Challenges of ROBOR growth

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***Abstract**. The paper presents the evolution and causes of ROBOR growth between May 2013 and July 2018, bringing arguments that invalidate some opinions advocated by the pro-bank analysts' choir on the determinants of the ROBOR index growth. Our analysis led us to the conclusion that inflation in July 2017 to date means a small part of ROBOR's increase, and considering bank liquidity as responsible for ROBOR growth is inadequate. The ROBOR value is the effect of a bilateral oligopolistic market, and this value (imposed in the calculation of interest) distorts the credit market.*

Key words: average interest rate on interbank credits, bank liquidity, inflation, NBR interest rate, bank deposits

JEL Classification: E44, G21, M21

1. Introduction

ROBOR (Romanian Interbank Offer) represents the average interest rate borrowed between banks in national currency (lei / RON). This indicator is set by the NBR on the basis of the transactions made by the banks in Romania. The most used bank indices for setting the variable interest rates are ROBOR 3M and ROBOR 6M.

Since September 2017, there has been an increase in ROBOR from 1% to 2.3% in November 2017 and nearly 3.5% at the beginning of August 2018. How can this evolution be explained?

The ROBOR variation is explained by the majority of analysts as being given by the movement of daily liquidity in the market, the value of ROBOR being determined on a daily basis through a fixing banking process. However, this somewhat general explanation is not enough, which is why we believe that we must start from the detailed analysis of the financial mechanism.

2. The influence of bank liquidity on ROBOR index

Each commercial bank, with a view to obtaining the most efficient liquidity available, places a part of its liquidity in the NBR deposits (at the reference rate of the NBR) or other banks deposits (at the interest rate equal to ROBOR). According to the NBR Regulation no.2/2018 regarding the modification and completion of the Regulation 25/2011 on the liquidity of credit institutions, credit institutions must permanently maintain the liquidity indicator, calculated for all operations in lei equivalent, at least at the level of 1 for bands ranging from one month to 3 months, between 3 and 6 months and between 6 and 12 months. A statistic based on data provided by the NBR Monthly Bulletins from May 2013 to July 2018 reveals that the Bank Liquidity Index of the banking system increased from 1.5 at the beginning of the period to 2.25 at the end of the period, which shows that the available liquidity of the banking system is now 2.25 times higher than required, and liquidity coverage is more than sufficient, as it can be seen from Figure 1.

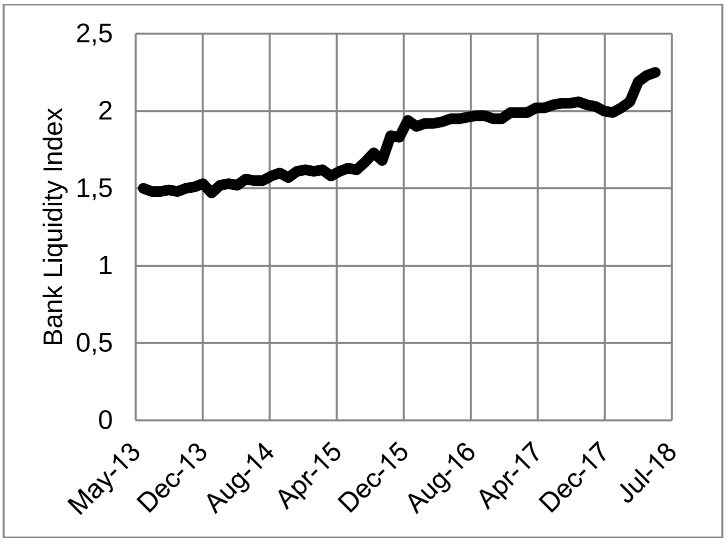

Figure 1: Change in the Bank Liquidity Index between May 2013 and July 2018

Mostly, commercial banks placed their excess liquidity in NBR deposits, which offered higher interest rates until April 2018, after that time banks with higher interest rates appeared. Why? What a great momentarily necessity can a bank (of the ten participants in fixing) have in order to offer the opportunity to open a deposit at such a high value? Had the liquidity index been low, the possibility of encountering cases evoked above was high, but under the current circumstances this situation is rather unlikely.

In the Report on Financial Stability (2018, p.72-73), the National Bank of Romania makes the following statements:

▪ liquidity in the banking system continues to average to a level significantly above the regulated minimum, as indicated by the main specific indicators. The robust liquidity situation of credit institutions indicates a low risk of non-fulfillment of obligations that become due, as well as a potential expansion of lending to the real sector;

▪ the average of the liquidity coverage indicator (CRL) at an aggregate level improved significantly to 246 percent, well above the European average of 148.5 percent (December 2017);

▪ the average values of the CRL aggregate indicator recorded by the group of O-SII banks (systemic banks) and non-O-SII banks (non-systemic banks) do not differ significantly; The O-SII LCR is 243% and the non-O-SII LCR is 265%.

As we can see, the liquidity situation in the banking system is very good, and its invocation as a ROBOR growth factor is not an argument.

Another scenario is that of liquidity sterilization by the NBR through 7-day deposits, remunerated at the reference rate, an operation that leaves some banks without the money required to execute payment orders placed by clients. Thereby, these banks are obliged to open high-interest deposits in order to pay their obligations to the clients. Such an argument is sustained by some analysts, who say, for example, that interest rates grew slightly on 23 April 2018 when liquidity was drawn from the market, but on 25 April 2018 the leap was higher due to monthly payments to the budget, which in April overlapped with the quarterly closures reported by companies and making payments. In addition, commercial banks have placed enough money at the NBR and some of them have had the surprise that they should have made higher payments to their clients. These are the three factors that pushed ROBOR up three months on April 25, 2018, said analyst Dumitru I. During the analyzed period, the evolution of ROBOR index to three months and six months is shown in figure no.2.

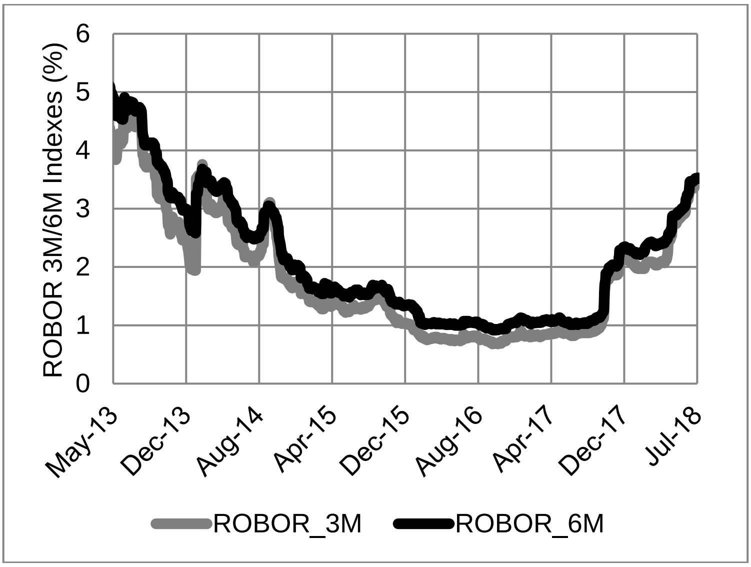

Figure 2: Variation of ROBOR 3M and ROBOR 6M between May 2013 and July 2018 (daily values)

Pro-bank analysts even justify raising ROBOR to the Lombard Rate (the interest rate at which banks borrow from the NBR in the event of a lack of liquidity). After all, if the NBR now lends 3.5% money, why would not banks open their deposits on the interbank market to that amount of the interest rate? Figure 3 shows the change in NBR interest rates between May 2013 and July 2018.

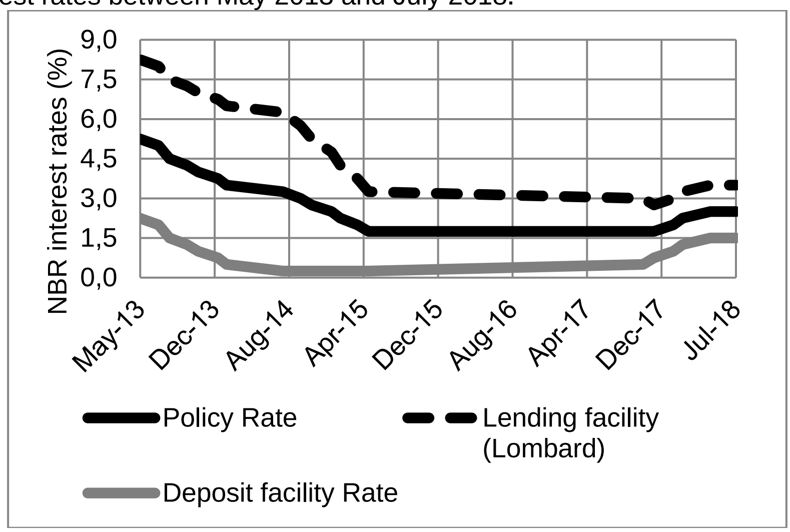

Figure 3: Changes in NBR interest rates between May 2013 and July 2018

And, through such games on the edge, 13% to 18% of the banks' total assets (Figure 4) are able to influence the value of credit rates extremely strongly.

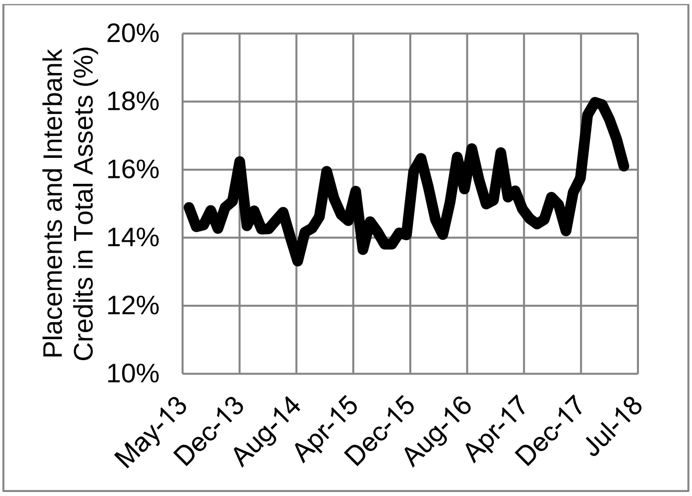

Figure 4: Change in the Value of Placements and Interbank Credits in Total Assets between May 2013 and July 2018

3. The influence of the inflation rate on ROBOR

Mentioned, along with liquidity, as the main factor contributing to the high ROBOR growth, the inflation expressed in the Consumer Price Index (CPI) per year varied as it can be seen from Figure 5. We note that since the second half of 2017, the inflation has exceeded 1%, and after September 2017 the 2% threshold has also been reached, which is considered to be convenient considering the price stability criterion of the Treaty on the Functioning of the European Union (TFEU).

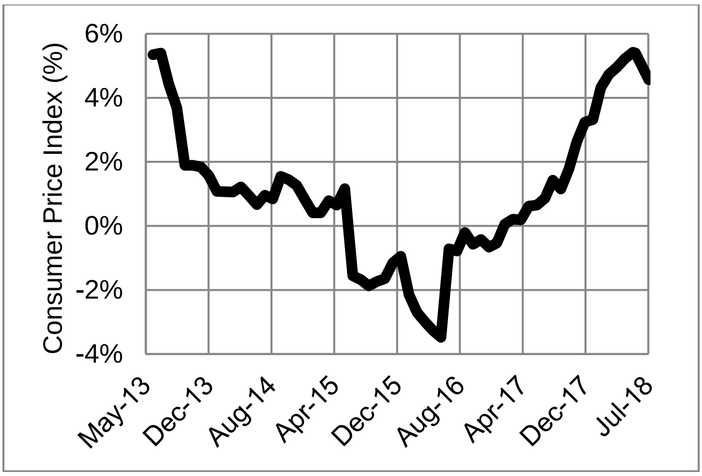

Figure 5: The variation of Consumer Price Index during May 2013 - July 2018

The expectations of wage increases and then increases as well as planned increases in regulated prices have generated a surge in prices, most of which are not explained by increases in product or service costs but forced to benefit in addition to the surplus of money expected to occur. This was the case in the first half of 2018, with the CPI recording 5.4% in May and June, but falling to 4.6% in July and rising to 5.06% in August 2018.

At the same time, ROBOR 3M and ROBOR 6M increased from 1% in July 2017, to 1.7% at the beginning of October 2017 and 2.1% at the end of 2017. Then, from February 2018, ROBOR 6M saw a more pronounced increase from 2.25% to 2.43%, while ROBOR 3M stagnated between 1.99% and 2.09%, which raises the following question: what reason is the basis of the increase in demand for loans on the interbank market at 6 months, which explains the increase of ROBOR 6M?

In order to end the ROBOR 3M and ROBOR 6M following, they rose to around 3.5% at the end of July 2018 (3.47% ROBOR 3M and 3.52% ROBOR 6M), meaning the Lombard Interest Rate (the lending interest rate of the NBR).

How could this instrument which was being used especially in the event of a momentarily/ temporary liquidity shortage to trigger credit movements over periods of 3 months or 6 months, especially as banks have, as noted above, sufficient liquidity?

4. Case study

We will analyze which is the result of the substantial ROBOR growth taking into account a real estate loan of 275,000 lei contracted in October 2017, the reimbursement period being 30 years. In table no. 1 there are shown the values of the paid interest rates, as well as the percentage increase in the value of the paid rates or, in other words, the increase in the cost of the loan.

Table no. 1 The evolution of the cost of real estate credit between October 2017 and September 2018 according to ROBOR 3M

Date	Monthly Rate Value (lei)	Calculated Annual Interest Rate (%)	Increase of the Credit's Cost (%)
14-Oct-17	1140,22	5,842%	-
14-Nov-17	1140,22	5,845%	0,0%
14-Dec-17	1140,22	5,848%	0,0%
14-Jan-18	1340,4	6,660%	70,2%
14-Feb-18	1340,4	6,664%	52,7%
14-Mar-18	1340,4	6,667%	42,1%
14-Apr-18	1323,08	6,601%	32,1%
14-May-18	1323,08	6,605%	27,5%
14-Jun-18	1323,08	6,609%	24,1%
14-Jul-18	1439,37	7,078%	35,0%
14-Aug-18	1439,37	7,082%	31,5%
14-Sep-18	1439,37	7,086%	28,6%

For the calculation of the interest, the formula applied by the NBR specialists and presented in the June Financial Stability Report (2018, p.54) is:

$$r = C \cdot \frac{d}{1-(1+d)^{-m}},$$

where:
r = Monthly Payment Rate;
C = Credit Amount;
d = Monthly Interest;
m = the number of months related to the maturity of the loan,

and for Credit Cost Increase CCI (in %):

$$CCI = \frac{(CR - IR)}{IR} \cdot \frac{12}{n_{ic}},$$

where:
CR = Current rate;
IR = Initial rate;
n_{ic} = Number of months between current and the initial month.

It is clear from the table that the one who borrowed money has to suffer the raise of the rate of credit, from 25% to 35%, and 40% up to 70% (the rate increased from 1140.22 lei to 1340 lei, so by 200.18 lei in 3 months).

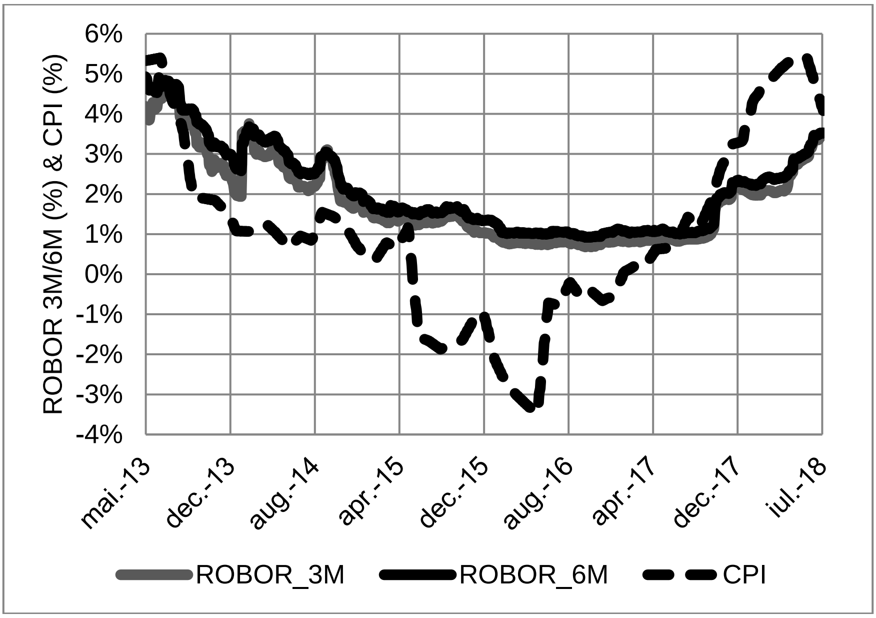

Figure 6: The variation of ROBOR 3M, ROBOR 6M, and Consumer Price Index between May 2013 and July 2018

The question is: can a CPI of 5.4% in May-June 2018 (at the end of 2018 the annual inflation rate will be lower, the target for 2018 being 2.50, but the target will be overcome) to explain an increase in the cost of credit of 25% to 35%? In order to be more suggestive of the answer to this question, in figure 6 we highlight the comparative evolution of ROBOR in three months, namely six months, and the annual consumer price index in the analyzed period.

The problem is not that of increasing loan interest, but of abnormal growth by using the ROBOR value. It is known the story about one of the disputes in Parliament by the national liberal I.C. Brătianu, then prime minister of Romania, with his political opponent, the great historian Nicolae Iorga, one of the most prominent political figures of those times. Iorga asked him what a great scientist like him, could learn from an engineer like Bratianu, the latter responding, "Moderation, Professor, moderation!". Obviously there is moderation in all, and the increase in ROBOR, as perceived by the population, exceeded this measure.

5. The dynamics of Interest rate on bank deposits for households and non-financial companies versus ROBOR

As regards the deposits of the population and the non-financial corporations, there is a constant increase in their value, due to the economic growth in our country and the confidence in bank deposits as a means of saving (figure 7).

The latter aspect has to be taken into consideration very seriously, from the diagram (figure 8) which shows the interest rates on bank deposits that since 2017 the deposit interest rate has remained below the value of 1%, which meant, corroborated with inflation, that the real value of deposits recorded a decline that became more significant in the fourth quarter of 2017. However, the commercial banks did not act in the sense of harmonizing interest rates on deposits with the inflation rate, although for ROBOR, the rise in inflation has been a very common cause.

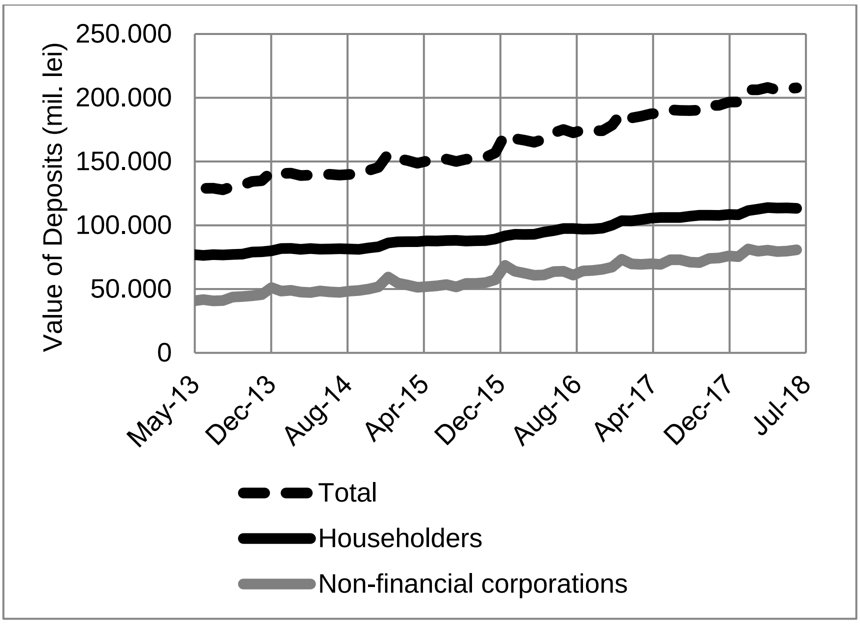

Figure 7: The variation of Householders and Non-financial Companies Deposits between May 2013 and July 2018

Thus, it can be argued that for commercial banks, the bank deposit market for households and non-financial companies is less interesting than the interbank deposit market, since the interest on this last market is much higher.

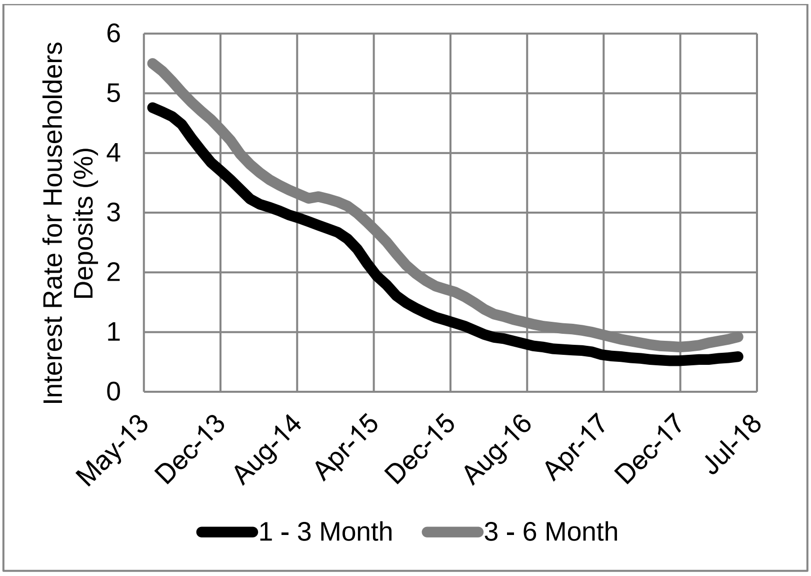

Figure 8: Change in the value of interest on population deposits between May 2013 and July 2018

6. The Credit and ROBOR markets

The main feature characterizing the market economy is that it strikes a balance between supply and demand (Rădulescu, 2017). But, with regard to ROBOR, its market is a bilateral oligopoly type after the Stackelberg classification, with only 10 actors acting on this market, which may be either "producers" or "consumers". "Thus, the allegations about the "invisible hand" of the market are pointless. Similarly, the recent explanations of interest rate increases as a result of economic realities, in the conditions in which the clear motivation of the banking system was that this increase of loan interest rates was driven by the increase in ROBOR. It does not increase the ROBOR value because the credit market asks for it, but increases interest on the credit market as a direct effect of the increasing of the ROBOR value and using this value in the arithmetic credit interest calculation. If we are to make a statement about the relationship between the credit market and ROBOR, it is that the ROBOR value is an effect of the market, but not of a normal market, but of an imperfect market or of a bilaterally oligopolistic market and this value (imposed in the calculation of interest) distorts the credit market, the interest not resulting from the demand and supply of loan capital, but a calculation strongly affected by ROBOR.

Undoubtedly, both the one that grants loan and the one that receives it want to obtain a price that satisfies them, and it would be strange that they actually pay money against their own interest (Rădulescu, 2017), but the much higher interest of banks is related to the interest rate on loans, especially since it also affects the value of the loans already granted.

7. Conclusions

✓ Considering bank liquidity as responsible for ROBOR growth is inadequate, with the Romanian banking system having liquidity ratios much higher than those in the EU.

✓ Inflation in the period July 2017 to the present (with an increase from 1% to 5.4%) covers a small part of ROBOR’s growth, since the increase of ROBOR is a strong increase (between 25% and 35%) of the cost of the credit.

✓ The ROBOR's value is an effect of the market, but not of a normal market, but of an imperfect market or of a bilaterally oligopoly market, and this value (imposed in the calculation of interest) distorts the credit market, interest does not become the result of demand of the loan capital offer, but a calculation strongly affected by ROBOR.

✓ The use of ROBOR in the calculation of interest on loans also affected the interbank market through the occurrence of exaggerated 6-month deposits, as interbank deposits are usually very short on the interbank market (ON).

✓ The market for household deposits and non-financial corporations, one of the most important markets for banks, appears to be not interesting in relation to the interbank deposit market (based on which ROBOR is calculated), the final conclusion being that normal life (the deposit market for the population and non-financial companies) is replaced by a kind of underground theatre (the interbank deposit market) in the increasingly prominent interest of banks and to the detriment of consumers (population and non-financial companies).

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