IMPLICATIONS OF EXCESS LIQUIDITY FOR COMMERCIAL BANKS, CENTRAL BANK AND ECONOMIC GROWTH IN THE REPUBLIC OF MOLDOVA

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Abstract

This paper seeks to understand the causes and consequences of excess liquidity phenomenon in Moldovan banking system and national economy.

The main features of excess liquidity are their large size and riskiness, and the difficulties of managing them. The profitability of commercial banks was negatively affected by excess liquidities. The Central Bank (named the National Bank of Moldova) revenues also were negatively affected because of consisted amount of interest that has being paid on monetary policy operations.

We firstly investigated the excess liquidity concept and theoretical considerations with regard to excess liquidity, then the regulatory framework on bank liquidity management in the Republic of Moldova, next provided a liquidity analysis for Moldovan banks and finally we analyzed the monetary policy operations provided by the National Bank of Moldova during 2011-2018 years.

The findings indicate that excess liquidity has considerably implications on the profitability of commercial banks, on the mix of the monetary tools used by National Bank of Moldova in order to achieve and maintain price stability, on the monetary transmission mechanism, and implicitly can be analyzed as representing missed opportunities for economic growth.

Recommendation therefore is that the commercial banks, under the guidance of the banking supervisor, ought to adopt a general framework for excess liquidity management.

Keywords: *excess liquidity, monetary policy, liquidity management.*
JEL classification: *B23, E5, G33.*

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1. Introduction

A first impression that would allow to be reproduced the complexity of the excess liquidity phenomenon should starts with the extremely known subject on which Milton Friedman is most often quoted–Inflation is not “always and everywhere a monetary phenomenon”(The Monetary Theory), should go through The Quantity Theory of Money, Demand Pull Theory, Cost Push Theory, Structural Inflation Theory, and may continue with the New York Fed President William Dudley suggestion in a 2012 speech that “demographic factors have played a role in restraining the recovery,” in part because spending by older Americans is “less likely to be easily stimulated by monetary policy.”[4]. Moreover, the process is dynamic, and the shock to prices are mixed.

As a further matter, the commercial banks that are implicitly involved in this process, actually support substantially costs related to the monetary policy implementation, and thus achieve a function that does not belong to them and which runs counter to their overall profit maximization goal.

2. Some Theoretical Considerations with regard to excess liquidity

In a broad sense liquidity and solvency are both terms that refer to an enterprise's (as well as banks) state of financial health. But with some important differences: solvency refers to the capacity of an enterprise to meet its long-term financial commitments. Liquidity refers to an enterprise's ability to pay short-term obligations; the term of liquidity also refers to a company's capability to sell assets quickly to raise cash. The both concept mentioned above were the mainly pillars of the banking prudential regulation and all the banks were required to held liquidity according to the liquidity ratios regime.

During the last decade a new phenomenon in the banking sector has appeared: the excess liquidity.

There is still no consensus on the theoretical concept of the excess (or surplus) liquidity. In the overall opinion, excess liquidity can be defined as the involuntary accumulation of liquid reserves by commercial banks. It is important to highlight that the involuntary accumulation refers to the funds, which exceed: 1) the amount of reserves required by the legislation, and 2) the willingly accumulated reserves.

The importance of excess liquidity for central banks is threefold and lies in its potential to influence:

(1) the transmission mechanism of monetary policy;

(2) the conduct of central bank intervention in the money market, and

(3) the central bank's balance sheet and income.[5]

Till now the excess liquidity concept and the associated issues hasn't been enjoyed due attention in the economic literature, if to analyze them from the perspective of missed contribution to output growth as being money funds.

3. Regulatory framework on Bank Liquidity Management in the Republic of Moldova

In the Republic of Moldova the regulation on bank liquidity management is primarily based on „The Regulation on bank's liquidity", approved by the DCA of the National Bank of Moldova no.28, August 08, 1997, amended by: DCA of the NBM, no.265 of 17.12.2009, Official Monitor of the Republic of Moldova no. 27-28 of 19.02.2010 and DCA of the NBM, no.130 of 10.12.2015 (in force 30.06.2016).

According to this regulation, the definition of the liquidity refers to the financial institution's *ability to invest in assets* and honour its payment liabilities upon maturity at all times.[10]

The regulation considers the liquidity from 3 time perspective:

– Principle I of liquidity (long-term liquidity) provides that the amount of bank's assets, with the maturity of more than 2 years, shall not exceed the amount of its financial resources;

– Principle II of liquidity (short-term liquidity) provides that bank's short-term liquidity, expressed as a ratio of liquid assets and total assets, shall not be less than 20% (as at November 15, 2018);

– Principle III of liquidity (liquidity on maturity bands) provides that the liquidity on maturity bands up to 1 month, 1-3 months, 3-6 months, 6-12 months and over 12 months, expressed as a ratio of actual liquidity and required liquidity by each maturity band, shall not be less than 1 on each maturity band.

The regulation also contains the definitions of the liquidity surplus and liquidity reserves (Chapter II. Definition):

p. 10. Liquidity surplus/deficit is the positive/negative *difference between actual liquidity and required liquidity;*

p. 11. Reserve deficit is the insufficient amount determined in accordance with the regulations of the National Bank of Moldova on required reserves regime.

4. Liquidity analysis for Moldovan banks

From the current topic perspective it is crucial to consider about the Moldovan bank fraud scandal held in November 2014, when $1 billion disappeared from three Moldovan banks: Banca de Economii, Unibank and Banca Socială. The bank fraud in Moldova was a coordinated effort involving all three banks working together to extract as much loan finance as possible from the banks [2].

But the biggest impact on liquidity had had the action taken on November 27, 2014 by the Moldovan Government, when secretly decided to bail out the three banks with $870 million in emergency loans, covered from state reserves [2].

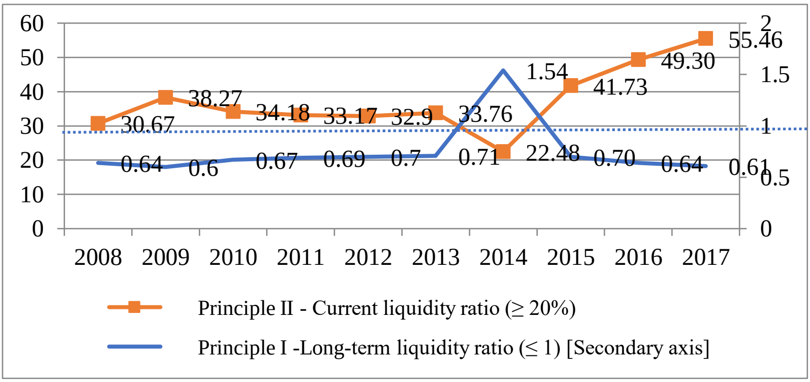
This action seems to be a key factor that had a big influence on excess liquidity issue.

Therefore into analysis we recommend to give sufficient attention to this event and to analyze all the statistical data as at the end of 2014 year with sufficient prudency.

During the 2008-2017*(*excepting for the end of 2014*) all Moldovan banks maintained high liquidity ratios (Figure 1).

Thus, the value of the long-term liquidity indicator (1st liquidity principle) recorded 0.6-0.7 (with threshold of ≤1).

Figure 1: Moldovan banks liquidity ratios



Source: NBM data and the author's calculations

During the 2008-2013 years the current liquidity for the sector (2nd liquidity principle) recorded insignificant changes, recording 30-38%%, increased constantly after 2014 year (with threshold of ≥20%). At the end of 2017 year the current liquidity ratio recorded 55,46%, meaning that more than a half of the banking sector's assets are liquid. It should be mentioned that the largest shares in total liquid assets were held by deposits with the NBM – 40.3%, liquid securities – 30.8% and net interbank money – 18.9%. [8]

Regarding to each bank, for all the Moldovan bank liquidity remains well above the regulated limits for the both of principles (Table 1).

Table 1: Moldovan banks liquidity ratios as at December 31, 2017

	Long-term liquidity ratio (≤ 1)	Current liquidity ratio (≥ 20%)
BC „Moldova - Agroindbank” S.A.	0,71	48,65
B.C. „Comertbank” S.A.	0,76	61,08
BC „EuroCreditBank” S.A.	0,85	44,02
B.C. „Energbank” S.A.	0,68	60,47
B.C. „Eximbank” S.A.	0,69	60,32
„FinComBank” S.A.	0,70	47,36
BC „Mobiasbanca - Groupe Societe Generale” S.A.	0,60	49,91
BC „Moldindconbank” S.A.	0,54	59,24
B.C. „ProCredit Bank” S.A.	0,41	42,87
BCR Chisinau S.A.	0,31	54,48
B.C. „Victoriabank” S.A.	0,53	68,09
Total per banking system	**0,61**	**55,46**

Source: NBM

At the end of 2017 year, the biggest liquidity was registered by the Victoriabank, the current liquidity ratio was equal to 68,09%, while the lowest level was registered by the ProCredit Bank, with a current liquidity ratio equal to 42,87%.

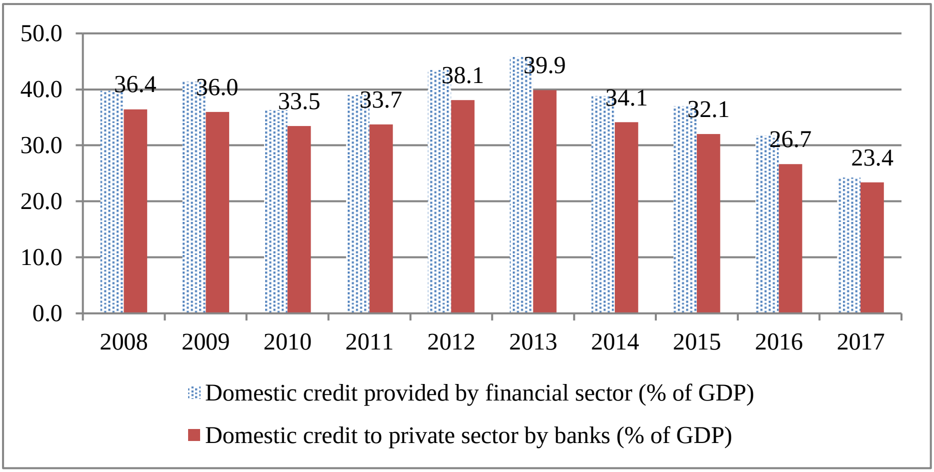
At the same time, it’s worth mentioning that the banks continue to generate profits under these terms.

For sure the high level ratio of liquidity has impact on banks performances. For example, the result of a Bank of Canada study suggest that profitability is improved for banks that hold some liquid assets, however, there is a point at which holding further liquid assets diminishes a banks' profitability, all else equal. Moreover, empirical evidence also suggests that this relationship varies depending on a bank's business model and the state of the economy.[3]

The cost of diminished profitability may be estimated by the differences between the average rates of average interest rates on loans and the interest rate on National Bank Certificates and *has been varied round to 2,5-5%* during the analyzed period of time.

Generally it is consider that a high value of domestic credit to private sector (% of GDP) is a sign of a strong economy. This statement is based on the key role of bank in financial intermediation: to aggregate savings and to channel them to those who need liquidities. The Figure 2 provides information about the role which were played by the Moldovan banks in financing the private sector during last 10 years. Unfortunately, the quota of domestic credit is low and has been decreasing during last 5 years.

Figure 2: Domestic credit provided by financial sector and domestic credit to private sector by banks in the Republic of Moldova (% of GDP)



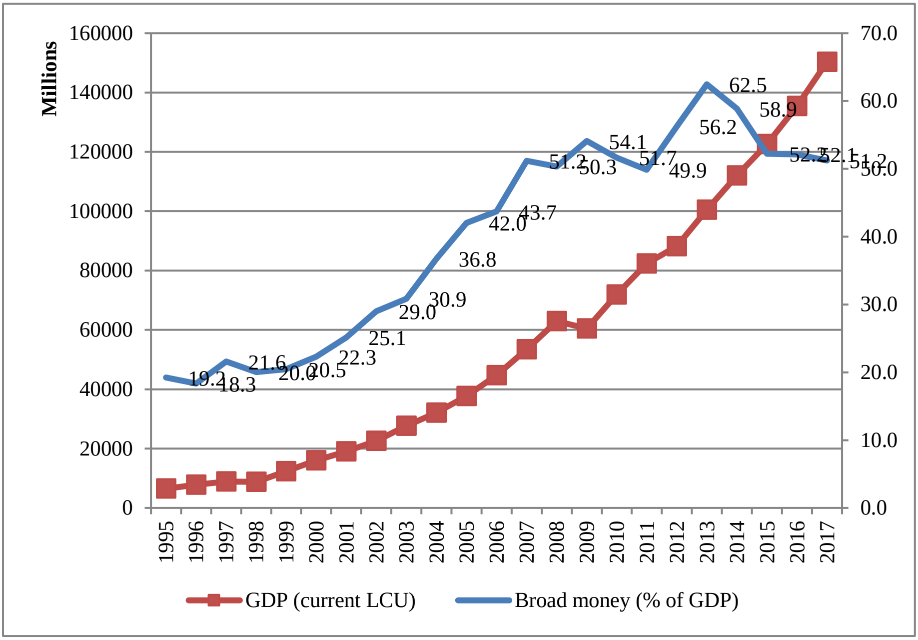
Source: World Bank Data and the author's calculations

The figure 2 (compared to the figure 1) reveals the tradeoff between liquidity abundance and banking sector penetration in the national economy. The problems become more severe during the 2014-2017 years, exactly the period of increases of the liquidity of the banking sectors. It suggests the idea that Moldovan banks are extremely reluctant in their lending activity and very conservative in their risk management.

5. Monetary policy implementation in the Republic of Moldova

In a macroeconomic perspective the money supply compared with nominal GDP is the common index to measure the status of liquidity.

Figure 3: The GDP and the Broad money dynamics in the Republic of Moldova

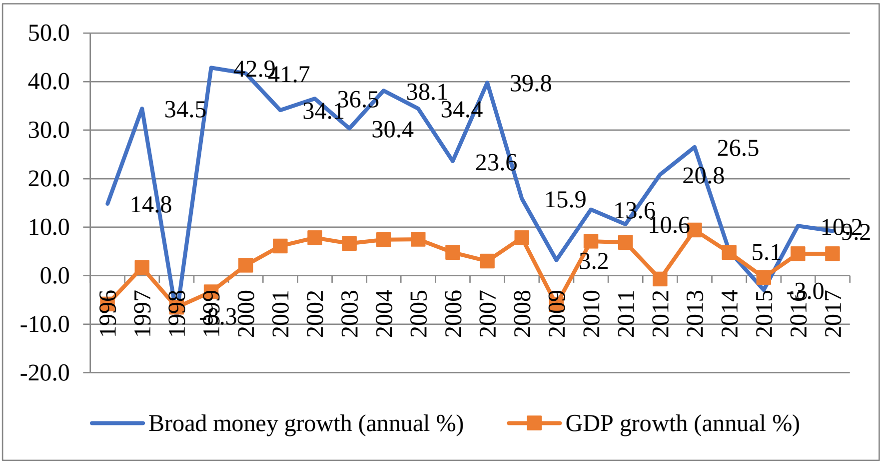


Source: World Bank Data and the author's calculations

The published statistical data about the dynamics of the GDP and the Broad money in the Republic of Moldova, as it is presented in the figure 3, does not indicate on the excess emission of money in the national economy, if estimated by the broad money. Furthermore, the ratio of the broad money as percentage of GDP has been decreased during starting with 2014 year and it is under the level registered in other countries with the same level of development.

According to the data presented in the figure 4, the level of broad money growth has been decreasing during the period of 2008-2017 years.

Figure 4. The GDP growth and the Broad money growth dynamics in the Republic of Moldova



Source: World Bank Data and the author's calculations

In 2015, for example, the broad money growth and domestic credit growth were the weakest they had been since at least 1998 (years of the regional crisis).

The first conclusion that arises when analyzing the figure 4 is that the *excess liquidity was not caused by an irresponsible issue of money* (or multiplication via the money creation mechanism).

The second conclusion is that *this situation is not good for the future economic growth*, since there are a lot of findings that showed that there is a positive long run relationship between money supply and economic growth.

Technically the surplus liquidity occurs where cash flows into the banking system persistently exceed withdrawals of liquidity from the market by the central bank. This is reflected in holdings of reserves in excess of the central bank's required reserves.

The persistency of excess liquidity seems to create problems for the National Bank of Moldova and for the economy in general.

According to the "Medium-term monetary policy strategy of the NBM" (approved in 2012)[3], the primary objective of the National Bank of Moldova (NBM) is to achieve and maintain price stability. To ensure and maintain price stability, the central bank will implement the direct inflation targeting regime. However, consistent with the inflation target of 5.0 percent as the nominal anchor for monetary policy, the National Bank will implement a managed floating exchange rate regime without having a pre-established target for MDL exchange rate.

The inflation target will be achieved using the main monetary policy instrument - open market operations (OMO). At the same time, the NBM will also use complementary monetary policy instruments, such as: standing facilities, required reserves ratio, and interventions on the foreign exchange market. These instruments directly influence the level of the nominal interest rates on the monetary market in the short run.

To achieve the targeted inflation, the monetary market conditions are guided by the NBM through the base rate, which is set by the Council of Administration and is the main indicator for the interbank monetary market in the short run.

According to the regulations in force, the main categories of open market operations available to the NBM are:[4]

- REPO operations – which represent liquidity providing/absorbing reverse transactions whereby the NBM buys/sells from/to banks state securities upon banks/NMB commitment to repurchase the state securities at the date and the price agreed on the date the transaction was concluded;
- issuance of NBM' s certificates - which represent liquidity-absorbing transaction whereby the NBM sells certificates of deposits to credit institutions;
- deposit-taking operations - which represent liquidity-absorbing transactions with pre-specified maturity whereby the NBM takes deposits from banks;
- outright sales/purchases of state securities - which represent liquidity-absorbing/providing transactions whereby the NBM sells/buys state securities

[3] Medium-term monetary policy strategy of the NBM, approved by the decision of the Council of Administration of the National Bank of Moldova no. 303 of December 27, 2012. Online available at: http://www.bnm.md/en/content/medium-term-monetary-policy-strategy-0

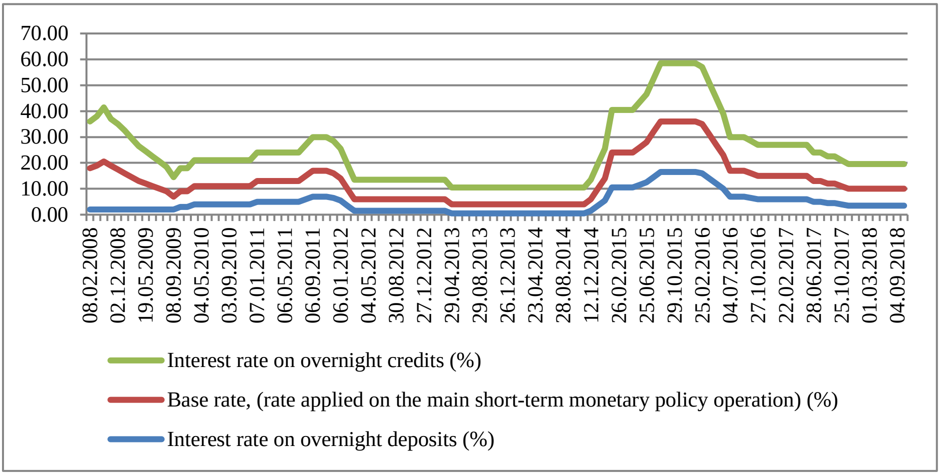
[4] NBM. Open market operations. http://www.bnm.md/en/content/open-market-operations

whose ownership is transferred from seller to buyer on a "delivery versus payment" basis.

During the reported period monetary market operations were carried out at the NBM's initiative, the applied interest rate being equal to the monetary policy rate, whereas standing facilities were used at the bank's discretion.

The dynamics of the NBM monetary policy rates is presented in figure 5.

Figure 5: Interest rates on monetary regulation instruments of NBM

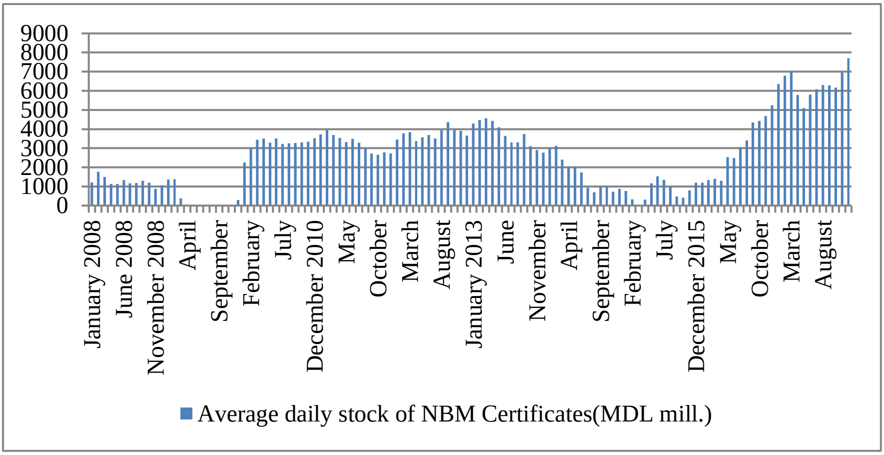


Source: NBM data and the author's calculations

During the last 10 years the NBM interest rates level has been changed multiply. During the 2015 the base rate increased till 19,50%, but starting with January 28, 2015 the base rate has been decreased gradually till 6,50% (starting with December 05, 2017).

With the persistence of structural liquidity surplus in the banking system of Republic of Moldova, NBM sells weekly NBM's Certificates with the circulation term of 14 days (starting with January 2011) with a view to mopping up excess liquidity (figure 6).

Figure 6: Average daily stock of NBM Certificates (MDL mill.)

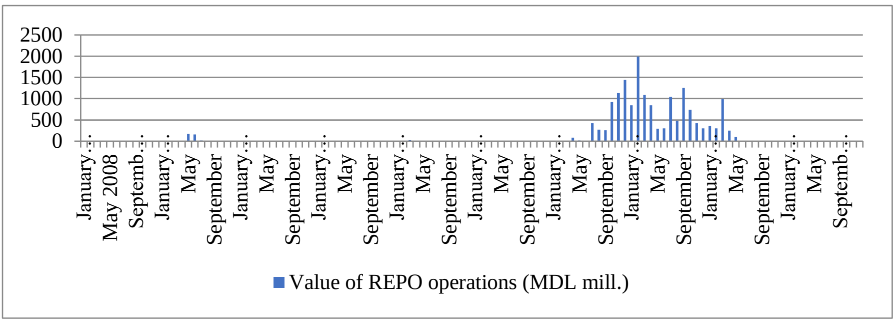


Source: NBM data and the author's calculations

During the 2017-2018 years the volume of liquidity operations doubled. In 2017 year the weighted average rates on NBC recorded 8.11%, compared to 11.55% that were recorded in 2016 year.

At the same time, in the effort to improve the credit conditions in the national economy, the NBM periodically announces liquidity supplying operations, which are carried out through fixed rate REPO operations with the term of 14 days.

Figure 7: The dynamics of NBM Repo operations

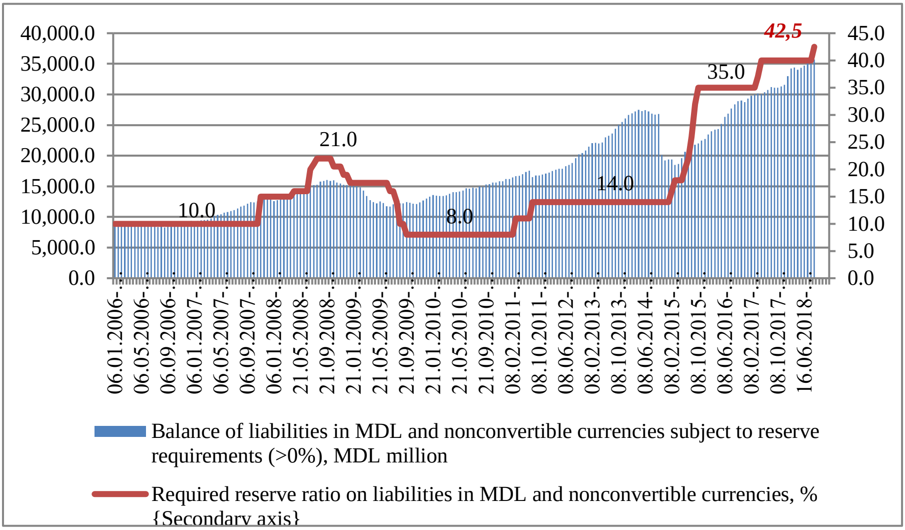


Source: NBM data and the author's calculations

During the period of 2008-2017 years the NBM was applied REPO operations during May, June, July and November of 2009 year, March and May of 2012 year, March of 2013 year, and the period April 2014-August 2016 continuously. The volume of operations are shown in the Figure 7 and sums up to 4547,3 mil. lei in 2014, up to 9610,3 mil. lei in 2015, and up to 1999,1 in 2016 year.

During last 10 years, against the background of a persisting excess of liquidity in MDL in the Moldovan banking sector, and the potential pro-inflationary risks it could generate, the NBM has increased the required reserve ratio of funds held in Moldovan lei and non-convertible currency in several steps, as is presented in the figure 8.

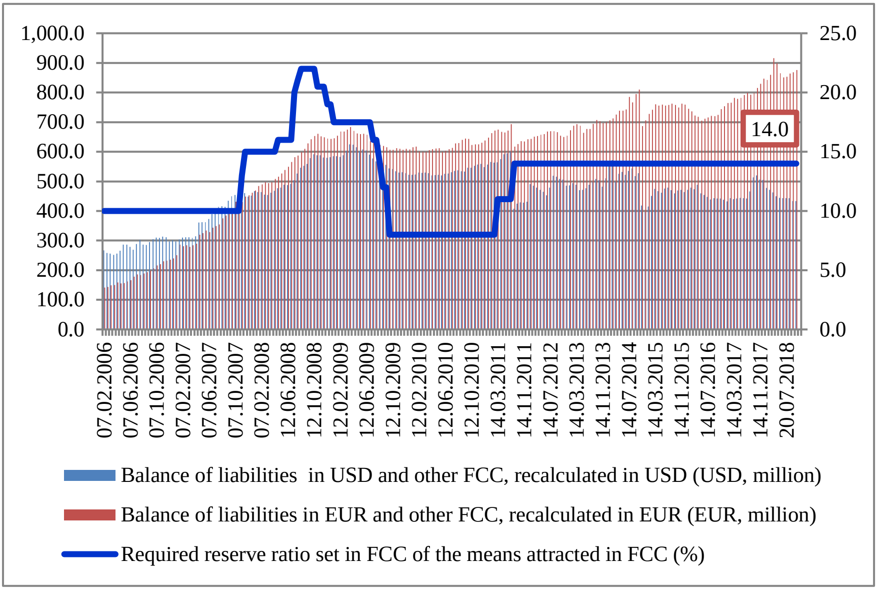
Figure 8: The Balance of liabilities in MDL and nonconvertible currencies subject to reserve requirements and the Required reserve ratio on liabilities in MDL and nonconvertible currencies {Secondary axis}



Source: NBM data and the author's calculations

The NBM also has increased the required reserve ratio of funds held in foreign currency in several steps, as is presented in the figure 9.

Figure 9: The Balance of liabilities in Foreign convertible currencies and the Required reserve ratio on liabilities in FCC in the Republic of Moldova {Secondary axis}

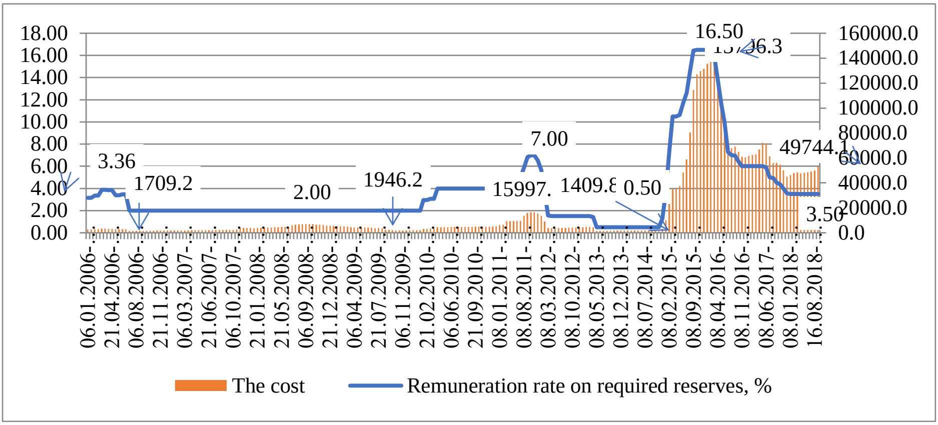


Source: NBM data and the author's calculations

During the 2011-2017 (starting with August 2011), the NBM has not changed the foreign currency reserve requirement ratio (US dollars and euro), maintaining it at the level of 14.0% of the calculation base.

Pursuant to article 17(3) of the Law no.548-XIII of 21 July 1995 on the National Bank of Moldova, for the share of required reserves exceeding 5.0% of the liabilities, based on which the required reserve level is calculated, the National Bank paid to banks interest. For example the interest paid for reserves in Moldovan lei and non-convertible currency, as calculated by the author based on publicly available information amounts slightly high level (figure 10.)

Figure 10: The remuneration rate on required reserves and the total amount paid by the NBM to Moldovan banks



Source: NBM data and the author's calculations

Just during the 2017 year the NBM paid to banks interest amounting to 534.3 million lei, and this amount was by 33.0% less than in 2016.

For sure NBM's expenditures related to the required reserves decreased as a result of the NBM's measures taken to relax the monetary policy through the base rate tool (as is presented in figure 5).

6. Conclusion

The article draws attention to aspects related to the excess liquidity management. Moldovan economy is characterized by a paradox situation: the persistence of excess liquidity in the banking system and, in the same time, disinclination in lending. This situation partly may be explained by the implementation of Basel III rules (just during the 2017-2018 years), but in general it suggests the idea that Moldovan banks are extremely reluctant in their lending activity and very conservative in their risk management.

The first conclusion is that this phenomenon has impact on banks performances. Despite the fact that some other study results suggest that banks profitability is improved for banks that hold some liquid assets, however, there is a point at which holding further liquid assets diminishes a banks' profitability, all else equal. We consider that the estimated cost of diminished profitability has been varied round to 2,5-5% during the analyzed period of time.

Our findings also suggest that the interest rate channel of monetary policy transmission isn't sufficiently effective in Moldova. This caused the need to apply other available monetary policy instruments producing volume impact. This implies that monetary policy can affect economic activity through the reserve requirement and the offered amount of central bank certificates.

The negative aspects of using last instruments are described by the enormous cost that incur the NBM, the commercial banks, and which in the long run materialize in the missed opportunities for economic growth.

Recommendation therefore is that the banks, under the guidance of the banking supervisor, ought to adopt a general framework for excess liquidity management.

7. References

- Agénor, Pierre-Richard; Aynaoui, Karim El. Excess Liquidity, Bank Pricing Rules, and Monetary Policy. Discussion Paper Series. Centre for Growth and Business Cycle Research, Economic Studies, University of Manchester, UK September 2008, Number 105. Online available at: http://www.ses.man.ac.uk (Retrieved on October 20, 2018)
- BBC News. The great Moldovan bank robbery, 18 June 2015. Online available at: https://www.bbc.com/news/magazine-33166383
- Bordeleau, Étienne; Graham, Christopher. The Impact of Liquidity on Bank Profitability. 2010. Online available at: https://www.bankofcanada.ca/wp-content/uploads/2010/12/wp10-38.pdf
- Dudley, William C. President and Chief Executive Officer. The Recovery and Monetary Policy. Speach. October 15, 2012. Online available at: https://www.newyorkfed.org/newsevents/speeches/2012/dud121015.html
- Ganley, Joe. Surplus Liquidity: Implications for Central Banks. Lecture Series no.3, 2004. 38 p. Online available at: http: http://www.bankofengland.co.uk/education/ccbs/ls/pdf/lshb03.pdf (Retrieved on October 20, 2018)
- Managing and investing your excess liquidity. Roundtable hosted by HSBC Global Asset Management and Corporate Treasurer. Online available at: http://cdn.haymarketmedia.asia/corporate-

treasurer%2Fcontent%2FHSBC_AM.PDF (Retrieved on October 20, 2018)

- Medium-term monetary policy strategy of the NBM, approved by the decision of the Council of Administration of the National Bank of Moldova no. 303 of December 27, 2012. Online available at: http://www.bnm.md/en/content/medium-term-monetary-policy-strategy-0
- NBM. Financial situation of the banking sector in the first semester of 2018. Online available at: http://www.bnm.md/en/content/financial-situation-banking-sector-first-semester-2018
- NBM. Open market operations. Online available at: http://www.bnm.md/en/content/open-market-operations
- NBM. The Regulation on bank's liquidity. Online available at: http://www.bnm.md/en/content/regulation-banks-liquidity-approved-dca-nbm-no28-august-08-1997