NATIONAL BANK OF ROMANIA MONETARY POLICY TRANSMISSION MECHANISM DURING THE CRISIS

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Abstract

Before the crisis, investments and foreign capital were injected in the Romanian economy. External financing has led to the emergence of a trend in the reduction of interest rates on credits and deposits and average interbank rate. In Romania, the international financial crisis hasn’t led to interbank financial market deformation, as happened in the case of many developed countries, but it has influenced the independent/autonomous liquidity volume and the structure of net liquidity offer. The most important consequence of the crisis in Romania was the reduction in capital inflows. This decreased the net liquidity of the banks and has created a lower demand for liquidity. Some Central Banks have acted in this regard, through the refill of existing liquidity deficit, equal to the difference between the demand for liquidity and net component. Other Banks that failed to cover the liquidity needs of their customers have borrowed from banks with liquidity surplus. This situation has been exploited by latter through the steep increase of interest rates.

Cuvinte cheie: monetary policy, inflation targeting, financial crisis

Clasificare JEL: E51; E52; E58

1. Introduction

The banking sector in the Romanian economy has withstood the impact of recent financial crisis, due to the specific characteristics of the Romanian financial environment but also because of the NBR’s prudential measures through monetary policy. We still observe the Romanian financial system factors that led to low contamination of local economy:

- Banks operating on the Romanian territory, including those with foreign capital, are subject to authorisation, regulation and supervision by the national monetary authority, NBR;
- In the Romanian economy, according assets weight in the GDP, banking institutions have the highest share in the banking system structure;
- NBR has imposed many restrictions with impact to the banking system creation, compared with the standards imposed by the ECB (European Central Bank);
- At Romanian banking system level, there is a commitment on the part of NBR regarding the process of evaluating and improving existing regulations within the system.
- NBR pursues a policy of inflation targeting, automatically generating a sustained action against liquidity and deflation trap;
- BNR has maintained the minimum mandatory reserve rates at more elevated levels for a significant period of time, well above the level required by the ECB, which has led to the weakening of credit growth rate and maintaining of an adequate liquidity level for credit institutions;
- Financial institutions in the Romanian economy don’t use financial products such as subprime;

NBR unconventional interventions have had a specific pattern, since the financial crisis of 2008 occurred shortly after Romania's adherence to the EU. After Romania’s adherence to EU, a very high percentage of foreign capital inflows was visible in the Romanian economy. This phenomenon has led to a decrease in interest for both, loans and deposits.

After the banking panic of 2008, it has been noticed a growing trend of capital withdrawals, especially with regard to commercial banks with foreign capital. At the same time, Romanian monetary policy was affected by the speculative attack on the national currency in 2008. High volatility of interest rates in 2008 was caused by the speculative attack against the Romanian Leu. It had a huge impact on the banks’ liquidity excess in the sense that interest rates have been changed in a positive sense. In the event of a speculative attack, if the Central Bank fails to defend the national currency, it will lose credibility and, at the same time, will increase the cost of unemployment.
Consequences for the Romanian economy would have been negative if NBR would not have intervened in October 2008. The main result in these situations is the installment of financial panic among companies leading this way to massive depreciation of the currency, in our case the Romanian Leu. If panic would be manifested, then external debt in national currency would have grown exponentially, negatively impacting the private sector. With this scenario, the recession would have ended up at another level, a spiral with no escape for the economy. The prompt intervention of NBR has ensured financial stability and has prevented onset of panic, which in turn ensured the reduction of production decline. NBR has countered the speculative attack by throwing currency on the interbank market, therefore the liquidity absorbed by banks has helped increase the interest rate on the interbank market.

2. The transmission mechanism

Massive capital withdrawals led to the emergence of the "Vienna Initiative". This initiative was in line with some unconventional measures implemented by NBR. In April 2009, the agreement was signed in Vienna - it was signed between NBR and the nine main credit institutions with foreign capital that are present on the interbank market in Romania. The agreement followed three directions: maintaining the total exposure in the Romanian economy of the nine financial institutions; increasing the capitalization degree of each bank and restrict the granting of dividends in the years of economic crisis.

During the second half of 2008, NBR has increased its monetary policy rate to 2.25 pp, from 8% to 10.25%. Where would have proceeded in the opposite direction and would have reduced the rate of monetary policy, then the recession that has gripped the Romanian economy at that time would be highlighted, because the national currency would be impaired, producing imbalances in the balance sheets of large debts in foreign currency. NBR has installed in its turn a process of reducing interest rates i.e. in 2009, to avoid a rise in the Romanian economic system crisis, but this process was discontinued due to monetary policy shocks to inflation deviation from target.

Even if it was interrupted, it was reprised in 2013, and more important than the resumption of this process is that the NBR decided symmetric corridor narrowing formed by permanent facilities interest rates around monetary policy interest rate at ± 3pp 4pp. Where NBR would intervene in the monetary policy rate for the purpose of reducing it, the liquidity trap, which would have gone into the Romanian economy had led to a currency crisis that had direct and major impacts on the economy. A currency crisis would have led to a depreciation of the national currency, which would have collapsed the exchange rate against the Euro. Also, the level of external debt would be greatly increased and where investments would have fallen further then unemployment level would be unbalanced and the fundamental objective of NBR, targeting the price level had not been reached. In this context, NBR has applied a prudential monetary policy monitoring in particular capital withdrawals out of the Romanian economic system.

The transmission mechanism of monetary policy of the NATIONAL BANK of ROMANIA is analysed in the present paper by transmitting variations of interbank interest rates towards the interest rates for loans and deposits of non banking cutomers during the financial crisis. NBR effectiveness of monetary policy transmission to companies is reflected in its capacity to achieve the monetary objectives. The relationship between the NBR and commercial banks shall be established within the framework of monetary and currencies exchange markets, the transmission of monetary policy under financial system being visible relatively quickly. In determining the transmission mechanism of monetary policy, not only the monetary policy interest rate is taken into account but also the other items, such as inflationary forecasts and economic growth forecast etc. According to economic theory, low interest rates led to increased investment and consumption over savings, while higher interest rates encourage saving, the latter stopping short term consumption and investments. Under such conditions, monetary policy can only affect the gap between the actual level of economic activity and the long-term sustainable and this can be done only on short/medium term. Under such conditions, monetary policy can only affect the gap between the actual level of economic activity and the one sustainable long-term. But this can be done only on short/medium term. Both the literature and empirical evidence are supporting the importance of monetary authorities awareness on the particularities of the monetary transmission mechanism implemented in a given economy. The Romanian economy is, as we said before, dominated by a financial structure where most important place is taken by credit institutions and, during the financial crisis, they have exceeded the approximately 80% of the total assets of the financial system. The contemporary financial crisis had an effect of greatly weakening the effectiveness of monetary policy transmission and, in this context, the purpose of this study is to quantify the monetary policy propagation speed on the Romanian market in the conditions of an economic crisis.

Since 2000, significant changes have taken place in the Romanian financial system, which have had positive impact on transmission channels of monetary policy - this positive impact has led to an increase in the effectiveness of the monetary transmission mechanism. According to empirical studies in this domain, the impulse of a monetary decision at time t will take the form of an answer of some financial variables at time t + m, which will be determined by a certain persistence and a certain duration. The main vulnerability of the Romanian banking system is the large share

1 In economics, an acute imbalance, banking failures spread, inactive capital market followed by a fall in the market, or a climate of fear caused by the crisis or to predict the economic crisis. This term is only applied at the stage of critical financial seizures and does not extend the period of decline.
of the credit granted in foreign currency, even though it is a declining trend lately. In 2007-2010, credit granted in foreign currency has registered an exponentially increase, this can be interpreted as coming from Romania's adherence to the EU and liberalisation of capital movements. An important factor that influences the speed of transmission of monetary policy to the non-bank operators is the degree of competition between commercial banks operating in the Romanian financial system.

Table 1. Competitive indicators of the Romanian banking system

<table>
<thead>
<tr>
<th>No/Weight</th>
<th>005</th>
<th>006</th>
<th>007</th>
<th>008</th>
<th>009</th>
<th>010</th>
<th>011</th>
<th>012</th>
<th>013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit institutions</td>
<td>0</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Banks w/ majority privat capital</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Banks w/ majority foreign capital</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Branches of foreign banks</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>% in total actives of banks w/ majority privat capital</td>
<td>4</td>
<td>4.5</td>
<td>4.7</td>
<td>4.6</td>
<td>2.5</td>
<td>2.4</td>
<td>1.6</td>
<td>1.6</td>
<td>2</td>
</tr>
<tr>
<td>% in total actives of banks w/ majority foreign capital</td>
<td>2.2</td>
<td>8.6</td>
<td>8</td>
<td>8.2</td>
<td>5.3</td>
<td>5</td>
<td>3</td>
<td>9.8</td>
<td>0.8</td>
</tr>
<tr>
<td>% first 5 bancs as total actives</td>
<td>8.8</td>
<td>0.3</td>
<td>6.3</td>
<td>4.3</td>
<td>2.4</td>
<td>2.7</td>
<td>4.6</td>
<td>4.7</td>
<td>4</td>
</tr>
<tr>
<td>Herfindahl Index</td>
<td>124</td>
<td>171</td>
<td>046</td>
<td>26</td>
<td>57</td>
<td>71</td>
<td>78</td>
<td>52</td>
<td>34</td>
</tr>
</tbody>
</table>

Source: NBR

The degree of banking intermediation in the Romanian financial system has seen a slight drop due to the current economic cycle that is characterized by turbulence. The Romanian financial system-which is dominated by the credit institutions. The forms of financing which can be found on the Romanian market apart from commercial banks, are also represented by financing from the capital market for companies. In Romania the capital market is not as developed as in the rest of the EU countries, so the corporate bonds market is underdeveloped in turn. Due to the current financial crisis, the mechanism of transmission of monetary policy is analyzed through the transposition from the monetary policy interest rates into the interbank market interest rates in both Europe and the USA. In an attempt to demonstrate the speed of transmission of monetary policy in the Romanian economic system following the installation of the current financial crisis and the limits of this transmission, we use Vector Autoregressiv model (VAR), where all the variables are treated symmetrically, each variable being determined by an equation based on their own and lags and on other variables lags in the model. In general a VAR model is characterized by a linear function and is based on past evolution of its variables. The equation describing this model is:

\[ Y_t = c + A_1 y_{t-1} + A_2 y_{t-2} + ... + A_p y_{t-p} + e_t \]  

where, \( c = \) constant vector; 
\( A_i = \) matrix \( k \times k; \)
\( e_t = \) existing errors vector.

The model used in the analysis has the following standard form:

\[ y_{1t} = a_{10} + \sum_{i=1}^{2} A_{1i} y_{1,t-i} + \sum_{i=1}^{4} A_{2i} y_{2,t-2} + \nu_{1t} \]  

\[ y_{2t} = a_{20} + \sum_{i=1}^{2} A_{1i} y_{1,t-i} + \sum_{i=1}^{4} A_{2i} y_{2,t-2} + \nu_{2t} \]

where \( y_{it} \) is real production, that can be achieved with the help of the perpetuation of the common currency through interest rates, \( i. \)

\[ \epsilon_{1t} = \epsilon_{2t} \]
\[ \nu_{1t} = \frac{1 - d_1 d_2}{d_1 d_2} \]  
\[ \epsilon_{2t} = \frac{1 - d_1 d_2}{d_1 d_2} \]
\[ \nu_{1t} = \frac{1 - d_1 d_2}{d_1 d_2} \]

\(^2\) Herfindahl – Hirschman index: indicate the degree of concentration of the banking portfolio.
In the model presented by these equations, errors have a zero average and have no autocorrelation: $E(\nu_t) = 0$, $E(\nu_t \nu_{t-1}) = 0$.

The goal of this model is to evaluate the functionality of the monetary policy transmission mechanism through interest rates. Data series with monthly frequency for categories of interest rates for the period from January 2007 to December 2013 were used in the model.

<table>
<thead>
<tr>
<th>Description interest rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROBOR_3M</td>
</tr>
<tr>
<td>ROBOR_6M</td>
</tr>
<tr>
<td>ROBOR_9M</td>
</tr>
<tr>
<td>ROBOR_12M</td>
</tr>
<tr>
<td>ROBID_3M</td>
</tr>
<tr>
<td>ROBID_6M</td>
</tr>
<tr>
<td>ROBID_9M</td>
</tr>
<tr>
<td>ROBID_12M</td>
</tr>
<tr>
<td>Rd_CP</td>
</tr>
<tr>
<td>Rd_CSN</td>
</tr>
<tr>
<td>Rd_DP</td>
</tr>
<tr>
<td>Rd_DSN</td>
</tr>
</tbody>
</table>

According to the monetary policy implemented by the NBR, "monetary policy rate means the rate of interest used for the main money market operations of the NBR", also one of the transmission mechanisms of monetary policy to the interbank market is the interest rate channel. Reference interest rates of interbank money market interest rate are Romanian Interbank Bid Rate (ROBID) for fundraising and ROBOR- Romanian Interbank Offer Rate for funds placement operations. Interest rates on interbank market are determined by the banking institutions in a free manner in the national currency.

According to the analysis made it can distinguish a specificity of Romanian monetary policy, because NBR policy to increase reference interest rate up to 10.25 percent level in august 2008-this moment coincides with the speculative attack on the Leu. With the current financial crisis intensified and spread to the domestic financial market, interbank interest rates growth was strongly emphasized, recording later a downward trend because of the monetary policy interest rate reduction to 4% by December 2013. This evolution was mainly based on increased competition between the credit institutions activating in the Romanian economic system and also on the changed position of net liquidity in the banking system, switching from the surplus in the deficit.

5. Conclusions

Soon after Romania's adherence to the EU, interest rate spreads on loans have experienced a downward trend because the liberalisation of capital movements was followed by a declining trend in the cost of lending. With the outbreak of the financial crisis, the risk perceived by credit institutions has increased, which led to the upward adjustment of interest rate for spreads on loans.
The real interbank rate ROBOR 3 m recorded a declining trend, and in 2014 has reached the level of 2%. These developments show that the natural rate of interest was very much in line with the existing levels in developed countries before 2007. More than that, in 2012 it has descended close enough to zero to show that the possibility of its descent below zero exists, even if some influence in this sense came from the supply side. In terms of economic growth, the economic growth rate may be greater than the actual interest rate even when, without a financial bubble, the actual GDP is equal to potential GDP and the actual rate of economic growth is equal to the potential rate. In Romania, the actual rate trend ROBOR, which is an approximation to the natural rate of interest was very much in line with the existing levels in developed countries before 2007.

However, in a period like the one we now know, when the private sector will reduce its debts, private investment is likely to continue to fall, causing excess of private savings (similar to the current situation in other economies of the world, for example, Japan). In these circumstances, it is not excluded that a structural deficit of 1% of GDP to remain too low to compensate for the excess of private savings. The result would be an excess of savings in the economy, which will continue to push real interest rates to relatively low levels.

If this scenario materializes, to avoid recession, a choice will be required. Short term, either monetary policy will reduce the interest rate up to the level where financial bubbles will appear in order to absorb excess savings, or tax policy will absorb the excess of private savings, so that interest rates won't decline to levels at which financial bubbles occur. Since deficit growth beyond the limits agreed by the international treaties has small chance, the first option is the most likely. To avoid such a situation, inflation target should be set at appropriate high levels.

From this perspective, for Romania, a target of 3% is more appropriate than one of 2%. Under present conditions, this strategy could come in conflict with Romania's objective of becoming a member of the euro zone. After the adoption of the euro, that decision would no longer belong to Romania. In conclusion, although the problem of natural rate decline at negative levels can become real, prevention actions are problematic.
The current financial crisis along with the worsening banks risk perception as well as the trend of increase in interbank interest rates, are leading to a long-term transmission of monetary policy in an inadequate and fragmentary way. This analysis was to determine the main characteristics of the Romanian financial system after the crisis, which were determined in the first instance by the common monetary transmission. This study revealed that the process of adjusting interest rates to lending in Romanian banking system had an uptrend, instead, the adjustment process of interest rates on deposits had an oscillating trend. This is the result of the dominant position of the banking sector in the framework of the financial system.

6. References

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