AN ANALYSIS ON THE MONETARY POLICY INTEREST RATE CHANNEL IN THE TRANSMISSION OF THE MONETARY IMPULSE



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Rezumat

În condițiile îndeplinirii criteriilor nominale de convergență şi a alinierii la politica Băncii Centrale Europene (BCE), Banca Națională a României va trebui să utilizeze cât mai eficient instrumentele monetare de care dispune pentru atingerea obiectivul său fundamental privind stabilitatea prețului, în acest sens fiind planificată atingerea țintelor anuale de inflație de 3,5 % ± 1 punct procentual pentru anul 2009 şi 2010. Astfel, în acest articol vom analiza în ce măsură funcționează canalul ratei dobânzii în transmiterea impulsului monetar, mai exact vom calcula o serie de marje şi elasticități care ne vor evidenția influența ratei dobânzii de politică monetară asupra câtorva variabile interbancare (printr-o analiză a efectelor asupra acestora pe termen scurt) şi a câtorva variabile macroeconomice (includem aici IAPC şi cursul de schimb RON/EUR şi respectiv RON/USD), neavând pretenția unei exhaustivități a studiului, deoarece există dorința unei dezvoltări viitoare, mai elaborate, a analizei propuse.

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Abstract

Performance criteria in terms of nominal convergence and alignment with the monetary policy of the European Central Bank (ECB), National Bank of Romania will need to use more effective monetary instruments at its disposal to achieve its fundamental objective of price stability, in this respect, being planned an annual inflation targeting of 3.5% ± 1 percentage point for 2009 and 2010.

Thus, in this article we will examine how the interest rate channel works in the monetary policy impulse transmission: namely we calculate several intervals of margin and elasticity that will outline the impact of monetary policy interest rate on several inter banking market variables (short term analysis) as well as on some macroeconomic variables (including HICPs and the exchange rate RON/EUR and RON/USD). The present article is indented to develop future, more elaborate analysis.

Keywords: NBR, monetary policy, elasticiy, monetary impulse

JEL classification: E43, E44, E52, E58.

The short-term evolution of prices is subjected to a large number of influences both from the foreign environment and from the national economy, influences that act both on the aggregate demand and on the aggregate offer. However, on the medium and long term, it is the monetary policy which influences the aggregate demand and offer and, implicitly, the inflation. Through the mechanism of monetary transmission it administers more or less efficiently the evolution of the macroeconomic variables of the country, the main target being price stability. The National Bank uses a range of monetary instruments to this purpose. The measure to which an instrument of monetary policy is capable to transmit a desired effect to the nominal or real economy provides the possibility of identifying a true channel of monetary transmission. The literature reveals the importance of the monetary policy transmission channels, the most important being: the channel of the credit, the channel of the wealth effect and balance, the exchange rate channel, the channel of the inflationist expectations of the economic agents and the interest rate channel.

We will approach here the interest rate channel because it also describes a higher capacity of monetary policy management, the interest rate being a much more “fine” instrument of monetary policy

management than other mentioned channels, instrument which becomes functional at a certain stage of development of the monetary policy in a country, let's say, a "stage of maturity" of the monetary policy.

The signals transmitted by the monetary policy decisions generally produce their effects via the financial-banking system and the national economy feels the effects of the relation between the central bank and the commercial banks. Thus, the central bank transmits via its instruments (used to administer the liquidity from the interbank monetary market) a signal which is received quite rapidly by the short-term interest rates from the monetary market. The monetary policy impulses are transmitted with a temporal and incomplete lag in the relation between the commercial banks and the real economy, the particularities of the real economy favouring or dampening the reception of the message at the level of the macroeconomic indicators. The monetary policy interest rate sends a signal on the medium and long-term interest rates used by the commercial banks for drawn deposits or for granted credits. The real economy is influenced rather by the medium and long-term interest rates than by the short-term interest rates which are under the relative control of the central bank. The national economy responds to the changes in the monetary market interest rates by stimulating investments and consumption, or saving.

The monetary policy can influence and guide the aggregate demand in the economy through its instruments, the aggregate offer being influenced indirectly, with a lag of time, by adjusting it to the aggregate demand.

Another aspect is the fact that the central bank, through the short-term interest rates control, can modify the motivation of the economic agents to own national currency in favour or disfavour of foreign currency, thus influencing the exchange rate. Thus, the initial impulses of the monetary policy interest rate on the economic activity are transmitted via the exchange rate, which will influence in turn the appetite for foreign currency or for the national currency (effect of wealth and balance).

Within the context of aligning to the European evolutions and to ECB policy, the interest rates from the Romanian monetary market will have to be lowered gradually, which might increase consumption and stimulate investments. This is why the adjustment of the interest rates in the economy will have to be pondered so that no sudden

evolutions take place which, instead of transmitting the signal of a normal adjustment, may generate undesirable effects stimulating the increase of the inflation. The prudence in adjusting the "pace" of interest rates reduction is motivated, on the one hand, by the persistent inflation in Romania, including as inflationist expectations and, on the other hand, by the high volatility of the exchange rate, even with a "historic" tendency for RON depreciation. If we analyse the evolution of the monetary policy interest rate during the recent period (2008-2009), we can observe that in the period January-August 2008, this rate increased form 8% to 10.5% on the background of a higher restrictivity of the monetary policy with the purpose to curb the inflationist pressures and to temper inflationist expectations of the demand. Thus, the National Bank operated five consecutive increases of the monetary policy interest rate, potentiating the efficacy of these measures by controlling the liquidity form the monetary market. Within this context, NBR maintained the level of the minimal compulsory reserve to 20% for the liabilities in RON and 40% for the liabilities denominated in foreign currency, on the background of an increasing inflation during the first quarter of 2008. The evolution of inflation remained almost unchanged until July; from August towards the end of the year there was a descending trend, after which the inflationist pressures started to act again.

During February-March 2009, the monetary policy interest rate was reduced to 10% on the background of a more relaxed monetary policy, the rate decreasing by 0.25 percent points. At the same time, NBR reduced between May 24-June 23 the compulsory minimal reserves for the liabilities in foreign currency from 40% to 0%, in order to continue the process of harmonising the mechanism of the compulsory minimal reserve with ECB standards, while the compulsory reserves below two years were maintained at 18% for RON and 40% for foreign currency.

Due to the instability felt within the Romanian economy, the exchange rate depreciated considerably in January this year, depreciation which was alleviated until the end of March following the relative improvement of the perception on the Romanian economy after the agreements with the EU, WMF and other international bodies. The 0.25 percent points reduction of the monetary policy interest rate was motivated by the improved prognosis of inflation for

this year on the background of a general unfavourable evolution of the economy (unemployment increase, higher contraction of the imports, consolidation of the annual turnover decline in the car dealing and fuels sector, fewer credits and deposits of the population due to the deteriorating perspective of incomes, incertitude of the exchange rate etc.). As a result, the interest rates on the monetary interbank market decreased in the first part of the year on the background of a change in NBR policy on liquidity management and of the relative dissipation of the adverse effects of the international financial crisis on this segment of the financial market. Thus, the interest rates on the monetary interbank (and the overnight interest rates) oscillated around the monetary policy interest rate, favourable aspect diminished by a still high volatility of these interest rates,

In May 2009, the monetary policy interest rate was adjusted from 10% to 9.50% and then in July to 9%. The level of the compulsory minimal reserves was set to decrease in the interval July 24-August 23, from 18% to 15% for the liabilities in RON and from 40% to 35% for the liabilities in foreign currency. An argument which motivated the continued decrease of the monetary policy interest rate to 9% in July 2009 was the deterioration above expectations of the macroeconomic environment during the first quarter of this year probably and the possible lack of liquidity on the financial-banking market.

On the background of this brief analysis of 2008 and beginning of 2009, we made a more detailed analysis of the interest rate channel of monetary transmission, calculating several margins of elasticity which to reveal, at least partially, the functional (or not) role of this instrument. Thus, the calculated elasticity of the interbank interest rates for deposits on 1 month, three months and twelve months (ROBOR 1M, ROBOR 3M, ROBOR 12M), reveal NBR capacity to transmit the monetary policy impulse via the interest rate channel, also calculating the elasticity of NBR interest rate in relation to the monetary policy interest rate in order to see their capacity of correlation with the above-mentioned interest rate. The possible major deviations from the monetary policy interest rate may affect the quality of the monetary policy signal, both in the financial-banking system, and in the national economy. Thus, elasticity analysis reveals the true value of the monetary policy interest rate in its quality of instrument of the central bank to influence and “guide” the crediting process in the economy.

First, based on the Appendix (see the Appendix), we calculated the margin between the rates of the main monetary policy interests – interest rate for the permanent credit facility (rdfc) and the interest rate for the permanent deposit facility (rdfd) – in relation to the monetary policy interest rate (rdpm). The purpose of this analysis is to see if they can signal efficiently a general orientation of the monetary policy towards stabilising the short-term interest rates on the interbank market within the "corridor" formed by the two interest rates.

We will thus notice that the two margins, rdpm-rdfd and rdpm-rdfc, didn't have a symmetric character in the period 2006-2008. The deposit facility displayed a stronger deviation (maybe because of NBR position of net debtor in relation with the financial-banking system). The symmetric character of the corridor around the monetary policy interest rate took shape only after the first quarter 2008 (NBR decision in the meting of May 6), the amplitude of the corridor being ± 4 percent points. This amplitude set by ECB is much lower, ± 0.75 percent points. Thus, in order to improve the transmission of the monetary policy signal and to reduce the fluctuations of the interest rates on the interbank market, the analyzed margins and the deviations between the margins will have to be as discreet as possible in order to align to the interest rates of the European Central Bank. This would also temperate the possible speculative trends on the interbank interest rates between different regional monetary markets.

The average interest rate for the overnight deposits (rmddON) lies naturally within the limits imposed by, rdpm-rdfd and rdpm-rdfc, but during the last period (2008 and the first quarter 2009) an increase of the margin could be noticed in relation to the monetary policy interest rate, simultaneously with a reversal of the sign, which turned negative. This is due to the increased demand for short-term liquidity of the Treasury on the background of a higher demand of the banks for the credit facility; these yields exceeded sometimes, or were at the limit of the corridor delimited by the interest rates for the permanent facilities (Table 1).

Table 1

Year	Percent margin (annual average)			
	rdpm-rdfd	rdpm-rdfc	rdpm-rmcd	rdpm-rmddON
2006*	7.72	-5.28	0.40	1.1
2007	6.06	-5.69	0.54	0.5
2008	4.99	-3.70	-	–2.3
2009**	4.00	-4.00	-	–2.8

Source: NBR, Report on inflation, May 2009, authors' calculations;
** data available starting with June 2006;*
*** data for the first three months of 2009*

Analysing the evolution of the elasticity (Table 2) we notice that only for the period 2006-2007 and only the relative variation of the interest rate for the deposit facility in relation with the relative variation of the monetary policy interest rate changed sign. Generally there was a good correlation of the monetary instruments and of the analysed interest rates (ROBOR 1M, ROBOR 3M and ROBOR 12M) with the monetary policy interest rate. The coefficient of negative elasticity (-3) of the interest rate for the deposit facility is due mainly to the consistent, yet gradual decrease of the monetary policy interest rate in the interval 2006-2007, from 8.50% (February 9, 2006), 7.50% (November 1, 2007), under the conditions in which the interest rate for the deposit facility remained constant throughout the two years, except for a slight increase of one percent point starting with August 2007 until the end of the same year. During the last period (2008 – first quarter 2009) the increase of elasticity calculated in relation to rdpm shows that the interest rate channel of the monetary policy transmission mechanism (if we refer strictly to the monetary policy interest rate and to the permanent facilities) is a functional channel. This supports an improved quality of the monetary policy interest rate signal and validates the theory of the "small steps" for adjusting the monetary policy. However, an exaggerated multiplying effect of the monetary policy interest rate on the interbank interest rate may lead, without a proper measure (when the adjustment of the monetary policy interest rate is unsuitable either as direction, or as amplitude, or even worse, a combination of the two), to the loss of control on the short-term interest rates (and not only) on this market.

Table 2

Year	Interest rate elasticity in relation with rdpm						
	Erdfd	Erdfc	Ermcd	Ermdd ON	Erobor 1M	Erobor 3M	Erobor 12M
2007	–3.0	0.4	1.2	0.6	0.9	1.0	0.9
2008	7.8	0.1		2.4	2.2	2.3	2.3
2009**	7.2	1.3		1.8	4.7	4.2	3.9

Source: NBR, Report on inflation, May 2009, authors' calculations;
** data available starting with June 2006;*
*** data for the first three months of 2009*

Monitoring the elasticity coefficient of two macroeconomic variables (coefficient of the Harmonized Index of the Consumer Prices and the exchange rate for euro and the USD) in relation with the same rdpm, we notice several surprising aspects. One of them refers to HICP elasticity which was higher than the unit throughout the surveyed period and negative for the first time in the first quarter of 2009. For the period 2006-2008, this signifies that for any increase of the monetary policy interest rate, inflation also increased by about two times. The rigidity of inflation makes us believe that the signal of the monetary policy interest rate in the real economy is strongly dissipated, the financial-banking system (and not only) distorting it at the level of the real economy. If we take into consideration the fact that the mechanism also functions simultaneously through the exchange rate system we understand the existence of the abnormality. Until 2009, the exchange rate evolved as a poor link in relation with the monetary policy interest rate, and even more, not even in 2009, the trend didn't change. The successive decreases of the monetary policy interest rate might fail to change this year too the unfavourable evolution of the exchange rate of the RON for euro or USD. This aspect makes us conclude on the nonfunctionality of the interest rate channel for the transmission of the monetary impulse towards the exchange rate system in Romania, even under the conditions of an improved balance of foreign payments (Table 3).

Table 3

Year	Elasticity in relation with rdpm		
	EIAPC	Exch. rate RON/EUR	Exch. rate RON/USD
2007	1.8	0.9	0.4
2008	2.1	0.1	0.3
2009**	–3.4	7.3	3.8

Source: NBR, Report on inflation, May 2009, authors' calculations;
*** data for the first three months of 2009*

Conclusions

If we refer to the recent years, the increased elasticity of the interest rates calculated in relation to the monetary policy interest rate shows that the interest rate channel of the monetary policy transmission mechanism is functional but only up to the level of the financial-banking system. Because of the structural rigidity of the Romanian financial-banking system, the monetary policy signal is no longer transmitted with the same clarity towards the real economy.

There are several disfunctionalities of other channels (for instance, the exchange rate channel) of the financial-banking system, and of the fiscal-budgetary environment which disturb strongly the transmission of the monetary impulse towards the real economy (such as the undesired evolutions of HICP).

The function of the monetary transmission system can be optimised by correlating the main macroeconomic policies (monetary policy, fiscal-budgetary policy and social policy)

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Appendix

Table A1

Year	**rmddON (average value of the interest rate for ON deposits)**	**rdpm (monetary policy interest rate)**	**rdfd (interest rate for the deposit facility)**	**rdfc (interest rate for the credit facility)**	**rmcd (average yield of the certificates of deposit issued by NBR)**
	Percent per year (average values)				
2006*	7.63	8.72	1.00	14.00	8.32
2007	6.99	7.48	1.42	13.17	6.94
2008	11.99	9.69	4.70	13.39	
2009**	12.89	10.09	6.09	14.09	
Source: NBR, Report on inflation, May 2009, authors' calculations; ** data available starting with June 2006;* *** data for the first three months of 2009*					

Table A2

Year	ROBOR 1M	ROBOR 3M	ROBOR 12M	rdpm (monetary policy interest rate)
Percent per year (average values)				
2006*	9.05	9.06	8.98	8.72
2007	7.84	7.79	7.82	7.48
2008	13.03	13.04	13.10	9.69
2009**	15.56	15.28	15.21	10.09
Source: NBR, Report on inflation, May 2009, authors' calculations; ** data available starting with June 2006;* *** data for the first three months of 2009*				

Table A3

Nominal exchange rate		
average annual values		
Year	RON/USD	RON/EUR
2006	2.8090	3.5246
2007	2.4383	3.3373
2008	2.5189	3.6827
2009**	3.2777	4.2662
Source: NBR, Report on inflation, May 2009, authors' calculations; *** data for the first three months of 2009*		