

# EVOLUTION OF THE REPUBLIC OF MOLDOVA'S NON-OBSERVED ECONOMY

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THE EXISTING CONTEMPORARY SITUATION IN THE REPUBLIC OF MOLDOVA'S ECONOMY CAN BE DESCRIBED AS DEPLO- RABLE, WHICH REFLECTS ON THE STATE BUDGET. CENTURY THEFT (STEALING OF A BILLION DOLLARS IN THE BANKING SYSTEM) HAS WORSE- NED THE SITUATION OF ECONOMY AND, RESPECTIVELY, OF THE BUDGET. LEGALIZATION, EVEN PARTIAL, OF THE NON- OBSERVED ECONOMY WOULD IMPROVE THE SITUATION IN THE DOMESTIC ECONOMY AND INCREASE PAYMENTS IN THE CONSO- LIDATED BUDGET. THEREFORE, IT BECOMES NECESSARY AND AP- PROPRIATE THE RESEARCH OF TRENDS OF THE NON-OBSERVED ECONOMY IN THE REPUBLIC OF MOLDOVA.

The purpose of this paper lies in defining the Non-Observed Economy and, subsequently, iden- tification of key methods for detection and evalu- ation of the Non-Observed Economy, as well as development trends of the shadow economy in the Republic of Moldova. The types, components and causative factors of the Non-Observed Eco- nomy represent the research objective of this article.

Of particular interest in assessing the shadow economy are the papers of foreign researchers, such as: Schneider F., Colin C. Williams, Alex Cob- ham, Bleyds D., Gutman P., Dallago B., Dilnot A., Ca- simir B., McAfee K., Morris K., Petersen X., Tanzi V., Feig E., Borodkin F., Glinkina S., Sinilov G., Shestakov V., Shokhin A., Gromovichi A., Dadalko B., Rummyan- tsev E., Peszko D. and others.

At the same time, local scientists are researching this theme in their articles, for example: Karash- chiuk L., Costandachi G., Budianschi D., Lupusor A., Fala A., Morcotilo I. and others.

Costandachi G. said 'Some experts from the Re- public of Moldova note that estimation of illegal economy may become problematic or impossible in Moldovan conditions due to the high level of corruption and protection of those who are con- cerned about the application of criminal and illegal economic activities. However, further hiding of this phenomenon threatens the existence of the state as an international entity [3, page 23].

The Expert-Grup and Costandachi (economist) evaluated the Non-Observed Economy of Moldova. Their results differ from the value obtained by the Na- tional Bureau of Statistics of the Republic of Moldova.

Unlike the scientists, the authors propose a dif- ferent approach from those currently used in the literature. They used natural inter-branch balance for evaluation of the shadow economy and utilized the results for calculating the state budget losses caused by shadow economy. In addition, the authors have analyzed the correlation between production of households for own final use and remittances.

## Results and discussions

Economist G. Costandachi conducted a research of the Non-Observed Economy for the period 2010– 2011. The Expert-Grup analyzed several aspects of the Non-Observed Economy in 2000–2013. As a result, according to researchers, the Non-Observed Economy amounted for 27.7 percentage of GDP in 2013 [2, page 13], but now the National Bureau of Statistics considers the Non-Observed Economy in 2013 was 23.1 percentage of GDP.

For clarity, we present the block diagram of types and elements of the shadow economy (Figure 1).

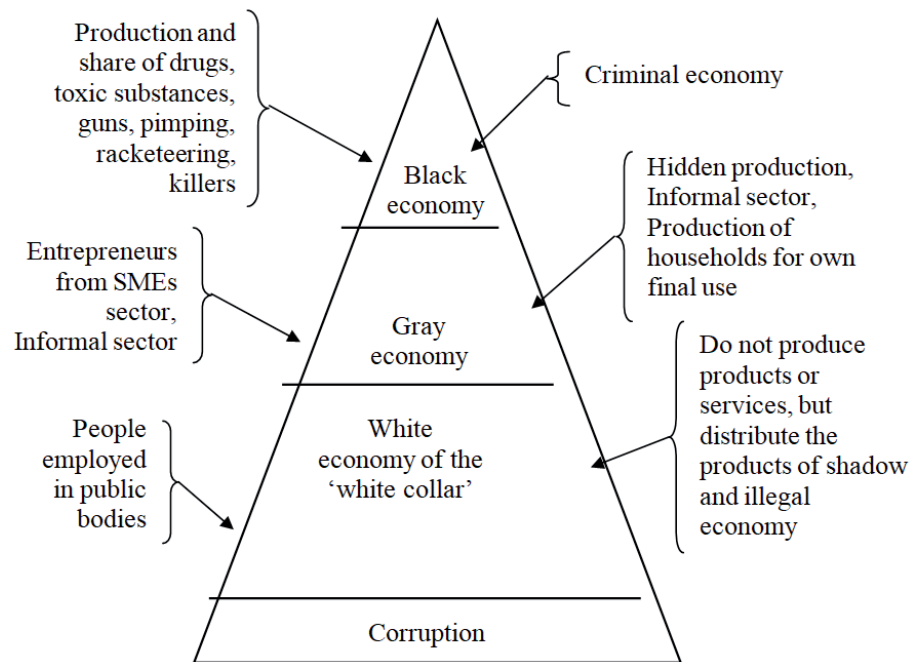


Figure 1. Types and elements of the shadow economy

Source: [10]

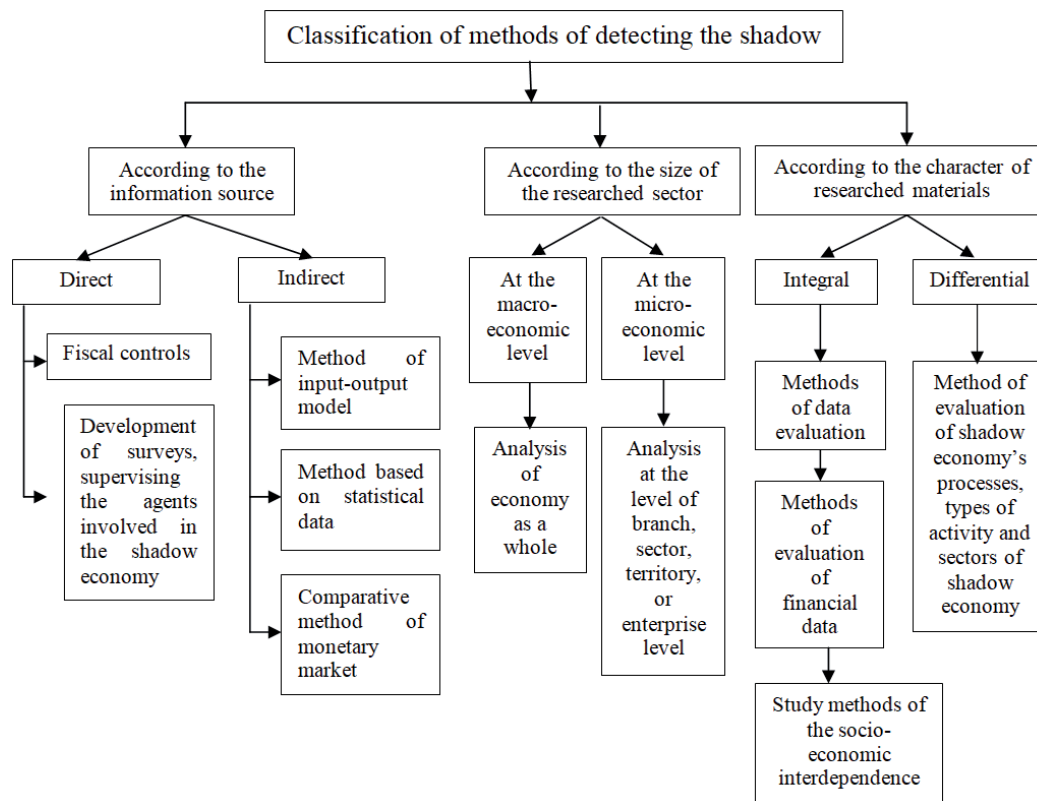
In general, the informal sector of the economy is a type of economic activity from which the state does not receive taxes. It includes illegal manufacture of quality products, counterfeit products of low quality, unregistered products and unauthorized trade. In this case, the state treasury does not levy sales taxes on goods. There are also included other activities: prostitution, drug trafficking, etc. Another part of the Non-Observed Economy is the wage in envelopes and wages of workers without an employment contract.

It is worth noting that so far there is not defined a common and universal concept of the Non-Observed Economy. The statistical approach based on the UN System of National Accounts methodology is used to calculate more completely GDP. The Non-Observed Economy is defined as unregistered infor-

mal economic activity, which includes three types of activities: hidden production, informal sector production and illegal production.

The nature of the Non-Observed Economy is determined by the activities of economic agents who wish to maximize revenue by minimizing total cost, within which are also included taxes.

Assessment of the Non-Observed Economy is carried out in several stages. The first step is to calculate constituent elements, the second step – their grouping, after which the full evaluation of the Non-Observed Economy is following. The level of the Non-Observed Economy is presented as share of GDP (percentage). The main methods of measurement and classification of the shadow economy are presented in the block diagram in Figure 2.



**Figure 2. The measurement methods of the shadow economy**

Source: [8]

In the paper, 'Assessment of the level of shadow economy in Moldova' developed by the National Institute for Development [9], various indirect methods were mentioned in order to assess the shadow economy, such as:

- Discrepancy between actual and official labor force;
- Transactions approach;
- Cash-deposit ration;
- Physical input (electricity) approach;
- Currency demand approach;
- Model approach;
- Discrepancy between expenditure and income;
- Tax auditing;
- Survey method.

The authors propose to use another method of evaluation of the shadow economy. They have adjusted the input-output model for the assessment

of shadow economy [4, page 51]. At the same time, with the support of international experts, there was conducted both the reviewing of sources of information necessary to assess the elements of the Non-Observed Economy and calculations in accordance with the methodology SNA, UN-1993 and the latest recommendations addressed in the manual 'Measurement of Non-Observed Economy, 2002 edition.

Calculations of Non-Observed Economy according to 'SNA, UN-1993' include four components: informal sector production; production of households for own final use; hidden production of formal sector; illegal production.

Table 1 shows the results of the evaluation of the Non-Observed Economy for the years 2000-2015 conducted by the National Bureau of Statistics of the Republic of Moldova according to the above-mentioned methodology.

**Table 1**  
 Dynamics of the Non-Observed Economy of the Republic of Moldova, percentage

Non-Observed Economy								
Years	Share in GDP				Share in gross value added			
	of the Non-Observed Economy	Including of:			of the Non-Observed Economy	Including of:		
		Hidden production of formal sector	Informal sector	Production of households for own final use		Hidden production of formal sector	Informal sector	Production of households for own final use
2000	<b>34.6</b>	7.0	9.1	18.5	<b>39.5</b>	8.0	10.3	21.2
2001	<b>31.9</b>	5.5	10.5	15.8	<b>36.5</b>	6.3	12.1	18.1
2002	<b>29.9</b>	6.6	9.4	14.0	<b>35.1</b>	7.8	11.0	16.4
2003	<b>29.9</b>	6.6	9.4	14.0	<b>35.1</b>	7.8	11.0	16.4
2004	<b>26.3</b>	5.8	10.0	10.5	<b>30.6</b>	6.8	11.7	12.2
2005	<b>24.2</b>	5.2	7.7	11.3	<b>28.8</b>	6.2	9.2	13.4
2006	<b>22.1</b>	4.4	6.6	11.0	<b>26.4</b>	5.3	7.9	13.2
2007	<b>20.6</b>	4.1	7.7	8.8	<b>24.8</b>	5.0	9.3	10.5
2008	<b>22.1</b>	5.5	7.5	9.1	<b>26.8</b>	6.7	9.0	11.1
2009	<b>22.4</b>	7.0	7.3	8.1	<b>26.6</b>	8.3	8.7	9.6
2010	<b>22.2</b>	5.6	9.9	6.7	<b>26.7</b>	6.8	11.8	8.1
2011	<b>21.7</b>	6.1	8.8	6.8	<b>26.1</b>	7.3	10.6	8.2
2012	<b>23.7</b>	8.0	6.5	9.2	<b>28.4</b>	9.6	7.8	11.0
2013	<b>23.1</b>	7.5	6.3	9.3	<b>27.8</b>	9.0	7.6	11.1
2014	<b>23.2</b>	7.4	6.4	9.5	<b>27.5</b>	8.7	7.5	11.3
2015	<b>23.7</b>	9.0	5.8	8.9	<b>28.0</b>	10.6	6.8	10.5

**Source:** According to data from National Bureau of Statistics of the Republic of Moldova [www.statistica.md](http://www.statistica.md)

Analysis of trends of the Non-Observed Economy during the period 2000–2011 shows a descending trend, but during the period 2011–2015, the trend recorded an upward trend. The highest level was certified in 2000 – 34.6 percentage of GDP, the lowest level in 2007 – 20.6 percentage of GDP. In the subsequent years, there has been a rise in the level of shadow economy because of a financial crisis in the years 2008–2009 and the drought of 2009, which caused the increasing of the share of the Non-Observed Economy in GDP by 1.5 p.p. in 2008 and still further by 0.3 p.p. in 2009.

In the next two years (2010–2011) a slight decrease in this indicator occurred, followed by an increase of 2 percentage points in 2012, the increase caused by drought. In 2013, measures were implemented to combat tax fraud; as a result, there was a decrease of 0.6 percentage points.

During the analyzed period, the hidden production of formal sector has registered an insignificant modification, oscillating at around 7 percentage of GDP and in 2000–2007; it reduced from 7 percentage of GDP to 4.1 percentage of GDP. The highest level was recorded in 2015 (9 percentage of GDP).

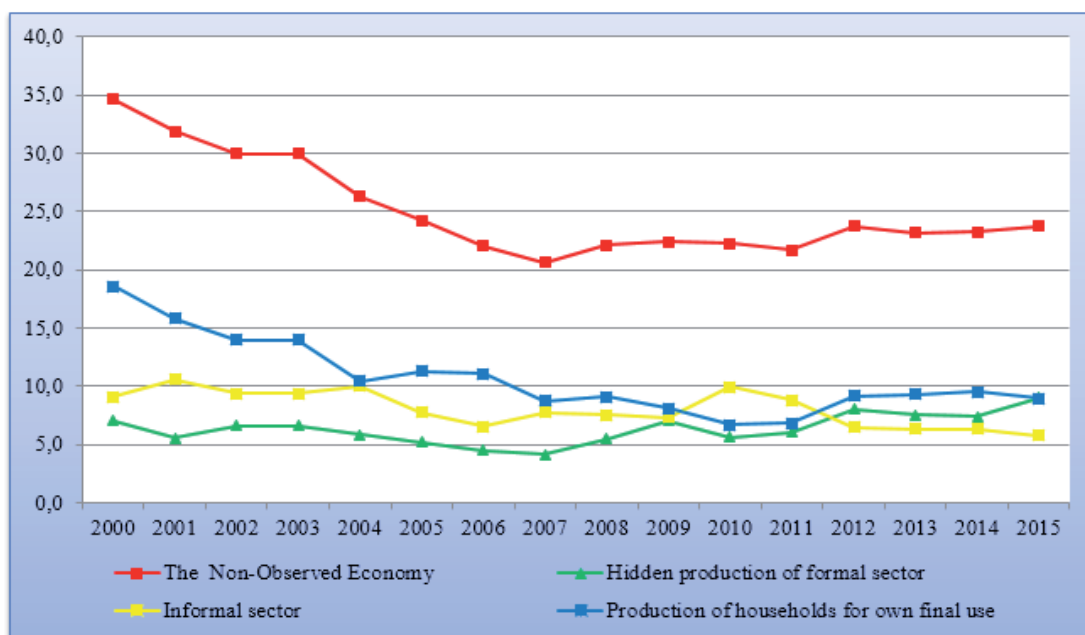
Analysis of the hidden production of formal sector evolution has provided for the correlation between natural cataclysms and the level of the given sector.

In addition, this period has been showing a slow decrease of the informal sector: from 10.5 percentage of GDP in 2001 to 5.8 percentage of GDP in 2015.

The share of production of households for own final use during the investigated period dropped

twice: from 18.5 percentage of GDP in 2000 to 8.9 percentage of GDP in 2015.

Figure 3 presents the evolution of the Non-Observed Economy in percentage of GDP during the analyzed period both in total Moldova, as well as on separate components: hidden production of formal sector, informal sector and production of households for own final use.



**Figure 3. Evolution of the Non-Observed Economy in the Republic of Moldova during 2000–2015, percentage of GDP**

**Source:** Developed by the authors based on data of National Bureau of Statistics [www.statistica.md](http://www.statistica.md)

Level trends of the Non-Observed Economy, including on sectors in relation to value added are identical with the trends of the research object related to GDP, being higher only because even the added value is lower than GDP.

Analysis of correlation between production of households for own final use and remittances reflects that between these two indicators there is an inverse correlation. Table 2 presents the dynamics of remittances from abroad.

**Table 2**  
Volume of foreign currency received from the Moldovan citizens working abroad, billion USD

	2000	2005	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total transfers	0.15	0.68	1.22	1.66	1.18	1.24	1.44	1.49	1.61	1.61	1.22
Including, through high-speed system	0.11	0.50	0.92	1.32	0.98	1.07	1.27	1.31	1.43	1.44	

**Source:** Developed by the authors based on data of National Bureau of Statistics [www.statistica.md](http://www.statistica.md)

Formula (1) shows a correlation between production of households for own final use and re-

mittances. Given function was deduced using the package EViews 7, and in the parenthesis is given t-statistic for each parameter.

$$CASN = 8.2457 + 1.5514 \times \frac{1}{REM} + 1.8761 \times D03 + 1.0307 \times D06 - 1.4603 \times D09 - 2.7967 \times D10 - 2.523 \times D11 \quad (1)$$

(-4.7) (20.35) (3.64) (1.98) (-2.78) (-5.32)

$$R^2 = 0.988$$

$$F = 108.27$$

$$DW = 2.43$$

Where: CASN – production of households for own final use,

REM – remittances,

D – DUMMY, (The following DUMMY variables were used for mitigating the peaks of regression: D03, D06, D10, D11, which are called binary variables. DUMMY variables are defined as all observations have the number 0, excepting the years 2003, 2006, 2010, 2011, which have number 1.)

R – correlation coefficient,

F – t-statistic,

DW – Durbin-Watson stat.

Table 3 presents the data about the shadow economy for the Republic of Moldova and neighboring countries from the list of 162 countries, calculated by Schneider F. [4 pag.61-64].

*Table 3*  
Level of the Shadow Economy, percentage of GDP

	1999	2000	2001	2002	2003	2004	2005	2006	2007	Country Average
<b>Republic of Moldova</b>	45.6	45.1	44.1	44.5	44.6	44	43.4	44.3	-	44.5
<b>Romania</b>	34.3	34.4	33.7	33.5	32.8	32	31.7	30.7	30.2	32.6
<b>Russian Federation</b>	47	46.1	45.3	44.5	43.6	43	42.4	41.7	40.6	43.8
<b>Ukraine</b>	52.7	52.2	51.4	50.8	49.7	48.8	47.8	47.3	46.8	49.7

**Source:** [7, page 63-64]

According to calculations of F. Schneider, in Moldova, the level of shadow economy (44.5 percentage of GDP) in the years 1999 to 2007 is higher than in neighboring countries: Romania (with 11.9 percentage points), Russia (with 0.7 percentage points), but lower than in Ukraine (with 5.2 percentage points). According to German scientist's calculation, the level of the Non-Observed Economy is higher than date of official statistics. The level of the analyzed indicator is 27.4 percentage of GDP (average over the period 2000–2007). Causes of the difference between the obtained results are due to the methods applied, the number of elements taken into account and the share of elements.

F. Schneider and D. Ernste determined a hierarchy of countries on the scale of the shadow economy: the developing countries have registered the shadow economy (primarily, the informal sector) at level of approximately 35 – 45 percentage of GDP, and the developed countries at 10–20 percentage [6]. The countries with economies in transition have reached the level of 25–30 percentage of GDP; Eastern Europe's countries have tended to developed countries in the West and the former Soviet Republics – to developing countries in the East.

Table 4 presents data of the shadow economy of the 28 EU countries for the period 2003–2015.

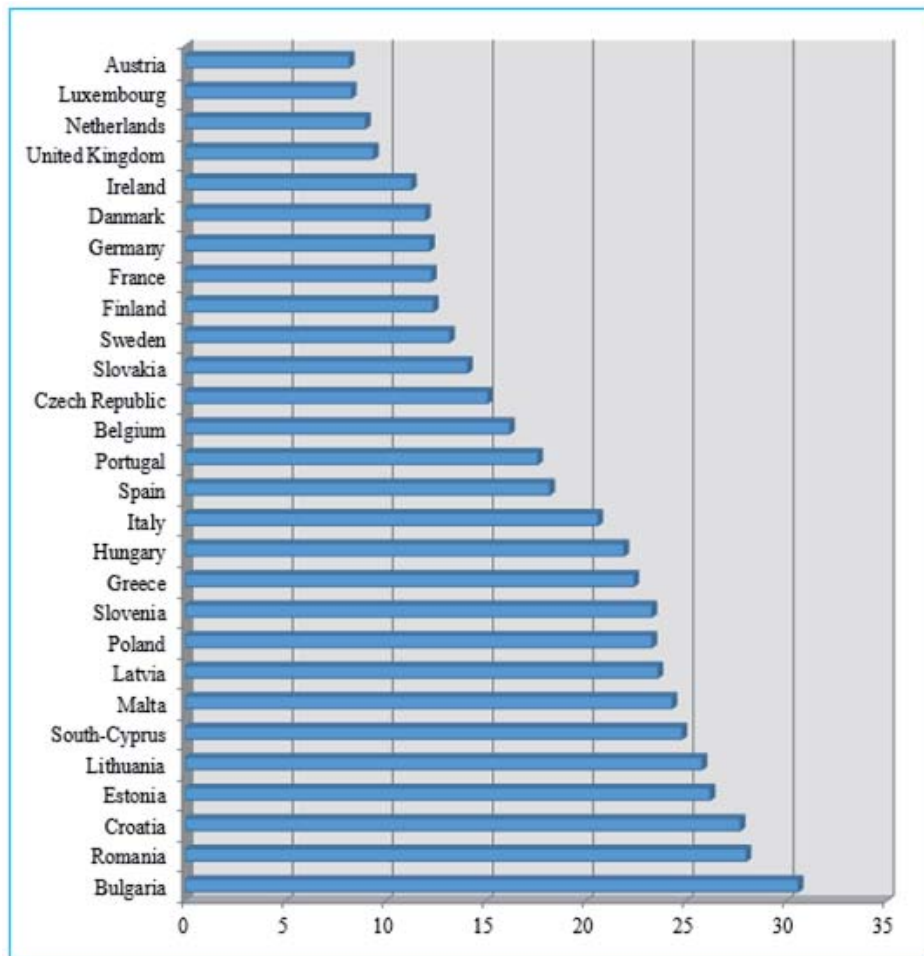
**Table 4**  
**Level of the Shadow Economy of the 28 EU Countries, percentage of GDP**

Country/Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Austria	10.8	11	10.3	9.7	9.4	8.1	8.5	8.2	7.9	7.6	7.5	7.8	8.2
Belgium	21.4	22.7	20.1	19.2	18.3	17.5	17.8	17.4	17.1	16.8	16.4	16.1	16.2
Bulgaria	35.9	35.3	34.4	34	32.7	32.1	32.5	32.6	32.3	31.9	31.2	31	30.6
Croatia	32.3	32.3	31.5	31.2	30.4	29.6	30.1	29.8	29.5	29	28.4	28	27.7
Czech Republic	19.5	19.1	18.5	18.1	17	16.6	16.9	16.7	16.4	16	15.5	15.3	15.1
Danmark	17.4	17.1	16.5	15.4	14.8	13.9	14.3	14	13.8	13.4	13	12.8	12
Estonia	30.7	30.8	30.2	29.6	29.5	29	29.6	29.3	28.6	28.2	27.6	27.1	26.2
Finland	17.6	17.2	16.6	15.3	14.5	13.8	14.2	14	13.7	13.3	13	12.9	12.4
France	14.7	14.3	13.8	12.4	11.8	11.1	11.6	11.3	11	10.8	9.9	10.8	12.3
Germany	17.1	16.1	15.4	15	14.7	14.2	14.6	13.9	13.2	12.9	12.4	12.2	12.2
Greece	28.2	28.1	27.6	26.2	25.1	24.3	25	25.4	24.3	24	23.6	23.3	22.4
Hungary	25	24.7	24.5	24.4	23.7	23	23.5	23.3	22.8	22.5	22.1	21.6	21.9
Ireland	15.4	15.2	14.8	13.4	12.7	12.2	13.1	13	12.8	12.7	12.2	11.8	11.3
Italy	26.1	25.2	24.4	23.2	22.3	21.4	22	21.8	21.2	21.6	21.1	20.8	20.6
Latvia	30.4	30	29.5	29	27.5	26.5	27.1	27.3	26.5	26.1	25.5	24.7	23.6
Lithuania	32	31.7	31.1	30.6	29.7	29.1	29.6	29.7	29	28.5	28	27.1	25.8
Luxembourg	9.8	9.8	9.9	10	9.4	8.5	8.8	8.4	8.2	8.2	8	8.1	8.3
Malta	26.7	26.7	26.9	27.2	26.4	25.8	25.9	26	25.8	25.3	24.3	24	24.3
Netherlands	12.7	12.5	12	10.9	10.1	9.6	10.2	10	9.8	9.5	9.1	9.2	9
Poland	27.7	27.4	27.1	26.8	26	25.3	25.9	25.4	25	24.4	23.8	23.5	23.3
Portugal	22.2	21.7	21.2	20.1	19.2	18.7	19.5	19.2	19.4	19.4	19	18.7	17.6
Romania	33.6	32.5	32.2	31.4	30.2	29.4	29.4	29.8	29.6	29.1	28.4	28.1	28
Slovenia	26.7	26.5	26	25.8	24.7	24	24.6	24.3	24.1	23.6	23.1	23.5	23.3
South-Cyprus	28.7	28.3	28.1	27.9	26.5	26	26.5	26.2	26	25.6	25.2	25.7	24.8
Spain	22.2	21.9	21.3	20.2	19.3	18.4	19.5	19.4	19.2	19.2	18.6	18.5	18.2
Slovakia	18.4	18.2	17.6	17.3	16.8	16	16.8	16.4	16	15.5	15	14.6	14.1
Sweden	18.6	18.1	17.5	16.2	15.6	14.9	15.4	15	14.7	14.3	13.9	13.6	13.2
United Kingdom	12.2	12.3	12	11.1	10.6	10.1	10.9	10.7	10.5	10.1	9.7	9.6	9.4
28 EU Countries (average)	22.6	22.3	21.8	21.1	20.3	19.6	20.1	19.9	19.6	19.3	18.8	18.6	18.3

**Source:** [6]

Thus, the highest level of shadow economy belongs to Bulgaria (from 35.9 percentage to 30.6 percentage), followed by Romania (33.6 percentage to 28 percentage) and Croatia (32.3 percentage to 27.7 percentage). The countries with the lowest level of the shadow economy are Austria (from 10.8 percentage to 8.2 percentage), Luxembourg (9.8 percentage to 8.3 percentage), the Netherlands (12.7 percentage to 9 percentage) and the United Kingdom (12.2 percentage to 9.4 percentage). The

average value of the shadow economy in EU countries is 22.6–18.3 percentage. Therefore, according to data in Table 4, during the analyzed period, there is a decrease of the shadow economy with few exceptions in some countries in various years. Overall, there was a decrease of the Non-Observed Economy by 4.3 percentage points of GDP, which fell on average was 19 percentage during the analyzed years. Figure 4 presents the level of shadow economy by countries for 2015 year.



**Figure 4. Level of the Shadow Economy of the 28 EU Countries in 2015, percentage of GDP**

**Source:** [6]

In Table 5 is shows the share of shadow economy of GDP for three European countries that are not members of European Union, and an average size of the shadow economy. In addition, there is present the average of all 31 countries that are located in Europe. Therefore, the higher size of the shadow economy was reached by Turkey (32.2–27.8 percentage), and the smaller – by Switzerland (9.5–6.5 percent-

age). The average of three Non EU Countries was 20.1–15.8 percentage over the period 2003–2015, and the average of all 31 European Countries was 22.4–18.0 percentage of GDP. The last had decreased by 4.4 percentage points. The level of shadow economy of all 31 European Countries tended to decrease over the analyzed years.



**Table 5**  
**Level of the Shadow Economy of three Non EU Countries, percentage of GDP**

Country/Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Norway	18.6	18.2	17.6	16.1	15.4	14.7	15.3	15.1	14.8	14.2	13.6	13.1	13.0
Switzerland	9.5	9.4	9.0	8.5	8.2	7.9	8.3	8.1	7.8	7.6	7.1	6.9	6.5
Turkey	32.2	31.5	30.7	30.4	29.1	28.4	18.9	28.3	27.7	27.2	26.5	27.2	27.8
Three Non-EU Countries (average)	20.1	19.7	19.1	18.3	17.6	17.0	17.0	17.2	16.8	16.3	15.7	15.7	15.8
All 31 European Countries (average)	22.4	22.1	21.6	20.9	20.1	19.4	19.9	19.7	19.3	19.0	18.5	18.3	18.0

**Source:** [6]

Using data from the Table 6, we have identified the trend of the shadow economy of five Highly Developed Non-European Countries. The highest level of shadow economy was reached by Canada (15.3–10.3 percentage), and the smallest – by the

USA (8.5–5.6 percentage). An average size of five Highly Developed Non-European Countries has decreased from 12.2 percentage of GDP in 2003 to 8.6 percentage of GDP in 2015. It decreased by 3.6 percentage points.

**Table 6**  
**Level of the Shadow Economy of five Highly Developed Non-European Countries, percentage of GDP**

Country/Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Australia</b>	13.7	13.2	12.6	11.4	11.7	10.6	10.9	10.3	10.1	9.8	9.4	10.2	10.3
<b>Canada</b>	15.3	15.1	14.3	13.2	12.6	12.0	12.6	12.2	11.9	11.5	10.8	10.4	10.3
<b>Japan</b>	11.0	10.7	10.3	9.4	9.0	8.8	9.5	9.2	9.0	8.8	8.1	8.2	8.4
<b>New Zealand</b>	12.3	12.2	11.7	10.4	9.8	9.4	9.9	9.6	9.3	8.8	8.0	7.8	8.0
<b>The United States of America</b>	8.5	8.4	8.2	7.5	7.2	7.0	7.6	7.2	7.0	7.0	6.6	6.3	5.9
<b>Other OECD Countries (average)</b>	12.2	11.9	11.4	10.4	10.1	9.6	10.1	9.7	9.5	9.2	8.6	8.6	8.6

**Source:** [6]

Table 7 reflects evolutions of average level of the shadow economy of different groups of countries. According to data in this table, an average size of

the shadow economy of all 36 countries was 21 percentage of GDP in 2003 and 16.7 percentage of GDP in 2015. So, this level decreased by 3.3 percentage points over the period 2003–2015.

*Table 7*  
Level of the Shadow Economy of Various Averages, percentage of GDP

Averages/Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>28 EU Countries</b>	22.6	22.3	21.8	21.1	20.3	19.6	20.1	19.9	19.6	19.3	18.8	18.6	18.3
<b>Three Non EU Countries</b>	20.1	19.7	19.1	18.3	17.6	17.0	17.5	17.2	16.8	16.3	15.7	15.7	15.8
<b>Five other OECD Countries</b>	12.2	11.9	11.4	10.4	10.1	9.6	10.1	9.7	9.5	9.2	8.6	8.6	8.6
<b>All 36 Countries</b>	21.0	20.7	20.2	19.4	18.7	18.0	18.5	18.3	18.0	17.6	17.1	17.0	16.7

Source: [6]

Since 1991, the authors are doing forecast of macroeconomic indicators of the Republic of Moldova. In this purpose, we are using inter-branch natural-value balances. In 2000, the authors had started to use inter-branch natural balances for estimating shadow economy. Nevertheless, with regret, there was a break in development of inter-branch balance over the period 2009–2013, because the state considered that inter-branch balance was not important for regulation the national economy, for elaborate the scenarios of economic development. However, it is possible to use these balances to trace and evaluate hidden production, illegal import and export.

In 2013, the authors using inter-branch natural balances had detected 12 types of commodities with high size of shadow economy; their value was 3250.6 million lei that represented 3.2 percentage of GDP. In the follow year 2014, we had discovered 24 types of commodities with high level of shadow economy that have reached the value of 4823 million lei, which constituted 4.3 percentage of GDP. Therefore, we identify that shadow economy had an increase of 1572.4 million lei.

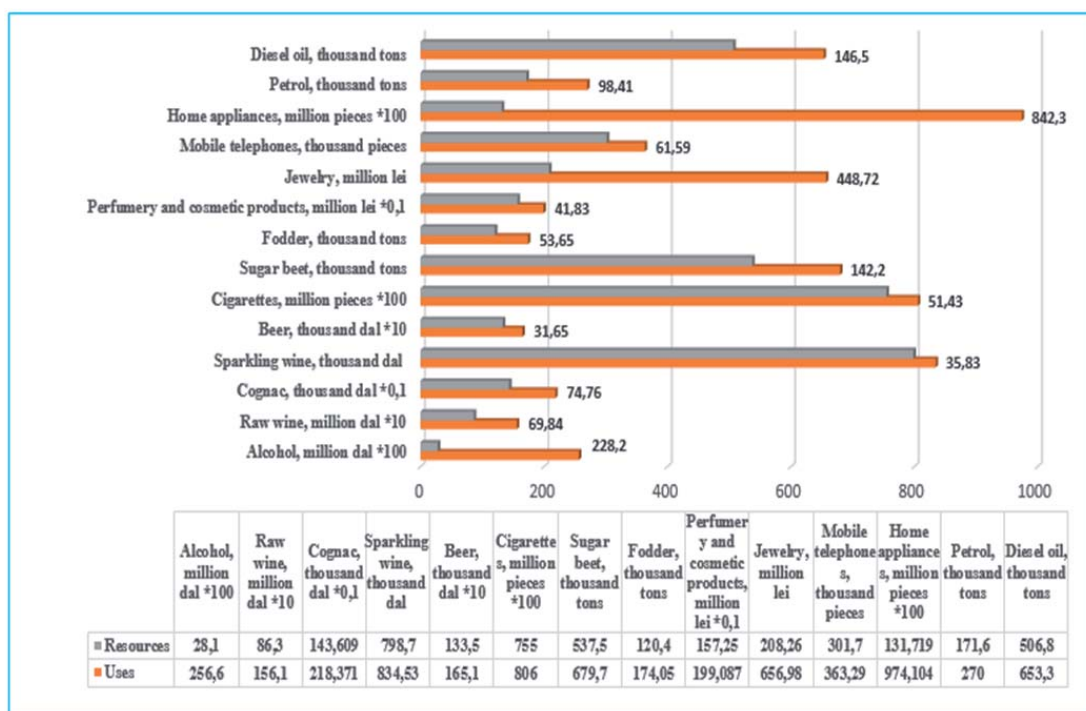
The authors have elaborated inter-branch natural balance for 2015 to assess shadow economy in this year. Inter-branch balance was developed in according to the System of National Accounts. In order to calculate the volume of intermediate consumption for the main types of production, we

have developed the algorithm using technological coefficients in Excel package.

Analysis of inter-branch balance of Agro-industrial Complex for 2015 in natural terms allowed detecting significant deviations from the following items: alcohol, raw wine, cognac, sparkling wine, beer, sugar beet, tobacco, fodder, perfumery and cosmetic products.

The authors have estimated volume of illegal imported and exported goods in 2015 and the fiscal evasion. Using the official tariffs and import and export prices for the analyzed production was estimated the amount of losses in the state budget for the Agro-industrial Complex. It equals to approximately 2569.41 million lei.

Assessing the shadow economy in Agro-industrial, Machinery industry and Heavy industry complexes has tracked deviations between resources and uses that are significant. The most significant deviations are shown in Figure 5. For example, analyzing the situation on diesel oil's market, the authors has found that deviation between resources and uses is 146.5 thousand tons and the state budget lost about 649.09 million lei due to illegal importation in 2015. According to our calculations, the state budget missed up revenues of at least 2063.35 million lei from customs duty, excise, VAT and customs services because of illegal imports and hidden production in the last two complexes.



**Figure 5. Significant deviations on goods in the Republic of Moldova, in 2015**

**Source:** Developed by the authors based on their own calculation

Analyzing inter-branch natural balance that was elaborated for 2015, the authors have detected gaps in customs control system of the Republic of Moldova, and elements that make up the Non-Observed Economy. We tracked significant deviations on the following goods of Light industry (Figure 6 and Figure 7):

- skins of cattle;
- sheepskin;
- tanned cow hides;
- furs tanned;
- suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts for men or boys;
- suits, ensembles, jackets, blazers, dresses, skirts, trousers, bib and brace overalls, breeches and shorts for women and girls;
- shirts and blouses, knitted or crocheted, for men or boys;

- shirts, blouses, shirt-blouses for women or girls.

Figure 6 shows resources and uses of different kind of skins, hides and furs. Therefore, we conclude that the hidden production and illegal exports of these goods amounted to 202270 pieces in 2015. These elements of shadow economy cause the fiscal fraud and evasion at a value of 36.86 million lei.

The results of calculations for resources and uses of some goods of Light industry for final consumption are presented in the Figure 7. The authors concluded that the hidden production and illegal imports of these goods account for 3616.94 thousand pieces in 2015. The state budget missed about 208.83 million lei.

As a result, the state budget was deprived of 245.69 million lei from illegal exports, illegal imports and hidden production of Light industry's goods.

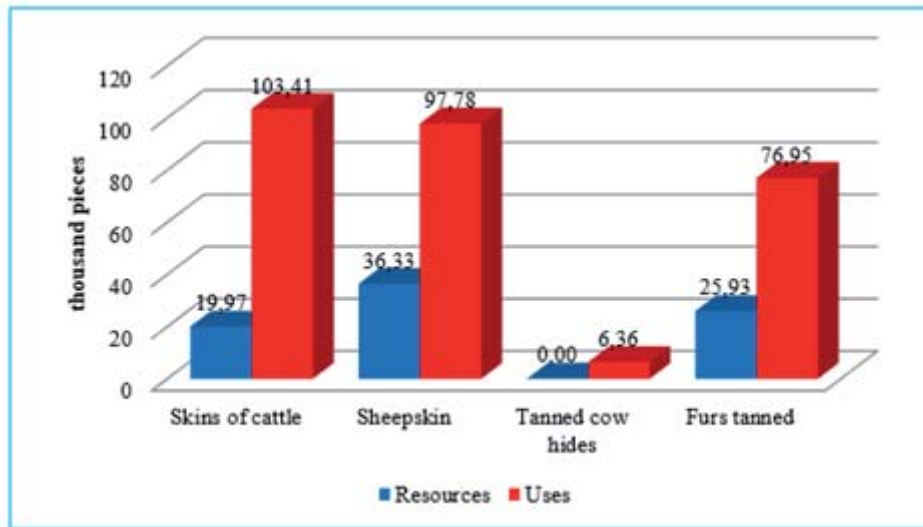


Figure 6. Significant deviations on some goods of Light industry, in 2015

Source: Developed by the authors based on their own calculation

Assessing the shadow volume of exports, imports and production in these four industry complexes, also using official prices and tariffs on im-

port and export, we estimate that the state budget incurred losses just from taxes, VAT, excise duty and customs services in amount of 4878.446 million lei.

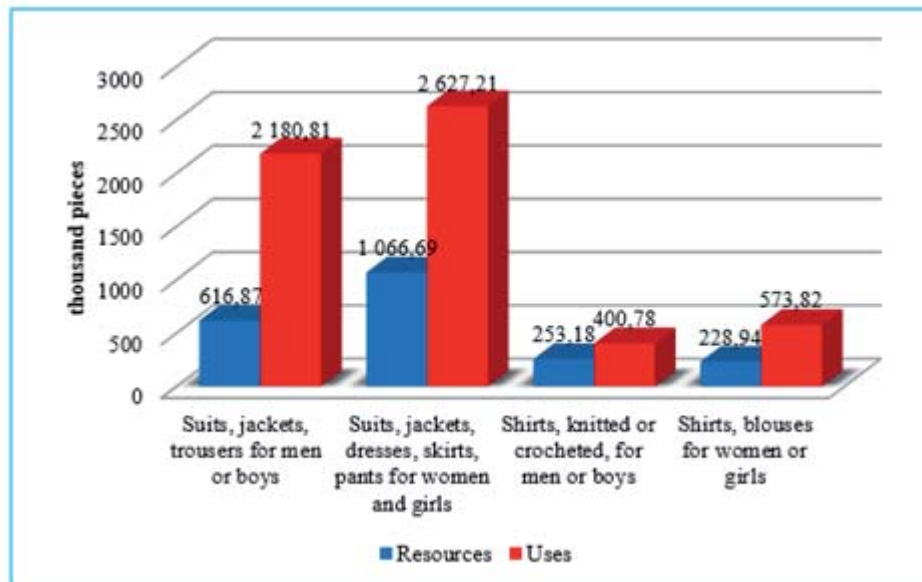


Figure 7. Significant deviations on goods of Light industry for final consumption, in 2015

Source: Developed by the authors based on their own calculation

In Table 8 is submitted the information about employment over 2003–2015. In 2015, every third worker (34.8 percentage) was employed in informa-

tion sector, but in 2003 this number was of 38 percentage. According to Table 1, the level of shadow economy in 2003 was 29.9 percentage of GDP, but in 2015 – 23.7 percentage of GDP.

*Table 8*  
The employed population in the Republic of Moldova over 2003–2015 (thousands citizens)

Type of work/Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Total</b>	1356	1316	1319	1257	1247	1251	1184	1143	1174	1147	1173	1185	1204
<b>Formal sector</b>	840	861	878	816	828	861	829	790	813	806	810	799	785
<b>Informal sector</b>	516	455	441	441	419	390	355	353	361	341	363	386	419

**Source:** *Elaborated by authors based on the National Bureau of Statistics of the Republic of Moldova*

According to calculations, the level of the Non-Observed Economy is with 8.1 percentage points higher than NBS's data. This is because NBS methodology is due to underestimate the level of the Non-Observed Economy. Therefore, we can say that NBS presents the inferior level of the Non-Observed Economy. In Schneider's publications, the average of the Non-Observed Economy was 44.5 percentage of GDP over 2003–2007 [6] while the NBS shows an average value of 24.6 percentage of GDP for the same period.

We studied many opinions about the size of the Non-Observed Economy of the Republic of Moldova:

- according to the NBS the level of the Non-Observed Economy was 23.2 percentage of GDP in 2014, 23.7 percentage of GDP in 2015 and average size was 26 percentage of GDP over the period 2000–2010;

- according to the method of employed population the size of the informal sector was 32.5 percentage of GDP in 2014 and 34.8 percentage of GDP in 2015;

- according to the Schneider's calculations of the average size of shadow economy was 44.5 percentage of GDP over 1999–2007;

- according to estimates by the National Institute for Development the level of shadow economy was 55 percentage of GDP in 2010 [9].

Schneider's assessment, the evaluation of National Institute for Development and our assessment are more realistic and the size of the Non-Observed Econ-

omy was determined in the interval 35–55% of GDP.

In fact, the country has two economies that are roughly comparable in terms of turnover. Can the unobserved economy emerge from the shadows? The answer to this question leads to a disappointing conclusion: the government will not allow emerging from the shadows because it needs the shadow business. Legalized business can come only after the legalization of power [9].

#### Conclusion

The root cause of the Non-Observed Economy is lying in state. To combat this, it is necessary as soon as possible, to review police powers, the tax inspectorate and customs.

Although Moldovan law called such actions as administrative customs offense, in the entire world they were called smuggling. Today, the main elements of smuggling are excisable goods – alcohol, cigarettes, fuel, which can achieve high profitability.

In order to diminish the level of the Non-Observed Economy it is necessary for the State Tax Service of Moldova to implement the practice of other European countries such as, for example, assessing the tax gap by increasing tax compliance.

The Non-Observed Economy includes such phenomena as informal employment, payment in envelope, leading to a reduced state budget, reducing allocation to the social fund, reducing compulsory health insurance fund. To limit this phenomenon, it is necessary to reduce motivation, increase control, increase fines.

Usually, experts characterized the Non-Observed Economy as a negative phenomenon. However, if we evaluate this phenomenon objectively, except for the criminal elements, there can also be identified elements with positive impact. It is worth mentioning that the Non-Observed Economy supplies consumers with goods and services, therefore the shadow economy has its own contribution – satisfying consumer demand market. In a poor economy persists an imperfect tax system where there are sectors that are able to grow only by means of the shadow economy.

In all countries with a market economy has been, it is, and apparently there will be, a shadow economy. The scale of this phenomenon may be different, but neither country has failed to get rid of this phenomenon completely. This trend can be compared with criminal offenses. Magnitude of this phenomenon can be reduced, but is practically impossible to be eliminated completely.

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#### ABSTRACT

**Evolution of the Republic of Moldova's Non-Observed Economy.** In this article are described the types, elements and methods of assessment of the Non-Observed Economy. In addition, is analyzed the dynamics of informal sector production, hidden production of formal sector and production of households for own final use in the Republic of Moldova. The authors have analyzed the Non-Observed Economy of EU countries and other groups of countries. It is evaluated the level of the shadow economy and calculated losses of the state budget on basis of research and using the inter-branch balance.

**Keywords:** *Non-Observed Economy, informal sector production, hidden production of formal sector, production of households for own final use, inter-branch balance, remittances.*

## REZUMAT

**Evoluția economiei neobservate a Republicii Moldova.** În articolul dat sunt descrise tipurile, elementele și metodele de evaluare a economiei neobservate. În plus, este efectuată analiza dinamicii producției ascunse în sectorul informal, producției ascunse în sectorul formal și producției gospodăriilor casnice pentru consum propriu în Republica Moldova. Autorii au analizat economia neobservată a țărilor UE și a altor grupe de țări. În baza cercetărilor efectuate și utilizând balanțele interramurale, este evaluată economia tenebră și sunt calculate pierderile bugetului de stat.

**Cuvinte-cheie:** *economia neobservată, producția ascunsă în sectorul informal, producția ascunsă în sectorul formal, producția gospodăriilor casnice pentru autoconsum, balanțele interramurale, remitențele.*

## РЕФЕРАТ

**Развитие ненаблюдаемой экономики в Республике Молдова.** В данной статье описываются типы, элементы и методы оценки теневой или ненаблюдаемой экономики. Кроме того, осуществлен анализ динамики скрытого производства в неформальном секторе Республики Молдова, скрытого производства в рамках формального сектора и сектора домашнего хозяйства для собственного конечного потребления. Авторы проанализировали ненаблюдаемую экономику в странах ЕС и других группах стран. На основании проведенных исследований и используя межотраслевые балансы определен уровень теневой экономики и рассчитаны потери государственного бюджета.

**Ключевые слова:** *ненаблюдаемая экономика, скрытое производство в неформальном секторе, скрытое производство в рамках формального сектора, сектор домашнего хозяйства для собственного конечного потребления, межотраслевые балансы, денежные переводы.*