MONITORING FINANCIAL STABILITY THROUGH MONETARY INDICATORS

Senior Scientific Researcher Ph.D. Olga TIMOFEI
National Institute for Economic Research of the Academy of Sciences of Moldova and Ministry of Economy, Republic of Moldova
E-mail: o_timofei@yahoo.com

Abstract: *Ensuring financial stability has always been a natural concern and lately has become a priority for central banks, which are at the forefront of national financial systems. Central banks contribute to financial stability because they are responsible for ensuring price stability and on the other hand, a stable financial environment facilitates the realization of price stability. The monitoring of the financial stability of the state cannot be conceived without monitoring the evolution of monetary indicators, their fluctuations being related to the overall balance of financial flows in the economy, largely reflecting the situation on financial markets, foreign exchange markets, state budget and external balance of payments. The growth rate of money supply affects most of the macroeconomic indicators, such as output, employment, prices and interest rates. The aim of this article is to present and evaluate the evolution of the monetary indicators in the Republic of Moldova in order to analyse the evolution of the financial stability of the state.*

Key words: *financial stability, monetary policy, central bank, monetary indicators.*
Classification JEL*: E44, E52, E58.*

1. Introduction

The information which is based on the analysis of monetary developments constitutes an essential support for governments and central banks in deciding the country's economic policy. The economic theory, as well as its historical precedent, shows a strong correlation between monetary expansion and inflation (Friedman, 1968; Albertini and Silem, 1988). Although the analysis of monetary developments is geared in particular to identifying risks to long-term price stability, it also provides some important indications in terms of a closer time horizon useful for monitoring financial stability, "due to the information on the cyclical position of economy, how the financial system works and how it interacts with the real sector. In spite of the fact the use of monetary aggregates as an objective or as an intermediate target in the conduct of monetary policy has become obsolete, their importance as an indicator seems to be rediscovered both in theory and in practice" (Popescu, 2015).

The global financial crisis has made the monetary authorities in tandem with researchers to review the paradigms underpinning the promoted monetary policy, its goals and instruments, as the existing ones have compromised their capacity to maintain financial stability. In this respect, the analysis of monetary developments may represent a solution to monitor the economic downturn and minimize the challenges that all central banks face in assessing the various risks beyond the traditional forecasting horizon, especially with the excessive price increase.

2. The monetary policy conduct during 2006-2017

The role of the National Bank of Moldova in maintaining the financial stability of the country is an intrinsic one, based on the structure of the financial system of the Republic of Moldova, where the banking sector has a leading role, as well as its double hypothesis of monetary and prudential authority. The tasks underlying financial stability objectives are exercised both by regulating and prudential supervision of the institutions under its authority and by effectively formulating and transmitting monetary policy measures and supervising the optimal operation of payments and settlements of systemic importance.

Since 1993 when the national currency was introduced in the Republic of Moldova, the NBM promoted a monetary and foreign exchange policy aimed at achieving the stability of the national currency by setting quantitative targets for money supply in the economy. This strategy, based on the use of the monetary system as an operational objective and the use of money as an intermediate objective, has been given up by several countries in the world, which have become more and more concerned of price stability since the 1990s. The weakening of the strong relationship between monetary aggregates and inflation, the development of the financial system and the diversification of the payment means and respectively the diminishing of monetary policy has led to the quitting of the monetary aggregate targeting strategy.

The National Bank abandoned the targeting of monetary aggregates in 2006 with the signing of the Republic of Moldova - European Union Action Plan and with the need to harmonize the national legislation with the European Union legislation. The fundamental objective of the NBM being changed from "achieving and maintaining the stability of the national currency" into "ensuring and maintaining price stability" (NBM, 2007). The new monetary policy objective in the Republic of Moldova was adopted under conditions of increasing the share of "cash in circulation" in the structure of the monetary base, increasing the massive inflows of foreign currency and excessive dollarisation, and controlling monetary aggregates under the conditions of a long- mainly monetary, becoming a rather difficult task. In order to maintain price stability, since 2009, after two years of monetary policy adjustment for the implementation of the new target, the inflation target of 9% was set, with a deviation of ± 1.5% from 2010 - to 5%, with a deviation of ± 1.5% (Figure no. 1).

The adoption of the direct inflation targeting system in the Republic of Moldova favoured the sustained decline of the annual inflation rate below the 10 percent threshold, and overcome the inertia of inflationary expectations. Maintaining inflation in a predictable corridor has favoured the relaxation of monetary policy and supported a slight economic recovery after the international financial crisis.

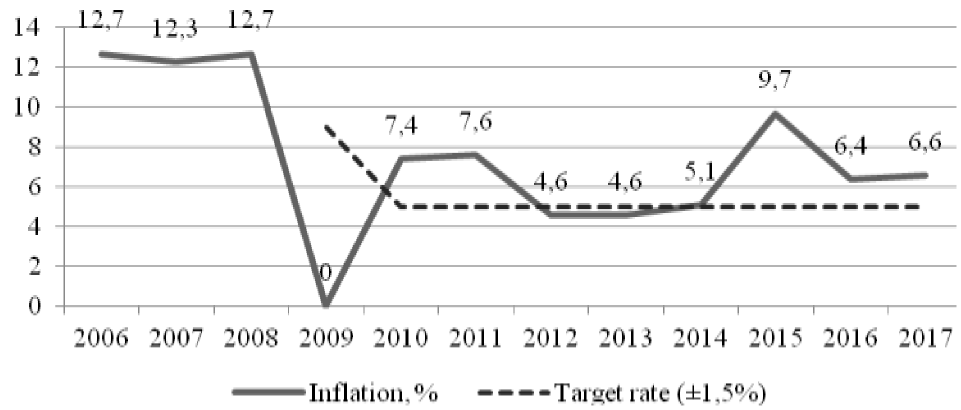

Figure no. 1. Inflation evolution between 2006-2017, %.

Source: National Bureau of Statistics, 2018. *Statistical Databank*. [online] Available at: <http://www.statistica.md/pageview.php?l=en&idc=407&nod=1&> [Accessed 01 March 2018].

According to the graphical analysis of the inflation evolution rate, there is a significant decrease in inflation with the adoption of the direct inflation targeting system. At the same time, the 2009 situation fully reflects the impact of the international financial crisis on the national economy, which is very open and vulnerable to external shocks.

The evolution of macroeconomic indicators in 2009 was mainly determined by the decrease in the volume of remittances and private external financing, the decrease of exports, the suppression of domestic demand and the increase of GDP. The recorded disinflation during this period led to the increase of Moldovan products on the domestic and foreign markets, the diminution of the production volume and the decrease of the demand for domestic products, which had a very negative impact on the state of the economy in general and created inflationary conditions for later periods.

The upward increase in prices in 2010-2011 was conditioned by the first-round effects of international oil price increases influenced by the social-political tensions in North Africa and the Middle East; second-round effects due to increases in electricity, gas, heating, fuel and food prices, resulting in higher prices for basic inflation-related goods and services; increasing domestic demand as a result of increased disposable income of the population with the increase in remittances and salaries; increasing external demand with the recovery of key trading partners' economies.

In 2012 the NBM manages to create the necessary conditions for keeping inflation in the range of 5.0 percent ± 1.5 percentage points, a target set as early as 2010, according to the NBM monetary policy strategy for 2010-2012. Since 2013, the conduct of monetary policy has been affected by the persistence of disinflationary pressures. In 2014, the disinflationary climate strengthened on the basis of the depreciation of national currencies of major trading partners, the decline in oil and food prices on international markets, and the decline in aggregate domestic demand.

Until November 2014, the NBM promoted an incentive monetary policy, maintaining the base rate applied to the main short-term monetary policy operations at the historic minimum of 3.5 percent annually. In December 2014, the risks of intensifying inflationary pressures began to materialize. The diminishing of the foreign exchange income of the population and of the domestic exporters has created strong expectations of a depreciation of the national currency for both individuals and economic agents. The sudden depreciation of the Russian currency and the introduction at the end of 2014 of special administration at Banca de Economii S.A., B.C. "Social Bank" S.A. and B.C. Unibank S.A. has further amplified these expectations. Accelerating the depreciation of the national currency has increased the risk of higher prices for regulated services in 2015.

At the end of 2014, the consumer price index exceeded the NBM targeting corridor. The main reason for the rise in prices during this period was the fraud in the banking sector, which resulted in the extraction of an enormous amount of money from banking assets. In order to establish a stability in the created situation, the NBM tried to save the devalued banks by injecting an additional amount of liquidity from the foreign exchange reserves, which led to the depreciation of the national currency and strongly affected the purchasing power of the national currency, conditioning the inflationary expectations of the population, under the pressure of import prices. In response to the intensification of inflationary risks, the central bank has adopted a more restrictive monetary policy, shrinking aggregate demand and pushing the economy toward an economic downturn and recession.

In addition to deteriorating macroeconomic conditions, Moldova had to cope with a systemic financial crisis by the end of 2014. A special administration system was established for Banca de Economii S.A., B.C. "Social Bank" S.A. and B.C. Unibank S.A. because of the precarious financial situation created at these three banks, as well as the fact that the nominated banks did not respect the prudential indicators established by the NBM normative acts. In December 2014, the NBM granted these banks emergency credits of 6450.0 million lei, in order to ensure the stability of the entire domestic financial system and to protect individual deposits and legal entities not affiliated to banks.

Taking into account that the targeting of inflation as a monetary policy objective is in fact the ultimate goal of creating favourable long-term conditions for economic growth and development, promoting this policy when the foreign exchange risk is accentuated in Moldova, and maintaining at all costs of inflation in the targeted corridor proves to be risky because of the effects it can generate in both the real and the financial sector. On one hand, the depreciation of the national currency leads both to the decrease of the population's welfare and the wealth of economic agents. On the other hand, real sector constraints can affect the health and security of the banking sector by lowering borrowers' ability to repay loans and increasing the volume of bad credit in the banking system.

The adjustment of monetary conditions from the perspective of the monetary policy objective was achieved through the interest rate policy supported by a determined liquidity management of the central bank. Within the latter, money market operations, permanent facilities and the minimum reserve mechanism continued to have the main role.

The set of monetary policy instruments used by the NBM in accordance with the operational actual framework proved to be appropriate to the requirements of monetary policy implementation.

According to the NBM monetary strategy for 2010-2012 and beyond 2012, the NBM has at its disposal a main instrument: open market operations and several ancillary instruments: permanent facilities, reserve requirements and foreign exchange market intercessions.

Once the inflation targeting system was changed, the basic interest rate has become the main policy instrument through which the central bank directly influences the level of interest rates on interbank deposits, balancing demand and supply on the money market. The base rate variation corridor is defined by the interest rates on the permanent facilities offered by the Central Bank, which determine the upper and lower limits of interbank market fluctuations, especially for the shortest maturities. Since the beginning of the analysed period, this corridor has considerably narrowed (Figure no. 2).

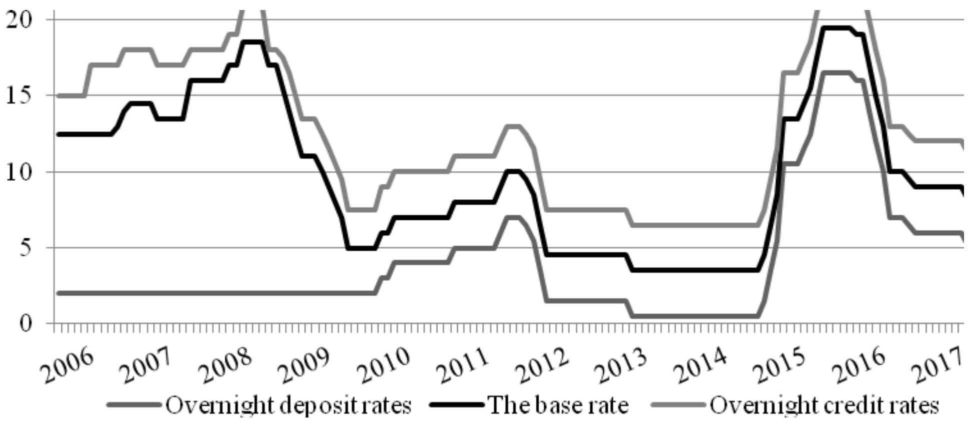

Figure no. 2. Evolution of interest rates on NBM monetary regulation instruments in 2006-2017, %.

Source: NBM, 2007. *Monetary and Foreign Exchange Policy of the National Bank of Moldova for 2007*. [online] Available at: <www.bnm.md> [Accessed 01 March 2018].

During the period 2008-2017 the NBM changed the base rate level several times. The highest level of the base rate was recorded at the end of 2015 by 19.5% under the influence of inflationary pressures caused by the devaluation of the domestic banking system in the period of 2014-2015, after it was gradually lowered to 9% to the end of 2016.

Regarding the use of reserve requirements, these are an active monetary policy instrument of the NBM, with several modifications of the mechanism being implemented during 2006-2017. The NBM uses the required reserve ratio to influence the demand for short-term money and the short-term interest rate by increasing - in order to constrain monetary masses in circulation, and by diminishing - to relax the monetary conditions. In Moldova, commercial banks maintain separate reserves in Moldovan Lei and foreign currency (USD and Euro) in open accounts at the central bank, allowing the National Bank to send separate impulses to the economy, depending on the money mass that is followed (in national or foreign currency).

The Mandatory Reserve Requirement in the Republic of Moldova was increased especially in the periods before the economic recession, at the end of 2008, when the effects of the global financial crisis on the real economy were felt, and from the middle of 2015, when the inflationary expectations and the devaluation of the national currency have influenced the NBM to increase the reserve requirement (Figure no. 3). Since October 2015, the required reserves ratio has remained unchanged by the end of 2017, regardless of NBM prudent steps to ease monetary conditions on the interest rate channel. Thus, one third of the commercial banks' resources currently remain in accounts in the form of minimum reserves and cannot be used in lending and financing the national economy, irrespective of the lowering of other monetary policy rates.

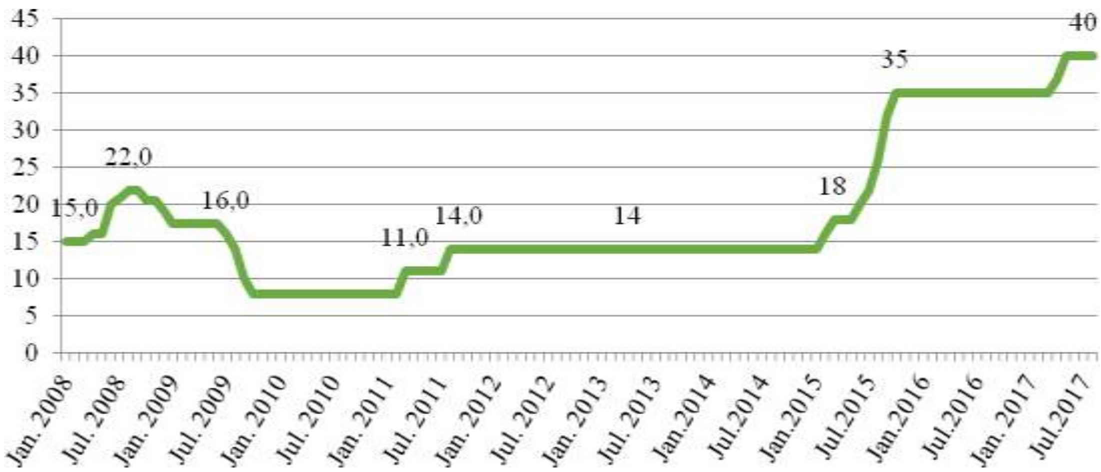

Figure no. 3. Evolution of the reserve ratio from the attracted funds in MDL,%.
Source: NBM, 2007. *Monetary and Foreign Exchange Policy of the National Bank of Moldova for 2007*. [online] Available at: <www.bnm.md> [Accessed 01 March 2018].

The analysis of the determinants of the inflationary process in the Republic of Moldova and the NBM monetary policy conduct as a reaction response, highlighted the inhomogeneous influence of the inflationary factors. Some of these factors come out of the sphere of influence of the monetary policy promoted by the NBM. This fact was also confirmed in 2009-2011 when, with the deepening of the sovereign debt crisis and the recession in the euro area and globally, which affected the global demand and international prices, influenced the growth rate of domestic economic activity and in the following years, irrespective of the relaxation of monetary conditions at a level previously practiced by NBM.

3. Monetary mass and its components analysis

Although the volume of money supply has raised over the entire period between 2000-2015, post-crisis money supply growth has slowed considerably. The lowest values of the money supply increase were recorded in 2009, during the period of the national economy's perception of the effects of the global financial crisis (Figure no. 4).

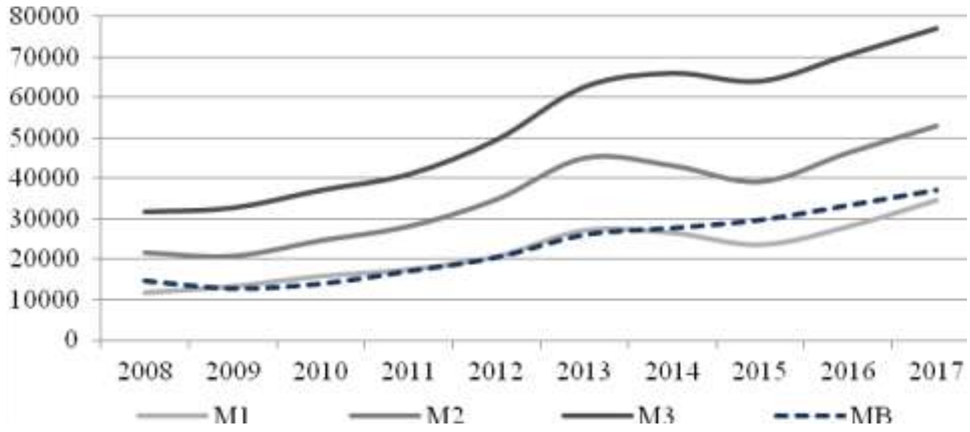

Figure no. 4. The evolution of the money supply during the period 2008-2017, MDL mil

Source: NBM, 2007. *Monetary and Foreign Exchange Policy of the National Bank of Moldova for 2007*. [online] Available at: <www.bnm.md> [Accessed 01 March 2018].

Analysing the impact of monetary policy instruments on the currency supply, we can see that they have an uneven effect on the structure of the amount of money in circulation, being influenced by certain specific factors. The volume of monetary aggregates analysis in dynamics and its structure outlines the specific characteristics of the evolution of the money supply in the Republic of Moldova and delimits the small impact that the commercial banks have in its multiplication.

Although the crisis in the Republic of Moldova was felt only in 2009, the annual money increase rate supply began to decrease as early as 2008, the period characterized by NBM active interventions in the money market and the tightening of the monetary policy by the gradual increase of the rate the overnight credit rate and the minimum reserve ratio. In addition to restrictive monetary policy, the volume of remittances from Moldovans working abroad, which have felt the impact of the crisis since its inception in 2007, has also diminished.

In the analysed period, the process of monetization of the Moldovan economy evolved differently, a process visible from the analysis of the annual variations in real terms of the money supply. At the same time, two periods can be outlined during which the annual growth rate of money supply has dropped dramatically:

1) The period between 2007-2009 when the dynamics of the monetary mass was diminishing as the effects of the international financial crisis have repercussions on the Moldovan economy. During this period, it is observed that in the case of the national currency (M2), the slope of the curve was much steeper, demonstrating the slowing of the financial intermediation process both internationally and internally due to the decline in economic activity.

2) The period 2014-2015 when the dynamics of all monetary aggregates registered negative values as a result of the devaluation of some banks in the domestic banking system, which had a negative impact on all macroeconomic indicators and had a negative impact much more than the effects of the financial crisis.

One of the early warning indicators of risk is the degree of economy monetization, expressing the level of financial intermediation in a country and is calculated as a ratio between broad money and GDP (M2/GDP). Taking into account the high weight of money in foreign currency in the total monetary mass, we considered it useful to calculate this indicator and its tracking for monetary aggregate M3.

In the case of Moldova, the M2/GDP recorded values between 32% and 44.9% (2008-2017, Figure no. 5), which are relatively low compared to other countries: 85.6% in Bulgaria, 64.5% in Poland, 80% in Slovakia, data for 2015.

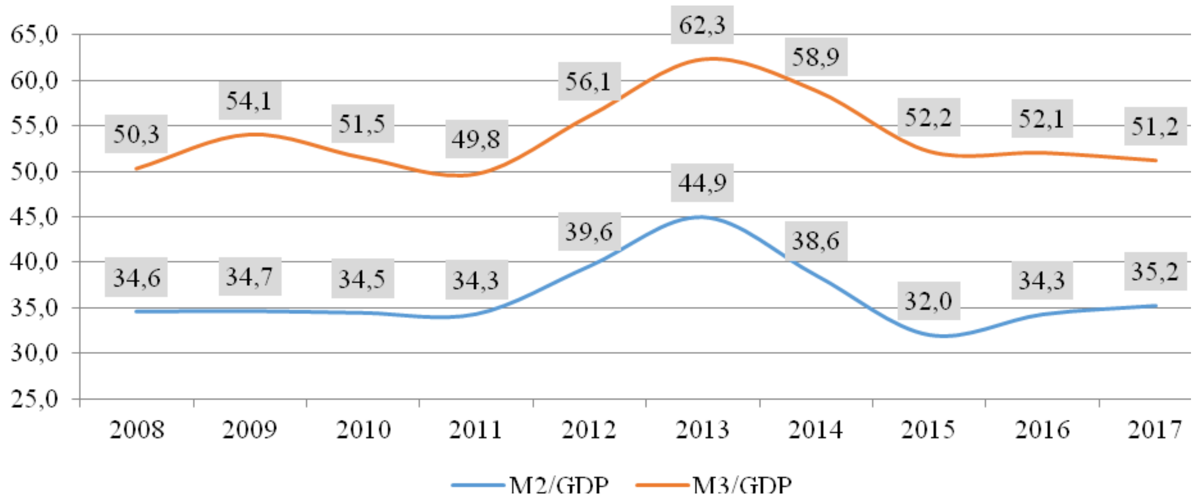

Figure no. 5. Evolution of Monetization Degree in the Republic of Moldova (2008-2017)

Sources: NBM, 2007. *Monetary and Foreign Exchange Policy of the National Bank of Moldova for 2007*. [online] Available at: <www.bnm.md> [Accessed 01 March 2018].

National Bureau of Statistics, 2018. *Statistical Databank*. [online] Available at: <http://www.statistica.md/pageview.php?l=en&idc=407&nod=1&> [Accessed 01 March 2018].

For a developing country like the Republic of Moldova, the value of this indicator should be at least 50-60%. The low levels of M2 / GDP and its developments indicate macroeconomic imbalances seen in higher inflation (2006-2008, 2010-2011, 2015) and fragile economic growth (2012-2014) interrupted by periods of economic decline that have influenced the process (M3/GDP) and highlights the mismatch between demand and aggregate supply.

The higher level of economy monetization calculated on the basis of monetary aggregate M3 shows the existence of a shortage of money in national currency for sustainable economic growth. This shortage, being substituted by foreign currency, leads to maintaining or increasing dollarisation of the economy, which negatively influences the efficiency of monetary policy impulses.

The phenomenon of excessive dollarization of the economy is also seen in the analysis of the economies structure in the economy, another predictive indicator of financial instability for the countries in transition. According to this indicator, the share of savings in national currency for a state like the Republic of Moldova should account for at least 70% of total economies. A lower share of these shows the existence of a major impact of external factors on the country's financial stability, factors uncontrollable by the domestic monetary authorities.

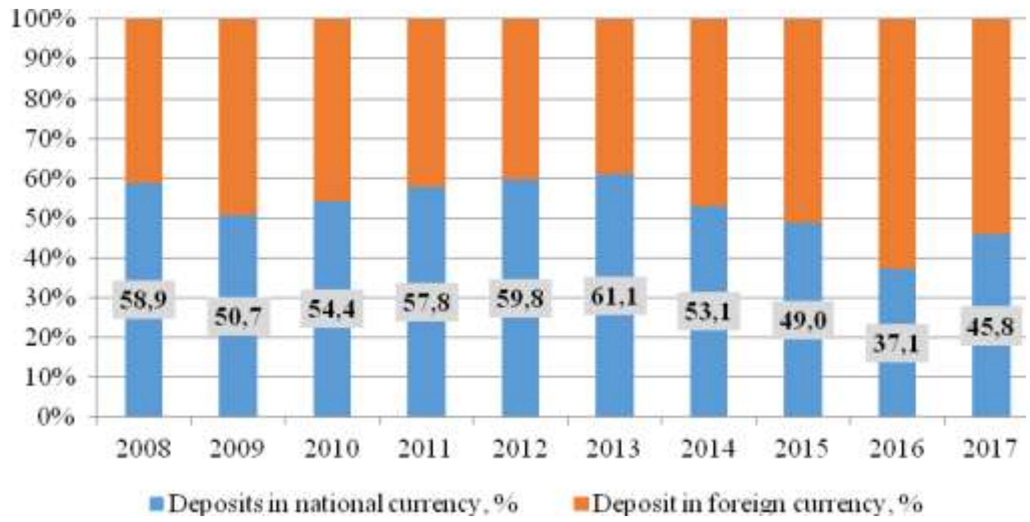

Figure no. 6. Evolution of savings in national and foreign currency in the Republic of Moldova (2008-2017)

Source: NBM, 2007. *Monetary and Foreign Exchange Policy of the National Bank of Moldova for 2007*. [online] Available at: <www.bnm.md> [Accessed 01 March 2018].

It is noticed that during this period the weight of the economies in the Republic of Moldova is about 10-20% lower than the minimum level necessary to ensure the country's financial stability. We note that in times of economic recession, under the influence of external factors in 2009 and under the influence of domestic factors in 2014-2017, the volume of deposits in national currency decreases very much (Figure no. 6). The dollarisation of economies, which do not depend on the monetary policy decisions of the NBM or on the banks' desire to hold foreign currency liabilities, but more on the behaviour of foreign exchange curators who, in order to mitigate currency risk, decide to keep their savings and other foreign currency assets vulnerability of the economy to speculative attacks. This vulnerability largely depends on exchange rate fluctuations.

4. Conclusions

The following conclusions regarding the evolution of the financial stability of the Republic of Moldova during the years 2006-2017 can be made taking into consideration the analysis of monetary developments in the Republic of Moldova, including through SAT indicators:

• The overall conduct of monetary policy has been characterized by caution, due to the need to strengthen trends of accentuating inflation expectations and to counteract any negative signal induced by external factors on the need to adjust administered prices;

• The National Bank largely managed to maintain the Consumer Price Index within the variation corridor following the implementation of the inflation targeting system until 2015, when under the influence of the domestic factors the destabilization of the financial and banking sector occurred which later led to inflationary effects that came out of the control of the monetary authorities;

• The degree of monetization of the economy of the Republic of Moldova has proved to have low values, which shows the existence of macroeconomic imbalances as well as fragile economic growth, an obvious lack of correlation between aggregate demand and supply;

• The analysis of the structure of the population savings denotes an excessive weight of the foreign currency in the total money, which is a risk factor for the country's economic stability due to its exposure to the influence of external factors uncontrollable by the domestic monetary authorities.

References:

1. Albertini, J.M. and Silem, A., 1988. *Comprendre les théories économiques*. Vol. I. Paris: Seuil Publishing.
2. Friedman, M., 1968. *Inflaţie şi sisteme monetare*. Bucharest: Stiintifica Publishing.
3. NBM, 2007. *Monetary and Foreign Exchange Policy of the National Bank of Moldova for 2007*. [online] Available at: <www.bnm.md> [Accessed 01 March 2018].
4. National Bureau of Statistics, 2018. *Statistical Databank*. [online] Available at: <http://www.statistica.md/pageview.php?l=en&idc=407&nod=1&> [Accessed 01 March 2018].
5. Popescu, D.I., 2015. *Analiza evoluţiilor monetare şi de credit în economia românească*. Bucharest: INCE „Costin C. Kiriţescu”.