

Taking into account the non-price restrictions imposed on credit transactions when making the forecast for the Russian loan market



PROGNOZ

- Thematic Justification
- Problem Statement
- Theoretical Foundation Refinement
- Information Support
- Model Development
- Research Results Verification

Leveraging becomes a more and more powerful source of investment in the real economy

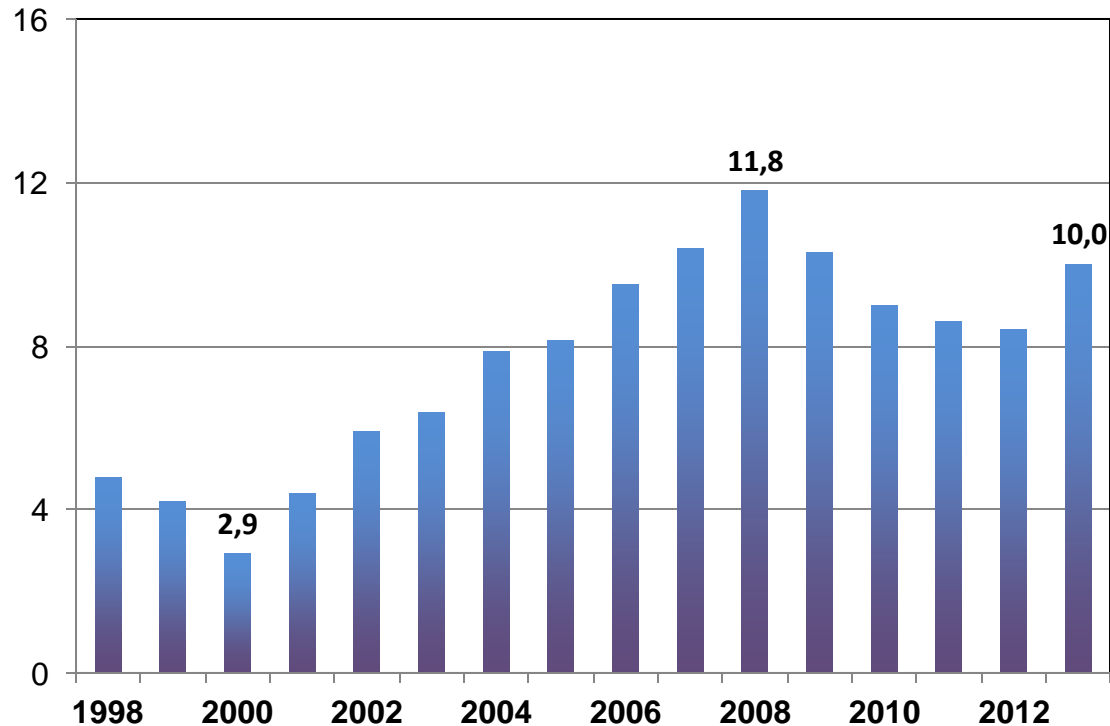


Fig.1. The share of fixed capital investment financed by attracting loans from credit institutions

The loan market is the most heterogeneous segment of the Russian financial system

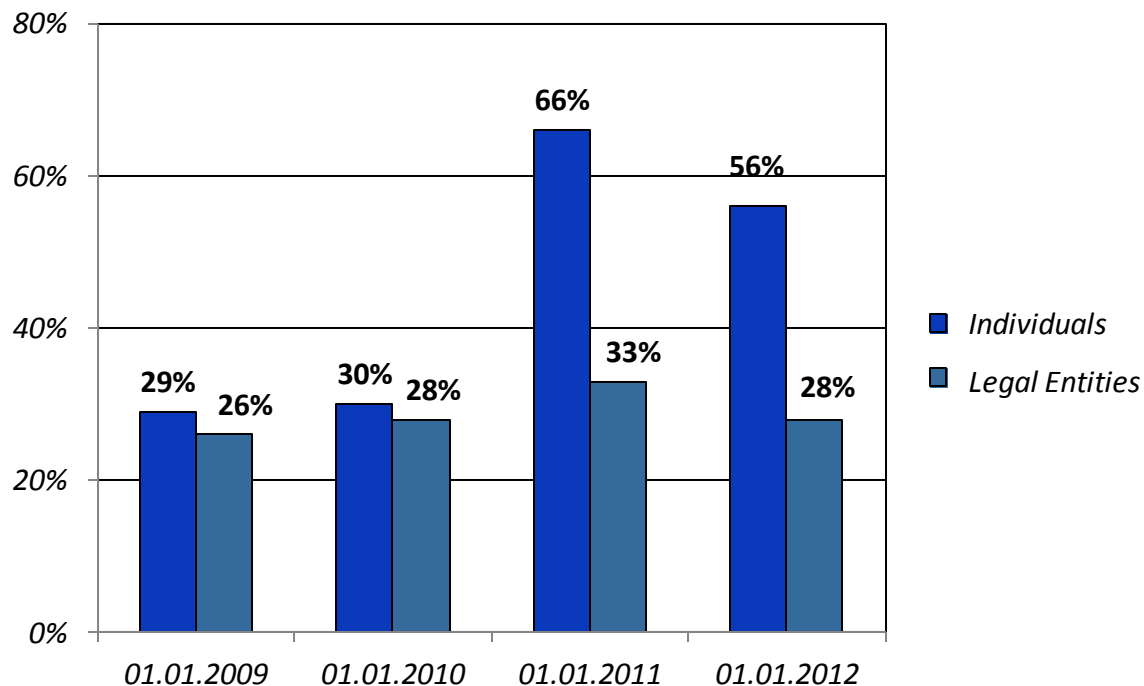


Fig.2. The dynamics of the coefficient of variation of interest rates in the Russian loan market (current bank data used)

Research objectives

The research objective consists in the development of a set of econometric models, allowing to reduce the average forecast error for the main indicators of the loan market due to the BLT (Bank Lending Tightness) index included in the models developed within the research.

Bank Loan Supply Factors

1. Credit institution's assets value:

- a) Deposit rates for individuals,
- b) Interbank loan market rates,
- c) The Bank of Russia key interest rate,
- d) The dependency ratio of a credit institution to the interbank loan market.

2. Market risk assessment:

- a) Expectations of a credit institution regarding the acceleration or deceleration of inflation rates,
- b) Expectations of a credit institution regarding the future exchange rate dynamics,
- c) The share of foreign currency assets in the total bank assets.

Bank Loan Supply Factors

3. Unbalanced liquidity risk level.

4. Bank requirements for potential borrowing entities:

- a) Requirements for borrower's financial status,
- b) Requirements for loan security,
- c) Late payment penalty amount.

5. Level of disposable funds demand :

- a) Bank customers (individuals) income,
- b) ATMs and POS terminals network development level in the credit institution's home region.

Bank Loan Supply Factors

6. Bank's assessment of one's own credit risk:

- a) Loan arrears,
- b) Assets quality ratio,
- c) The ratio of bank's credit risk bearing capacity to the volume of loans of IV and V quality categories.

Bank Loan Demand Factors (excluding the loan rates trivial factor)

- a) ROA (Return on Assets) of the nonfinancial sector of economy,
- b) Acceleration or deceleration of economic growth in the credit institution's home country,
- c) Scientific and technological progress dynamics,
- d) Households future income expectations,
- e) Income tax rate,
- f) Corporate bonds profitability,
- g) Firms and households inflation expectations,
- h) Firms and households exchange rate dynamics expectations.

Non-price BLT indices: A new section of the Russian banking statistics

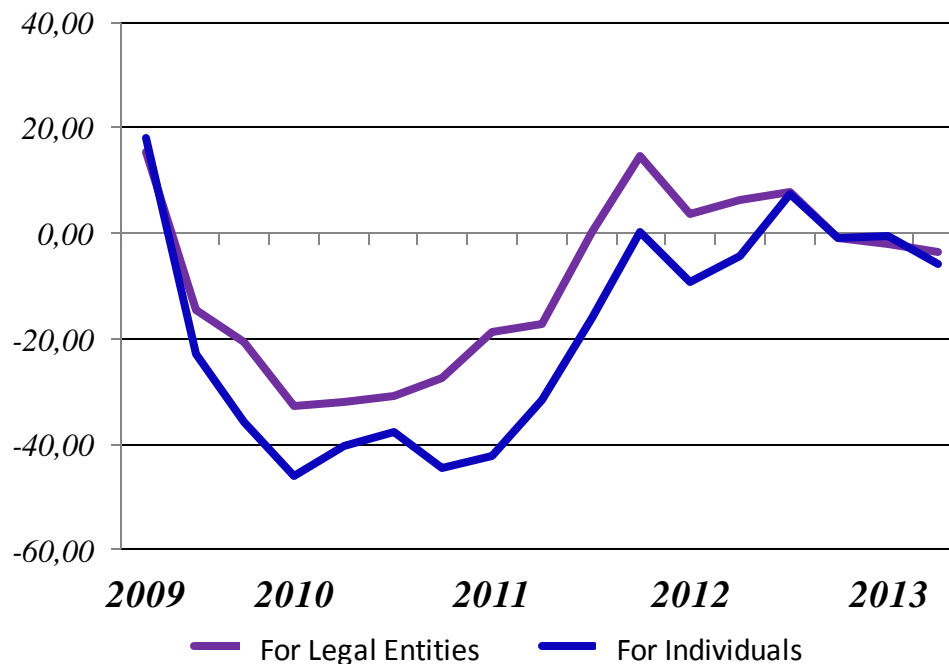


Fig.3. Index of changes in non-price BLT in the Russian loan market during 2009-2013

The methodology for calculating BLT indices is imperfect

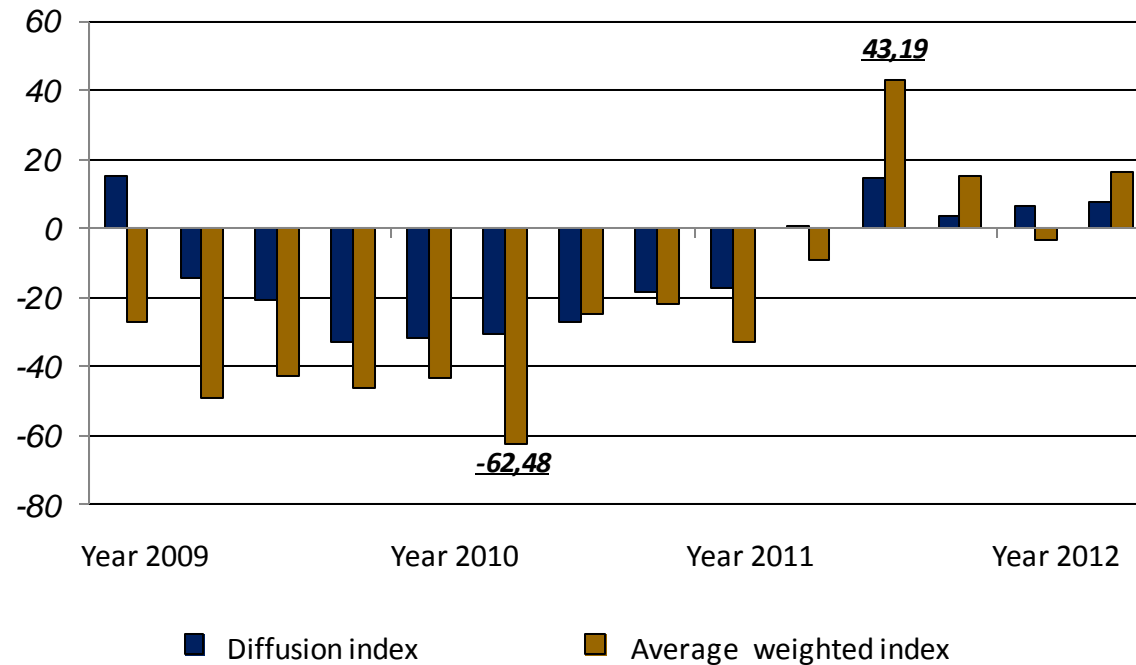


Fig.4. Dynamics of diffusion and weighted average indices of changes in non-price BLT in Russia

Open vector autoregression model for predicting the main indicators of the Russian loan market

$$\begin{cases} \Delta r_{Lt} = -0,05 + 0,023DI_{t-1} + 0,15\Delta r_{Mt-1} + 0,2\Delta r_{Dt} \\ \Delta r_{Dt} = 0,02 + 0,026DI_{Nt-1} + 1,13\Delta r_{t-1} \\ DI_t = 445,45 - 0,41HHI_{t-1} + 10,99\Delta r_{t-1} + 0,19\Delta D_{t-1} \\ \Delta r_M = 0,38 + 1,35\Delta r_{t-1} - 0,87\Delta r_{Mt-1} \\ Q_t = 1,88 - 0,11I_{t-2} + 1,42\Delta ROA_{t-1} + 0,023Q_{Dt-3} - 4,28(r_{L1t-2} - r_{L2t-2}) \end{cases}$$

where,

Δr_L - Loan interest rate changes in the current quarter compared to the previous quarter,

DI - Consolidated diffusion index of changes in the legal entities' BLT,

Δr_M - MIACR changes in the current quarter compared to the previous quarter,

Δr_D - Changes in deposit rates for individuals in the current quarter compared to the previous quarter,

DI_N - Diffusion index of attracting loans from non-residents,

HHI - HHI (Herfindahl-Hirschman Index),

ΔD - Loan portfolio duration changes in the current quarter compared to the previous quarter,

Q - Legal entities banking sector debt growth rate if compared to the corresponding period of the previous year,

I - Absolute value of the BLT index,

ROA - Real economy ROA.

Alternative vector autoregression model calculated by using weighted average BLT indices

$$\begin{cases} \Delta r_{Lt} = -0,11 + 0,15DI_{cp83t-1} + 0,094\Delta r_{Mt-1} + 0,24\Delta r_{Dt} \\ \Delta r_{Dt} = 0,02 + 0,026DI_{Nt-1} + 1,13\Delta r_{t-1} \\ DI_{cp83t} = -0,6 + 0,98DI_{cp83t}^e \\ \Delta r_{Mt} = 0,38 + 1,35\Delta r_{t-1} - 0,87\Delta r_{Mt-1} \\ Q_t = 1,88 - 0,0083I_{cp83t-2} + 0,56\Delta ROA_{t-1} \end{cases}$$

where,

DI_{cp83} - Consolidated weighted average BLT index for legal entities,

DI_{cp83}^e - Weighted average index for BLT changes expected during the next 3 months,

I_{cp83} - The absolute BLT value index calculated by using the weighted average index.

Using BLT indices in the panel data

No.	Selection	Regression equation
1.	The entire Russian banking sector	$\Delta r_{Lt} = -0,05 + 0,023DI_{t-1} + 0,15\Delta r_{Mt-1} + 0,2\Delta r_{Dt}$
2.	Sberbank of Russia OJSC	$\Delta r_{Lt} = -0,28 + 0,0016U_{t-2} + 1,07\Delta r_{Dt-1} - 0,19\Delta r_{Mt-1}$
3.	VTB Bank OJSC	$\Delta r_{Lt} = -0,32 + 0,52U_{t-2} + 0,23\Delta r_{Dt-1} + 0,91\Delta r_{Mt-1}$
4.	Bank of Moscow OJSC	$\Delta r_{Lt} = 0,24 + 0,79\Delta r_{Dt-1} + 1,17U_{t-1} + 0,22r_{Mt-1}$

Key findings

- 1) Non-price restrictions the Russian banks impose upon entering into credit agreements have a significant impact on the dynamics of the equilibrium values of the interest rates and the amount of the loan portfolio.
- 2) The degree of non-price competition between banks has the most significant impact on the loan market condition. It also influences the loan market condition changes in a much greater way than the policy of the Central Bank of the Russian Federation does.
- 3) The spread between the prices of corporate and consumer credit market segments determines up to 30% of the variation in the growth rate of the Russian banking sector corporate portfolio .
- 4) The lag between the changes in non-price restrictions imposed on credit transactions and changes in the growth rate of the corporate portfolio for different Russian credit institutions varies from one to two quarters.

Thank you for your time!