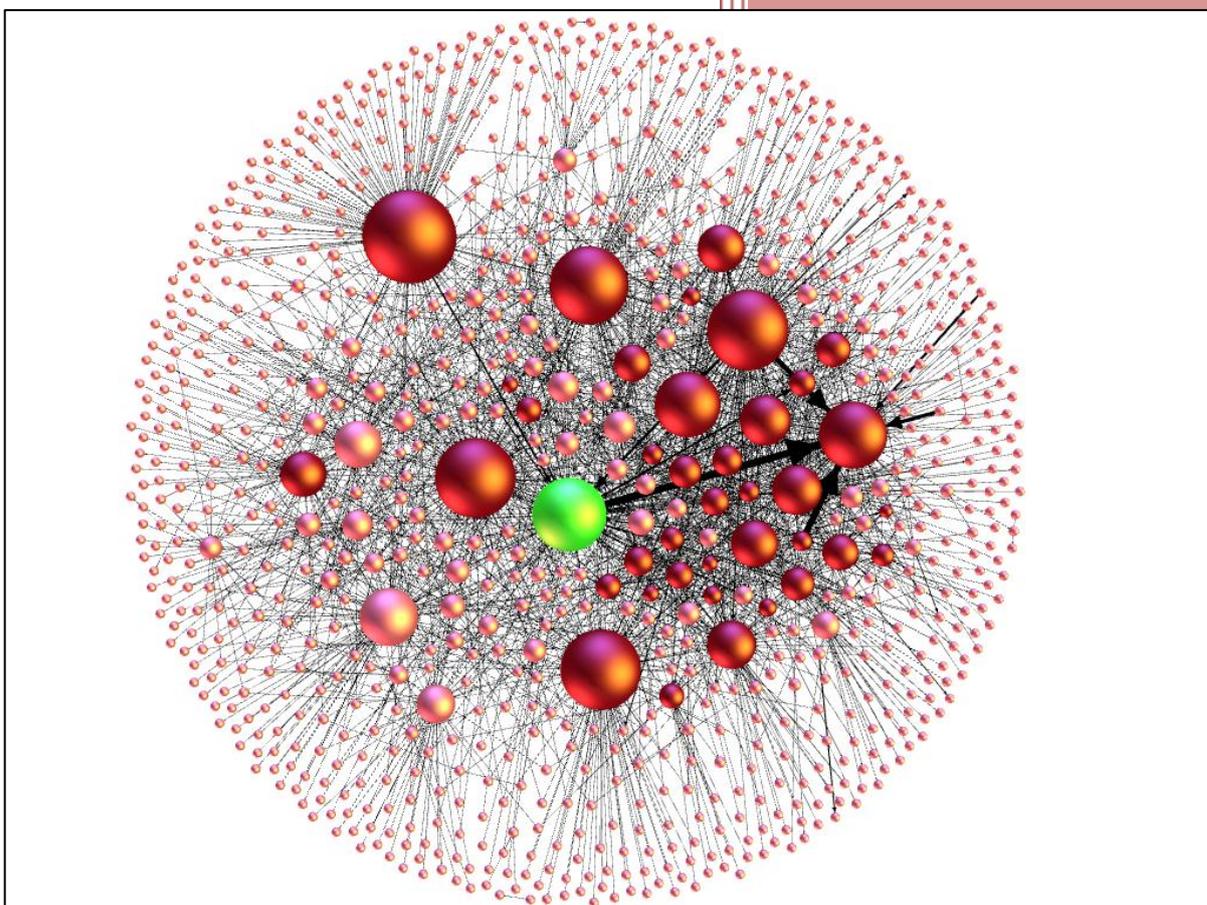


Quarter 4, 2013

# Money Market Review



The Central Bank of the  
Russian Federation  
(Bank of Russia)

This Review is prepared by the Bank of Russia Financial Stability Department in cooperation with the Monetary Policy Department and the National Clearing Centre (CJSC JSCB NCC)

The statistics used in the Review and the methodological comments are published on the Bank of Russia website under Financial Stability:

[http://www.cbr.ru/analytics/?Prtid=fin\\_stab](http://www.cbr.ru/analytics/?Prtid=fin_stab)

Comments and suggestions on the Review's structure and contents are welcome at: [reports@cbr.ru](mailto:reports@cbr.ru).



*All references to this Bank of Russia document should be appropriately cited*

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## Purpose of the Money Market Review

In this Review, the money market includes the interbank lending market, the FX swap market, and the interdealer repo market. The focus is somewhat more on the repo market due to its cross-sectoral nature. The Bank of Russia is committed to promoting money market development to achieve the following:

- A stable environment for liquidity redistribution, i.e. with acceptable volatility of short-term interest rates and smoother changes in transaction values;
- Equal access to liquidity for market participants;
- Counterparty default risk minimised through sound collateral management;
- A balanced development of various market segments, specifically, a full-fledged segment beyond overnight maturities;
- A favourable environment for the development of the CCP-cleared market.

### **The importance of money market monitoring is underpinned by the following:**

- The money market plays a key role in banking intermediation, which provides for on-going conversion of short-term borrowings into long-term loans to the economy; its uninterrupted functioning enables banks to refinance their liabilities continuously and efficiently use their capital to provide funding to the economy;
- The money market is the first to come under pressure in case of a financial turmoil, therefore, its parameters may serve as early warning indicators;
- The money market is crucial in intragroup operations of financial groups and conglomerates, which require close attention under consolidated supervision;
- The money market, in its interdealer repo and swap segments, may concentrate financial sector systemic risks, because its players include not only banks but also non-bank professional securities market participants ;
- Money market trends are a good indication of liquidity conditions in the banking system;
- Potential disruption of the money market and panic sales of collateral would significantly push up the cost of market funding and make it more difficult for non-financial organisations to access it;
- Money market conditions affect the central bank's capacity to manage banking sector liquidity and short-term interest rates.

In view of the money market's importance for financial stability, the Bank of Russia issues **regular quarterly reviews** of its developments and the level of systemic risk.

**The ultimate purpose of this publication** is to facilitate financial stability by minimising systemic liquidity risks via enhancing money market transparency. A better awareness of the market structure and trends will allow market participants to improve their perception and assessment of their own risks. Moreover, the Bank of Russia seeks to communicate to market participants potential collective implications of their individual investment decisions in case of domino effects that are not quite fully addressed in market risk assessments.

**The Review, rather than being a Bank of Russia official publication**, is a research paper focused on the analysis of market developments in the period under review. The latest reported data are given as of the last business day of the quarter, while potential material events after the reporting date are excluded from the analysis. The Review is available in Russian and English on the Bank of Russia official website.

## Summary

- Throughout the fourth quarter of 2013, money market conditions were influenced by the usual (tax period and calendar) drivers of banks' demand for liquidity provided by the Bank of Russia. The debt of credit institutions to the Bank of Russia (including loans against non-marketable assets and guarantees) continued to expand throughout the fourth quarter, to reach 4.4 trillion rubles by the end of the period under review (7.7 percent of the total liabilities of the banking sector), as money market rates came close to the upper border of the Bank of Russia interest rate corridor. However, the rise in interest rates did not trigger materialisation of credit risks, and there were no substantial defaults in the money market.
- In November-December 2013, the Bank of Russia actions to rehabilitate the banking sector did not have any significant impact on the overall money market conditions. Some tightening of borrowing terms for regional banks was observed, as manifested in the widening of the weighted average spread between the borrowing rates for regional and Moscow/St. Petersburg-based banks<sup>1</sup> (up to 0.3 pp) and in reduced counterparty limits to smaller banks. Further on, the organised interbank market on the Delta platform (which served about 10 percent of the interbank market in early fourth quarter) showed declining activity: its trade halved in November-December. However, despite some stressed market segments, overall, liquidity reallocation increased in volume, as the average daily cash volumes provided by the most active participants in the interbank market (core banks) to other banks (periphery banks) increased by 60 percent to stand at 83.6 billion rubles (while intraperiphery borrowings contracted by 26 percent down to 47 billion rubles).
- In the fourth quarter of 2013, banks' debt under central bank refinancing facilities expanded faster than the stock of available collateral, pushing utilisation ratios upwards<sup>2</sup>. In the reference period, the utilisation ratio for marketable collateral hovered around 55 percent, soaring to over 65 percent at the end of 2013. The utilisation ratio for non-marketable collateral and guarantees exceeded 50 percent at the end of 2013.
- The Bank of Russia's more frequent use of auctions for loans secured by non-marketable assets did not result in any lower issuance activity in the bond market. On the contrary, corporate bond issuance was larger in the fourth quarter of 2013 than in the previous months, increasing by 21 percent year on year to 632 billion rubles.
- In 2014, demand for Russian corporate securities will be further supported by the wider investor community as a consequence of market liberalisation via giving access to foreign settlement and clearing systems as nominal account holders in the Russian central depository. In the fourth quarter of 2013, the Bank of Russia in cooperation with the Ministry of Finance held a meeting with foreign OFZ holders, who expressed their interest in the Russian securities market.

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<sup>1</sup> Regional banks refer to all the Russian banks excluding those based in Moscow and St. Petersburg.

<sup>2</sup> Collateral utilisation ratio is the debt of credit institutions to the Bank of Russia under a certain refinancing facility divided by the value of the total eligible collateral (adjusted by appropriate haircuts) available to credit institutions via this facility.

Investors emphasised the need to develop hedging instruments for long-term interest rate risks, and to enhance transparency of market statistics.

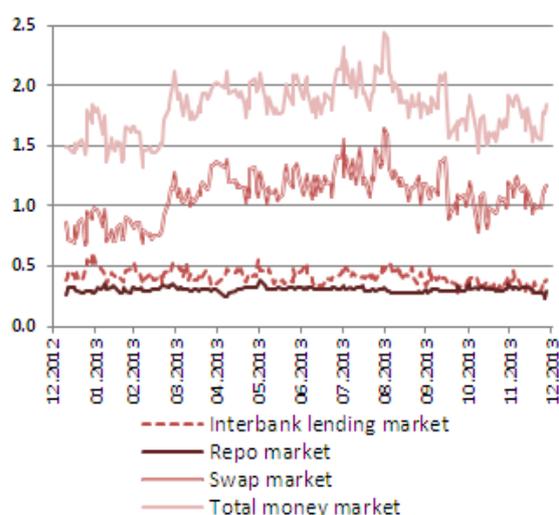
- Stress tests as of 1 December 2013 of the NCC in its capacity of a qualified central counterparty show that its regulatory capital adequacy under the adverse scenario would be 15.2 percent versus the regulatory ratio of 10 percent and its current ratio of 18.7 percent. Therefore, the NCC may be considered capable of preserving its overall financial soundness and of continuing its uninterrupted operation under simulated shocks.

# 1. MONEY MARKET STRUCTURE AND CURRENT CONDITIONS

## 1.1. Money market conditions

In the fourth quarter of 2013, *money market conditions remained broadly stable*, yet somewhat stressed due to banks' increased seasonal demand for liquidity, and the Bank of Russia's actions to rehabilitate the banking sector. Money market trade was contracting throughout the quarter (Chart 1, Table 1). However, this contraction started back in September 2013 (for more details on the impact of the Bank of Russia's recent rehabilitation of the banking sector on the money market see Section 2). *The shift in the money market structure* across its segments (interbank lending, repos, swaps) was caused by the contraction in swap trade (from 1.6 to 1.2 trillion rubles over the period from 2 September to 27 December), which can be partly attributed to changed business strategies of some of its participants. Meanwhile, interdealer repo trade volumes stayed virtually unchanged.

**Chart 1. Value of open positions in money market segments, trillions of rubles**



**Chart 2. Value of open positions and debt to the Bank of Russia, trillions of rubles**



*Borrowing from the Bank of Russia* (including loans secured by non-marketable assets and guarantees) continued to expand throughout the fourth quarter of 2013, to reach its local high of 4.4 trillion rubles by the end of the period under review (Chart 2). Looking ahead, market participants are expected to further borrow significant volumes of cash via transactions with the Bank of Russia. Overall, liquidity demand from banks is very likely to continue increasing in the next twelve months, with much of the increase falling on the second half of the year.

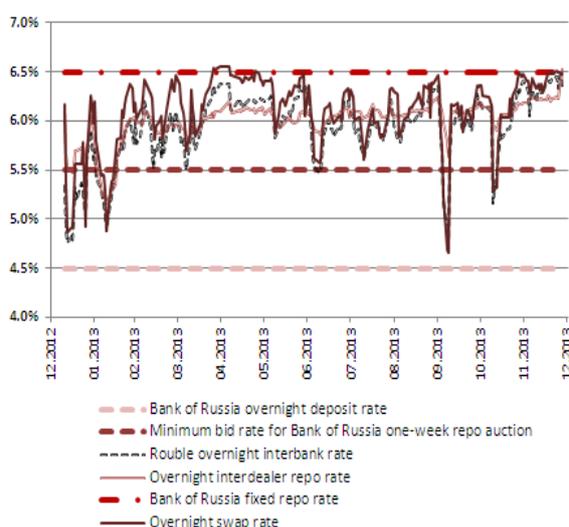
**Table 1. Trade volumes in money market segments**  
(average daily turnover for the quarter)

	Interbank, billions of rubles	Repos, billions of rubles	Swaps, billions of rubles	Money market, billions of rubles
I quarter 2013	440.7	307.1	837.8	1,585.6
II quarter 2013	424.7	311.8	1,168.8	1,905.3
III quarter 2013	425.1	303.5	1,245.1	1,973.6
IV quarter 2013	359.3	304.0	1,067.4	1,730.7
Increase in market size in IV quarter compared with III quarter of 2013	-15.5%	0.2%	-14.3%	-12.3%
Increase in market size in IV quarter compared with I quarter 2013	-18.5%	-1.0%	27.4%	9.1%

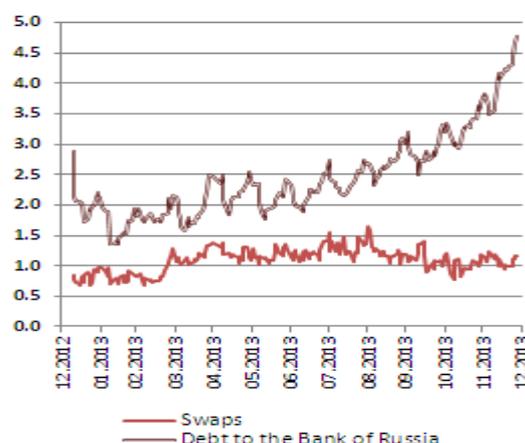
Despite the heightened demand for liquidity and some money market stress, *there were no substantial defaults in the review period*. Defaults in the interdealer repo market were largely limited to participants' trades with their clients, with total defaulted obligations at less than 30 million rubles.

*Money market rates* were rising throughout the fourth quarter to come close to the upper border of the Bank of Russia interest rate corridor by the end of the year (Chart 3).

**Chart 3. Money market overnight rates**



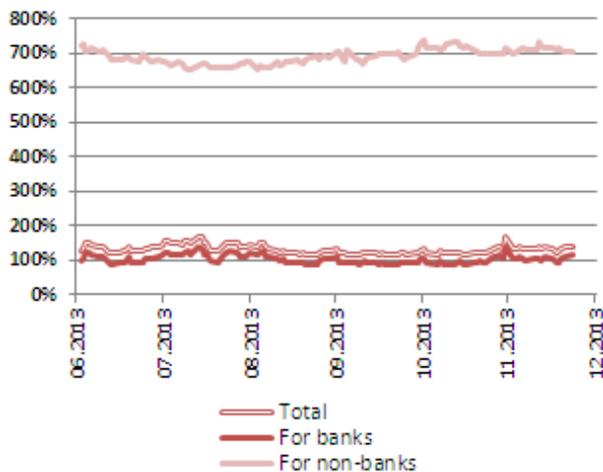
**Chart 4. Swap trade volumes and repo debt to the Bank of Russia, trillions of rubles**



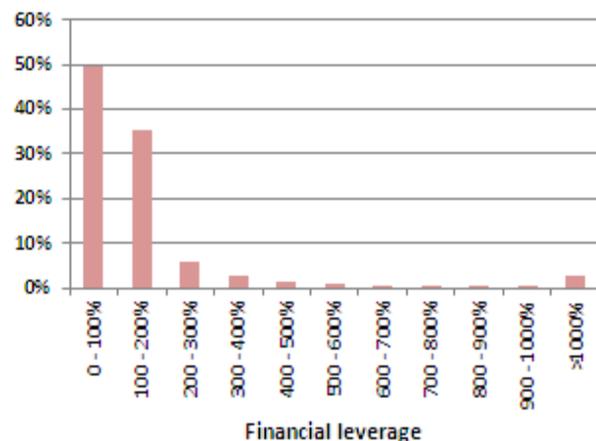
*The financial leverage* of money market participants remained broadly acceptable, as their net debt to capital ratio was ranging from 100 percent to 200 percent on average (Chart 5) under their deals with counterparties, the Bank of Russia and the Federal Treasury (deposits of federal government balances). It should be noted, that non-bank entities showed high leverage ratios, which

were further rising in the second half of 2013<sup>3</sup>. Non-banks mostly engage in intermediation of their clients' trade, but in some cases their own activity is also highly leveraged. However, this high financial leverage has a limited impact on money market systemic risk, given that these entities account for a modest part of total debt (Chart 6).

**Chart 5. Money market average financial leverage, including transactions with the Bank of Russia and the Ministry of Finance**



**Chart 6. Share of net borrowing in the money market, including via transactions with the Bank of Russia and the Ministry of Finance depending on financial leverage of participants**



<sup>3</sup> These estimates of leverage levels are derived as a ratio of a participant's total debt to its total equity ignoring the fact that part of the debt included in the calculation is incurred in client trades. Therefore, the cited estimates are ceiling values of potential financial leverage in the interdealer repo market.

### **Box 1. Changing structure of the euro money market**

The Russian money market is not alone in its current experience of structural transformation. In recent years, national central banks across the world have stepped up their refinancing of the banking sector, with implications for the national money markets. In particular, the Eurosystem's large-scale longer-term refinancing operations in late 2011-early 2012 have changed the structure of the euro money market and brought to light a number of its weaknesses.

According to the Euro Money Market Survey, released by the European Central Bank (ECB) in November 2013 (hereinafter, the ECB Survey), the euro money market shrank significantly in 2012, both in its unsecured and secured loan segments. In 2013, while the secured money market restored its trade volumes, the unsecured market shrank further down to its 10-year low. ECB Survey data indicate that the unsecured market activity declined more than fourfold in 2013 compared with the pre-crisis period, and more than halved compared with 2011.

Therefore, the ECB measures to provide longer-term refinancing to banks in 2011-2012, while alleviating money market tensions and bringing interest rates back to normal, yet failed to galvanize the market. Moreover, further liquidity redistribution was dominated by CCP-cleared or Eurosystem transactions, while direct trade between participants declined.

Most importantly, the euro money market contraction undermined its efficiency, as evidenced by responses of this market participants reported in the ECB Survey. They perceive the unsecured lending market as the most inefficient segment of the money market. The informational inefficiency is reflected in lower money market transparency, including as regards the cost of borrowing, because some euro market participants decided to leave the panel of banks contributing to Euribor.

Eonia – the key benchmark rate of the ECB may also risk losing credibility due to declining turnovers of transactions it is based on. In this context, the ECB feels a pressing need for regular money market surveying and studying to verify the consistency of benchmark interest rates that could be used by both the regulator and market participants.

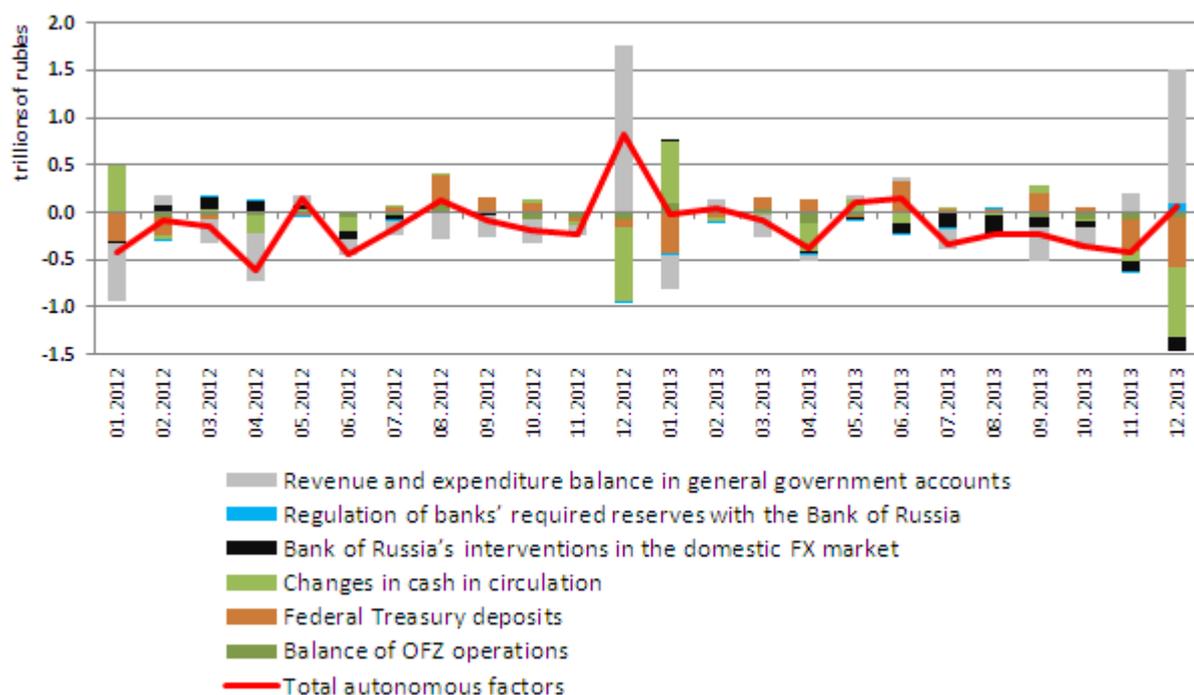
On behalf of G20, the Financial Stability Board (FSB) in cooperation with national and regional authorities is working to enhance the management and oversight of financial indicators, and also to design alternative financial indicators. One of the options, in our view, may be modified rates, which, similar to LIBOR/EURIBOR rates, reflect the cost of term wholesale unsecured financing for banks. However, unlike LIBOR/EURIBOR, they also factor in returns on deposit certificates, commercial paper and bank short-term bonds.

*Source: Nagel J. and Hartkopf C. The changing structure of the euro money market // Central Banking Journal, 2013. – No. 4.-Pp.50-54*

## **1.2. Banking sector liquidity**

Absorption of banking sector liquidity via autonomous factors in the fourth quarter of 2013 increased the structural deficit of liquidity by 0.9 trillion rubles. Like in the previous years, the structural deficit of liquidity moved in different directions in October-December. Most of the period under review was dominated by the liquidity absorption trend, bringing the structural deficit of liquidity to a local high of 4.7 trillion rubles in the third ten days of December. It eased to 4 trillion rubles as of 1 January 2014 amid the usual year-end massive general government spending.

Chart 7. Liquidity drivers



Overall, the general government expenditure exceeding its revenue<sup>4</sup> resulted in 1.4 trillion rubles injected in the banking sector in the fourth quarter (versus 1.8 trillion rubles in the fourth quarter of 2012). Given considerable utilisation of marketable collateral, credit institutions maintained their strong demand for Federal Treasury deposits with credit institutions. However, given that the Federal Treasury needed these funds to finance year-end budget spending, November-December saw massive withdrawals of Treasury deposits, resulting in liquidity absorption in the fourth quarter (in the amount of 0.8 trillion rubles). OFZ operations also contributed to liquidity absorption in the banking sector, draining 0.2 trillion rubles.

The injection of government funds into the banking sector in the fourth quarter of 2013 was largely offset by a seasonal rise in demand for cash at the end of the calendar year. Like in the previous year, currency in circulation was expanded by 0.8 trillion rubles in December, and by 0.9 trillion rubles in the whole fourth quarter (by 0.8 trillion rubles in the fourth quarter of 2012).

Bank of Russia interventions in the domestic FX market further contributed to liquidity absorption in the fourth quarter of 2013, while the volume of domestic sales of foreign currency somewhat contracted from the previous quarter (0.3 trillion rubles and 0.5 trillion rubles respectively).

The 0.2-trillion-ruble increase in banks' balances in their correspondent accounts with the Bank of Russia in the fourth quarter relates both to the seasonal factors and to banks' higher averaged required reserves (RR) as a consequence of the averaging ratio increased from 0.6 to 0.7

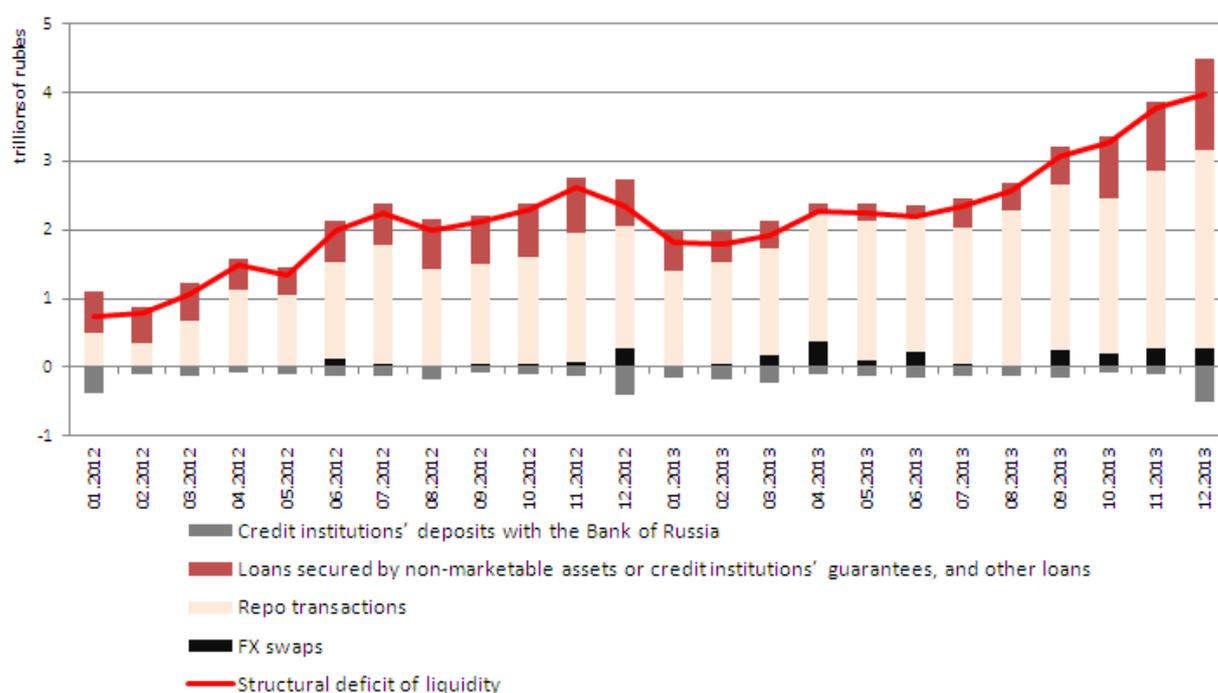
<sup>4</sup> Excluding OFZ operations and changes in Federal Treasury deposits.

starting from 10 December 2013. Transfers of banks' funds from their RR accounts to correspondent accounts with the Bank of Russia amounted to 0.1 trillion rubles in the fourth quarter of 2013.

Bank of Russia short-term auction-based repos remained the key funding instrument, peaking at 3.1 trillion rubles (outstanding volume) in the middle of the third ten days of December. By 1 January 2014, this repo debt declined by 2.9 trillion rubles, as the structural liquidity deficit was relieved by massive year-end government spending. On balance, the short-term repo debt of banks expanded by 0.5 trillion rubles in the fourth quarter, while demand for longer-term auction-based repos remained subdued.

Elevated structural deficit of liquidity and high marketable collateral utilisation levels across some credit institutions supported banks' demand for FX swaps and Bank of Russia loans secured by non-marketable assets and guarantees. However, Bank of Russia FX swaps remained ad hoc, with the largest liquidity injections via this instrument falling on periods of large payments to the budget. As the structural liquidity deficit and money market rates increased in the fourth quarter, the average value of these transactions soared to 143.8 billion rubles on the days when the deals were made compared with 60.3 billion rubles in the previous quarter.

**Chart 8. Structural deficit of liquidity and Bank of Russia liquidity-providing/absorbing operations**



An important source of liquidity in the review period was provided by central bank loans secured by non-marketable assets and guarantees that helped to bring down marketable collateral utilisation. This instrument injected 0.8 trillion rubles over the quarter, largely through the three-month auction secured by non-marketable assets in October 2013 (banks took out 0.5 trillion rubles). As a result, banking sector debt under this instrument increased to 1.3 trillion rubles.

### 1.3. Intraday trading patterns of the unsecured interbank market

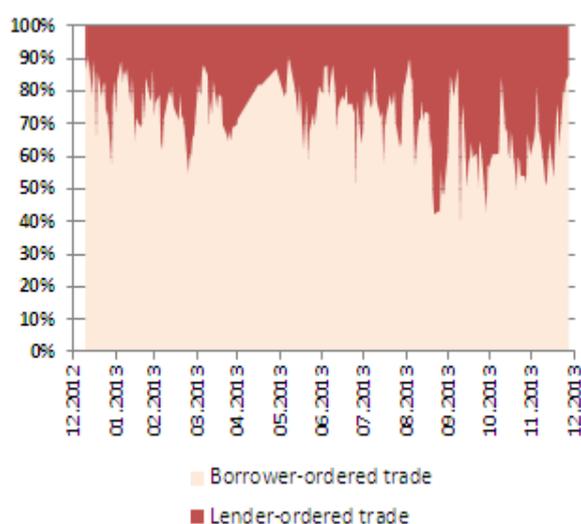
Trade in the Russian interbank market is largely conducted using the Reuters trading platform, which accounts for over 70 percent of transactions. While centralised trading systems take care of just above 10 percent of the market, data that they accumulate allow analysing intraday trading patterns of the interbank market. Delta is one of the centralised trading platforms, used by both mid-sized and small banks and by the TOP 30 banks to borrow and invest excess cash.

Upon trade execution Delta collects large volumes of statistical data on many indicators of intraday trade in the interbank market: trade volumes, market rates, lender-ordered versus borrower-ordered trades, etc.

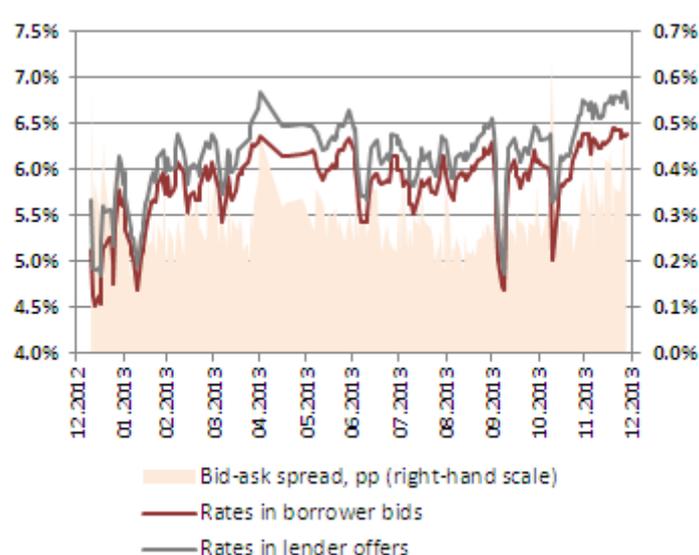
Trading in the system features strongly pronounced intraday activity patterns, peaking in morning and afternoon hours, with most trades ordered by borrowers (for further details please see Money Market Review for the second quarter of 2013). In the fourth quarter of 2013, this pattern was somewhat changed.

Specifically, the share of lender-ordered trade in the Delta system picked up to almost equal the share of borrower-ordered transactions (Chart 9). The bid-ask spread also increased (Chart 10), reflecting, first of all, the usual year-end surge in liquidity demand.

**Chart 9. Lender-ordered and borrower-ordered trade in the Delta System**

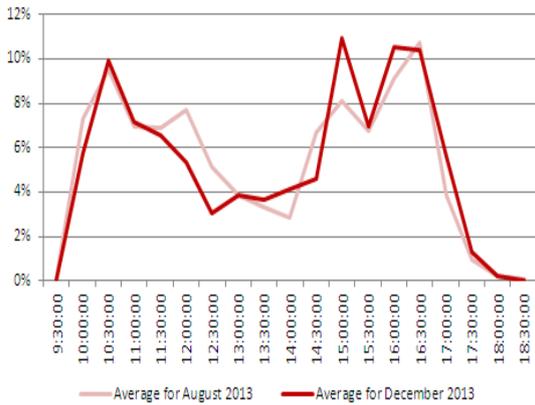


**Chart 10. Bid-ask spread in the Delta System**

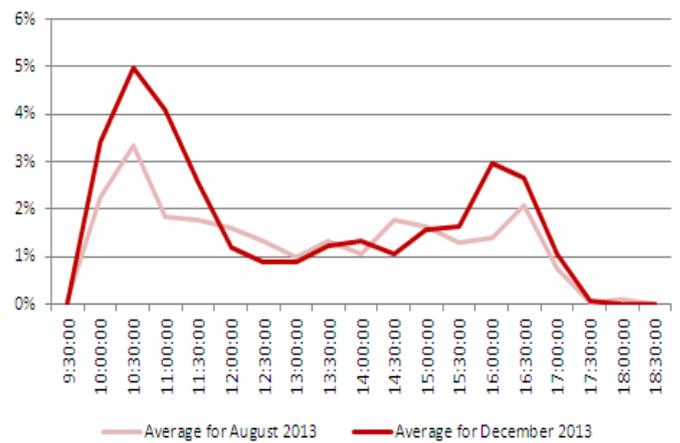


Overall, the intraday distribution of transactions in the Delta System stayed practically unchanged (Chart 11), but, as mentioned above, the share of lender-ordered trade increased, especially in morning hours (Chart 12).

**Chart 11. Distribution of trades in time**



**Chart 12. Distribution of lender-ordered trades in time**

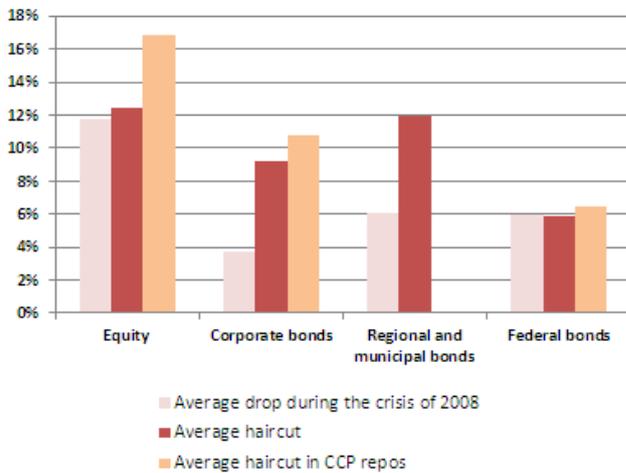


**1.4. Interdealer repo haircuts: adequacy assessment**

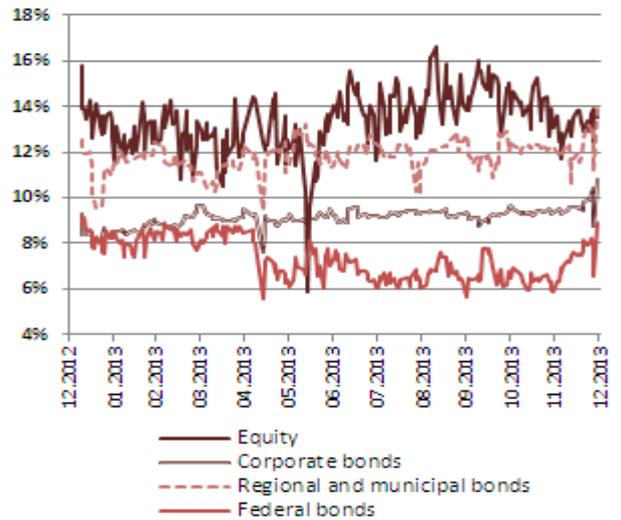
In the fourth quarter of 2013, haircuts in the interdealer and CCP repo markets were largely adequate, as they were higher on average than one-day drops in securities’ value during the crisis of 2008 (Chart 13).

Haircuts in the CCP cleared trade were consistent with the current market conditions. While being higher than interdealer haircuts (non-CCP), CCP haircuts were not unreasonably high.

**Chart 13. Haircuts and one-day drops in asset value during the crisis of 2008 by type of collateral**



**Chart 14. Haircuts by type of collateral**



As money market tensions heightened, interdealer repo haircuts started to pick up gradually (Chart 14). In particular, haircuts in the repo market against federal bond collateral increased from 6 percent to 8 percent in December. However, this rise was not material compared with changes over the year. Further on, the share of trade with haircuts significantly lower than the market average declined from 10.5 percent in the third quarter to 8 percent by the end of the fourth quarter. All this suggests that the interdealer repo market remained resilient to market risk in the fourth quarter.

## **Box 2. International regulatory innovations: setting haircut floors for repo transactions**

As part of the financial regulation reform, the Financial Stability Board (FSB) is working to enhance oversight and regulation of the shadow banking system. One of the reform focuses is to develop policy recommendations to strengthen regulation of securities lending and repos.

In November 2012, the FSB published a consultative document containing 13 policy recommendations. Among other things, it was proposed that regulatory authorities should introduce standards for the methodologies used to calculate haircuts and introduce a framework of numerical haircut floors on securities lending transactions in order to limit their use for building up excessive leverage.

The FSB proposes that the haircuts should be based on assessments of long-term risk of underlying assets used for collateral and should cover their potential loss of value in case of a hot sale. Haircuts should be determined with regard to historical data, covering at least one period of market stress (if such data are unavailable stress conditions should be simulated). Apart from asset price risk, haircuts should reflect other types of risks as well (e.g. large exposure liquidation risk and wrong-way risk – adverse correlation between counterparty risk and its collateral exposure). It is important to avoid procyclicality, while setting haircuts. Haircuts should not automatically decrease in line with increasing asset prices or declining asset price volatility.

Further on, the FSB proposes that the numerical haircut floors should be applied to unregulated entities, i.e. those not subject to prudential regulation of capital adequacy and liquidity (e.g., non-banks in Russia's case), which receive financing from regulated entities. Haircut floors will be applied to non-centrally cleared transactions secured by various assets excluding government bonds.

In April 2013, the FSB launched a quantitative impact study to assess the potential implications of these recommendations for the market. The first stage of the study collected historical data from a small group of large financial intermediaries so as to calibrate the FSB's proposed minimum haircut recommendations. The second stage (started in late 2013) aims to assess the impact of the recommended haircuts on a wider community of market participants.

**Table 2. Proposed numerical haircut floors**

<b>Class and residual maturity of collateral</b>	<b>Haircut level</b>	
	<b>Corporate and other issuers</b>	<b>Securitised products</b>
≤ 1 year debt securities and floating-rate bonds	0.5%	1%
>1 year, ≤ 5 years debt securities	1%	2%
>5 years debt securities	2%	4%
Equities	4%	
Other assets	7.5%	

FSB proposals to set haircut floors are actively discussed. On the one hand, they may fail to address procyclicality of haircuts, because transactions secured by non-government securities account for only a fraction of the market in most jurisdictions. On the other hand, they may create further incentives for regulatory arbitrage if their implementation is not even across all the jurisdictions. Final proposals on this issue are expected by the second quarter of 2014.

## 2. ALLOCATION OF CASH FLOWS AND MARKETABLE ASSETS

### 2.1. Evolution of potential collateral value under Bank of Russia refinancing operations

Given persistent high banking sector demand for refinancing operations, a larger securities market will help to alleviate the shortage of marketable collateral. In this context, debt securities issuance is especially important given that bonds traditionally dominate the portfolios of Russian credit institutions, while getting significantly lower haircuts in Bank of Russia repo transactions.

The possibility to post bonds to secure central bank financing stimulates further demand for bonds and boosts issuance in the securities market.

In the fourth quarter of 2013, the issuing activity in the bond market was the highest compared with the previous quarters. The total bond issue in the Russian market almost hit 1 trillion rubles (while in the previous quarters, it was about 0.5-0.6 trillion rubles). Meanwhile, corporate Eurobonds issuance was also quite high (0.3 trillion rubles), albeit lower than in the first and in the second quarters (0.5 trillion rubles). The net corporate bond issuance (less repayments) was 0.4 trillion rubles in the fourth quarter.

**Table 3. Issuance of securities in IV quarter of 2013**

Type of security	Par value issuance volume, billions of rubles	Number of issues (auctions)
OFZs	299	1 new issue (24 auctions for 7 issues)
Municipal bonds	51	14 issues
Corporate bonds	632	101 issue
<b>Total, domestic market</b>	<b>982</b>	<b>116 issues</b>
Corporate Eurobonds	333	79 issues
<b>Total</b>	<b>1,315</b>	<b>195 issues</b>

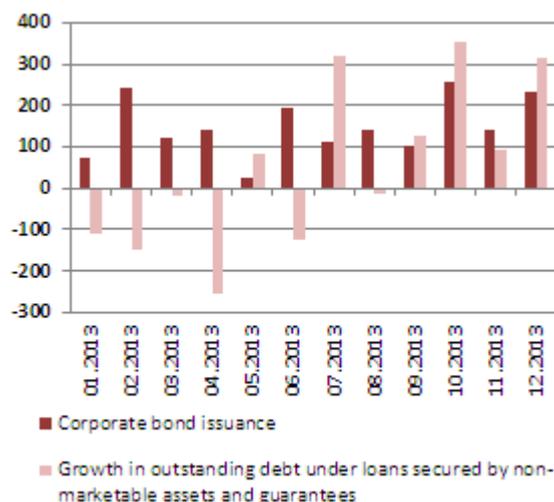
Sources: Minfin, CBONDS, Bank of Russia estimates.

Starting from the second half of 2013, credit institutions increased their central bank funding against non-marketable assets, resulting in partial replacement of their central bank repo debt. It was largely achieved through the new Bank of Russia refinancing facility – auctions to provide floating-rate lending against non-marketable assets.

Data indicate that this measure did not result in any weaker bond issuance (that might have been expected due to lower demand for securities). In October-December 2013, the issuance of corporate debt was higher than in the previous months, while the value of debt under Bank of Russia loans secured by non-marketable assets and guarantees showed strong growth (Chart 15). The issuance of domestic corporate bonds was 21 percent higher than in the fourth quarter of 2012, i.e. the higher issuance in October-December cannot be attributed to purely seasonal factors. The

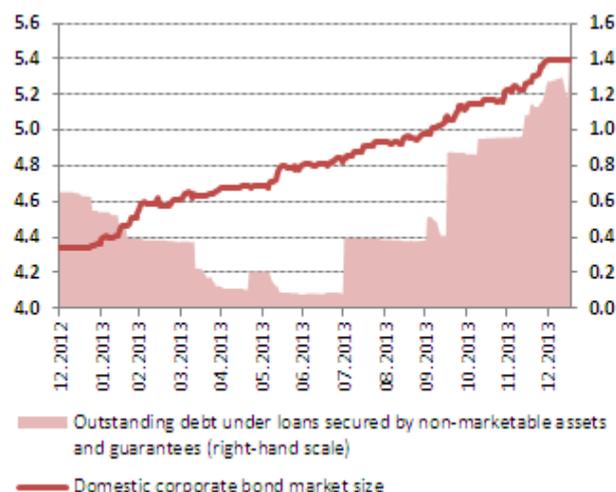
corporate bond market continued its robust growth, expanding by 0.6 trillion rubles in the second half of 2013 (Chart 16).

**Chart 15. Growth in banks' outstanding debt under Bank of Russia loans secured by non-marketable assets and guarantees vs. domestic corporate bond issuance, billions of rubles**



Sources: Bank of Russia estimates, CBONDS.

**Chart 16. Corporate bond market vs. banks' outstanding debt under Bank of Russia loans secured by non-marketable assets and guarantees, trillion of rubles**



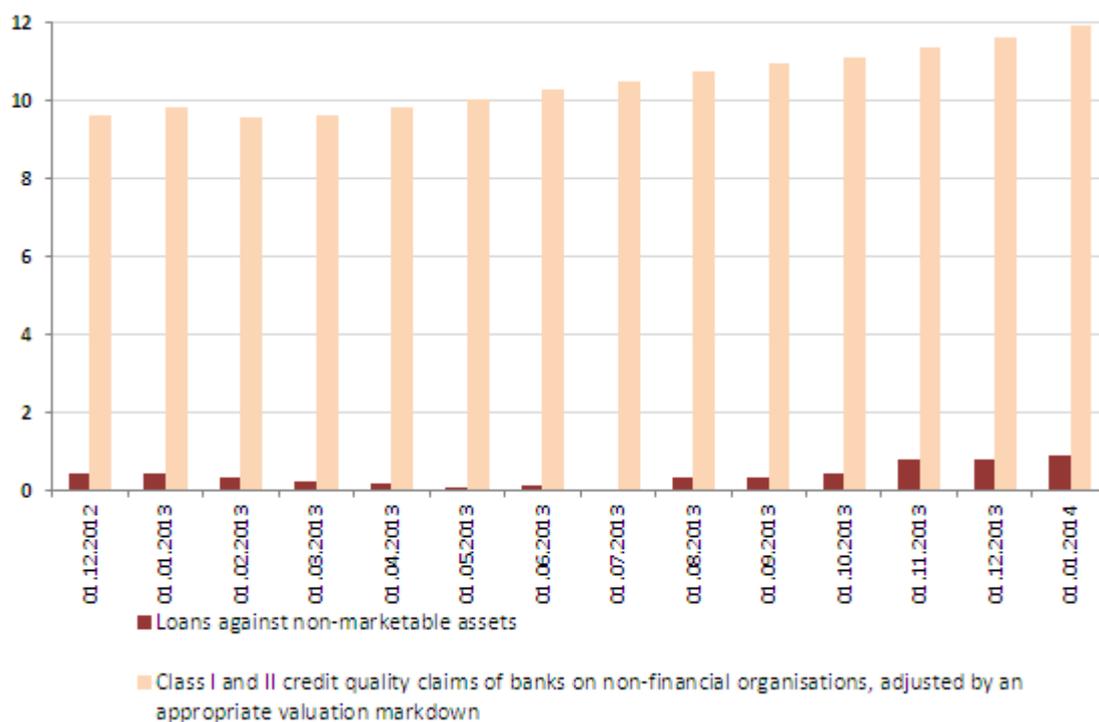
Sources: Bank of Russia estimates, CBONDS.

Overall, it may be presumed that wider refinancing against non-marketable assets and guarantees can hardly suppress bond market issuance activity in the current environment of squeezed liquidity. Banks receive Bank of Russia funding largely through repo transactions, generating steady demand for securities and increasing marketable collateral utilisation ratios (see Section 2.2).

To get refinancing against non-marketable assets, banks use credit claims (on non-financial organisations) of credit quality classes I and II. At this point in time, the total value of these assets (with appropriate valuation markdowns applied to loans) is much larger than the refinancing facilities against non-marketable assets (Chart 17). In particular, as of 1 January 2014, the total banks' outstanding debt secured by non-marketable collateral accounted for less than 10 percent of the total claims of credit quality classes I and II on non-financial organisations<sup>5</sup>. This implies there is room for more funding than the Bank of Russia could provide to credit institutions against non-marketable assets, including new assets on the list of 'accommodative collateral'.

<sup>5</sup> Moreover, it should be noted that Bank of Russia Regulation No. 312-P 'On the Procedure for Extending Bank of Russia Loans Covered by Assets or Guarantees to Credit Institutions' sets forth certain requirements for credit contracts (credit claims) intended to be used as underlying collateral for loans against non-marketable assets (specifically, the borrower in this case should be a Russian resident entity, the credit contract should not restrict any transfer of claims, and the credit claims should not be encumbered by the borrowing bank's obligations to a third party). Besides, class II credit claims shall be subject to a Bank of Russia check to ascertain that they satisfy the requirements for the borrower's financial health. In this context, some class I and II credit claims will not qualify as eligible collateral to secure loans against non-marketable assets. Therefore, the actual borrowing capacity using this instrument will be narrower than the volume of class I and II credit claims held by banks.

**Chart 17. Credit claims of credit quality class I and II\* on non-financial organisations and loans against non-marketable assets issued to credit institutions, trillions of rubles**



Sources: Bank of Russia estimates. Note: the volume of credit claims is adjusted by valuation markdown of 0.5 (the largest markdown applied to loans secured by non-marketable assets).

### Box 3. Meeting of the Russian Ministry of Finance and the Bank of Russia with foreign OFZ holders

Before 2012, OFZs were mostly held by Russian residents. This state of things started to change in the second half of 2012, in anticipation of the government securities market liberalisation. When the Russian central depository established a nominee account for foreign clearing houses in early 2013, foreign investment flooded into the Russian market (Chart 18).

These changes in the composition of government debt holders require revised approaches to interaction between investors, the issuer and the regulator. In this context, the Russian Ministry of Finance and the Bank of Russia decided to hold a joint meeting with foreign OFZ holders in December 2013 to discuss investment attractiveness of the Russian market of government debt and prospects of the Russian economy.

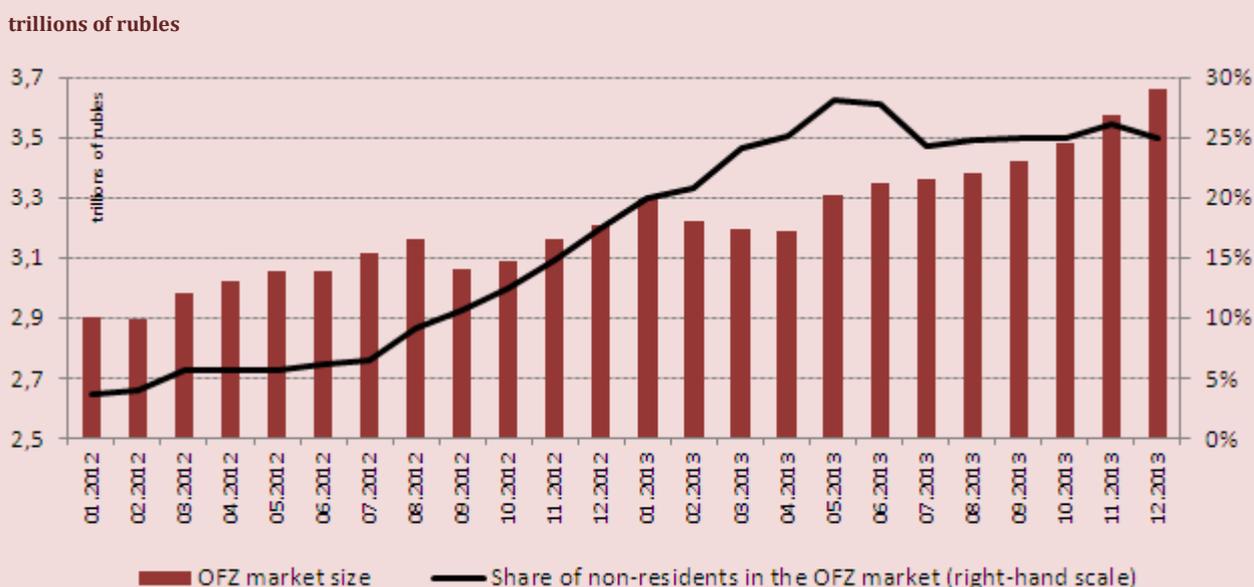
The outcomes of the meeting suggest that the foreign investor base is quite diversified, with participants who pursue varying investment strategies. In their decision-making investors are mostly guided by the ruble exchange rate and interest rate behaviour in various financial market segments.

The meeting participants agreed that the current presence of foreign investors in the government debt market ensures effective price discovery, while not resulting in the market's excessive dependence on global conditions and sentiments of participants in global financial markets. Looking ahead, foreign investments may be expected to expand, facilitated by OFZ inclusion in global bond indices (for more detail see Appendix).

The meeting discussed potential directions of further development of the Russian financial market. Investors emphasized the importance of developing hedging instruments for long-term interest rate risks. This suggests the need to develop money market benchmark rates that would appropriately reflect the conditions in its medium-term and long-term segments.

Foreign investors noted some lacking of statistical data for the Russian government debt market. In this context, the Russian Ministry of Finance and the Bank of Russia intend to continue cooperation to enhance government debt market statistics. The Bank of Russia plans to shortly start publication of monthly data on the OFZ holder structure and market shares of foreign investors by maturities.

Chart 18. Par value size of the OFZ market and share of non-residents



Source: Russian Ministry of Finance, the Bank of Russia.

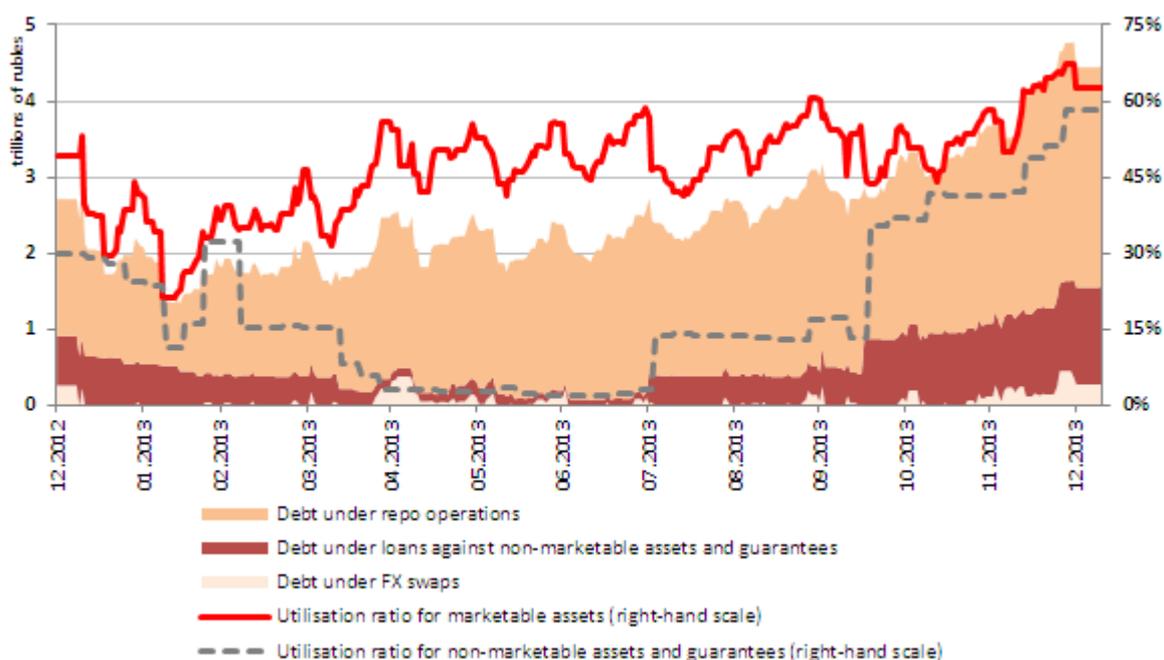
## 2.2. Banks' collateral adequacy

The Bank of Russia gives particular emphasis to regular assessments of collateral adequacy amid persistently high levels of credit institutions' debt to it under refinancing facilities.

In the fourth quarter of 2013, the banking sector's debt under central bank lending grew faster than available collateral, pushing utilisation ratios up. In the reference period, the utilisation ratio for marketable assets was mostly hovering around 55 percent, exceeding 65 percent by the end of 2013. The utilisation ratio for non-marketable assets and guarantees went beyond 50 percent by that time. This rise in utilisation ratios is driven by the usual year-end higher demand for liquidity, suggesting its seasonal nature.

**Chart 19. Outstanding debt of credit institutions to the Bank of Russia and collateral utilisation ratios in 2013**

trillions of rubles



### 3. MONEY MARKET IMPLICATIONS OF BANK OF RUSSIA REHABILITATION OF THE BANKING SECTOR

#### 3.1. Impact of Bank of Russia actions to rehabilitate the banking sector on money market volumes and rates

In the fourth quarter of 2013, the Bank of Russia continued its efforts to rehabilitate the banking sector. Among other actions, it withdrew banking licences from a number of banks, including a few mid-sized institutions. These events did not impact the money market directly, because the closed banks did not have any significant money market exposures. For each of these banks, their net debt to market ratio did not exceed 0.2 percent (Table 4).

**Table 4. Interbank market positions of banks closed in IV quarter 2013**

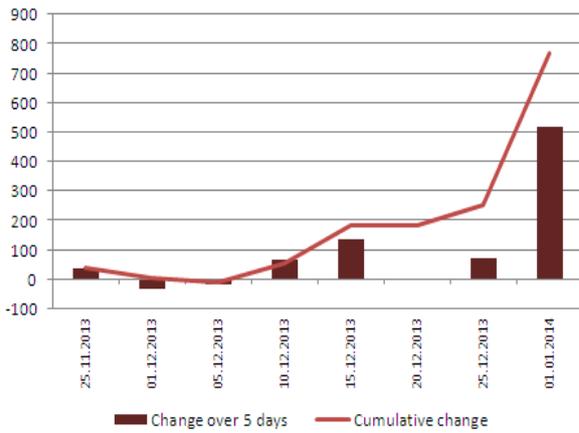
Name of bank	Licence number	Date of licence revocation	Lending volumes, billions of rubles	Borrowing volumes, billions of rubles	Net borrowing (borrowing less lending), billions of rubles	Net borrowing to interbank market size
National Republican Bank	3359	07.10.2013	—	0.0	0.0	0.0%
KBTs	914	14.10.2013	0.0	—	0.0	0.0%
Bank Razvitiya Regiona	3315	14.10.2013	0.0	0.0	0.0	0.0%
Printbank	546	25.10.2013	—	—	0.0	0.0%
First Express Bank	3237	28.10.2013	0.0	0.4	0.4	0.1%
Stroiindbank	155	11.11.2013	0.6	0.0	-0.6	-0.2%
Volga-Kama Bank	282	11.11.2013	—	0.1	0.1	0.0%
Uralliga	1626	20.11.2013	0.0	0.0	0.0	0.0%
Master Bank	2176	20.11.2013	0.6	1.1	0.5	0.1%
Naftabank	715	28.11.2013	0.0	0.1	0.1	0.0%
VSB	2428	02.12.2013	—	0.1	0.1	0.0%
Investbank	107	13.12.2013	1.6	1.3	-0.3	-0.1%
BPF	1677	13.12.2013	0.0	—	0.0	0.0%
Smolensky Bank	2029	13.12.2013	0.0	0.5	0.5	0.1%
Rublevsky Bank	2192	24.12.2013	—	—	0.0	0.0%
Askold Bank	2480	24.12.2013	0.4	0.1	-0.3	-0.1%

Source: reporting form 0409501, Bank of Russia estimates.

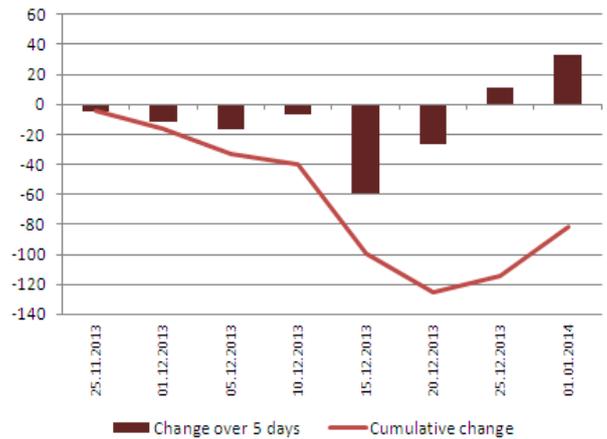
However, these closures have had an adverse information effect, causing flight to safety of some bank clients. This effect was largely provoked by false reports that the Bank of Russia was planning further licence revocations. Despite the Bank of Russia's measures to explain its policies, some depositors started transferring their funds to larger banks, thus increasing their total retail liabilities (Chart 20). Meanwhile, retail liabilities of banks outside the largest bank class moved in the opposite direction<sup>6</sup> (except for the end of December), creating some money market tension (Chart 21).

<sup>6</sup> It should be noted that TOP 30 banks traditionally tend to build up their retail liabilities in December compared with the rest of the banking sector. In December 2012, retail liabilities of the TOP 30 increased by 7 percent, while those of the rest of the banking sector added 3.3 percent. This trend was only amplified by the negative information effect.

**Chart 20. TOP 30 banks' retail liabilities**

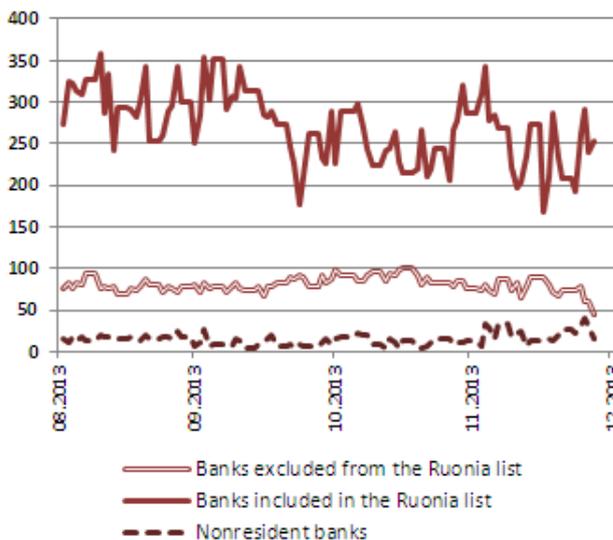


**Chart 21. Retail liabilities of the rest of the banking sector (excluding TOP 30)**

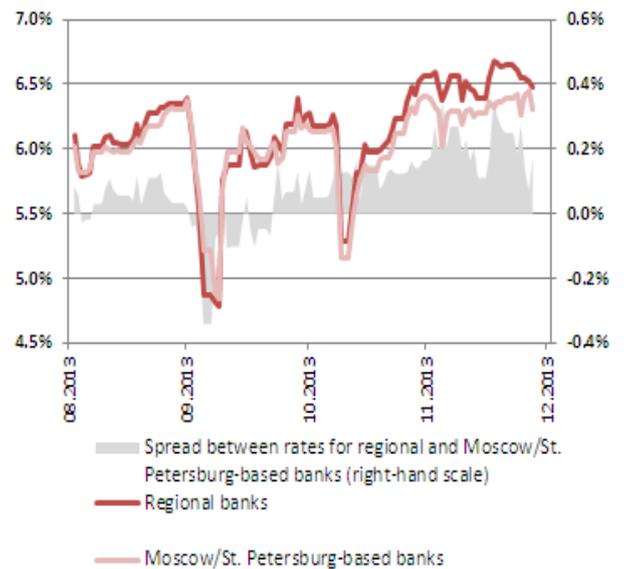


These developments caused structural changes to money market rates by groups of banks. While the total market size stayed unchanged both for the whole banking sector and by groups of banks (Chart 22), the spread between borrowing rates for Moscow/St. Petersburg-based banks and for regional banks was widening visibly (Chart 23). While in November-December 2012 this spread never exceeded 0.1 pp on average, in November-December 2013 it could reach 0.3 pp. However, it would pose no threat of a systemic disruption of the market. Moreover, it should be noted that the rise in interest rates was partially related to the usual seasonal factors of temporary nature. As the conditions come back to normal, this spread should revert to its earlier reading.

**Chart 22. Interbank borrowing volumes, billions of rubles**



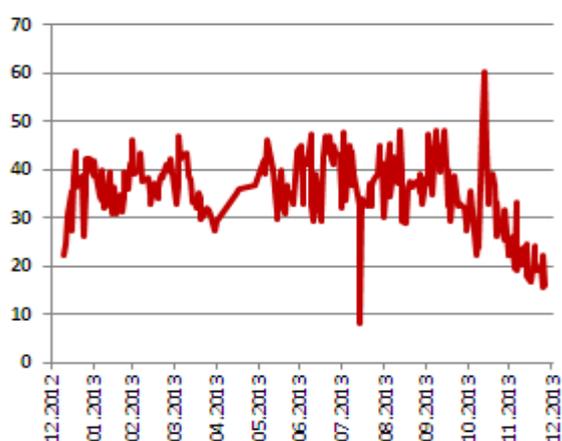
**Chart 23. Interbank borrowing rates**



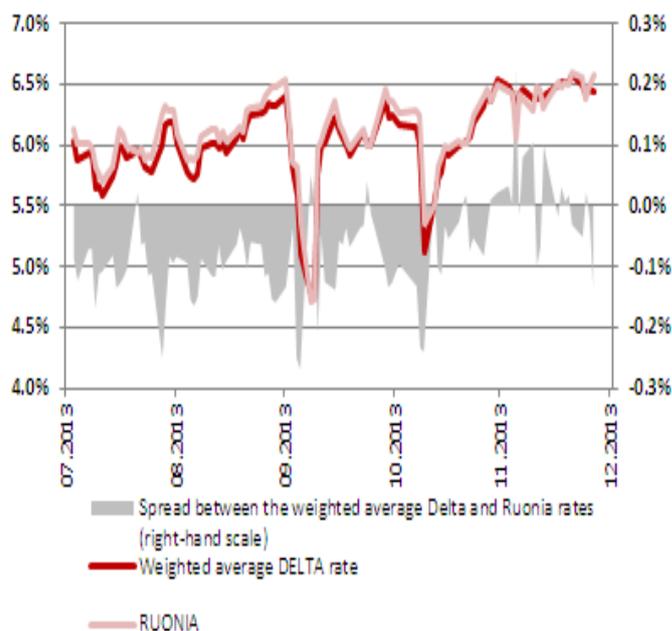
Data from the Delta system, which serves small and mid-sized banks, also suggests changing market conditions. These data show a significant contraction of trading volumes, as trade about halved in November-December (Chart 24). This development was paralleled by a rise in the weighted average rate in the Delta system, resulting in a narrowing spread between this rate and Ruonia rate (Chart 25).

It should be also noted that most of the time the Delta weighted average rate was lower than the Ruonia rate. This may be explained by Delta's centralised and open nature, which brings the trading environment closer to perfect competition. Furthermore, Delta mostly serves small and mid-sized transactions, while Ruonia transactions are rather large. Given that, only few market participants can supply large volumes of cash, the cost of this funding rises, as reflected by higher Ruonia rates.

**Chart 24. Delta trade volume, billions of rubles**



**Chart 25. Delta and Ruonia weighted average rates**



Therefore, in the review period, smaller banks faced restricted access to interbank loans to support their liquidity needs. However, this did not have any significant impact on the overall money market conditions due to the small volumes of this activity. Moreover, it should be noted that the money market is not yet fully developed, and the Bank of Russia will be working to enhance its efficient operation, which should facilitate expansion of money market trade volumes.

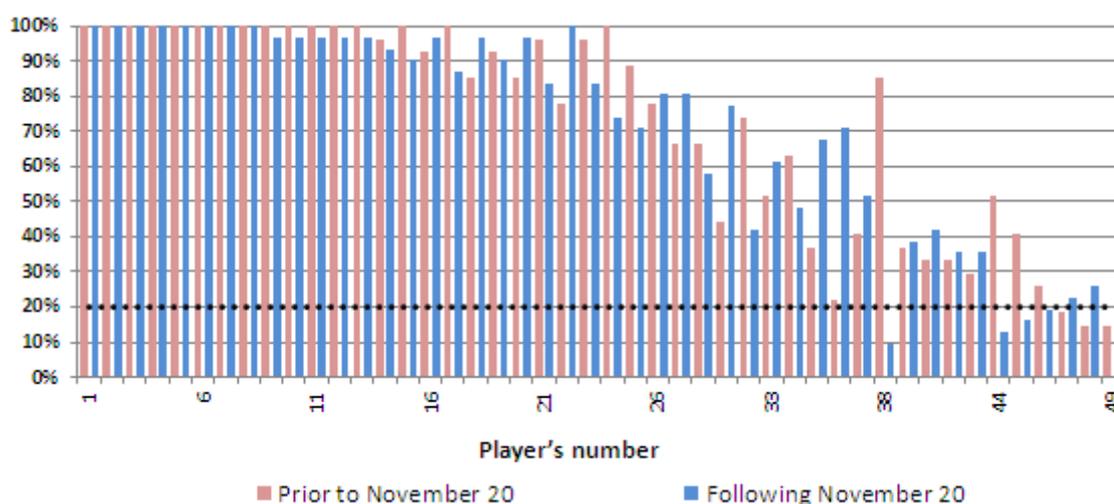
### 3.2. Impact of Bank of Russia actions to rehabilitate the banking sector on money market liquidity allocation

As it was noted in the previous section of the Review, the rehabilitation of the banking sector did not have any overall implications for the money market as a whole, while impacting its structure by groups of participants. This section discusses the impact of these decisions on the money market core and periphery.

The money market core refers to a group of participants with a dense network of linkages and large volumes of intragroup trade. Only two linkages distance any core participant from any potential defaulter. Therefore, core participants can amplify and propagate shocks to their counterparties. All the other market participants make up the periphery, featuring a weak intragroup connectivity. In the core-periphery model<sup>7</sup> the bulk of liquidity flows through the core.

The Bank of Russia estimates that in the fourth quarter of 2013, the money market core included 39 participants, with 8 non-banks (Chart 26)<sup>8</sup>.

**Chart 26. Frequency of inclusion in the core over 27 business days**



November 20 – when Master Bank lost its licence – is a watershed for any core-periphery analysis of the money market. Further analysis will compare money market metrics before and after this date.

<sup>7</sup> The core/periphery model for the Russian money market draws on the methodology set forth in a paper by S.P Borgatti and M.G. Everett, Models of core/periphery structures // Social Networks, 2000. – No. 21 – pp. 375-395. The core was identified using the Kernighan-Lin algorithm (Kernighan B. W., Lin S. An efficient heuristic procedure for partitioning graphs // Bell Systems Technical Journal, 1970. – No. 49 – pp. 291-307).

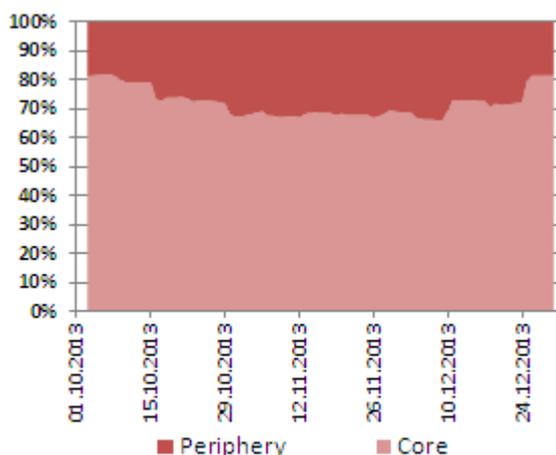
Using the Borgatti-Everett method, the money market core was identified for each day of the fourth quarter of 2013. Chart 26 presents the statistics for participants' inclusion in the core over 27 business days before November 20 and over the same period after November 20. The group whose frequency of inclusion exceeds 20% is relatively stable, as it differs across these two periods only by three participants. Therefore, this group will be considered as the core group for the fourth quarter. It includes 39 participants, with 8 of them non-banks.

<sup>8</sup> The core was identified for each day of the fourth quarter (all the trades in the up-to-7-day maturity bucket were included), and then participants showing over 20% of inclusion rate were singled out. Chart 26 shows that this is a relatively stable group, as it varies by a mere 3 participants.

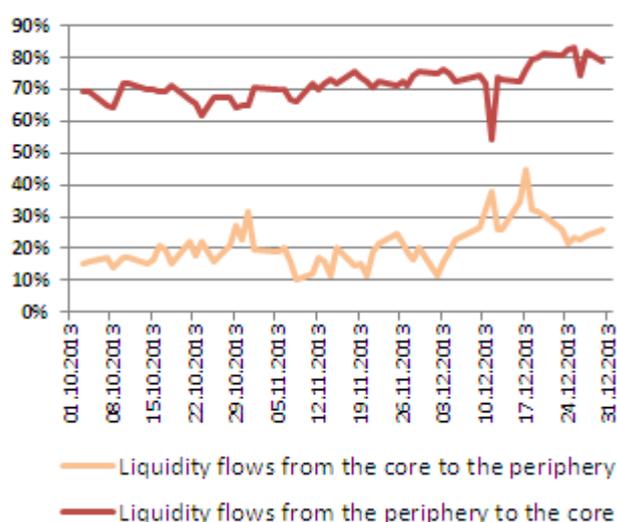
After 20 November 2013, money market behaviour of the core and of the periphery changed in the following way.

- *The need of the periphery for central bank liquidity persisted.* In the second half of 2013, 71.9 percent of liquidity was injected in the core, while 28.1 percent went to the periphery. After 20 November the cash flow to the periphery increased by 0.9 pp to make it 29 percent, while the flow to the core decreased by 0.9 pp respectively down to 71 percent.

**Chart 27. Money market borrowings by its core and periphery participants from the Bank of Russia**

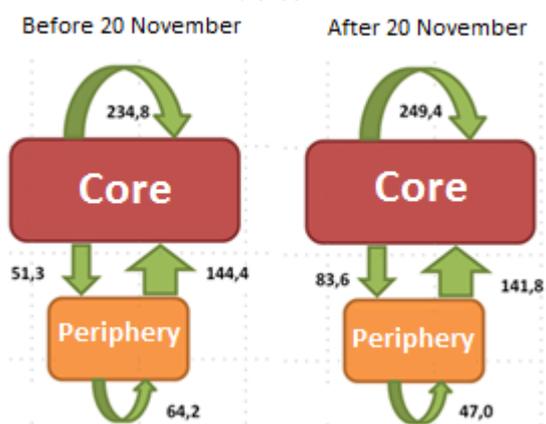


**Chart 28. Borrowings by core and periphery participants in total money market liquidity**

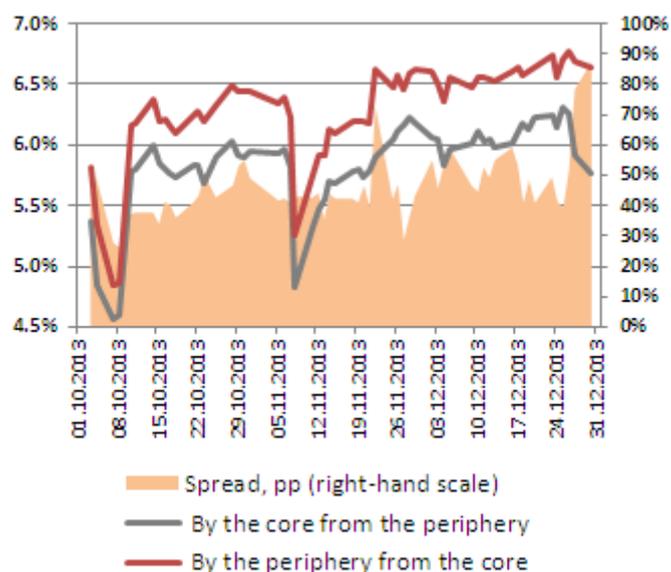


- *Liquidity flows from the core to the periphery intensified.* The average daily liquidity flow from the core to the periphery increased by 60 percent to 83.6 billion rubles, while the flows within the periphery decreased by 26 percent to 47 billion rubles. Scarce liquidity in peripheral banks fuels demand for loans from the core. While before 20 November the liquidity flow from the core to the periphery accounted for at least 10.3 percent of the total money market liquidity, after 20 November it increased by 5.8 pp to make 16.1 percent, as the intraperipheral flows declined from 13 percent (prior to 20 November) to 9 percent (after 20 November).
- *The spread between the lending rates offered by core banks to peripheral institutions and the reverse widened.* Against the backdrop of strengthening credit demand of the core in the second half of the fourth quarter, the spread between the lending rates for the core and for the periphery increased by 0.09 pp to 0.05 pp. Thus, the borrowing cost for the periphery stood at 6.6 percent, while for the core it was at 6.1 percent in the period under review.

**Chart 29. Average daily liquidity flows in the money market in IV quarter of 2013, billions of rubles**



**Chart 30. Weighted average overnight borrowing cost**

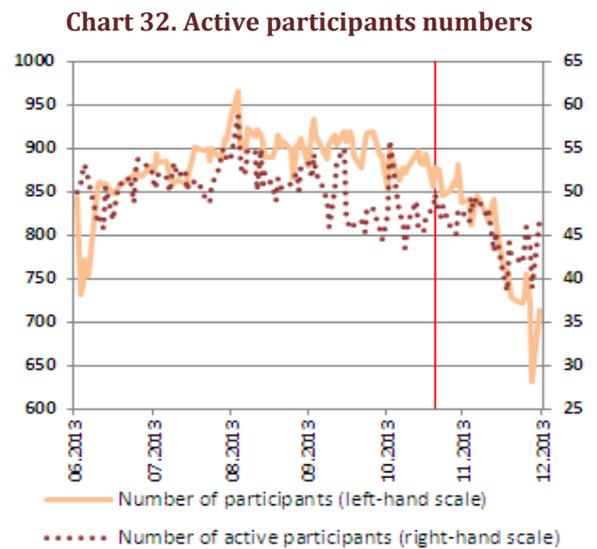
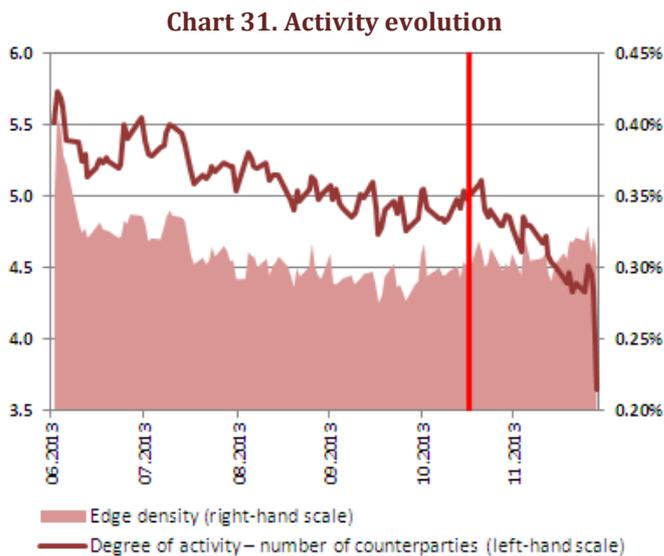


### 3.3. Impact of Bank of Russia actions to rehabilitate the banking sector on money market network indicators

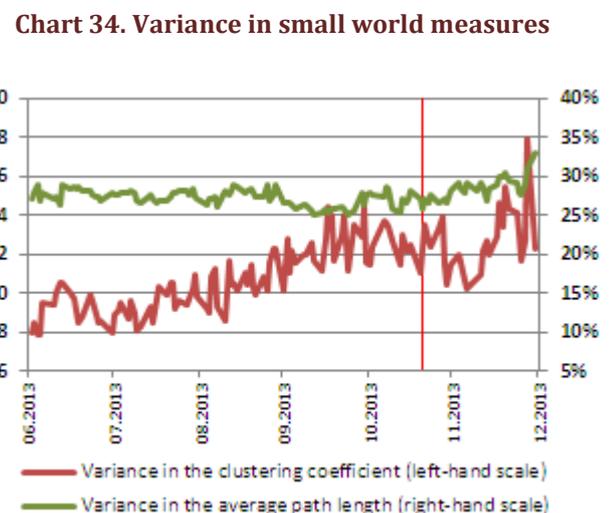
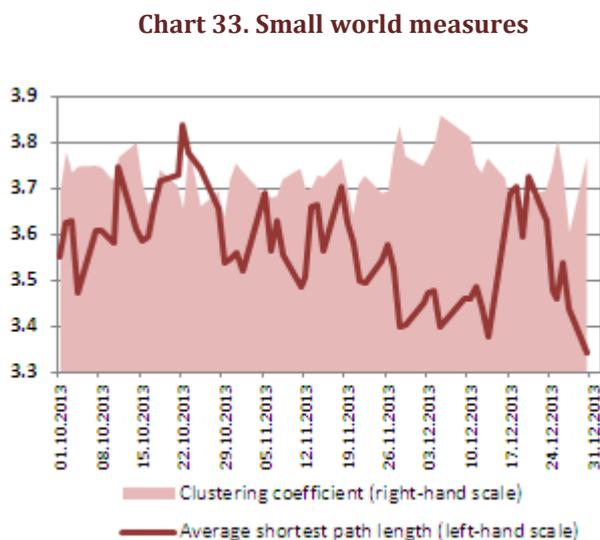
The impact of Bank of Russia's policy to rehabilitate banking sector on the money market may be measured on the basis of network analysis. This analysis reveals changes in the interaction between money market participants and assesses its potential risks.

The estimates suggest a decline in the activity of a 'typical' money market participant. Specifically, the average number of counterparties (borrowers and lenders) decreased from 5.1 in the third quarter and in the first half of the fourth quarter (prior to 20 November 2013) to 4.6 after 20 November 2013 (Chart 31). Declining activity did not impact the network edge density<sup>9</sup>, which measures the degree of money market integration. It stayed at 3.1 percent, which is accounted for by the contraction of the average number of money market participants from 884 (from 1 July to 20 November) down to 800 in the second half of the fourth quarter of 2013 (Chart 32). The average number of active participants, responsible for the bulk of liquidity flows in the money market, declined by 5 down to 45 players, which remains 5.7 percent of the total money market participants.

<sup>9</sup> *Edge density* – is the ratio of the number of edges in an undirected binary graph of the money market to the maximal number of possible edges in a complete graph; takes values from 0 to 1; describes the degree of integration in the money market (the closer this metric is to 1, the more fragmented and less centralised the market will be).



Following 20 November 2013, the money market did not come much closer to a small world network<sup>10</sup> – a network featuring high speed of shock transmission, with a small average path length in the market edge and a high probability of shock amplification as it travels through the money market network (high clustering coefficient). This indicator increased marginally from 0.10 in the first half of the fourth quarter of 2013 to 0.11 in the second half of this quarter, while the average path length declined from 3.6 to 3.5 linkages (the maximum path length declined from 9.7 to 9 linkages), see Chart 33.

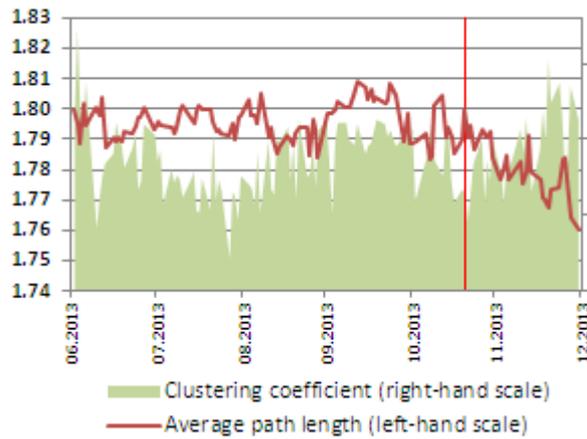


However, variance of small world measures increased significantly (Chart 34), suggesting that there is a separate group of players. On the one hand, they can amplify shocks as they spread in the market network, and, on the other hand, they are highly susceptible to any potential shocks that

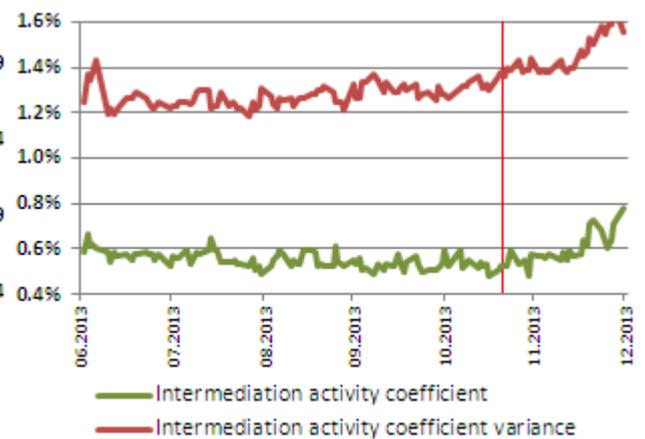
<sup>10</sup> The small world is characterised by a small average path length and dense subgroups (high clustering coefficient).

can emerge in the system. Therefore, this group of participants actually makes up a small world within the big world of the money market network.

**Chart 35. Small world measures for the TOP 20 active participants**



**Chart 36. Intermediation activity measures**



Changes in the money market fragmentation are captured by the intermediation activity indicator, when there is an accidental shock, which reveals participants' propensity for shock transmission. In the second half of the fourth quarter of 2013, this measure was 3.5 percent higher than in the period from the third quarter of 2013 to the middle of the fourth quarter of 2013, while its variance soared by 13.5 percent in the same period. This fact evidences increased significance of individual participants in potential shock transmission. However, this change has not made any material impact on the potential size of domino effects in the money market.

## 4. MONEY MARKET INFRASTRUCTURE DEVELOPMENT

### 4.1. Extension of NCC toolkit for CCP repos

Starting from February 2013, the Moscow Exchange trades CCP-cleared repos. In these trades, the central counterparty (CCP) guarantees settlement, and, therefore, even if the counterparty defaults on its obligations, the CCP will satisfy the non-defaulting counterparty. CCP deals may be negotiated either via a trade blotter or directly. While in early 2013 almost all the trades were made via a blotter, by mid-December over 60 percent of them were conducted directly.

Chart 37. CCP repos

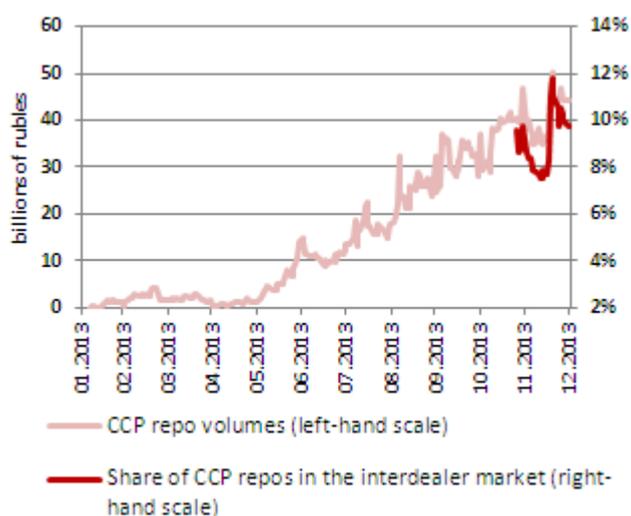
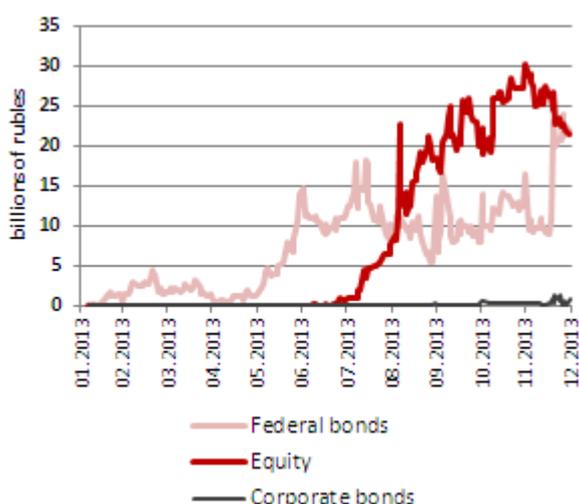


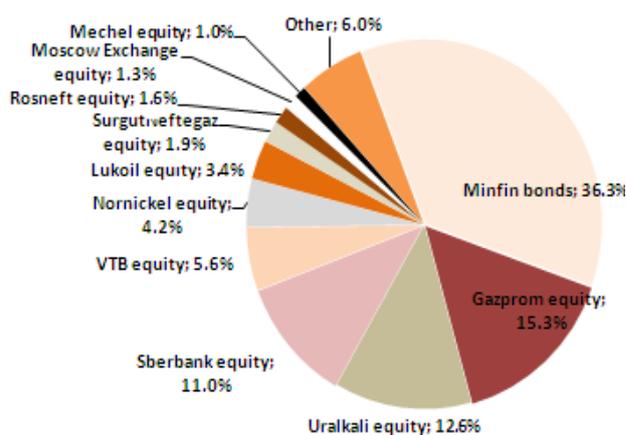
Chart 38. CCP repo volumes by type of collateral



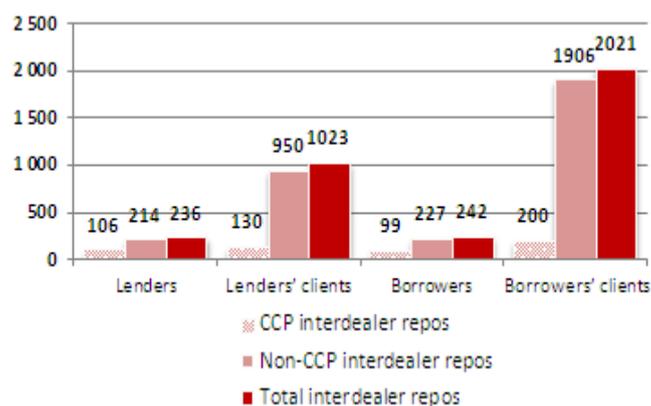
Starting from June 2013, CCP repo volumes were steadily increasing. By the end of December, the daily CCP repo turnover reached 50 billion rubles or 12 percent of total outstanding interdealer repos (Chart 37). Most of the increase happened after equity was included in the list of eligible securities in July 2013 (Chart 38). At present, equity trade accounts for over a half of the market, with the rest taken up by government bond trade (Chart 39). Corporate bonds are not widely used in CCP repos because CCP-imposed haircuts were somewhat higher than the market average.

By December 2013, CCP repos were traded by a wide community of participants (about 100 companies), both on the lender and on the borrower side (Chart 40). However, clients of these participants were less willing to engage in CCP-cleared trade: the number of clients using CCP trade is dozens of times smaller than the total number of clients in the interdealer market. It should be also noted that the CCP market features a higher share of trade between non-banks and a lower share of trade between banks compared to the non-CCP interdealer market. Apparently, the former may be attributed to the relatively higher counterparty risk associated with this type of financial intermediation.

**Chart 39. Equity used as collateral for CCP repos by issuer**



**Chart 40. Number of clients in the interdealer repo market**



## 4.2. Assessment of NCC financial soundness

On 18 October 2013, the Bank of Russia concluded that the management of the National Clearing Centre (hereinafter, the NCC), which plays the role of a central counterparty, was satisfactory. At present, the NCC is the first qualified central counterparty in Russia.

The Bank of Russia undertook a quality assessment of NCC management in line with Ordinance No. 2919-U, dated 3 December 2012, 'On the Assessment of the Management Quality of the Credit Institution Acting as the Central Counterparty'. The requirements set forth in this Ordinance are consistent with the international principles for financial market infrastructures issued by the Committee on Payment and Settlement Systems of the Bank for International Settlements and the Technical Committee of the International Organisation of Securities Commissions.

In line with Bank of Russia Instruction No. 139-I, dated 3 December 2012, 'On Banks' Required Ratios', Russian banks for their capital adequacy (N1) purposes may apply lower risk weights to claims on a credit institution – central counterparty, if the Bank of Russia finds its management quality satisfactory.

This permission to apply lower risk weights to qualified central counterparties reflects the latest international initiatives in regulation. It will encourage credit institutions to use centralised clearing, which will help to alleviate systemic risks.

In October 2013, the NCC was recapitalised, as the Moscow Exchange purchased its additional equity issue for 9 billion rubles. As a result, the NCC increased its authorised capital to 15 billion

rubles, while its equity exceeded 27 billion rubles, and the capital adequacy ratio (N1) went up to 18.69 percent as of 1 December 2013.

In 2013, as part of its management and strategic planning, as well as equity capital and liquidity planning, the NCC developed and approved its Financial Recovery Plan – in line with standard international practice. According to the Basel Committee on Banking Supervision principles, each financial institution is supposed to have an action plan in place for crisis prevention, should it become necessary.

The NCC Financial Recovery Plan contains measures to prevent deterioration of its financial position, and also measures to recover its financial soundness and maintain uninterrupted discharge of its central counterparty functions.

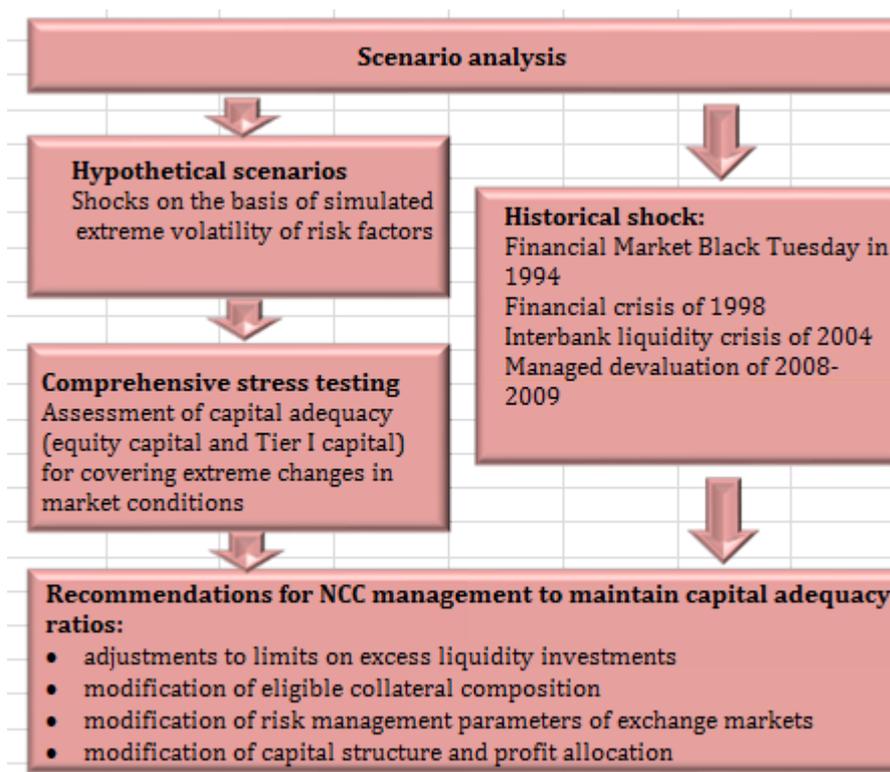
On 20 December 2013, Fitch Ratings upgraded NCC long-term ratings (issuer default rating and viability rating) from 'BBB-' to 'BBB' with a stable outlook, i.e. to the sovereign rating of the Russian Federation.

The NCC systemic risk management includes regular stress testing with the aim of assessing its financial soundness under various scenarios of significant changes in financial market conditions, or during extreme, but plausible events. The following risks should be stress tested:

- Economic risks associated with banking transactions (credit, FX, price, interest rate and liquidity risks);
- Specific risk of the NCC as a clearing institution and a central counterparty in the Moscow Exchange Group markets.

Stress testing is performed using historical shocks and contrived hypothetical scenarios. Sensitivity analysis is conducted by measuring how changes in a certain risk factor (ER, interest rates, financial instrument price volatility) impact the NCC's assets and liabilities. Moreover, the analysis allows making a comprehensive assessment of the impact that a worst-case risk scenario may have on the NCC if all the risk factors come into play simultaneously.

Chart 41. Stress testing of NCC financial viability



Source: The Moscow Exchange Group.

A stress test of the NCC financial health revealed that as of 1 December 2013, the regulatory capital adequacy ratio (N1stress) under the critical scenario was at 15.21 percent given the regulatory minimum ratio of 10 percent and the actual reading of 18.69 percent.

If the stress scenario materialises and the NCC incurs losses, it can use several safeguards. Their arrangements and volumes are described below in Table 5.

Table 5. CCP safeguards and their volumes

No.	CCP safeguards	Volume as of 01.01.2014, millions of rubles
1.	Individual clearing collateral and other collateral required by clearing rules* (CPP requirements)	99,423
2.	Guarantee funds:	3,639
2.1.	Fund to cover FX market risks	564
2.2.	Other guarantee funds	3,074
3.	CCP's own capital (including CCP's special-purpose own funds)**	28,775

\* excluding guarantee funds

\*\* as of 01.01.2014

Distribution of potential losses in case of CCP risk materialising in the Moscow Exchange Group markets as of 1 December 2013 is given in Table 6.

**Table 6. Distribution of potential losses under CCP risk materialising in Moscow Exchange markets as of 01.12.2013**

1	FX market	76%
2	Stock market, CCP repos	0%
3	Futures market	24%
4	OTC derivatives	0%

**Scenario:**

**Default by two clearing participants, with maximum losses as of the reporting date, under a shock materialising in Moscow Exchange markets**

**Short-term stress scenario parameters:**

1	Changed ruble value of the dual currency basket	-8%
2	Changed value of the Moscow Exchange stock index	20%
3	Changed volatility of prices for underlying assets for stock options	60%
4	Changed volatility of prices for underlying assets for FX options and commodity options	30%
5	Changed commodity prices	10%
6	Shift in interest rate	-3%

The results of the 2013 stress test indicate the NCC's capacity to maintain its overall financial viability without any threat to smooth operations.

## 5. APPENDIX: OVERVIEW OF OFZ INCLUSION IN GLOBAL BOND INDICES

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In 1990s, emerging market (hereinafter, EM) government debt markets were mostly limited to government borrowings in US dollars. In 2000s, these countries started to look for their domestic sources of financing and to issue bonds denominated in national currencies. Meanwhile, global investors were increasingly attracted to EMs in their search of higher returns and greater diversification.

Russian OFZs became more enticing for foreign investors from mid-2012, when Clearstream and Euroclear were given access to this market. The liberalisation facilitated inclusion of Russian OFZs in global government bond indices.

At present, Russian OFZs are predominantly included in emerging markets indices.

### **JPMorgan GBI-EM indices**

In response to global investors' increasing appetite towards EM debt, in June 2005, JPMorgan started to develop the ***Government Bond Index-Emerging Markets*** (GBI-EM). This index became the first emerging markets index with the largest global coverage. Russian OFZs were included in the index from the very beginning.

At present, the index includes government bonds of countries with no significant restrictions for foreign investors (14 countries). This is why the index got the title of ***Government Bond Index-Emerging Markets Narrow***.

However, the range of local currency government bonds that can be targeted by investors is much wider. Therefore, in just a few months, in January 2006, JPMorgan developed a broader index ***GBI-EM Broad***, spanning the countries where foreign investors face capital controls and other regulatory and tax hurdles. As of November 2013, this index spanned 18 countries.

November 2006 saw a further modification of the index ***GBI-EM Global***, which included only investable benchmarks, i.e. debt issued by countries with no capital controls. As of November 2013, it included the countries from GBI-EM Narrow plus Indonesia and Thailand.

All the 3 indices have, the so-called, Diversified versions (GBI-EM Div, GBI-EM Broad Div, GBI-EM Global Div), in which the prevailing shares of some countries were adjusted for a more even portfolio distribution.

It is noteworthy that JPMorgan discloses the weights assigned to countries captured by its indices, and they are publicly available. The weight of the Russian OFZs ranges from 4.44 percent (Broad) to 11.08 percent (Narrow) for the standard indices and from 0.32 percent (Broad) to 2.44 percent (Narrow) for their diversified versions.

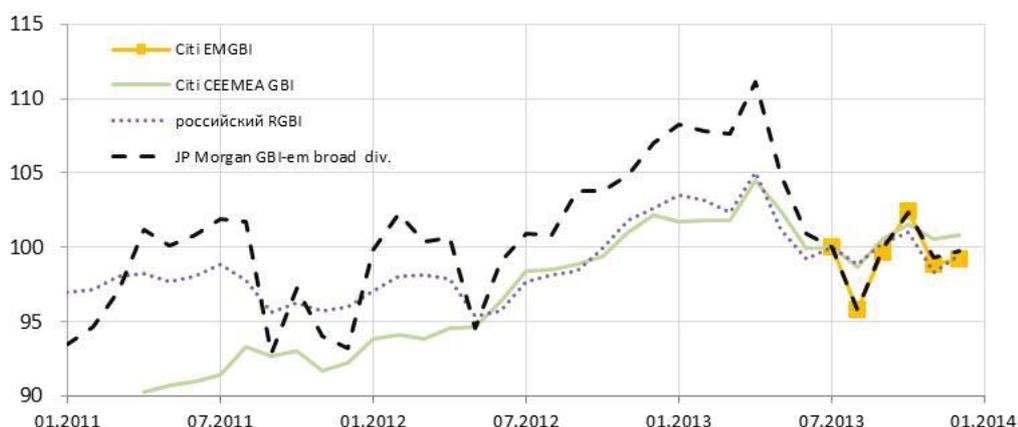
## Citigroup indices

Citigroup turned its attention to Russian debt instruments in 2012. In December 2012, it included Russia in its subindex *World Global Bond Index Additional Markets* for Europe, Middle East and Africa (EMEA), which tracks bonds of countries that do not yet qualify for the *World Global Bond Index*, but have good prospects for inclusion.

A few months later Russia was included in the index *CEEDEA Government Bond Index* for local currency government debt of Europe, Middle East and Africa, developed from September 2011. Apart from Russia, this index spans Czech Republic, Hungary, Turkey, Israel and South Africa. Russian OFZs account for 12.26 percent in this index.

In July 2013, Citigroup launched its *Emerging Markets Government Bond Index* (EMGBI). Currently, it includes bonds issued by 12 EM countries, with no restrictions on government bond transactions for non-residents. This index is virtually identical with GBI-EM Narrow JPMorgan; it excludes Nigeria, but includes Thailand. Russian OFZs account for 7.1 percent in this index.

**Chart 42. Local currency government debt indices, which include OFZs, 31.07.2013=100**



## Barclays indices

Barclays got interested in Russian OFZs in 2008, when it started using them in its EM *Local Currency Government Index*. Regrettably, complete information about Barclays indices is not publicly available. However, the composition of some of them can be derived from outside publications.

Barclays primary index is *EM Local Currency Government Index*, in which OFZs account for about 5 percent among the other 23 countries as of the end of 2012.

Apart from EM Local Currency Government Index, Barclays develops various modifications of the primary index: with an extended list of countries and currencies (EM Local Currency Government Universal Index including government bonds of 26 countries), and with a more even distribution of shares (EM Local Currency Government Diversified и 10 percent Country Capped Index) and others.

Starting from April 2014, ruble-denominated OFZs will be included in the flagship global aggregate index (*Global Aggregate Index*), developed by Barclays for 24 countries. In this index, Russian OFZs will take up 0.17 percent.

It may be expected that the inclusion of Russian OFZs in a global index will increase the market liquidity and capital inflow in this segment of the Russian market.