ASSESSMENT OF ILLEGAL
CAPITAL FLOWS IN THE REPUBLIC OF MOLDOVA

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This paper analyses the existent methodologies used in international practice to estimate illegal capital outflows. Also, authors carried out an assessment of the illegal capital outflows in the Republic of Moldova on the basis of two models: the general method based on the balance of payments and the World Bank's "residual" model. The paper reflects the exceptional situation of the financial system of the Republic of Moldova and trends in evolution of capital flows. The analysis of illegal flows should be part of the monitoring system of the country's financial stability, which will allow identifying in time negative trends that threaten Moldova's financial security. The main research methods were systemic analysis and logic synthesis; data analysis and interpretation; statistical methods, etc. The main conclusions obtained within the research of this topic are: for more reliable estimates for analytical purposes, it is necessary to develop an adequate methodological base that would help to measure and analyze shadow cross-border flows; for the assessment of the financial security of the Republic of Moldova, as a transition economy, it is important to monitor, analyze and forecast a broader list of financial indicators, as well as their critical values.

Keywords: *capital outflow; illegal flows, balance of payments; financial stability, capital flight, World Bank, Residual model, Trade misinvoicing model.*

În aceast lucrare sunt analizate metodologiile existente utilizate în practica internațional pentru a estima ie irile ilegale de capital. De asemenea, autorii au realizat o evaluare a ie irilor ilegale de capital în Republica Moldova în baza a dou modele: metoda general bazat pe balanța de pl ți și modelul rezidual al B ncii Mondiale. Lucrarea reflect situația excepțional a sistemului financiar al Republicii Moldova și tendințele în evolu ia fluxurilor de capital. Analiza fluxurilor ilegale ar trebui s fie parte a sistemului de monitorizare a stabilit ții financiare a ț rii, ceea ce va permite identificarea în timp a unor tendințe negative care ameninț securitatea financiar a Republicii Moldova. Principalele metode de cercetare au fost: analiza sistemic   i sinteza logic ; analiza i interpretarea datelor; metodele statistice etc. Principalele concluzii ale cercet rii subiectului dat sunt: pentru realizarea unor estim ri mai fiabile în scopuri analitice, este necesar elaborarea unei baze metodologice adecvate pentru m surarea i analiza fluxurilor ilegale transfrontaliere; pentru evaluarea securit ții financiare a Republicii Moldova, fiind o economie în tranziție, este important de a monitoriza, a analiza și a prognoza o list mai vast a indicatorilor financiari, precum i valorile lor critice.

Cuvinte-cheie: *ie iri de capital, fluxuri ilegale, balan   de pl i, stabilitate financiar , fuga capitalului, Banca Mondial , modelul rezidual, modelul denatur rii comer ului.*

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Introduction. Over the last years, more than one thousand billion dollars are illegally "leaking" from developing countries due to various reasons like corruption, organized crime and tax evasion, as well as lack of property rights, general lawlessness. These outflows largely exceed the volume of inflows from foreign direct investments and financial aid. Therefore, a great attention is paid to methods of measuring capital flight as well as explaining causes that launch this phenomenon.

According to the IMF recommendations, "the vulnerability of low-income countries should be focused on the vulnerability of these countries in case of a sharp drop in economic growth due to external shocks, such as dramatic changes in terms of trade and fluctuations in external financial flows. These shocks can cause instability in the budgetary sphere and in the foreign economic sector, worsening of the debt situation, tensions in the banking system and a sharp drop in output. All these factors can lead to a significant reduction in welfare and even to social disruption" [7]. The characteristics of foreign economic financial instruments, such as the current account balance and the growth of the country's official external debt form the movement of capital and its dynamics.

According to the Global Financial Integrity rating, the Republic of Moldova was ranked 77th among 149 countries in terms of flows illegally withdrawn from the country [6].

Literature review and empirical evidence. There is a variety of approaches in defining the term of capital flight. According to some specialists, capital flight represents a sort of reallocation of capital from the home country to other countries due to greater opportunities for risk insurance and portfolio diversification [3]. Another strong reason is money laundering through illegal origin of capital and its conversion into legal income abroad.

Central banks and other government institutions, as well as financial organizations have been continuously searching new ways of measuring the "capital flight" dimension. Due to the fact that these flows are not recorded, all of estimations are based on the difference between recorded sources and used funds within the country [2]. This definition was firstly developed by the specialists of the World Bank, in 1985, and is known as "**residual method**". According to some specialists, this method of measuring capital flight is most appropriate due to the fact that it allows to indirectly estimate capital flight using the balance of payments and international assets data [8]. It estimates the country's sources of funds in form of net increase of external debt and the net inflow of foreign investments against the uses of these sources that are reflected in the current account deficit and the change in foreign reserves. If the registered sources are higher than the registered funds used than it can be assumed the existence of a capital flight from the country [2].

The residual method is widely used by international organizations like the World Bank and the United Nations, non-governmental organizations like the Tax Justice Network, as well as academic studies.

Methodology and data. It is difficult to process the statistics of illegal outflow of capital, since it is extremely difficult to assess this outflow methodologically, not only on the scale of all developing countries, but also in a single country. The actual volumes of this phenomenon significantly exceed the data obtained with the help of available national statistics. The most important estimations oh the extent of capital flight and illicit capital flows are based on imperfect methods that allow great margin for errors and have serious drawbacks.

Due to financial problems in the countries with economies in transition, during the crisis periods, capital is transferred towards the developed countries. In the most general sense, illegal outflow or flight of capital is a form of outflow of national assets and can be carried out in three ways:

- Firstly, by transfer of foreign assets purchased in the country abroad (cross-border outflow of capital);

- Secondly, due to the accumulation of foreign currency assets by residents directly abroad (a hidden cross-border outflow of capital – in the form of foreign residents leaving part of the proceeds of foreign trade transactions);

- Third, through the transfer of assets from the national currency to foreign currency without exporting resources outside the country (internal capital outflow) [17].

The export of capital consists of flows of direct, portfolio and other investments. The growth of foreign exchange reserves is also the export of capital realized by central banks.

Based on the world practice of estimating the scale of the illegal flow of capital, we used several methods in this study:

1. General method based on the balance of payments.

2. „Residual" model of the World Bank (Change in External Debt, CED), based on comparison of sources of funds and their use, also for internal illegal financial flows.

3. Trade misinvoicing model (Gross Excluding Reversals, GER), which is based on the calculation of the magnitude of the distortion of the customs value of goods. In this case, the export and import of a particular country is compared, respectively, with the import and export of the trading partner countries, adjusted for insurance and transportation.

The common feature of all estimations is based on data from balance of payments of the Republic of Moldova, which is elaborated by the National Bank of Moldova.

In the process of estimating illegal flows the following scientific methods were used: data analysis and interpretation through the use of graphs, charts and figures to emphasize the evolution of illegal flows in relation to some relevant indicators; statistical methods and synthesis of the main approaches on given subject.

I. Scientific results obtained

Throughout the entire period of economic development, the Moldovan residents spend more on buying foreign goods, services and assets than they receive from their sale of goods, services and assets to foreigners. The current account deficit in the balance of payments has a strong destabilizing effect on the economy and the banking system in context of a volatile economic growth and a significant external debt (figure 1) [13]. Thus according to figure 1 in 2016, the volume of gross external debt in the Republic of Moldova registered 6510.49 million USD, reaching 96.46% from GDP (according to preliminary figures presented by NBM).
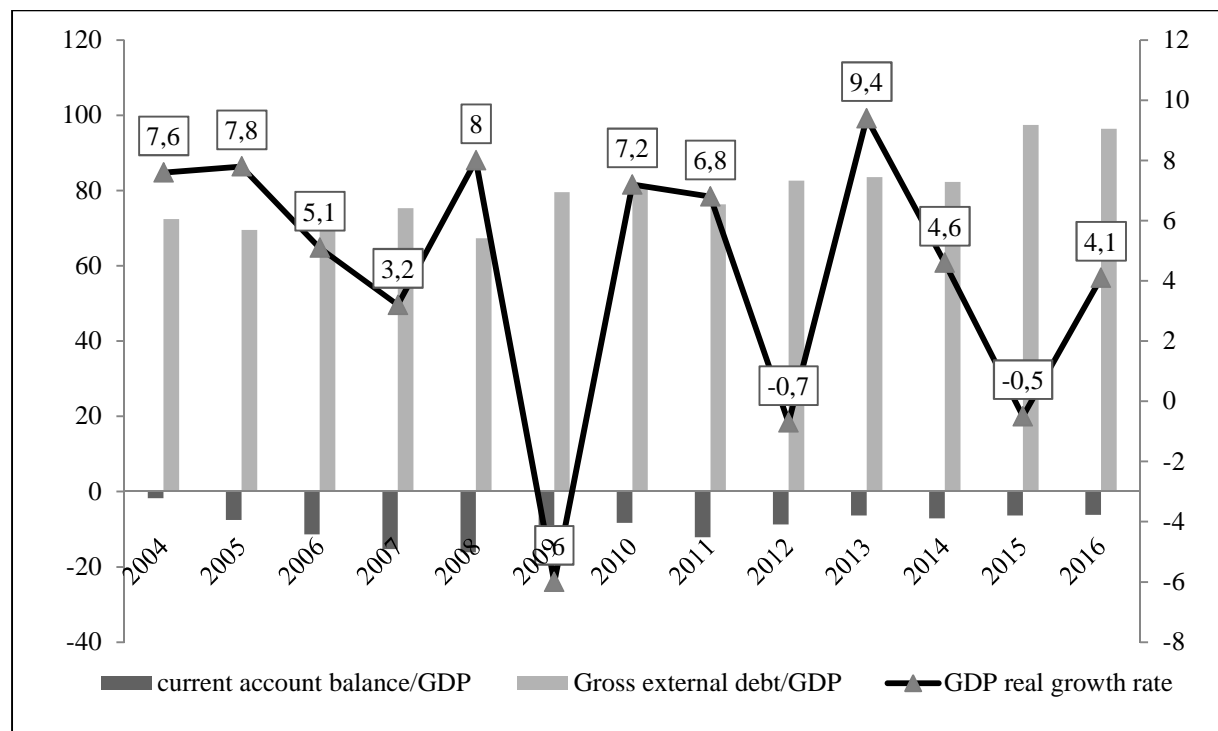

Figure 1. Current account balance as % of GDP, gross external debt as % of GDP and GDP growth rate (according to balance of payments of the Republic of Moldova)
Source: Made by authors on the basis of data from NBM, www.bnm.md

In the Republic of Moldova, capital flight can occur both legally and illegally. Within official export of capital, government receives a certain income, and reinvestment of profits also occurs. But within an illegal outflow of capital, the country does not receive any income. Alongside with the illegal export of capital from Moldova, there is a counter-movement (illegal inflow of capital) from other countries for the following main reasons:

- for the purpose of penetrating into industries with a rapid turnover of capital and enterprises where it is most easy to avoid paying taxes;
- money laundering and their use within the privatization of the public sector of the economy;
- access to cheap sources of labor.

According to the general method, illegal outflows or capital flight is calculated by the following formula:

$$CF = (DBP + IFI) - EOBP,$$

where,

CF – „capital flight";

IFI – inflow of foreign investments;

DBP – balance of payments deficit;

EOBP – errors and omissions of the balance of payments [16].

According to basic theories of balance of payments, the capital account and the current account of the balance of payments in the national economy should be balanced. Balance of capital account (I-S) + Current account balance (NX) = 0. If the value of capital account is positive (investment is greater than savings), and current account balance is negative (import exceeds exports), a positive balance of Capital account and Current account deficit in the balance of payments will be registered.
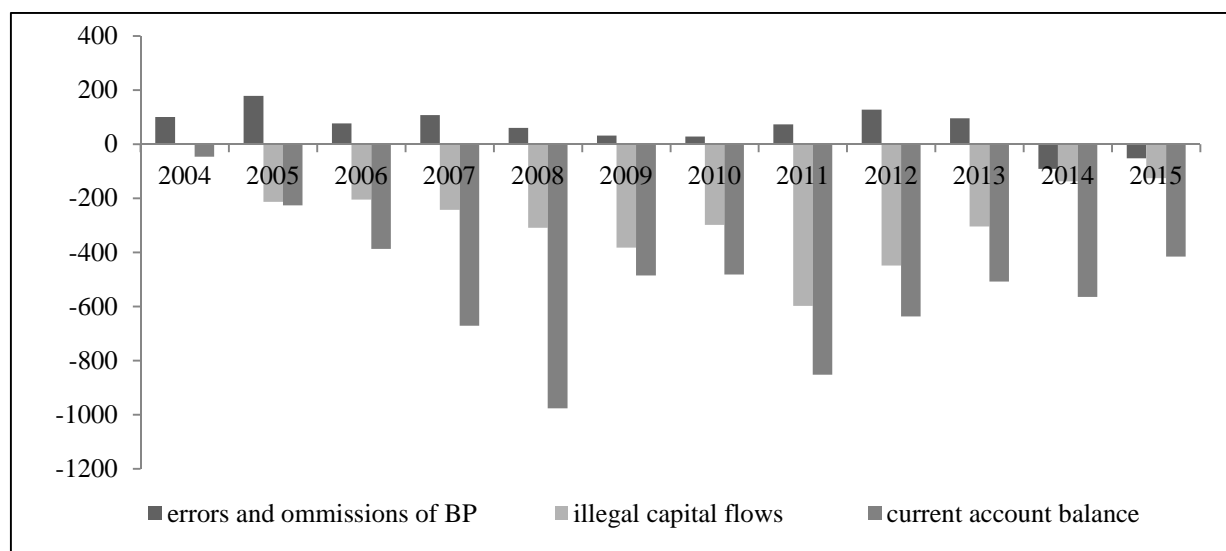

Figure 2. Ratio of illegal capital flows and some related indicators[1], %
Source: Calculated by authors, on the basis of data retrieved from NBM.

Figure 2 presents the ratio of illegal capital outflows (that were calculated by authors through general method), current account balance and errors and omissions of balance of payments. Thus, according to our estimations the total volume of illegal capital outflows in 2015 registered 125.39 million USD, or 30.2% of the current account deficit.

Analyzing certain trends in capital flows in the Republic of Moldova and considering the dependent character of the national economy for external financing and foreign economic factors, it results that **general model is not suitable for calculation of illicit capital flows in our country. This model does not take into account the exclusive external financing of the Republic of Moldova and all**

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[1] *Volume of illicit capital outflows (capital flight) is calculated according to General method based on data taken form balance of payments of the Republic of Moldova*

long-term and short-term loans received, including sources that are used for the formation of foreign exchange reserves. The balance of official settlements is reduced to a deficit, and debt repayment is carried out by the National Bank of Moldova on the account of reduction of official foreign exchange reserves and is guaranteed mainly by attracting external loans. Therefore, **in the Moldovan economy, the source of illegal capital flows is formed both due to the illegal export of goods and unofficial foreign exchange transfers, as well as a positive balance sheet for the account of operations with capital and financial instruments.**

Analyzing the current account deficit in the balance of payments of the Republic of Moldova and considering the basic balance identities, the current account deficit is financed by the reduction of the gold and currency reserves and by inflow of foreign capital.

For a more accurate definition of the scale of the illegal outflow of capital, we applied the calculation of measuring illegal capital flows in Moldova used by the World Bank – **the residual model.** According to this methodology, the amount of capital flight is calculated without reference to the detailed components of the balance of payments statistics (due to the World Bank's distrust of the relevant statistics of the debtor countries or the lack of necessary data). This methodology supposes the comparison on an annual basis of the sources of capital inflows (that is, the net increase in external debt and the net inflow of foreign investment) to the nature of these flows' use (that is, the current account deficit and changes in foreign reserves). Excess sources of funds indicate an illegal outflow of financial resources. In this way, the residual model allows to better determine unregistered capital inflows in the balance of payments. Such calculations are expressed by the following formula:

$$CF = \ ED + IFI - DBP - \ FR,$$

where: – change; **CF** – "capital flight"; **ED** – amount of external debt; **IFI** – inflow of foreign investments; **DBP** – deficit of balance of payments; **FR** – foreign reserves [5].
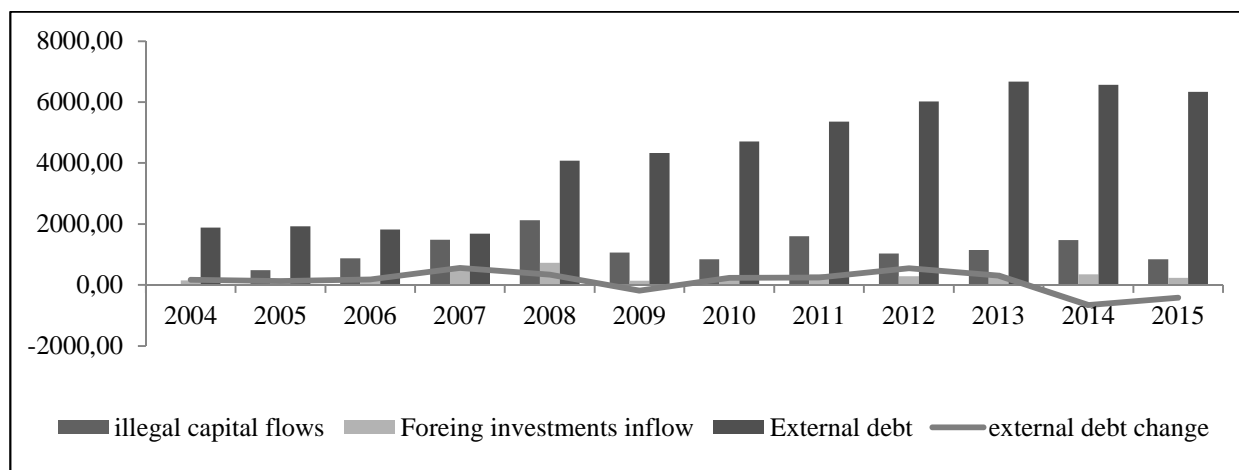

Figure 3. Illegal flows (calculated according to residual model) and some selected indicators, in million USD

Source: Calculated by authors on the basis of data retrieved from the balance of payments of the Republic of Moldova, www.bnm.md

Figure 3 provides the results of calculating the volume of illegal capital flows for the period of 2005-2015. Thus, after 2006 an increasing trend in the illegal outflow of capital is registered, with an increase in the volume of external debt. In 2015, the volume of external debt reached 6338,39 million USD.

In Republic of Moldova, the threat of a combination of the balance of payments crisis and the external debt crisis arises when the government increases the debt from foreign loans, the amounts of which far exceed the current account deficit. **If these borrowed funds are not used for investments in the national economy, then unused foreign loans finance the outflow of private capital from the country.** In 2015, the ratio of foreign investments inflows to external debt marked robust result – 3.7%, **which demonstrates the residual method theory that unused funds "fuel" capital flight in Moldova.**

In Republic of Moldova, the trend of capital flows was affected by the transformational decline in the economy during the "perestroika" period, the crisis of '98-99s, the "flowering" of illegal trade, the unstable political conditions and the weak potential of economic institutions in the face of

inconsistent reforms.

The implementation of residual method within estimations of illegal flows does not suppose detailed accuracy of calculations, but, as shown by the analysis of international organizations, it allows us to obtain a sound macroeconomic assessment of unaccounted financial flows.

The assessment of illegal flows directly affects the decision-making of foreign investors and the level of national economy and financial system confidence. In the crisis periods of the development of the Moldovan economy, a sharp decrease in the level of foreign investment inflow is observed. So, in 2009 the level of inflow of net investments reached 135,15 million USD, decreasing by 591,46 million USD in comparison to previous year. The international financial crisis was strongly felt in Moldova in the fourth quarter of 2008, thus 2009 was deeply marked by its effects, including:

- decrease of demand both on internal market and external markets, which led to decrease of external trade;

- a substantial reduction in share capital of foreign investors;

- increase of payments for foreign investments;

- prevalence of reimbursements on foreign loans capitalization (including amounts attracted from foreign investors);

- allocations of SDRs by the IMF;

- postpone of current payments, leading to growth of economic arrears in other sectors [1].

While applying the residual method it is necessary to understand how to estimate cash holdings of the residents and what is the level of dollarization/euroization of economy, as well as the role of exchange rate fluctuations. Thus, if some of debt and reserves are denominated in foreign exchange currency, then any exchange rate fluctuations, even unessential, could generate changes in the total value and influence the results of the equation, which could be wrongly interpreted.

Another source for assessing capital flight is represented through estimations realized by Global Financial Integrity (GFI) within reports on illicit financial flows from developing countries. All estimations on illicit flows are based on so called „**Trade misinvoicing model**".

According to GFI methodology, there are three sources that generate unrecorded movement of money across borders:

- Corrupt flows generated from proceeds of bribery and theft by officials;

- Criminal flows from proceeds of drug trading, human trafficking, counterfeiting, contraband, etc.

- Commercial flows generated from proceeds arising from import and export transactions and all manipulations with customs duties, VAT taxes, income taxes, excise taxes, or other sources of government revenues.

Basically, these data sources define illicit financial flows according to GFI methodologies, which are formed from gaps in balance of payments data and gaps in trade data. In all positions where recorded sources and uses of funds in balance of payments do not match, the difference is net errors and omissions indicate an inflow or outflow that was not recorded. If bilateral trade information does not match, this shows re-invoicing of transactions between export from one country and import into another country [18].

According to the last report "**Illicit financial flows from developing countries: 2004-2013**", the cumulative volume of trade misinvoicing outflows in Moldova reached over 2004-2013 period 9,079 million US dollars (see table 1 for comparing data with some other selected countries) [6].

Table 1

**Trade misinvoicing outflows,
in million of US dollars, nominal (some selected countries)**

	2003-2009	2010	2011	2012	2013	Cumulative
Belarus	42,971	7,911	12,622	12,929	10,348	86,781
Bulgaria	9,35	0,681	1,595	1,660	1,521	14,807
Georgia	9,472	1,194	1,479	1,369	1,162	14,676
Moldova	4,889	0,784	1,268	1,131	1,007	9,079
Poland	8,613	3,041	4,612	5,115	5,006	26,387
Romania	19,394	1,885	2,462	2,544	3,199	29,484
Russian Federation	450,005	127,488	174,849	119,174	110,061	981,577
Ukraine	49,578	13,843	17,949	21,001	13,271	115,642

Source: Global Financial Integrity, Illicit financial flows from developing countries: 2004-2013, December 2015, http://www.gfintegrity.org/wp-content/uploads/2015/12/IFF-Update_2015-Final-1.pdf

The withdrawal of capital in the form of smuggling of goods, valuables, currency is not reflected in the balance of payments of the Republic of Moldova. Therefore, **it is not possible to calculate reliably all trading flows**.
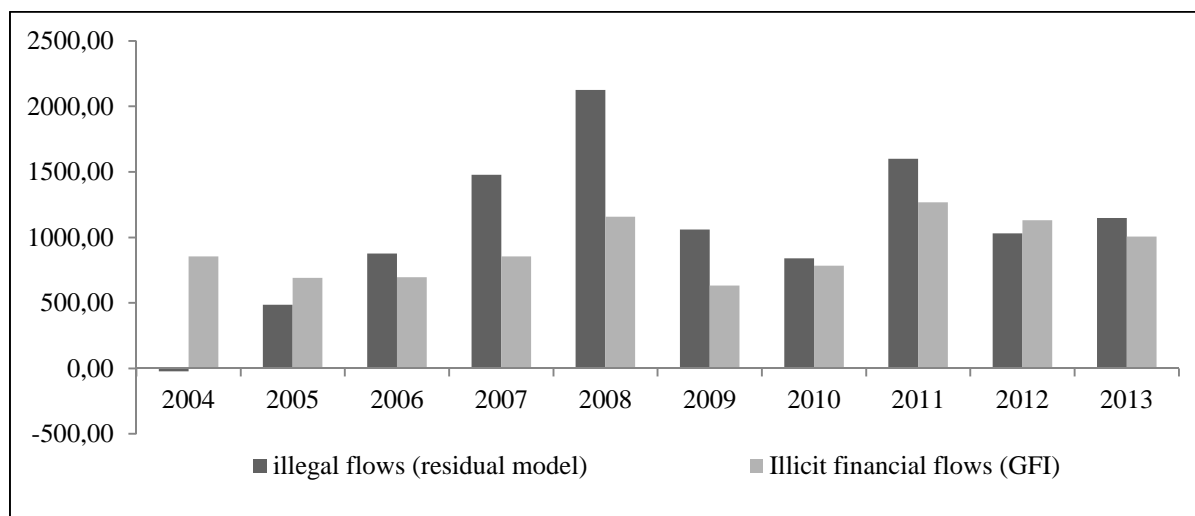
Figure 4. Evolution of illegal outflows
(residual model vis-à-vis trade misinvoincing model)
Source: Calculated by authors on the basis of the balance of payments of Moldova and GFI.

In addition, considering economic development in the Republic of Moldova, **capital flight, broadly defined, involves not only illegal export of capital, but also a part of legal export,** which is reflected in such items of the balance of payments as *"Capital transfers of emigrants"; "Portfolio investment"; "Provided loans and loans to the banking sector and non-financial enterprises"; "Growth of balances on current accounts and deposits abroad"; "Increase in cash foreign currency".*

These nuances explain discrepancies in values of illegal capital flows calculated through different methodologies. In figure 4 we showed the evolution of illegal flows, calculated according to two methodologies – GFI methodology and the World Bank residual model. Thus, differences in volumes are explained through the fact that GFI included data only on trade misinvoincing flows, without considering other channels of capital outflows (both legitimate and illegitimate, including investment, remittances, debt forgiveness, natural resource exports, etc). On the other side, the World Bank residual model takes into consideration an expended list of sources that fuel capital flight. That is why this methodology is more appropriated for the Republic of Moldova.

Conclusions:

1. Assessment of the volumes of illegal capital flows is necessary for the determination of stability of the national financial system, identification of factors of its vulnerability, as well as adoption of adequate policies to mitigate risks and including those measures that require international cooperation.

2. In each of the considered methods of assessing the scale of capital flight from the Republic of Moldova, separate elements of cross-border flows are taken into account. For this reason, differences in the assessment according to national statistics and the calculations of international organizations (GFI) are generated.

3. For more reliable estimates for analytical purposes, it is necessary to develop an adequate methodological base for measuring and analyzing the shadow cross-border flows that directly influence the formation of the resource base for the economic development of the Republic of Moldova.

4. This analysis should be considered as one of the elements of monitoring the financial stability system, which will allow identifying in time negative trends that threaten Moldova's financial security. Indicators of capital outflow should be part of financial monitoring and be subject to constant monitoring by the competent state authorities.

5. An assessment of capital outflows according to the existent methodologies is not sufficient to make a correct evaluation of the security of the country's financial system. From the standpoint of assessing financial security of the Republic of Moldova as a transition economy, it is important to monitor, analyze and forecast a broader list of financial indicators, as well as their critical values.

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