

Box**Interest rate transmission mechanism**

Understanding the transmission of changes in interbank rates to lending and deposit rates (applicable to both households and companies) is essential for grasping the manner in which monetary policy conduct has an impact on the economy. It is particularly important in the context of the global financial crisis that generated the relatively weaker⁴⁶ interest rate pass-through which could add to the challenges to the stance and implementation of the monetary policy of the NBR and other central banks.

The analysis of the interest rate transmission characteristics was based on an error-correction model:

$$\Delta r_t = \sum_{i=1}^k \lambda_i \Delta r_{t-i} + \sum_{j=0}^l \gamma_j \Delta m_{t-j} + \alpha(r_{t-1} - \mu - \beta m_{t-1}) + \varepsilon_t,$$

where r is the interest rate on the loans/deposits of non-bank clients, m is the money market rate, the γ_0 coefficient measures the immediate pass-through, the λ coefficients determine the interest rate response to loans/deposits in terms of changes in previous periods, α is the adjustment velocity to the long-term equilibrium relation, β is the long-term pass-through, while μ is the margin between interest rates on loans/deposits and money market rate. The analysis was based on monthly interest rates on new time loans/deposits of households and non-financial corporations recorded during May 2003 – December 2009; the 3M ROBOR rate was the key interest rate on the interbank money market, as it showed, in general, the closest correlation with interest rates applicable to non-bank clients.

The long-term transmission of changes in interbank rates to lending rates on new business stood above par for both categories of customers (Table 1). The empirical evidence – which seems to indicate a pronounced pro-cyclical behaviour of credit institutions – reflects the interaction between macroeconomic conditions and financial conditions specific to the reviewed period. In the latter case, an important part was played by the developments in the perception of risk associated by credit institutions with non-bank clients (including under the impact of several structural factors) and implicitly the related premium. By contrast, the long-term pass-through to deposit rates on new business was incomplete, as these rates captured only part of changes in interbank rates (about 80 percent for households and roughly 90 percent for non-financial corporations – Table 2)⁴⁷. This can be attributed to the persistent liquidity surplus in the banking system throughout most of the period under consideration, as well as to credit institutions' readily available access to external financing.

The short-term transmission showed different features in terms of the two categories of bank clients/products. Interest rates on new time loans and deposits of non-financial corporations captured instantly nearly half of the change in interbank rates. Their response was stronger than that of interest rates on new business of households, in which case the transmission stood at nearly 20 percent. The explanation may lie with the different structure of loan/deposit agreements for the two categories: (i) most new loans to non-financial corporations have variable rates or fixed rates for up to one year, whereas new loans to households take a smaller share; (ii) as for new deposits, households may opt for fixed-rate time deposits rather than for variable rate deposits. At the same time, the different short-term transmission may be attributed to the frequent resort to direct indexation of interest rates on loans/deposits of companies in terms of interbank rates, as well as to the persistently stiffer competition on this segment, owing also to the stronger bargaining capacity of non-financial corporations than that of households (arising inter alia from the more readily available access to alternative financing/investment products).

Furthermore, deposit rates tended to adjust before lending rates. This behaviour – underpinned by the persistent liquidity surplus in the banking system – could reflect credit institutions' concern for preserving intermediation margins, given that interbank rates followed a downtrend during most of the period under review.

The deepening of the global financial crisis in the autumn of 2008 and its fallout on local financial market seem to have had a temporary impact on the interest rate pass-through. The temporary increase in interbank rate volatility was reflected by the weaker short-term response of interest rates applicable to customers, households in particular. A substantial disruption was reported by deposit rates on new business, subject to significant rises that exceeded the levels anticipated by credit institutions based on their track record. This development reflected both banks' fears of

⁴⁶ The reasons were discussed in the previous Inflation Reports.

⁴⁷ A long-term stable (co-integration) relation between deposit rates and interbank rates could not be specified. As a result, a model that does not include the error correction term was used.

the contraction in external financing sources and their concerns for adjusting the loan/deposit ratio, whose unsustainable level had turned into a serious vulnerability in the context of the financial crisis.

Looking ahead, the transmission of interest rates on new household loans can capture the impact of the recent amendment of the legal framework for consumer credit agreements⁴⁸. In the short run, the adjustment by credit institutions of the cost structure of loans to households could lead to a temporary increase in the rigidity of lending rates. Taking a longer perspective, the elimination/containment of early repayment commissions could fuel competition, with favourable effects on both long- and short-term transmission. Moreover, the explicit linking of variable rates to benchmark money market indices is likely to improve, *ceteris paribus*, the short-term transmission. The behaviour of interest rates on time deposits could in turn be temporarily affected by the introduction of a 16 percent tax rate on gains from such placements as of 1 July 2010.

Table 1. Interbank rate transmission to lending rates on new business

	Immediate pass-through		Long-term pass-through		Adjustment velocity		Co-integration test (Boswijk)
Interest rates on loans to households							
5M 2003: 9M 2008	0.36	(0.17) **	1.63	(0.12) ***	-0.16	(0.04) ***	24.47***
5M 2003: 12M 2009	0.20	(0.09) **	1.57	(0.10) ***	-0.17	(0.02) ***	66.78***
Interest rates on loans to non-financial corporations							
5M 2003: 9M 2008	0.51	(0.14) ***	1.26	(0.07) ***	-0.22	(0.04) ***	31.95***
5M 2003: 12M 2009	0.45	(0.05) ***	1.20	(0.06) ***	-0.21	(0.04) ***	41.93***

Table 2. Interbank rate transmission to deposit rates on new business

	Immediate pass-through		Long-term pass-through	
Interest rates on deposits of households				
5M 2003: 9M 2008	0.27	(0.16) *	0.78	(0.11)
5M 2003: 12M 2009	0.21	(0.07) ***	0.80	(0.11)
Interest rates on deposits of non-financial corporations				
5M 2003: 9M 2008	0.62	(0.16) ***	0.87	(0.11)
5M 2003: 12M 2009	0.60	(0.13) ***	0.90	(0.10)

Standard deviations are showed in brackets. In the case of deposit rates, the standard deviation of the long-term pass-through is calculated by using the “delta” method.

***, **, * show the reading at 1%, 5% and 10% levels

As regards the entire sample, the model includes a dummy variable in order to control the strong global financial crisis fallout on the local financial market starting October 2008.

⁴⁸ Set forth by Government Emergency Ordinance No. 50/2010.