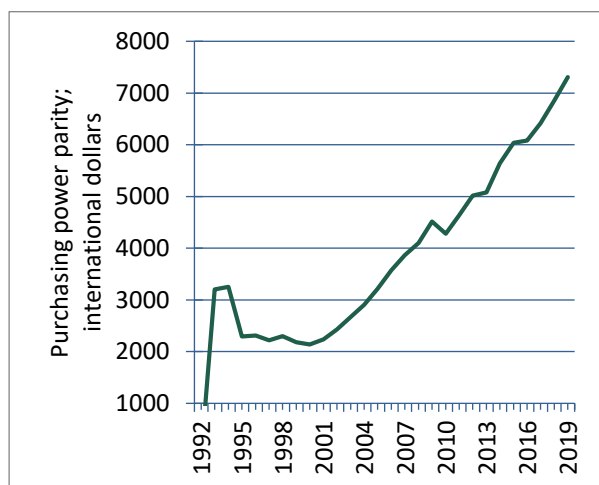


Fig.1. GDP per capita in Republic of Moldova (PPP basis).  
 Source: IMF: World Economic Outlook (WEO), October 2019 [3].

GDP per capita is the sum of the gross value added, created by all resident producers in the economy plus any taxes on products and minus any subsidies not included in the cost of products. GDP per capita in Moldova in 2018 was USD 3,191.

Agriculture, along with other sectors, is the main factor that ensures sustainable development at the macroeconomic level.

GDP is one of the main indicators determining the growth of the country's economy.

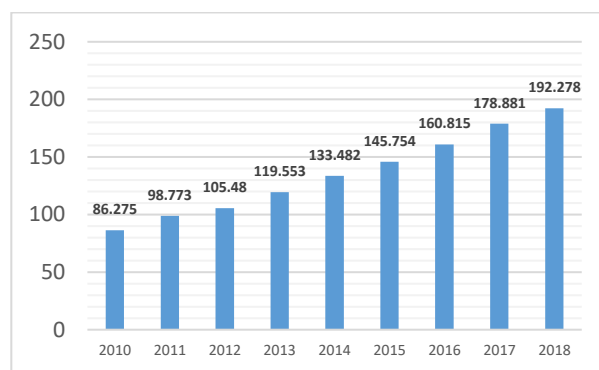


Fig. 2. Dynamics of the Gross Domestic Product (GDP) in the Republic of Moldova for 2010 - 2019, million lei  
 Source: developed by the author based on data from the National Bureau of Statistics of the Republic of Moldova [6].

Analysis of the data in Figure 2 shows the trend towards GDP growth. Significant GDP growth is observed in 2018 compared to 2010 2.2 times, and in the dynamics of 2010-2018 the average growth rate is determined by the geometric average formula: [11]

$$Rc = \sqrt[n-1]{Nn}/N1 = \sqrt[8]{\frac{192278}{86275}} = 1,105 \quad (1)$$

This demonstrates an average annual GDP growth of 10.5%. For the Republic of Moldova, this growth shows the stability and balance of the economy at the macroeconomic level.

The analysis of the structure of GDP depending on resources, confirms that services and trade in the total amount of GDP is 12-15%, other resources up to 40%, industrial complex - which includes the extractive industry, processing industry, the energy sector, the share reaches 14 %. This is explained by the fact that the limited capacity of the economy does not allow the production of high-quality goods for the domestic and foreign markets.

The share of the agricultural sector in GDP in 2018 was 10.3%, which is at the level of 2012. This is explained by the low productivity of agricultural crops and livestock, which negatively affects the growth of labor productivity.

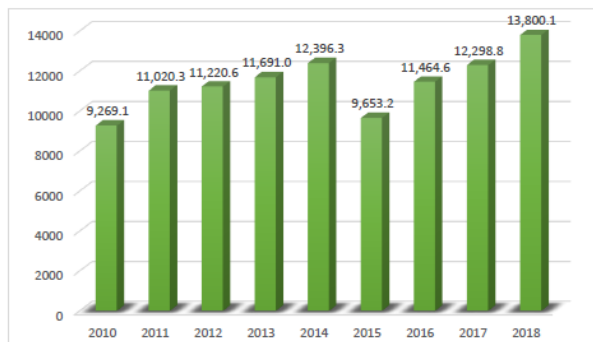


Fig. 3. Dynamics of the value of the Gross Domestic Product (GDP) in the Transnistrian Region of the RM for 2010-2018, million lei.

Source: developed by the author based on [8].

The dynamics of GDP in the Transnistrian region in dynamics for 2010-2018 shows a

$$\overline{RC} = \sqrt[n-1]{\frac{Y_n}{Y_1}} = \sqrt[8]{\frac{13,800.1}{9,269.1}} = \sqrt[8]{1.4888} = 1.051$$

certain variation. It is especially distinguished by the low level of GDP in 2010 and 2015 and only in 2018 over the past 9 years; the GDP reaches 13,800.1 million lei in the average for 2010-2018, the GDP of the Transnistrian Region increased by 5.1%.

A more substantiated analysis of the GDP of the Republic of Moldova and the Dniester region in comparison can be judged by the data of the Fig.4.

The analysis of the Fig. 4 demonstrates a very low level of GDP per capita in the Transnistrian region. If in 2010 the difference in comparison with the Republic of Moldova was 7.3 thousand lei, then in 2018 this difference is 24.4 thousand lei already. The average growth rate in the Transnistrian region was 7.3% and in the Republic of Moldova - 10.6%.

$$\overline{RC}_{RM} = \sqrt[n-1]{\frac{54.2}{24.2}} = \sqrt[8]{2.2396} = 1.106$$

$$\overline{RC}_{TRANS} = \sqrt[8]{1,7633} = 1.0734$$

$$\overline{Y}_{GDP\_RM} = 19,258 + 3,7817 \cdot x \quad R^2 = 99.2\%$$

$$\overline{Y}_{GDP\_TRANS} = 17,633 + 1,12 \cdot x \quad R^2 = 69.99\%$$

The economic growth in the Transnistrian region is at a low level due to an increase in the number of economically inactive population, the number of the working population has decreased by 22%, the production of services has decreased by 6%.

There is high shadow activity, rising prices, budget deficits, high unemployment.

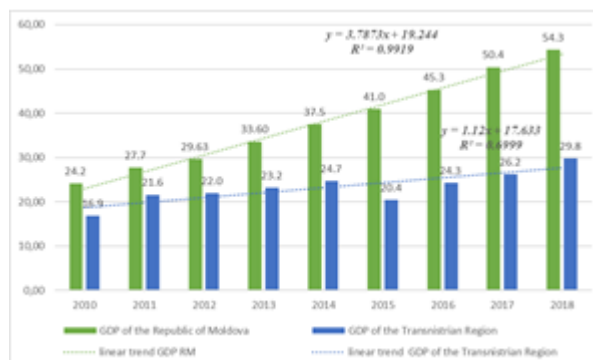


Fig. 4. Dynamics of GDP per capita in the Republic of Moldova and the Transnistrian Region of the RM for 2010 - 2018, thousand lei

Source: developed by the author based on [4, 6, 8].

Intensive economic growth is the only possible key to improving the well-being of both the country as a whole and the region separately.

In 2014-2018, the NBP deficit increased significantly, reaching in 2014 the volume of 1,946.7 million lei, which amounted to 1.8% of GDP. However, the dynamics of this deficit has decreasing and in 2018 the deficit reached 1.6 billion lei (Table 2).

The increase in government revenues and expenditures was not due to the imperatives of intensive development of the real sector, innovation and support for small business. This type of development has increased fluctuations and economic instability. At the same time, the budget surplus policy did not protect the incomes of consumers and producers, and no reserves were created in the process of overheating of the global and national economies. On the contrary, these reserves were spent on increasing pensions, subsidies, benefits, etc. Fiscal policy should stimulate and ensure balanced development, including development that would increase the level of economic activity and efficiency in relation to the dynamics of budget accumulation [12].

The specificity of socio-economic development policy is also determined by the specificity, structure and dynamics of the formation and use of public finances, including the nature and method of

accumulating and using income and expenditures in the national economy [10]. The peculiarities of the formation and use of revenues, expenditures and budget deficits in recent years have had a direct and dominant influence on the development of the real sector of the national economy. The increase in income, spending and deficit in the context of expanded economic growth has simplified and contributed to the imbalance and instability not only of the economic, but also of the social for a relatively long time.

The increase in the budget deficit to a higher level than the “optimal” deficit, the reduction in the potential of the real sector, and the increase in the balance of negative payments created the situation where relations with a socio-economic imbalance prevailed in any economic activity. In other words, the economic system was created with a negative trade balance, with a significant budget deficit and developed inflation, where any economic activity contains, potentially or in reality, economic and social elements associated with a crisis in relations.

The specific features of the socio-economic development policy in the Republic of Moldova are determined by the tax policy. The specifics of tax policy lies in the contradiction of this policy, which, on the one hand, was aimed at ensuring equality between economic agents in relation to the possibilities of each and, on the other hand, at increasing tax pressure and maximizing taxes, fines and administrative sanctions. This policy has widened the geography of economic imbalances and has deepened fiscal and socioeconomic imbalances. This imbalance and economic instability in the real sector depend on the methods of financing the budget deficit. If the budget deficit and the negative balance of payments are largely covered by domestic loans provided by the National Bank, and not by external loans, then social and economic instability increases, and the growth rates of the real sector of the economy decrease.

The increase in lending to the government from the national banking system in 2001-2018 was implemented starting from the

communist government. At the same time, government securities were sold, the volume of which in 2012-2014. amounted to about 3 billion lei. In turn, during 2019, the Ministry of Finance organized 49 auctions for the sale of government securities, at which it offered the sale of government securities in the primary market for 11 billion lei [4]. The demand was higher than the supply. As a result, state securities worth 9 billion lei were sold. At the same time, the redemption of government securities for the reporting period amounted to 8.9 billion lei. At the same time, she clarified that in accordance with the Law on the State Budget for 2020, to finance the budget deficit, funds in the amount of 2 billion lei are envisaged through transactions with state securities.

As a result, the Ministry of Finance forecasts to sell state securities in the primary market in the amount of 12 billion lei, as well as to buy out government securities that have reached maturity in the amount of 10 billion lei [4].

Financing the budget deficit and balance of payments from the country's domestic financial resources reduced the money supply required for the development of the real sector. All this led to the decrease in the income of economic agents and the decrease of economic development rate. At the same time, the transfer of capital from the legal sector to the shadow sphere leads to an even greater imbalance in the economic system and differentiates society.

## CONCLUSIONS

The problem of optimizing the volume of working capital in the economy is further aggravated by the fact that the structure of the economy is dominated by the agrarian sector, consisting of farmers and the agro-industrial sector, where the turnover of working capital is much slower (we are talking about two turnovers per year) than in industry and trade. The specifics of the structure of the national economy, the lack of working capital, the withdrawal of financial resources from the economy, the increase in domestic public debt, inflation - all this leads to an increase in

cash in shadow circulation in relation to bank deposits. This process contributes to economic instability and capital migration in the country, reducing the possibility of expanding the real sector, since the reduction in current assets in the economy creates conditions that stop the decrease in the effective interest rate on credit resources.

The specificity of socio-economic development is influenced by the inflationary policy of the state carried out during this period. Inflationary processes and their impact on the economic balance and the development of the real sector were different in different transition periods. Notwithstanding there is a direct link between the dynamics of inflation growth or decline and development or economic stagnation. If inflation rises, there will be a process of stimulating economic imbalances in the real sector. The decrease in the inflation rate stimulates economic interest, increases reproduction and leads to the increase in investment and savings in the real sector.

To normalize the financial situation in the economy, change in economic policy, including monetary policy is proposed. The increase in the lending rate to the economy, the decrease in the speed of money circulation and the increase in investments and remittances in priority sectors - all this, together with the reform of fiscal policy and the business and institutional environment, will create conditions for economic growth.

## REFERENCES

- [1]Grigorieva, T. I., 2019, Finansovyy analiz dlya menedzherov: otsenka, prognoz [Financial analysis for managers: evaluation, forecast]: bachelor's and master's manual. 3rd ed., revised and add. Moscow: Yurayt Publishing house, p. 183.
- [2]Komakha, A. A., 2000, Margin approach//Financial Director. No. 4., pp. 27-29.
- [3]IMF, 2019, World Economic Outlook (WEO), October 2019, Global Manufacturing Downturn, Rising Trade Barriers.
- [4] Ministry of Finance of the Republic of Moldova.
- [5]Mironov, M.G., Zamedlina, E.A., 2004, Financial management. Moscow: Examination Publishing house, 260 p.
- [6]National Bureau of Statistics, the Republic of Moldova.
- [7]Sheremet, A.D., 2002, The theory of economic analysis: textbook. Moscow: INFRA-M. Publishing house, pp. 226-259.
- [8]Statistical Book of the Transnistrian Region for 2019.
- [9]Stoyanova, E.S., 2010, (Ed.). Finansovyi menedzhment: teoriya i praktika: uchebnik [Financial management: theory and practice: textbook]. 6th edition. Moscow: Perspektiva Publishing House, 656 p.
- [10]Tafintseva, V. N., 2001, Marginal income as a tool for assessing financial results//Financial management. No. 3, pp. 35-40.
- [11]Timofti, E., 2010, Statistica: Teorie si Aplicatii (Statistics, Theory and Applications), Chisinau, State Agricultural University of Moldova, 283 pp.
- [12]Trach, M. I., 1998, Methodical guidelines for the development of an internal plan (parts 1, 2, 3), Chisinau, pp.89.
- [13]Trach, D., 2019, Management of the organization's finances in conditions of uncertainty. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol.19(1), 587-591.
- [14]Trach, M.I., Trach, D.M., 2008, Economics of organizations. Textbook, Rybnitsa, pp. 175.