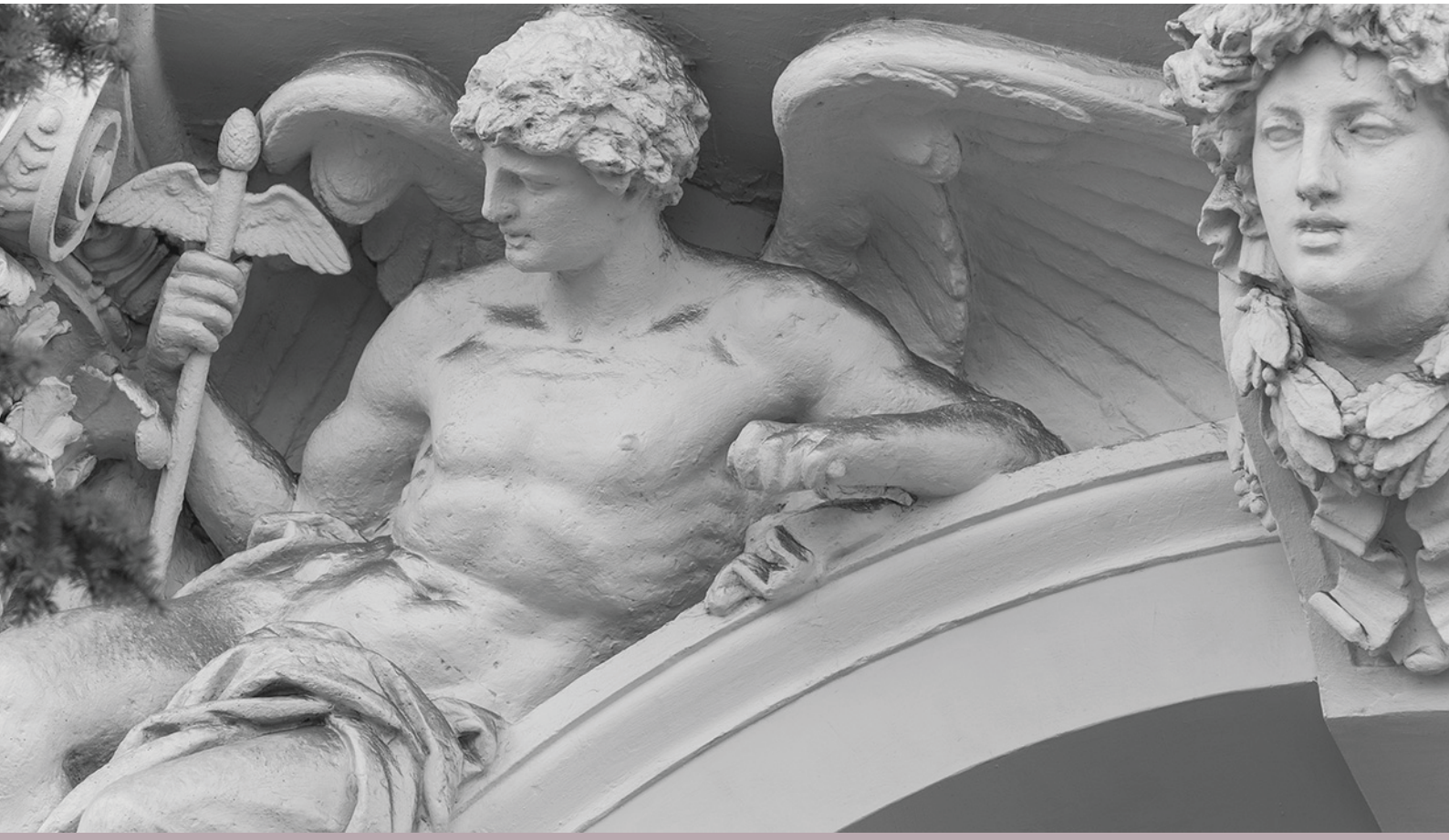
Bank of Russia

The Central Bank of the Russian Federation



No. 4

2017 Q3

Information and Analytical Review

FINANCIAL MARKET RISKS REVIEW

MOSCOW

This review was prepared by the Bank of Russia Financial Stability Department.

The statistical data used in the review as well as the methodological comments are published on the Bank of Russia's website in the Financial Stability section (*http://www.cbr.ru/analytics/?Prtid=fin_stab*).

Notes, comments and suggestions regarding the structure and contents of the review can be sent to *reports@cbr.ru*.

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AIM OF THE FINANCIAL MARKET RISKS REVIEW

In accordance with Article 452 of Federal Law No. 86-FZ, dated 10 July 2002, 'On the Central Bank of the Russian Federation (Bank of Russia)', the Bank of Russia monitors the situation in the Russian financial market, among other things, to identify conditions threatening the financial stability in the Russian Federation. To inform financial market participants and other stakeholders of the monitoring results and identified risks, the Bank of Russia publishes this Financial Market Risk Review (the 'Review') on a quarterly basis.

The ultimate objective of this Review is to promote financial stability with regard to minimising systemic risks by increasing transparency of the financial market. The availability of more information regarding financial market structure and trends will help market participants to understand and assess their own risks better. Moreover, the Bank of Russia aims to inform market participants about potential collective consequences of their individual decisions in case of systemic effects.

The Review structure includes the description of the situation and risks in the financial markets by the following key segments: money market, foreign exchange market, securities market, and derivatives market. At the same time, the Review focuses on identifying and analysing trends related to the accumulation and/or occurrence of risks as well as describing their potential consequences from the financial market stability standpoint. Therefore, some of the presented issues are cross-cutting and concern the operation of the financial market as a whole.

When performing its functions as a mega-regulator, the Bank of Russia monitors the situation and identifies operational risks in the financial market across different sectors because, first, most major financial market participants are members of financial groups, which requires conducting a cross-sectoral analysis. Second, market participants usually conduct operations in different financial market segments simultaneously, and therefore, it is necessary to evaluate the aggregate risks of such operations.

The combination of the chosen financial market segments and the cross-sectoral approach to the identification and analysis of risks determines the matrix information presentation structure. This structure provides for the description of individual financial market segments while the issues regarding the analysis of potential risks and their potential occurrence can touch upon the adjacent financial market sectors and have systemic consequences.

The Review is not an official publication of the Bank of Russia but an information and analytical material dedicated to the analysis of the situation and assessment of risks in the financial markets during the reporting period. The Review is published in the electronic form in Russian and English on the Bank of Russia's website.

SUMMARY

In Q3, the situation in the Russian financial market remained positive. In the money market, the prevailing trend was growing aggregate volume of open positions of market participants whereas individual segments saw increased borrower concentration risks. The securities market saw net foreign capital inflow despite the adoption of the US law on potential restrictions on operations with the Russian sovereign debt. Also, non-residents did not increase their activity in the FX forward market to hedge ruble softening risks. The forthcoming replacement of LIBOR with new benchmarks by the British regulator is a long-term risk for the interest rate instruments market.

Money market

- In 2017 Q3, the volume of open positions in the Russian money market tended to increase. All three money market segments saw higher volume of transactions for the term of over 1W amid lower inflation and interest rates as well as sustained liquidity surplus in the Russian banking sector. Longer duration of liquidity placement instruments was accompanied in the reporting period by the Bank of Russia's offer of 3-month Bank of Russia coupon bonds (COBRs). Over 40% of allocated funds were provided by banks ranked beyond top-50 by assets.
- The increased amount of borrowings by banks with a negative liquidity position[1] was the distinctive feature of the third quarter. Unlike the first two quarters of 2017, when the negative liquidity position tended to shrink, the third quarter saw a significant increase in borrowings, primarily, by PJSC Bank Otkritie Financial Corporation and PJSC B&N Bank, to which the Bank of Russia had later to apply financial rehabilitation measures. The situation in the money market remained stable and was characterised by decreasing interest rates volatility.
- A substantial growth in the central counterparty (CC) repo market[2] was also a factor leading to a higher negative liquidity position of certain market participants in 2017 Q3. For the most part, the growth took place in the ruble repo segment where it reached a historic maximum since the CC repo operations were launched in February 2013. In the first three quarters of 2017, this segment grew by nearly 40%, which greatly exceeds the dynamics of other CC market segments. At the same time, the CC repo market is characterised by increased concentration of borrowers and pledged assets. Despite the fact that the above mentioned concentration risks are mostly neutralised by the quality of collateral, the Bank of Russia is considering the possibility to tighten the maximum concentration risk ratio N5cc for NCC with regard to pledged assets[3].
- The segment of repo with clearing participation certificates (CPC) also surged after in July 2017 non-financial companies received access to direct allocation of funds in the money market, becoming one of the main group of creditors in the CPC repo market.
- In July – August 2017, the FX liquidity was generally positive. In September 2017, amid gradual repayment of funds borrowed earlier from the Bank of Russia under FX repo transactions, the activity of

[1] A liquidity position is positive when the amount of funds placed in the money market and invested in the instruments of the Bank of Russia (Federal Treasury) is greater than the amount of borrowings. Otherwise, the position is considered negative.

[2] Pursuant to Article 271 of Federal Law No. 7-FZ, dated 7 February 2011, 'On Clearing, Clearing Activities and Central Counterparty', the Bank of Russia decided to assign a central counterparty status to the non-bank credit institution / central counterparty- JSC Bank National Clearing Centre, effective 28 November 2017, which is the date its banking licence was issued and clearing licence was reissued.

[3] In accordance with Bank of Russia Instruction No. 175-I, dated 14 November 2016, 'On Banking Operations of Non-bank Credit Institutions, Central Counterparties, on the Required Ratios of Non-bank Credit Institutions, Central Counterparties, and the Specifics of Exercising Supervision over Their Compliance by the Bank of Russia'.

market participants in the interdealer FX repo market grew. At the same time, the composition of sellers of foreign currency under FX swap transactions changed. Major banks providing services to exporters (traditional providers of FX liquidity) somewhat decreased their positions taking into account lower volume of their liquid foreign currency assets and liabilities. As a result, on certain days in September the basis (the spread between ROISFix and NFEA Swap Rate) approached 140 bp. Amid rising foreign currency interest rates, on certain days the FX swap mechanism of the Bank of Russia, which acts as the automatic market stabiliser, was applied. It was already in early Q4, when the net supply of traditional FX liquidity providers returned to its natural level, and the market regained balance.

Securities market

- The third quarter of 2017 saw net foreign capital inflow into the domestic sovereign debt market. In many aspects, the growth in non-residents' investments was in line with the global trend of increasing expansion of capital into the emerging markets. At the same time, the reaction of market participants to the adoption of the US law on anti-Russian sanctions was subdued. The improving situation in the Russian economy and lower credit risks of local borrowers helped to boost the attractiveness of Russian assets. On 22 September 2017, the international rating agency Fitch improved the outlook on Russia's long-term local- and foreign-currency issuer default ratings from stable to positive.
- The share of non-residents' investments in OFZ increased from 30.4% as of 01 July 2017 to 33.2% as of 01 October 2017. The growth in non-residents' investments in OFZ was unevenly distributed by the instrument maturity. The share of foreign investments in OFZ with the duration of 5 years increased by 7.1 pp, 8 years – by 6.8 pp, and 10 years – by 18.2 pp. The significant increase in investments with the maximum duration is based on both material growth in the supply of such issues at OFZ auctions and the consistent downward trend in inflation and inflation expectations. Despite the shift in non-residents' demand towards high-duration securities, 2017 Q3 saw a swing in the yield curve, which, by the end of the reporting period, assumed a traditional (positive) shape.

OTC derivatives market

- The analysis of non-residents' activity in the FX forwards market makes it possible to conclude that 2017 Q3 did not see a significant increase in their demand for operations to hedge ruble softening risks. This fact may indicate that market participants view ruble softening risks amid the normalisation of Fed's monetary policy as well as risks of tightening sanctions against Russian sovereign debt as insignificant.
- An important trend in 2017 Q3 was observed in the growing amount of positions in the cross currency swap market. The increase in the volume of swap transactions was observed in operations of different categories of participants, including USDRUB operations of non-financial companies and non-residents. At the same time, the increase in cross-border cross currency swap positions was not significant as compared to the scale of business of Russian participants.
- An analysis of market stability against ruble softening risk was conducted. In case of a stress, investors face negative revaluation of their positions, and non-financial organisations incur the largest losses. The main part of such losses are borne by major Russian companies that have enough foreign currency revenue to hedge potential risks. However, non-financial organisations should pay attention to the need to control their FX exposure.
- One of the long-term risks that can affect the participants of the global interest rates instruments market is the planned replacement of LIBOR indicators with new benchmarks by the British regulator. According to FCA (Financial Conduct Authority), by the end of 2021 LIBOR will no longer be officially published and SONIA will replace it as the key market indicator. Further LIBOR publishing by participating banks will be possible on a voluntary basis only.
- In the Russian derivatives market, a large volume of transactions has been concluded based on LIBOR. In particular, 82.2% of the volume of floating-rate cross currency swaps and 73.7% of the volume of

interest rate swaps are linked to LIBOR. Moreover, more than 97% of the volume of floating-rate deals with the settlement date after 2021 (nearly 20% of the current volume of floating-rate instruments) have been concluded based on LIBOR. Despite the long transition period, which will partially mitigate risks and costs related to the expected changes, market participants should pre-emptively develop agreed approaches to the implementation of new benchmarks in existing financial contracts before the official calculation of LIBOR indicators in use today has been ceased.

1. MONEY MARKET

1.1. Liquidity and segmentation risks in the money market

In 2017 Q3, an increased activity of market participants in certain money market segments amid positive market conditions and low liquidity risk levels was observed. After a short-term decrease in the amount of positions in 2017 Q2, in the reporting period they practically returned to the level achieved by the end of 2017 Q1 and exceeded RUB 12 trillion (Chart 1). The growth was primarily due to the increase in the volume of medium- and long-term (over 1W) transactions in all three money market segments: interbank loans (IBL), swaps and repo. The volume of transactions for the term of up to 1W in the above money market segments did not see significant changes in the reporting period.

The maximum growth was observed in the segment of medium- and long-term interbank loans: their share in the total amount of money market transactions went from 22 up to 28%. The share of open positions in the repo market increased from 25 to 29%, and in the swap market, from 15 to 16% (Chart 2). The growth in the volume of medium- and long-term interbank loans was observed on the back of favourable inflationary developments, falling interest rates, and continuing liquidity surplus in the Russian banking sector.

The continuing liquidity surplus in the Russian banking sector lead to the increased amount of deposits placed by credit institutions with the Bank of Russia. In 2017 Q3, deposits with the Bank of Russia grew by 61.6% exceeding RUB 1 trillion by the end of the reporting period (Chart 3).

Taking into account the trend that the stable component of credit institutions' balances as deposits with the Bank of Russia was increasing, a COBR placement auction was conducted in the reporting period. The total demand of credit institutions was RUB 173.6 billion (with RUB 150 billion offered). The bonds were purchased by different groups of banks, including those beyond top-50 by assets (their share was over 40%), which confirms that liquidity risks remain low.

In the reporting period, credit institutions placed excess liquidity not only in Bank of Russia instruments but also in the money market. The total amount of ruble liquidity placed during the reporting period in the interbank loans, repo and swap markets for all maturities rose by RUB 600 million and exceeded RUB 3 trillion by the end of 2017 Q3 (Chart 4).

Chart 1

Dynamics of open positions in the Russian money market (RUB bn)

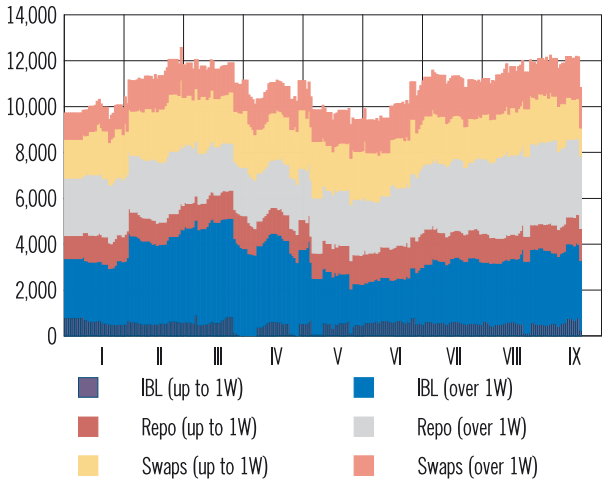


Chart 2

Distribution of open positions by instruments in 2017 Q3 (%)

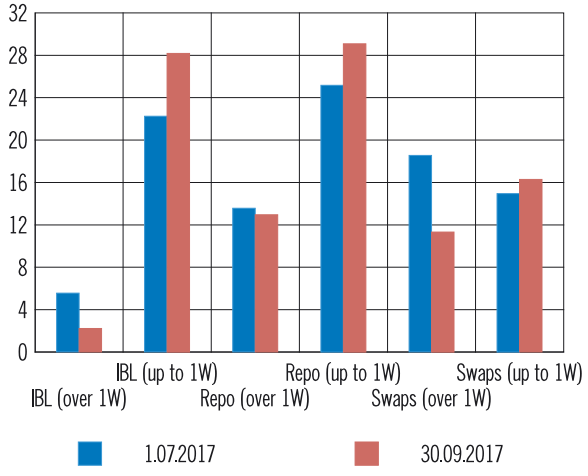


Table 1

Allocation of placed amount of Bank of Russia coupon bonds by groups of buyers (RUB bn)

Group of buyers	Allocated amount
Systemically important credit institutions (SICI) with state participation	24.9
SICI with participation of private investors	22.5
SICI with non-residents' participation	10
Other top-50	31.3
Not in top-50	61.3

Chart 3

Credit institutions' claims to the Bank of Russia under liquidity absorption instruments (RUB bn)

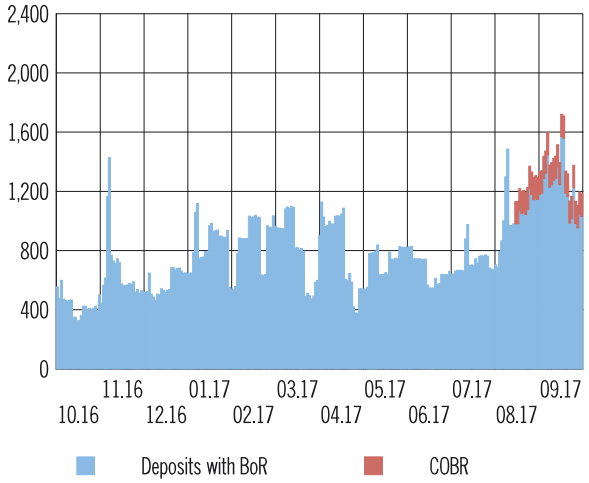
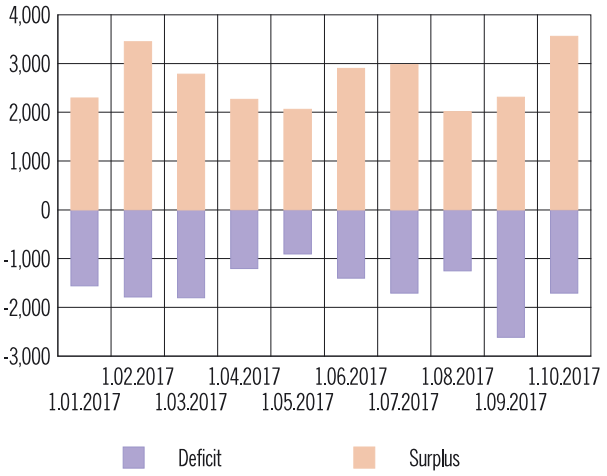


Chart 4

Distribution of liquidity by banks (RUB bn)



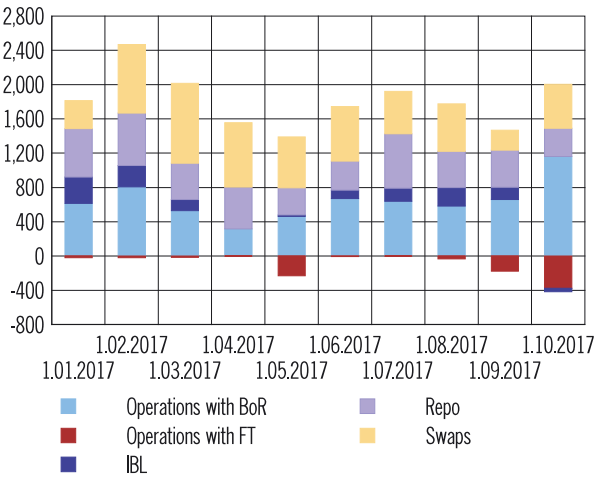
The largest contribution to the total amount of funds placed in the money market and Bank of Russia instruments was provided by operations of banks with a positive liquidity position[1]. The growth in the amount of funds placed by this category of banks was also accompanied by increased borrowing under operations with the Federal Treasury (FT). At the same time, this fact does not indicate higher liquidity risks of individual banks because the maturities of these financial instruments are usually different (Chart 5).

One of the distinctive features of the reporting period was a significantly increased absolute position of banks with a negative liquidity position. Unlike the first two quarters of 2017, when the negative liquidity position tended to shrink, the third quarter saw a significant increase in borrowings by banks with a negative liquidity position (Chart 6). This growth was supported by increased borrowing from both the Bank of Russia and the CC repo market (see Subsection 1.2).

The increase in the borrowing from the Bank of Russia via fixed-rate repo operations was also

Chart 5

Structure of operations of banks with a positive liquidity position (RUB bn)



[1] *A liquidity position is positive when the amount of funds placed in the money market and invested in the instruments of the Bank of Russia (Federal Treasury) is greater than the amount of borrowings. Otherwise, the position is considered negative.*

Chart 6

Structure of operations of banks with a negative liquidity position (RUB bn)

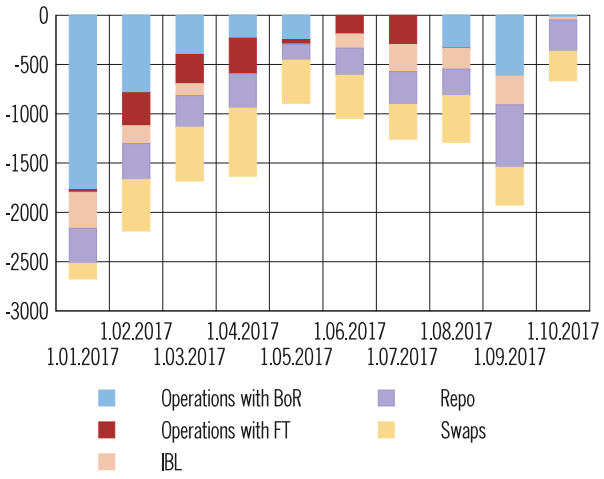


Chart 7

Debt of credit institutions to the Federal Treasury and the Bank of Russia (RUB bn)

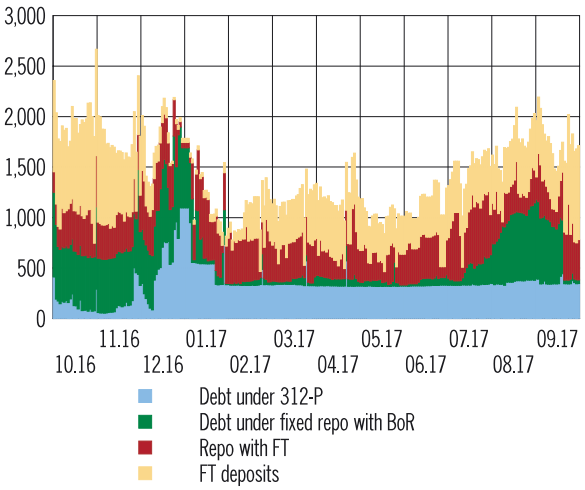


Chart 8

Distribution of open positions by instruments in 2017 Q3 (RUB bn)

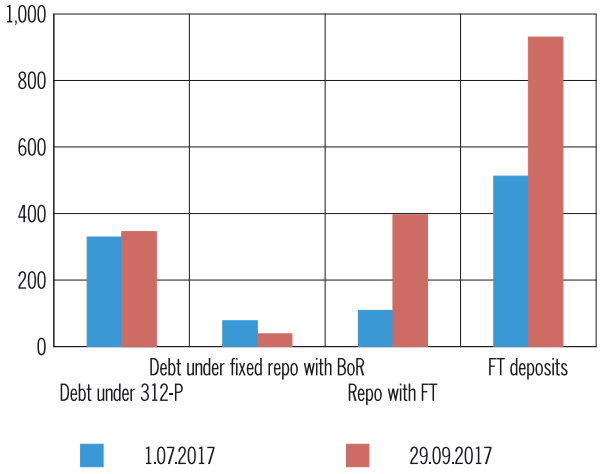
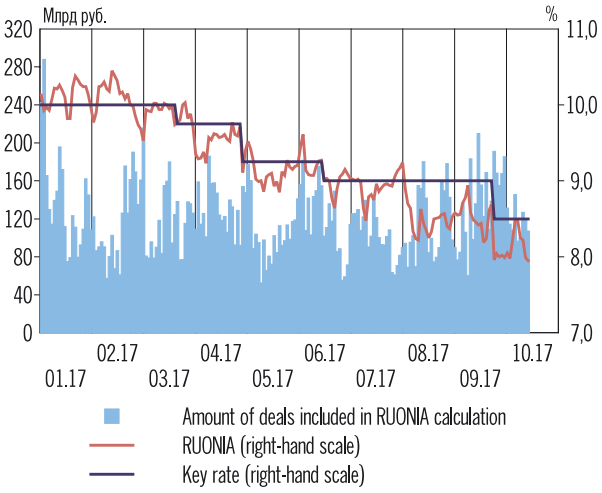


Chart 9

Key rate, RUONIA, and the amount of deals in banks participating in RUONIA calculation



observed. The demand for the above instrument during the quarter was fuelled chiefly by PJSC Bank Otkritie Financial Corporation and PJSC B&N Bank[2]. The amount of fixed-rate repo operations surged from RUB 103.1 billion as of 30 June 2017 to RUB 653.2 billion as of 1 September 2017 falling to RUB 43.8 billion by the end of the reporting period. The amount of obligations of the above mentioned banks under repo operations shrank because they received financial support from the Bank of Russia as part of their resolution. The amount of borrowing under other Bank of Russia instruments did not see significant changes (Chart 7).

In contrast to the amount of borrowing from the Bank of Russia, which did not see significant changes as of Q3-end, an increase in the borrowing of funds from the Federal Treasury was observed. During the reporting period, the amount of FT funds in bank deposits surged by 81.6% reaching RUB 930.78 billion by the quarter-end. At the same time, the amount of borrowing from FT via repo increased almost fourfold and reached RUB 400 billion (Chart 8). However, these dynamics do not indicate that the banking sector has become more dependent on budgetary funds because the amount of FT borrowing in general corresponds to the average level of previous periods (in 2016 Q4 it was even higher).

[2] *See the Bank of Russia Financial Stability Review for 2017 Q2 and Q3 for the detailed analysis of reasons for and consequences of the financial rehabilitation of these banks.*

In general, despite the significant growth in the amount of borrowing from the Bank of Russia and FT, the situation in 2017 Q3 remained stable and was characterised by low liquidity risks (Chart 9).

1.2. Expansion of CC repo market

In 2017 Q3, banks increased their borrowing not only from the Bank of Russia and FT but also in the money market, and primarily in the CC repo segment. For the most part, the growth took place in the ruble repo segment where it reached a historic maximum since CC repo operations were launched in February 2013 (Chart 10 and 11). In the first three quarters of 2017, this segment grew by nearly 40%, which greatly exceeds the dynamics of other CC market segments.

The growth of this repo market segment in the reporting period was fuelled mainly by operations of a limited number of participants. Thus, almost a half (46.4%) of the CC repo market was occupied by the two largest borrowers as of Q3-end. At the same time, the CC repo market faces a relatively high concentration of pledged assets. These risks are generally mitigated by the high quality of collateral, which contains mostly bonds of major Russian issuers. However, in order to curb these concentration risks, the Bank of Russia is considering the possibility to tighten the maximum concentration risk ratio N5cc for NCC with regard to pledged assets[3].

A distinctive feature of the reporting period was a significant increase in the activity of participants in the CPC (clearing participation certificate) repo market. If in July – August 2017 the average daily volume of CPC repo transactions was about RUB 10–30 billion, by the end of September 2017 it exceeded RUB 60 billion. In Q3, the average daily turnover was RUB 27.9 billion for O/N repo and RUB 1.9 billion for 2 to 7 days repo transactions. CPC repo operations for 8 to 30 days were not in demand (Chart 12).

The aggregate open position in the CPC repo market reached RUB 71.6 billion as of Q3-end. This growth in the turnover and open positions was caused by, among other things, the access of non-financial organisations to the placement of available funds in the money market from July 2017. If in July 2017 the share of non-financial organisations in the total amount of deals in the money market was 12%, it rose to 37% in August – September. Therefore, in 2017 Q3, non-financial organisations became one of the most important group of creditors in the CPC repo market.

The CPC repo segment, as well as the CC repo market in general, is characterised by an increased borrower concentration. By September 2017, the largest CPC repo borrower accounted for more than a half of the market, however in the next period of the reporting quarter its share dropped to

Chart 10

Monthly turnover of CC repo deals in 2017 Q1–Q3 (RUB bn)

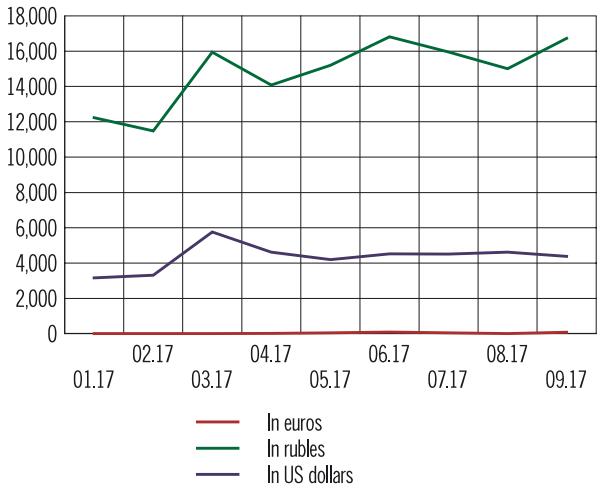
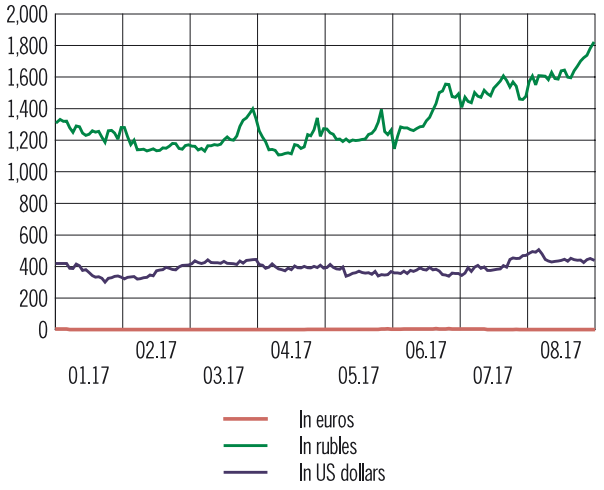


Chart 11

Dynamics of open CC repo positions in 2017 Q1–Q3 (RUB bn)



[3] *In accordance with Bank of Russia Instruction No. 175-I, dated 14 November 2016, 'On Banking Operations of Non-bank Credit Institutions, Central Counterparties, on the Required Ratios of Non-bank Credit Institutions, Central Counterparties, and the Specifics of Exercising Supervision over Their Compliance by the Bank of Russia'.*

Chart 12

CPC repo deals turnover in 2017 Q3 (RUB bn)

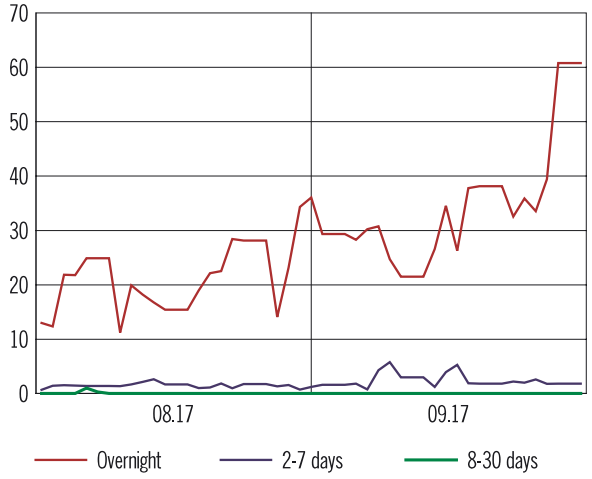


Chart 13

Dynamics of open CPC repo positions in 2017 Q3 (RUB bn)

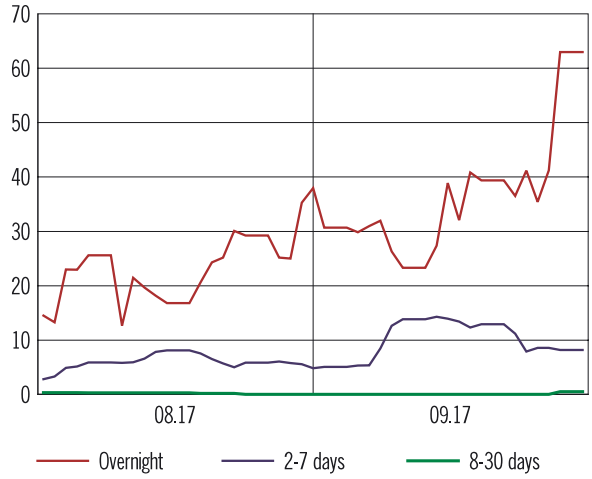


Chart 14

Shares of first five borrowers that are clearing participants at weekly trading (%)

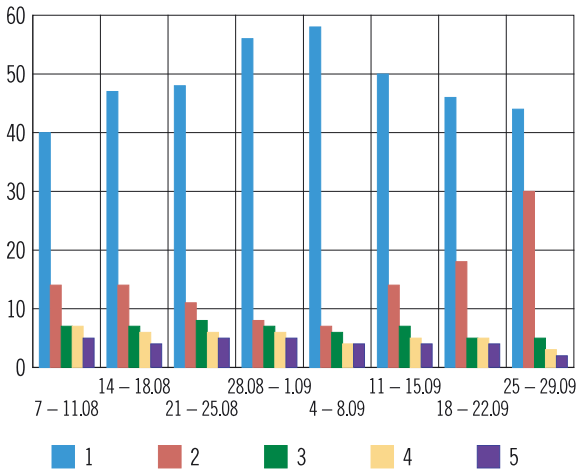
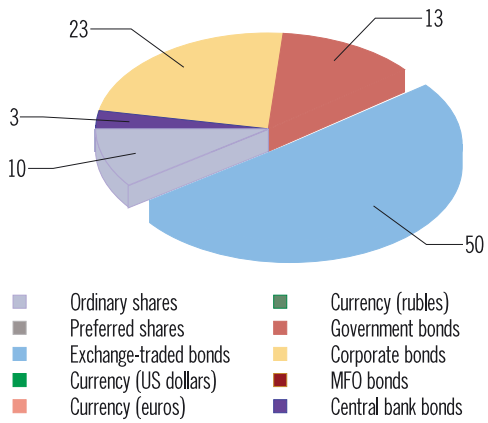


Chart 15

Collateral structure by asset types as of Q3-end (%)



45% (Chart 14). At the same time, since the beginning of September, the share of the second largest borrower also started to rise, reaching almost 30% as of Q3-end.

However, potential risks related to CPC repo operations are limited due to the availability of collateral and NCC's conservative margin policy. As of Q3-end, the collateral in the CPC repo market included mainly corporate bonds (78%), more than a half of which were exchange-traded (Chart 15). Besides, other popular types of collateral in CPC transactions were government bonds (13%) and shares (6%). In general, the collateral in the CPC repo market was characterised by a relatively stable structure and high credit quality that complied with the requirements of Bank of Russia Ordinance No. 2919-U, dated 3 December 2012, 'On the Assessment of the Management Quality of a Credit Institution Acting as a Central Counterparty', which in many aspects mitigates potential risks of high concentration of positions of large participants.

It is worth noting that, pursuant to Article 271 of Federal Law No. 7-FZ, dated 7 February 2011, 'On Clearing, Clearing Activities and Central Counterparty', the Bank of Russia decided to assign a central counterparty status to the non-bank credit institution / central counterparty JSC Bank National Clearing Centre, effective 28 November 2017, which is the date its banking licence was issued and clearing licence was reissued.

The Bank of Russia's decision to assign a central counterparty status to the NCC is part of the regulatory reform the Bank of Russia is enacting in the field of central counterparty operations. As part of this reform, amendments were made to Federal Law No. 7-FZ, dated 7 February 2011 'On Clearing, Clearing Activities and Central Counterparty' aimed at better regulation of central counterparty operations based on their global operating standards as well as the central counterparty's risk profile.

Under the newly introduced special regulatory regime for the central counterparty institute as a non-bank credit institution, the current supervisory regime applicable to such institutions will be unchanged including in terms of intensity.

Following the NCC's status change to become a non-bank credit institution and its assignment of a central counterparty status, its management quality should still comply with the requirements of Bank of Russia Ordinance No.2919-U, dated 3 December 2012, 'On the Assessment of the Management Quality of a Credit Institution Acting as a Central Counterparty'. When management quality is found to be satisfactory, NCC clearing participants (clients) can continue to apply reduced risk ratios to calculate required ratios.

1.3. FX liquidity deficit risks

In 2017 Q3, the average volume of positions in the Russian money market, including the operations with the Bank of Russia, was USD 31 billion vs. USD 29 billion a quarter earlier. During the reporting period, due to decreased obligations to the Bank of Russia under FX repo transactions, the volume of FX money market (excluding the operations with the Bank of Russia) tended to grow.

Amid the drop in foreign currency obligations of credit institutions under the Bank of Russia's refinancing instruments and taking into account the current FX market environment, the Bank of Russia decided to cease to conduct 7- and 28-day FX repo auctions from 11 September. On the back of gradual repayment of funds borrowed earlier from the Bank of Russia under FX repo transactions in 2017 Q3, the activity of market participants in the interdealer FX repo market grew. During Q3, the aggregate volume of positions grew by 35.2% while the total obligations of FX repo market participants

Chart 16

Dynamics of FX repo and FX swap markets (USD bn)

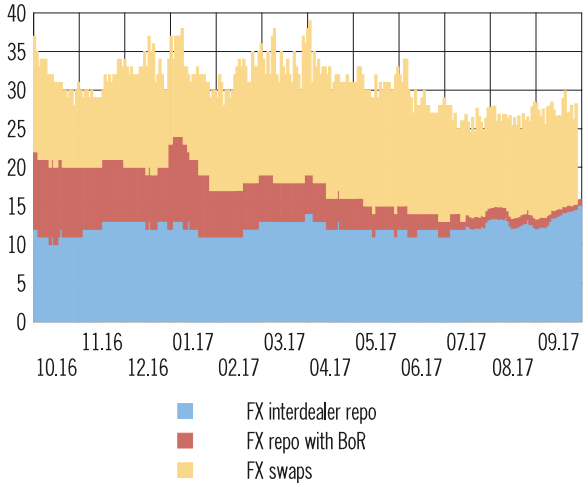
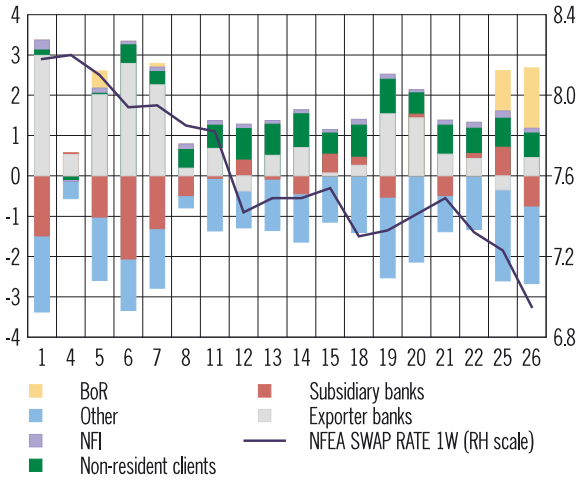


Chart 17

Distribution of open swap positions in September 2017 (USD bn)



reached USD 15.1 billion by the end of the reporting period (Chart 16).

During the first two months of 2017 Q3, the situation with FX liquidity remained generally favourable. September 2017 saw changes in the composition of sellers of foreign currency under FX swap transactions. Major banks providing services to exporters (traditional providers of FX liquidity) decreased their positions. Their daily average aggregate net position in the organised FX swap market went down from USD 4.92 billion in 2017 Q2 to USD 3.85 billion in Q3 (Chart 17).

In September 2017, their positions were shrinking even faster and, as a result, on certain days the

Chart 18

Dynamics of FX swap interest rates and BoR interest rate corridor

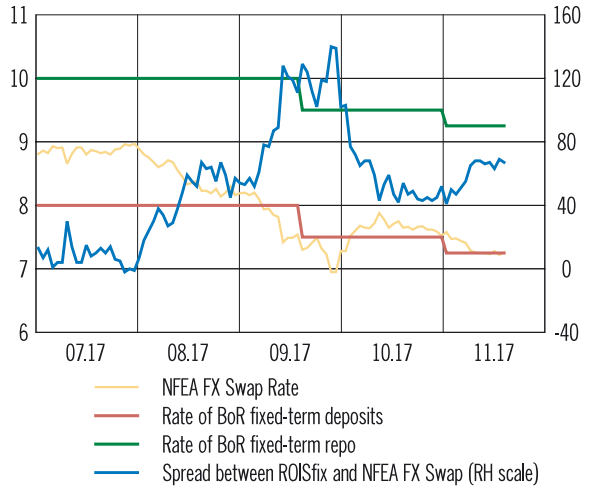
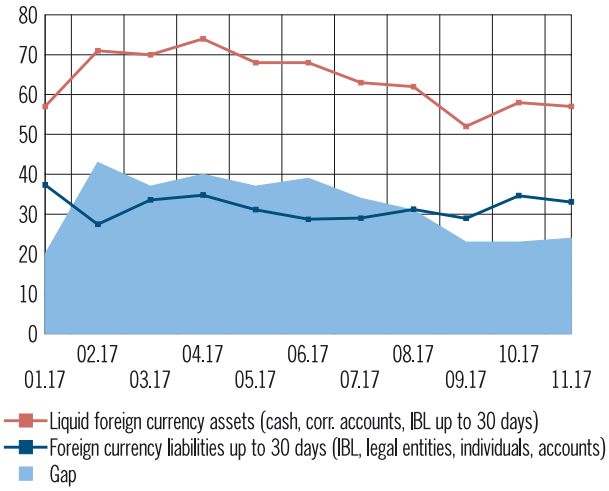


Chart 19

Gap between banks' short-term foreign currency assets and liabilities (USD bn)



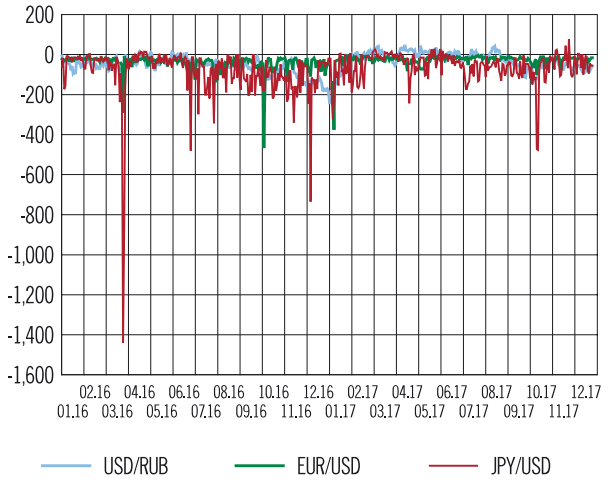
NFEA Swap Rate was lower than the rate of standing deposit facilities of the Bank of Russia.

Since August 2017, the basis (the spread between ROISFix and NFEA Swap Rate) in the domestic FX market was gradually expanding on the back of decreasing liquid foreign currency assets of Russian banks (Chart 19). On certain days of the reporting period, the basis approached 140 bp. Another factor of the short-term liquidity strain on particular days of September 2017 was the exchange of sovereign eurobonds with the maturity in 2030 for two other issues of sovereign eurobonds (for details see Section 2). The widening of cross-currency spreads at quarter-ends is characteristic of developed markets as well. Towards the end of September 2017, increased volatility was also observed in the European and the Japanese markets (Chart 20).

Given the above factors, in September 2017, an increased demand for Bank of Russia sell/buy FX swap operations was observed from market participants. However, it was already in early Q4, when the net supply of traditional FX liquidity providers returned to its natural level, and the market regained balance.

Chart 20

Dynamics of cross-currency spreads in the external and domestic markets (bp)



2. SECURITIES MARKET

2017 Q3 saw an increased foreign capital inflow into domestic sovereign Russian bonds (OFZ) amid the global trend of expansion of investors into the emerging markets. The aggregate growth of OFZ holdings in foreign depositories in Q3 was RUB 322 billion (Chart 21). The highest growth rate was observed from early August to mid-September then it slowed down and continued until 17 October when the share of non-resident holders reached its historic high of 33.2%. However, the 2nd half of October to early November saw the downturn in non-residents' OFZ holdings (their share went down to 32.7%). Foreign investments in Russian sovereign bonds were also declining on the back of the global trend of decreasing capital inflow into EME due to lower risk appetite of global investors amid higher expectations of monetary policy tightening by major central banks.

The adoption of a new sanctions law in 2017 Q3 did not have any significant effect on the market, meaning that market participants did not expect the strict version of sanctions to be introduced. The US Department of Treasury is to prepare a report on implementing restrictions on investments in OFZ by the end of January 2018.

While the corporate bonds market saw similar dynamics, the stock market was in the red. The credit quality of Russian issuers is improving on the back of the economic recovery. The upward revision of the outlook on Russia's long-term local- and foreign-currency rating from stable to positive by Fitch was a positive event.

Public debt market

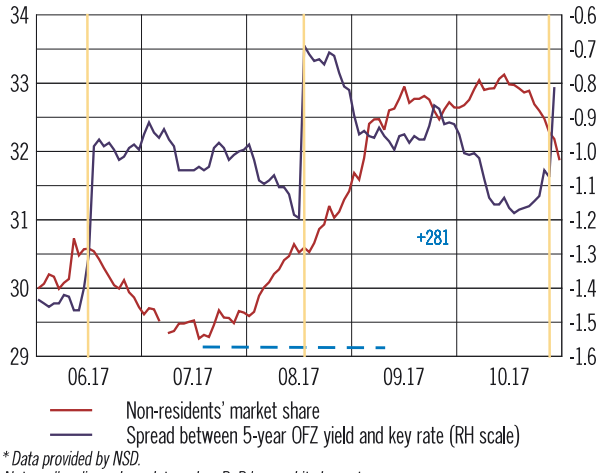
From early August to mid-September, the yields of OFZ with the 5-year duration were declining for up to 50 bp. These dynamics can be partially explained by higher demand for OFZ by foreign investors who increased their USD sales (Chart 22) and used their rubles to buy government bonds.

Stable USDRUB exchange rate and rising oil prices also spurred foreign investors' demand in 2017 Q3. The Russian currency was steadily strengthening, starting in early August, from 60.6 to 57 rubles per dollar and remained at 57.5 until November 2017. At the same time, in Q3, the price of Brent went up from 49.7 to 57.5 USD per barrel, or 15.8%.

According to the monthly statistics, the highest growth in OFZ holdings in foreign depositories

Chart 21

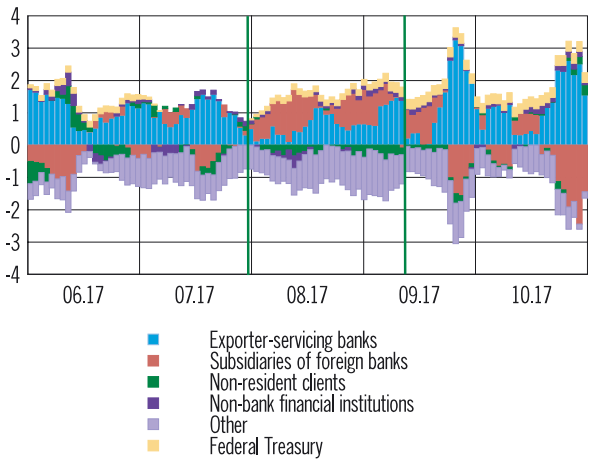
Non-residents' investments in OFZ* (RUB bn)



** Data provided by NSD.*
Note: yellow lines show dates when BoR lowered its key rate.

Chart 22

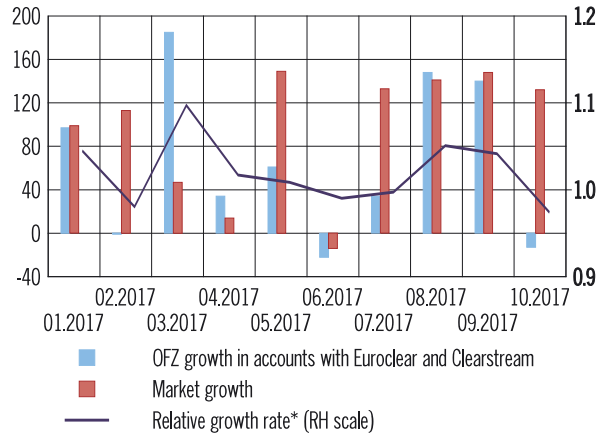
Dynamics of USDRUB sales (USD bn)



Note: green lines show the period of the fastest growth of the share of non-resident OFZ holdings

Chart 23

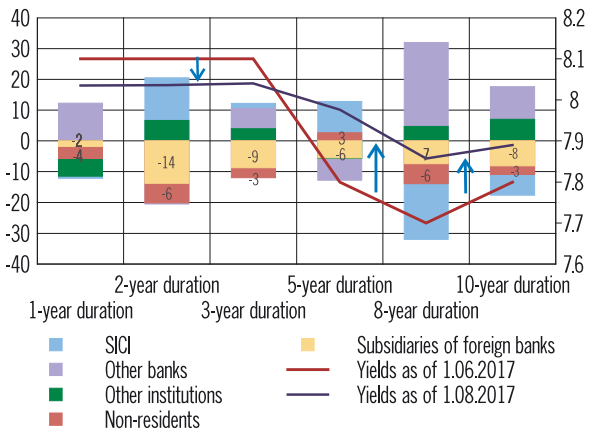
Dynamics of OFZ market and non-residents' portfolio growth (RUB bn)



Note: the relative growth rate is calculated as the ratio between one plus the growth rate of non-residents' holdings and one plus the growth rate of the OFZ market.

Chart 24

Dynamics of net on-exchange purchases of OFZ and changes in the yield curve from 3 June to 1 August (RUB bn)



Note: yield curves are shown on the RH scale in %; columns are labeled for non-residents and subsidiary banks.

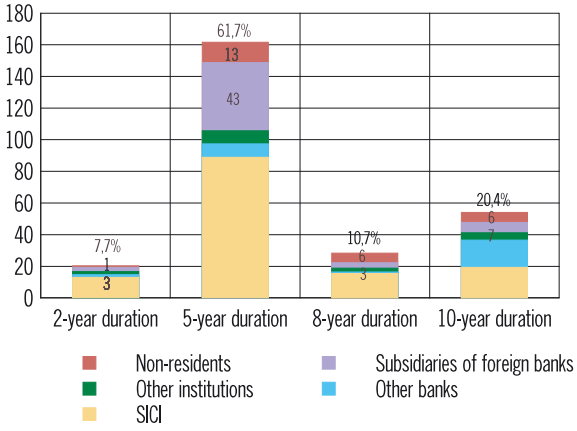
was observed in March 2017. However, if we look at the quarterly data, the maximum growth falls on the third quarter (281 billion in Q1 vs. 322 billion in Q3)[1].

Due to the increased activity of non-residents in 2017 Q3, we analysed the dynamics and structure of the demand of market participants in different segments of the securities market. To single out the participants who could materially influence the market, the dynamics of trading were split into two periods: a less volatile period from 3 June to 1 August, when the share of non-residents remained almost the same, and a more volatile period from 1 August to 1 October, when non-residents' holdings substantially increased.

During the first period, the amount of on-exchange OFZ purchases[2] in the secondary market was RUB 66 billion and the amount of initial offerings was RUB 264 billion (Chart 24 and 25). During this time, non-residents purchased RUB 26.3 billion of OFZ at auctions and sold RUB 20 billion of OFZ in the secondary market. OFZ with the duration of 8 years were the most traded in the secondary market; the 5-year duration bonds accounted for 61.1% of all OFZ offered at auctions. During the above period, the yields of OFZ with the duration of 3 years declined while other durations saw an increase. No non-residents' influence on OFZ yields in this period is observed.

Chart 25

OFZ purchases at auctions from 3 June to 1 August (RUB bn)



Note: percentages above columns show the share of OFZ with the specific duration in all placements during the period.

From 1 August to 1 October, the amount of both purchases in the secondary market and initial offerings at Minfin auctions rose (RUB 80 billion and 334 billion respectively). Non-residents purchased OFZ for RUB 54.4 billion at auctions and RUB 39.7 billion in the secondary market (Chart 26 and 27). OFZ yields declined over all durations and most of all at the short end of the curve (1 to 3 years). Despite significantly increased non-residents' investments in OFZ, especially in 8-year duration bonds, the decline in the yields at this section of the curve was less in respect to other durations.

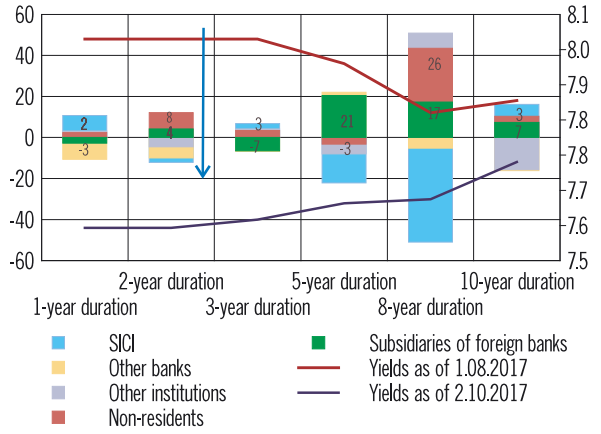
The increased demand on the part of non-residents was fulfilled by high supply of new OFZ issues at auctions (in 2017, the net amount of initial OFZ offerings rose from RUB 449 billion to

[1] *See Financial Market Risks Review for 2017 Q2 for details on the previous dynamics of non-residents' investments in OFZ.*

[2] *Here and onwards, net purchases and net sales are provided.*

Chart 26

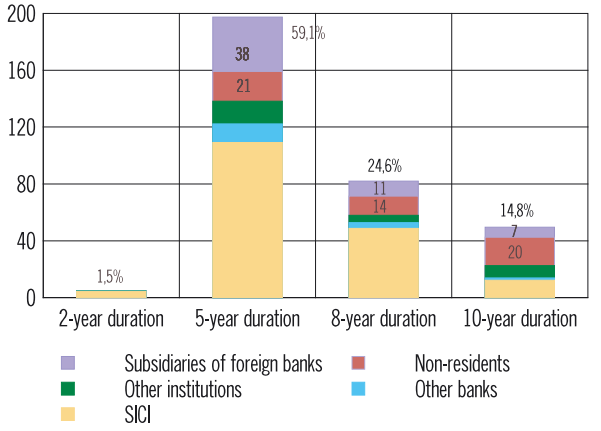
Dynamics of net on-exchange purchases of OFZ and changes in the yield curve from 1 August to 1 October (RUB bn)



Note: yield curves are shown on the RH scale in %; columns are labeled for non-residents and subsidiary banks.

Chart 27

OFZ purchases at auctions from 1 August to 1 October (RUB bn)



Note: percentages above columns show the share of OFZ with the specific duration in all placements during the period.

Chart 28

Share of non-residents' investments in OFZ by duration

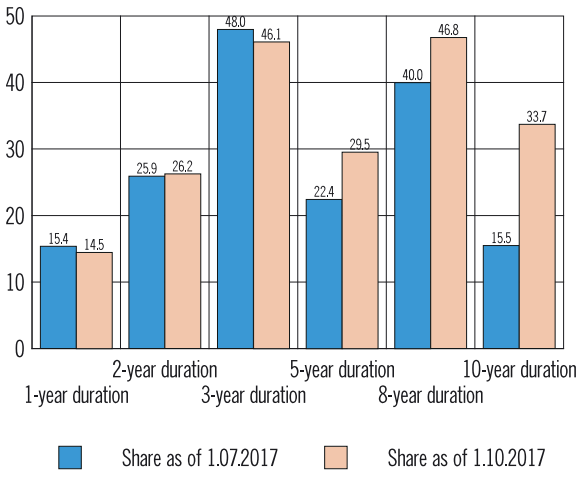
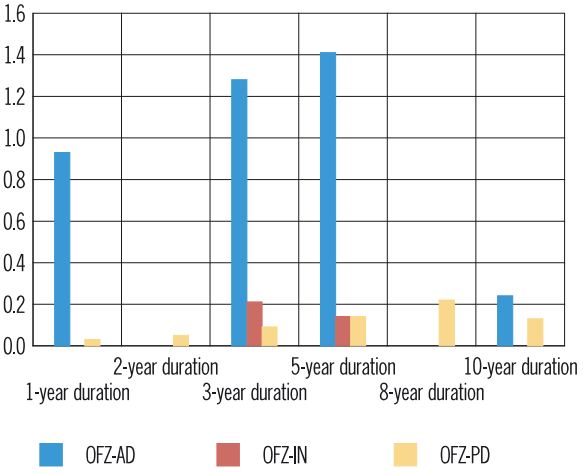


Chart 29

Average bid-ask spread of OFZ prices in 2017 Q3 by bond type



RUB 1050 billion). Minfin specifically increased the amount of 8-year OFZ initially offered at auctions, bringing the share of these bonds from 10.7% in June – July to 24.6% in August – September (or from RUB 28.3 billion to RUB 82.1 billion). During the second period, the average OFZ duration at auctions rose from 6.1 to 6.4 years.

As a result, as of Q3-end, non-residents' investments in OFZ with the duration of over 5 years saw a significant increase: 7.1 pp for 5 years, 6.8 pp for 8 years, and 18.2 pp for 10 years.

Apart from regular Minfin operations, Q3 also saw an exchange of Russian eurobonds and certain OFZ with debt amortisation (OFZ-AD).

On 18 August, Minfin exchanged five OFZ-AD issues for the total amount of RUB 58.4 billion, contributing to the decrease in the Russian sovereign debt for RUB 3.54 billion. This operation had a positive effect on the liquidity of the domestic debt because illiquid bonds had been exchanged: in 2017 Q3, the bid-ask spread of OFZ-AD was 0.98 pp while for OFZ-PD it was only 0.13 pp (Chart 29)[3].

Moreover, on 20 June Minfin exchanged sovereign eurobonds with the maturity in 2030 for 2 eurobond issues: 10-year eurobonds in the amount of USD 1.405 billion increasing the total amount of the issue to USD 2.405 billion and 30-year eurobonds in the amount of USD 2.5 billion increasing the total amount of the issue to USD 4.5 billion. According to

[3] *If we exclude certain OFZ-AD issues with a significantly wider bid-ask spread, the spread for OFZ-AD will be 0.8%, which is still much larger than that of OFZ-PD.*

the NSD, the share of foreign investors in new issues was 84% and 81% respectively, which reflects their continuing interest in Russian eurobonds. The exchange was primarily held to cut the debt service expenses, increase the duration of external debt, and balance the budget deficit in 2017–2019.

Corporate bonds and stock market

The dynamics of non-residents' purchases in the secondary on-exchange market is similar to the OFZ market: in June and July non-residents sold corporate bonds, in August and September they bought, and in October once again returned to selling (Chart 30). Generally speaking, in Q3 non-residents' investments in corporate bonds rose by RUB 14 billion while in Q2 they dropped by RUB 61 billion.

The developments in the on-exchange stock market were opposite to the corporate bonds and OFZ markets (Chart 31). In 2017, the increase in foreign investments in stocks was accompanied by their decrease in debt instruments and vice versa. The increase in non-residents' investments in shares in June and July corresponds to the beginning of the MICEX index correction from 1818, its lowest level in 2017.

The general trend of lowering credit risks of Russian borrowers still persists. On 22 September 2017, the international rating agency Fitch improved the outlook on Russia's long-term local- and foreign-currency issuer default ratings from stable to positive. Russia's long-term issuer ratings were unchanged at "BBB-" and short-term ratings, at "F3". This upward revision of the outlook took place after S&P maintained Russia's credit rating at "BB+" on 15 September 2017 and Moody's improved its outlook on Russia's sovereign credit rating on 18 February 2017.

Chart 30

Corporate bonds trading in the secondary on-exchange market

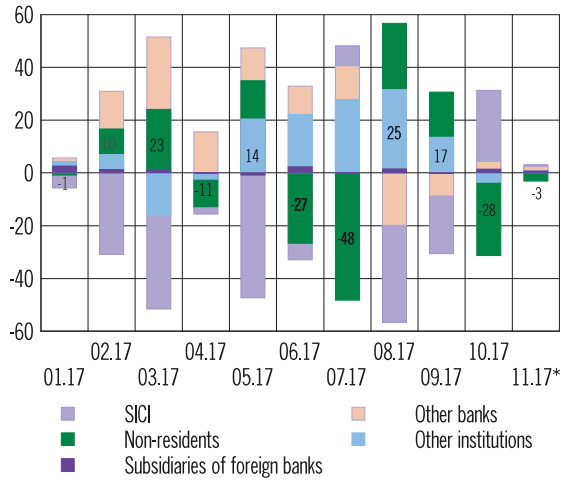
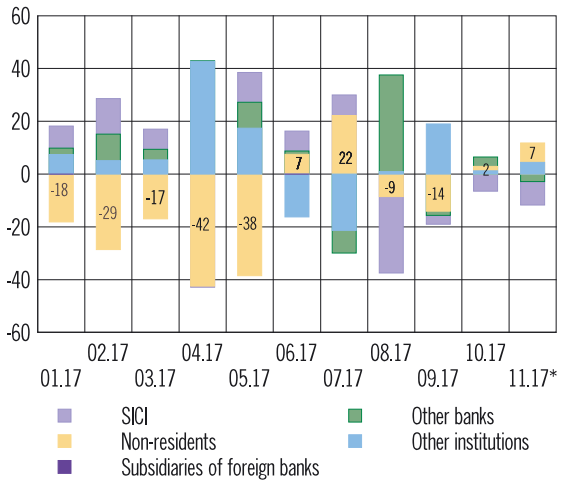


Chart 31

Stock trading in the secondary on-exchange market



3. DERIVATIVES MARKET

3.1. Hedging of risks in the FX forward market

Given the expectations of the monetary policy normalisation by Fed and the increased net capital outflow from the emerging markets as well as potential restrictions on American investments in Russian sovereign debt, foreign investors in Russian assets may resort to hedging ruble softening risks in the FX forward market. We have analysed the activity of non-residents in the FX forward market to verify the hypothesis that their propensity for hedging ruble softening risks has increased.

In order to assess whether the amount of FX risk hedging operations increased we used the information on FX forward deals provided by the NSD trade repository. The analysis included deliverable and non-deliverable FX forwards (NDF) where one of the parties was represented by a non-resident or a subsidiary of a foreign bank. The analysis focused on deals concluded after 02 August 2017 (when the US sanction law was adopted) with execution dates after 01 January 2018 and in 2018 Q1 specifically.

The FX forward market is mostly short-term; most deals are concluded for up to 1W. In normal circumstances, the market of 3M+ FX forwards is illiquid. The amount of deals concluded after 02 August 2017 with the execution date after 01 January 2018 was not significant and did not tend to grow (Chart 32).

Chart 32

FX forward transactions concluded from 2 August to 15 November 2017 involving USD purchase by non-residents (USD mln)

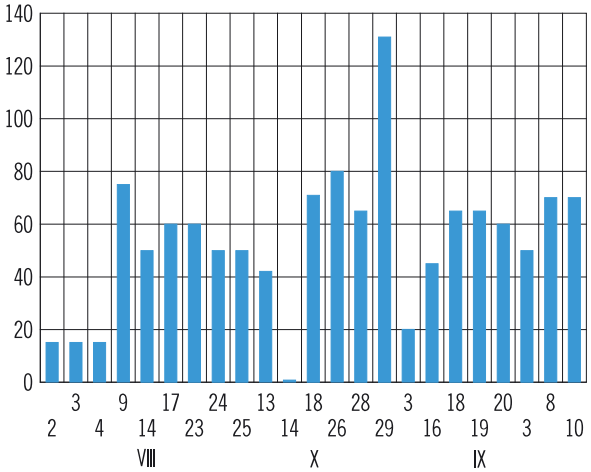
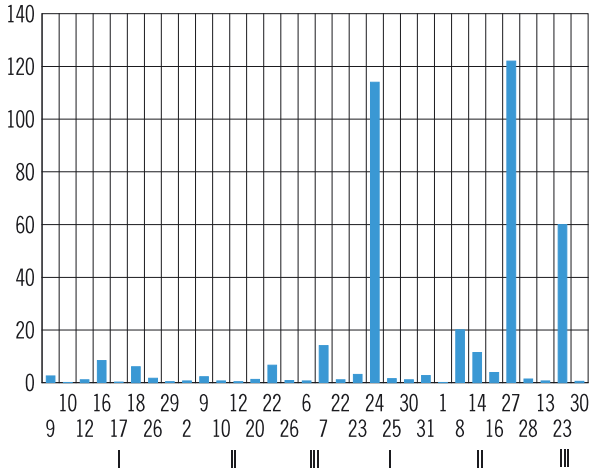


Chart 33

Value dates of previously concluded forwards in 2018 Q1 (USD mln)



The amount of all FX forwards opened earlier with the execution in 2018 Q1 is also insignificant. The total amount of long positions of non-residents in the FX forward market with the execution in 2018 Q1 is USD 390.5 million. Forward purchases of foreign currency by non-residents fall mainly on the last days of 2018 Q1.

According to our analysis, no significant increase in non-residents' demand for operations to hedge ruble softening risks in the Russian market is observed. Market participants view ruble softening risks amid the normalisation of Fed's monetary policy as well as risks of tightening sanctions against Russian sovereign debt as insignificant.

3.2. Cross currency swap market risks

In 2017 Q3, Russian cross currency swap (CCS) market saw an increase in open positions. The total amount of open positions in the most popular currency pair (USDRUB) was RUB 2.096 trillion

Chart 34

Dynamics of open positions in different currency pairs (RUB bn)

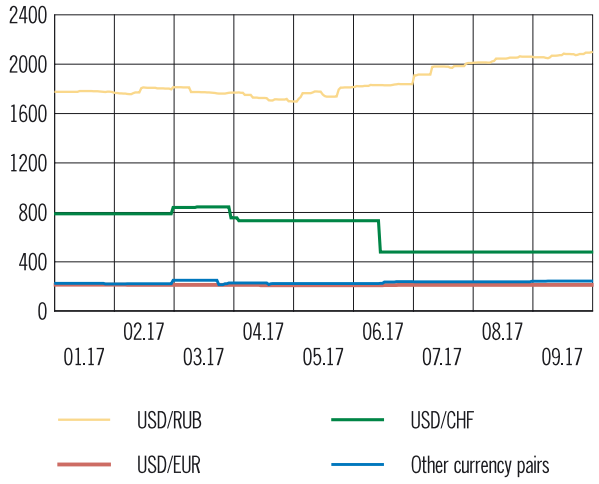
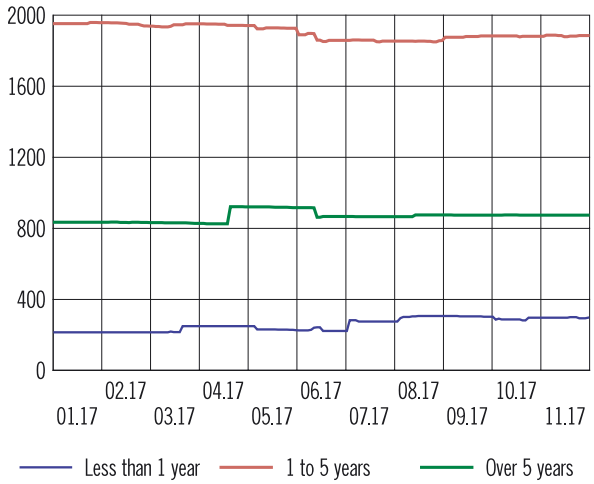


Chart 35

Dynamics of open positions of different maturity in all currency pairs (RUB bn)



whereas in the first half of the year it floated around RUB 1.8 trillion without any noticeable changes in the dynamics1 (Chart 34).

The amount of open positions in the second most popular currency pair (USDCHF) went down insignificantly to approx. RUB 500 billion in comparison to the previous quarter.

This was caused by the closure of positions within a major Russian banking group2 for the total amount of USD 500 million. Other currency pairs did not show any significant changes during the first three quarters of 2017.

The CCS market is dominated by medium-term positions ranging from one to five years. Their total amount is approx. RUB 2 trillion. Long-term instruments with over 5-year maturity are second by popularity. Short instruments (up to 1 year) were the least popular with the amount of open positions remaining at about RUB 250 billion (Chart 35).

LIBOR is the main underlying asset in the cross currency swap market; 82.2% of all floating-rate deals (48.3% of all foreign currency money market) are linked to it. LIBOR is also used in 91% of floating-rate deals with the settlement date after 2021 (RUB 1.94 trillion), which is when the transition to a new interest rate benchmark in the London interbank market is to be completed (for details see the 'Plans of foreign regulators with regard to transition to new money market benchmarks' box). LIBOR is widely used in foreign, including the European, markets where interest rate derivatives occupy the largest share of the OTC market (Appendix 1).

A part of other operations of Russian financial market participants are also linked to LIBOR. In the securities market, floating-rate coupon bonds account for 24.3% of the total volume of the Russian long-term3 bonds market. LIBOR is the basis rate in contracts for the amount of USD 3.4 billion, which is 5.2% of the total volume of long-term floating-rate deals. Such bonds are issued by both banks and major non-financial organisations.

For this reason, market participants using LIBOR as the benchmark need to prepare individual detailed plans of transition to a new key market indicator.

From the weekly turnover point of view, Q3 did not show any outstanding results: the average weekly turnover was RUB 20 billion whereas during the whole first half of the year it was nearly RUB 41 billion or almost twice as high.

From the maturity standpoint, short- and medium-term instruments were the most popular, their total turnover reaching RUB 161.8 billion and RUB 65.9 billion respectively (Chart 36). The demand for long-term instruments was the lowest and accounted for RUB 20.5 billion.

[1] *All figures in this section refer to cross currency swap transactions.*

[2] *A group deal is a deal where the parties are members of a group of organisations, with one of them being called the parent company and capable to exert significant direct or indirect influence on decisions of other organisations within the same group.*

[3] *With the maturity after 2021.*

Chart 36

Weekly volume of operations in different currency pairs (RUB bn)

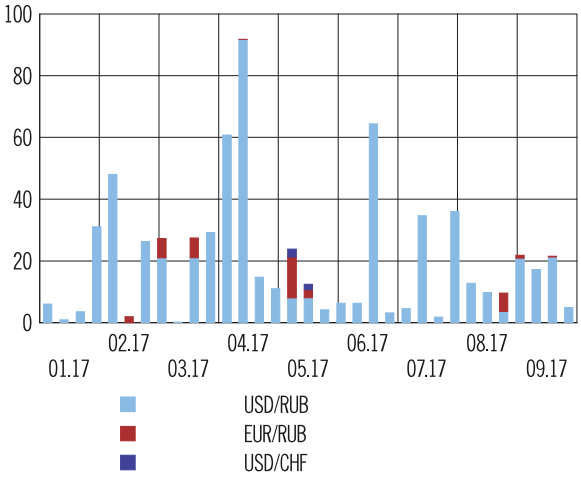


Chart 37

Weekly volume of operations with different maturity (RUB bn)

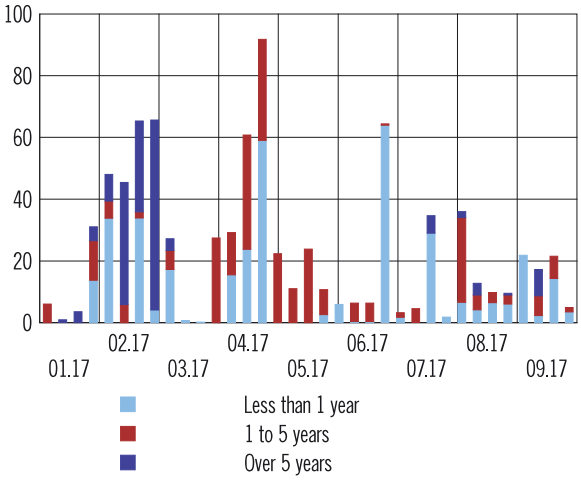


Chart 38

Share of open positions by categories of participants in 2017 H1 (%)

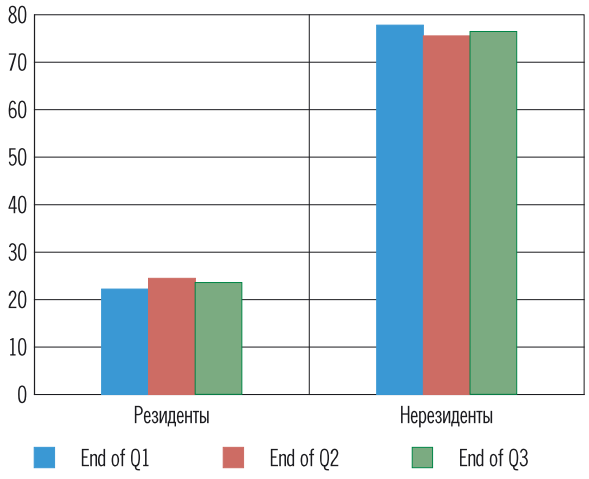
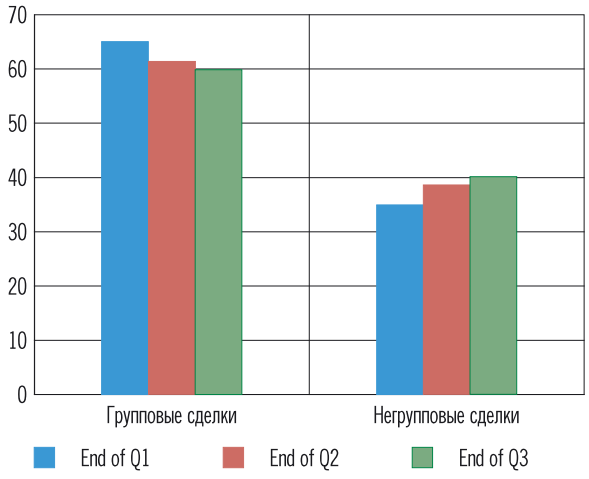


Chart 39

Share of open positions by deal types in 2017 Q2 (%)



The Russian CCS market is characterised by a significant share of non-residents and group deals with non-residents. The share of new positions opened by non-residents saw a slight decline and reached 25.2% (Chart 38). The distribution of open positions by deal types (Chart 39) demonstrates that the share of non-group deals is growing for the 2nd quarter in a row: in Q3 it was 40.0% vs. 38.6% in Q2. The main driver behind these dynamics is the closure of positions within groups.

Plans of foreign regulators with regard to transition to new money market benchmarks

Currently, key financial market indicators are represented by different interbank offer rates (IBOR (Interbank Offer Rate): LIBOR (London Interbank Offer Rate), EURIBOR (Euro Interbank Offered Rate), and TIBOR (Tokyo Interbank Offered Rate). The indicators are calculated daily based on the information provided by major market participants to the benchmark operator.

However, market participants have recently been losing faith in the quality of these indicators. According to surveys conducted by the FCA in 2014, the only reason why LIBOR rates are still used as key indicators is the lack of comparable alternatives. The observed cases of misconduct of respondent banks along with the falling underlying market activity lead to a decline in the credibility of benchmarks forming a threat to financial stability.

In view of the above, on 22 July 2014, the Financial Stability Board (FSB) published recommendations on the improvement of money market indicators. In accordance with the suggested approach, it is necessary, first, to modify the IBOR calculation methodology and, second, to implement alternative benchmarks that would replace the existing key indicators.

Since 2014, the financial indicator administrators have been implementing FSB recommendations. Many countries came up with the idea of developing an alternative to IBOR. In the US, GS REPO (rates of repo operations with the US government securities) was chosen as the alternative indicator. It is expected to be voluntarily used since 2018. In the Eurozone, a new risk-free overnight rate has been developed since September 2017. The European regulators are planning to complete the benchmark development by early 2020. Alternative indicators are also actively promoted in Japan (TONAR) and Switzerland (SARON).

The UK was one of the first to start the reform. In 2013, the Bank of England launched the programme to improve the LIBOR calculation methodology. However, despite this fact, the declining activity in the underlying market has not allowed the stability of the chosen indicator to be raised sufficiently. On 12 June 2014, the Bank of England announced that, in order to maintain the credibility of British trading floors, it was necessary to develop alternative benchmarks based on actual transactions.

In August 2014, in its Fair and Effective Markets Review, the Bank of England pointed out that SONIA (Sterling Overnight Index Average) was one of the seven alternative indicators that could be chosen as regulated benchmarks.

The reform aimed at increasing the quality and credibility of the chosen benchmark started in July 2015. In March 2017, the Bank of England approved the scheme for the reformed SONIA calculation methodology. In accordance with it, SONIA is the reference sterling money market rate reflecting the cost of short-term unsecured near risk-free loans. The rate will be calculated as the 25% trimmed mean[1] of interest rates paid on eligible deposit transactions. The accountable respondents include banks, building societies and investment companies that are the most active market participants. The list of operations, aside from transactions performed by brokers, was supplemented with deals based on bilateral agreements. The minimum amount of transaction was left at GBP 25 million. The indicator will be published at 09:00 AM on the business day following the date of calculation. The SONIA benchmark has been administered by the Bank of England since 25 April 2016.

On 16 October 2017, the Bank of England announced that it will use the reformed calculation methodology since 23 April 2018.

In April 2017, the working group established by the Bank of England to develop alternative money market benchmarks, recommended to use SONIA calculated using the updated methodology as an alternative to LIBOR.

On 27 July 2017, the head of the FCA announced that by the end of 2021 LIBOR will no longer be officially published and SONIA will replace it as the key market indicator. Further LIBOR publishing by participating banks will be possible on a voluntary basis only. According to the FCA, the long transition period will help to lower the risks and costs related to the planned changes.

[1] The trimmed mean method will, first, allow excluding the influence of individual rate surges (in contrast to the conventional average used before). Second, this indicator, as opposed to the median, is tolerant to slight changes in the distribution. At the same time, the trimmed mean method is close to the existing SONIA calculation methodology, which is particularly noticeable when rates are distributed asymmetrically, such as at quarter-end in the recent years.

Deals between Russian credit and non-financial organisations are the second most popular after transactions with non-residents' participation. The amount of open positions in this segment remained practically unchanged during the reporting period. Deals between credit institutions account for less than 3% and open positions of non-financial organisations for less than 0.5% of all open positions in any period in 2017 (Chart 40).

Credit institutions, non-bank financial institutions and non-financial organisations and non-residents differ in their usage of cross currency swaps. In the

Chart 40

Dynamics of open positions by categories of market participants (RUB bn)

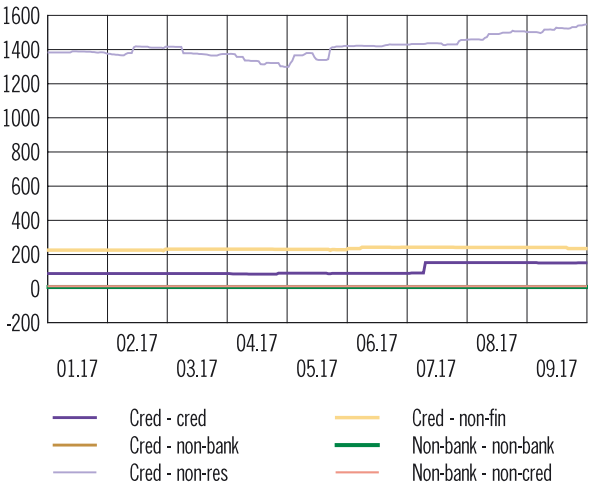
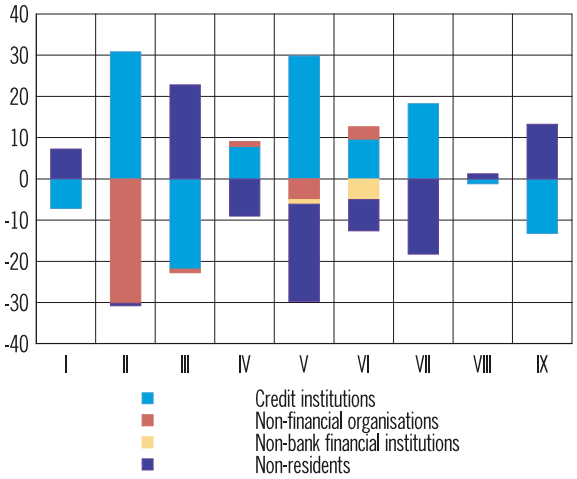


Chart 41

Fixed-rate CCS operations by participants in 2017 Q1–Q3 (RUB bn)



first half of the year, credit institutions were the largest borrowers of funds at the fixed rate, however, in September the situation started to change for the opposite: for the first time in four months credit institutions were the payers and non-residents were the receivers under the fixed leg of the swap. Apart from September 2017, non-residents concluded agreements to receive the fixed rate in March 2017 when OFZ purchases intensified.

Floating-rate operations are inverse with respect to the fixed-rate ones (symmetric with respect to the x-axis). Therefore, in the beginning of the quarter credit institutions were net lenders under the fixed leg and net borrowers under the floating leg whereas non-residents occupied the opposite positions.

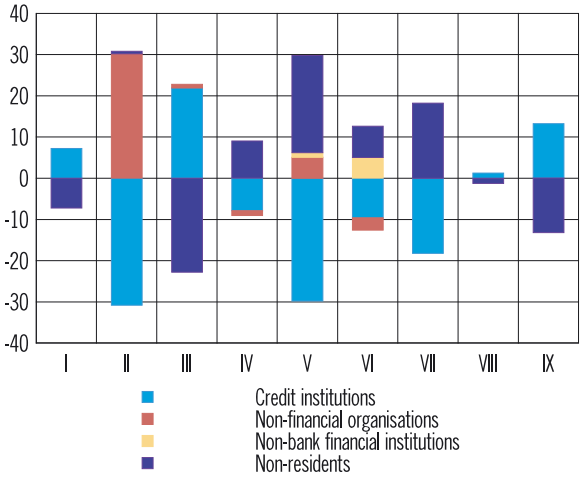
Due to the non-standardised character of CCS and unavailability of any practical opportunity to make such deals via a central counterparty, individual market participants may potentially face certain risks.

We analysed the risks of OTC cross currency swap market by estimating the fair value of the CCS portfolio of every participant at the exchange rates as of 2017 Q3-end and in case of materialisation of ruble softening risks. The market risk of every organisation's CCS portfolio was estimated as the difference between the portfolio's fair value before and after the hypothetical shock.

According to the estimations, the fair value of the initial portfolio is negative for non-financial organisations (Table 2). The value is negative because most swaps were concluded before the sharp ruble devaluation in 2014 and kept losing value after that.

Chart 42

Floating-rate CCS operations by participants in 2017 Q1–Q3 (RUB bn)



The detailed analysis shows that the negative portfolio value is characteristic of participants from such industries as metallurgy, precious metals, and lumber production and processing. The oil and gas sector can also be singled out. The total fair value of the portfolio of non-financial organisations as of the evaluation date was -162.46 billion rubles, with the oil and gas industry accounting for -82.5 billion rubles. It should be noted that the above market participants are exporters and such deals allow them to borrow foreign currency funds.

If ruble softening scenarios materialise, the fair value of residents' portfolio will keep declining.

By analysing the structure of cash deals by their side and currency, we note that the most payments will be made in USD in 2018 and 2019 (Chart 45).

Table 2

Fair value of initial CCS portfolio as of 29 September 2017 by types of organisations (RUB bn)

Residents	Credit institutions	Non-financial organisations
Initial portfolio	105.34	-162.46

Chart 43

CCS operations with different currencies by participants in 2017 Q2 (RUB bn)

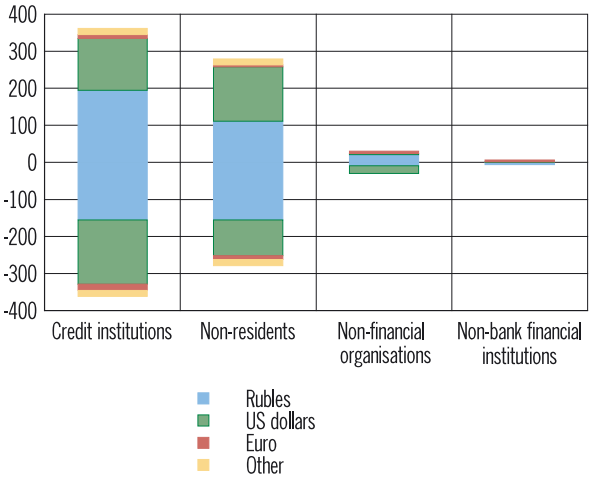
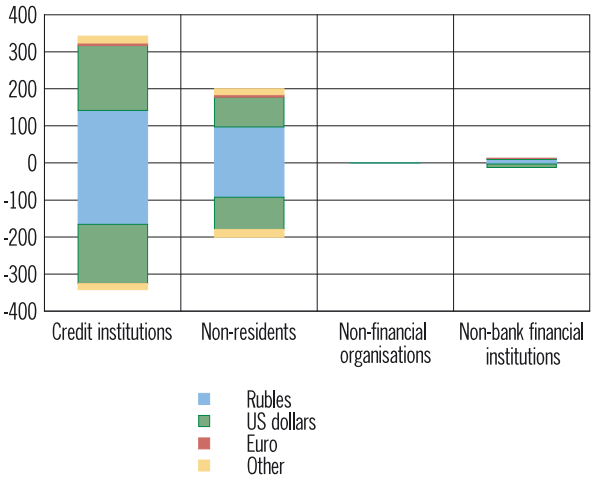


Chart 44

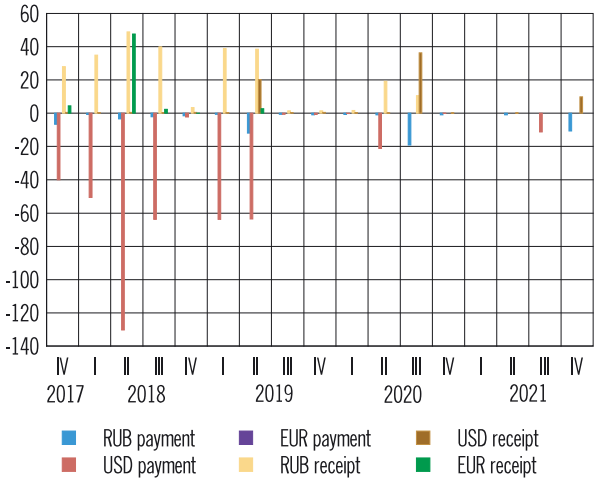
CCS operations with different currencies by participants in 2017 Q3 (RUB bn)



At the same time, no significant payments under cross currency swaps are expected in the coming years: the maximum payment in the amount of around USD 2 billion falls on 2018 Q2. Due to the fact that large non-financial organisations use financial derivatives for hedging (as opposed to speculation) purposes, risks arising under such instruments must be balanced by the opposing changes in the value of the hedged asset (foreign currency proceeds).

Chart 45

Payment schedule under swaps of non-financial organisations (RUB bn)



However, non-financial organisations should pay attention to the need to control their FX exposure.

The analysis of risks of Russian financial markets allows us to conclude that the situation in the reporting period remained stable. The trend of increasing amount of open positions and large borrower concentration risks in certain market segments does not give rise to concerns. Market participants viewed ruble softening risks amid the normalisation of Fed's monetary policy as well as risks of tightening sanctions against Russian sovereign debt as insignificant. However in the long-term, market participants should take measures to mitigate risks of transition to new money market benchmarks.

APPENDICES

Appendix 1. Review of the European financial derivatives market[1]

In late 2017 Q3, a first-time overview of the European derivatives market based on the information provided by trade repositories was published. The document is aimed at improving the transparency of the derivatives market. This objective was set as early as at the G20 summit in 2009. It is also noted that due to the complex and unconventional nature of instruments that are widely used in the market, correct standardisation of data received from market participants has been impeded for quite a long time. The overview used the information from all six repositories authorised in the EU, therefore its authors are confident with regard to its completeness and reliability. The data for the analysis are as of 24 February 2017.

The overview describes different indicators of several groups of financial instruments, such as interest rate, commodity, foreign exchange, and equity instruments. The statistics include deals with over-the-counter (OTC) and exchange-traded derivatives (ETD). The overview uses such indicators as the size of the market in terms of the number of transactions and the notional value of positions. Herfindahl-Hirschman Index (HHI) and Degree Centrality are also viewed separately as concentration indicators. The values of these indicators vary from 0 to 1, where 1 represents the highest concentration level, i.e. one participant has deals with all market participants. It should also be noted that the participants were not matched by their group identification numbers (parent companies and subsidiaries were not aggregated in the sample), therefore HHI slightly underestimates the real market situation.

The general picture of the European derivatives market is as follows.

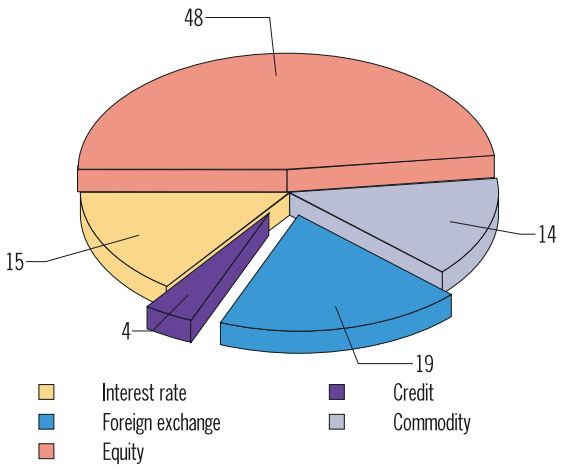
Nearly a half of all deals were made at the equity derivatives market, which is explained by a wide range of securities (Chart 46). Foreign exchange, commodity and interest rate derivatives markets have almost the same share, while the lowest number of open positions is observed at the credit market. A possible explanation of such a small share of credit derivatives could be that this market has the smallest number of participants because a typical counterparty here is an organisation with significant hedging requirements (bringing the number of small non-financial organisations almost to zero).

However, if we take a look at the notional value of open positions broken down by asset classes, we will see a completely different picture: the interest rate market is the largest with the share of over 50% and the total amount of EUR 282 trillion (Chart 47). Foreign exchange derivatives market also has a significant share (approx. 20%) and the total size of EUR 112 trillion. The notional value of equity, credit and commodity derivatives markets is, respectively, 36, 14 and 9 trillion euro.

Regarding types of deals, we can conclude that OTC deals are predominant in the foreign exchange derivatives market while ETD transactions domi-

Chart 46

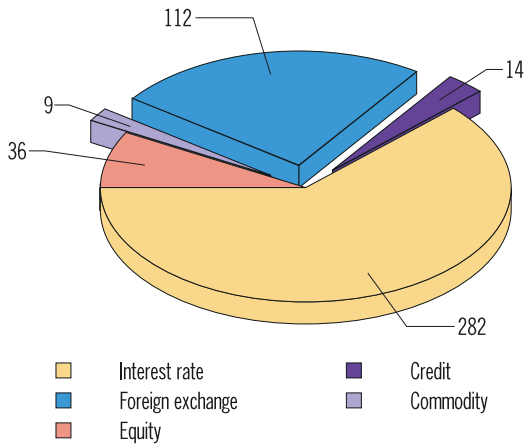
Number of open positions by asset classes (%)



[1] *ESMA REPORT ON TRENDS, RISKS and VULNERABILITIES, European Securities and Markets Authority, 'EU Derivatives Markets - a first-time overview'.*

Chart 47

Notional value of open positions by asset classes (EUR tn)



nate at the credit and interest rate derivatives markets.

Interest rate derivatives

251,916 different participants were reported in the interest rate derivatives market, including banks and non-bank financial and non-financial institutions. Such a considerable number of participants and variety of organisations reflect the popularity of interest rate derivatives. As of the chosen date, there were 5.4 million open positions for the total amount of EUR 282 trillion. By the aggregate notional value, this is the largest class of derivatives. The number of OTC deals is larger than that of the ETD by far: 94% and 6%, respectively (or 239.8 and 41 trillion euros in terms of the notional value). The report also provides information about deals between EU residents and deals between EU residents and non-residents. More detailed information on the size of the interest rate derivatives market is provided in Table 3.

Concentration indicators show that the interest rate derivatives market is quite decentralised. HHI and DC are equal to 0.05 and 0.07, respectively. When these values are close to zero, we can conclude that only a small number of participants have open positions with several different counterparties.

Credit derivatives

The reported number of credit derivatives market participants was 9,929, which is by far smaller as compared to the interest rate derivatives market. It is the smallest market in terms of the number of counterparties, as almost no small non-financial organisations that are active in other markets enter it. The vast majority of trades are OTC (1.2 million of transactions). In terms of notional value, this market is also smaller than the interest rate derivatives market (EUR 13.8 trillion). For the most part (by both the number of transactions and the notional value), the deals were made between EU and non-EU counterparties. See Table 4 for detailed information.

Based on the concentration indicators, the market for credit derivatives is more centralised than for interest rate derivatives. HHI and DC are equal to 0.07 and 0.43, respectively. This result is expected because the market contains much fewer participants in general and almost no small non-financial organisations that occupy a large share of all counterparties in the interest rate market. The low HHI value is explained by its undervaluation. The possible reasons are explained above.

Table 3

Interest rate derivatives market (number of transactions, mln; notional value, EUR tn)

Group of buyers	Number of transactions	% (rounded)	Notional value	% (rounded)
ETD	**0.3**	**6**	**41**	**14**
Trade within EU	0.24	4	20	7
Trade with non-EU	0.06	1	21	7
OTC	**5.05**	**94**	**239.8**	**85**
Trade within EU	3.46	64	137	49
Trade with non-EU	1.52	28	100	35
Total	**5.36**	**100**	**283**	**100**

Table 4

Credit derivatives market
(number of transactions, mln; notional value, EUR tn)

	Number of transactions	% (rounded)	Notional value	% (rounded)
ETD	**0.3**	**3**	**0.5**	**4**
Trade within EU	0.003	0	0.3	2
Trade with non-EU	0.03	2	0.2	1
OTC	**1.18**	**94**	**13.3**	**96**
Trade within EU	0.41	34	4.5	32
Trade with non-EU	0.77	63	8.8	64
Total	**1.21**	**100**	**13.8**	**100**

Equity derivatives

For equity derivatives market, 16.8 million of open trades between 220,256 unique counterparties were reported. OTC transactions accounted for 80% of all open positions (12.5 million) while ETD trades lead in the notional terms (57% or EUR 20.2 trillion). This indicates the larger share of standardised transactions. More detailed information on this market is provided in Table 5.

Concentration levels are between the respective levels of the markets for interest rate and credit derivatives. For this market, DC is 0.22 while HHI is only 0.06.

Commodity derivatives

305,685 unique counterparty identifiers were reported for the market for this asset class. This market is the largest among the described in the report

Table 5

Equity derivatives market
(number of transactions, mln; notional value, EUR tn)

	Number of transactions	% (rounded)	Notional value	% (rounded)
ETD	**3.12**	**20**	**20**	**57**
Trade within EU	1.64	10	13	36
Trade with non-EU	1.48	10	7	21
OTC	**12.5**	**80**	**15**	**43**
Trade within EU	5.54	35	6	17
Trade with non-EU	6.94	45	9	26
Total	**15.62**	**100**	**35**	**100**

Table 6

Commodity derivatives market
(number of transactions, mln; notional value, EUR tn)

	Number of transactions	% (rounded)	Notional value	% (rounded)
ETD	**2.65**	**54**	**5**	**60**
Trade within EU	0.89	18	2	16
Trade with non-EU	1.76	35	4	43
OTC	**2.34**	**46**	**4**	**40**
Trade within EU	1.05	21	2	21
Trade with non-EU	1.29	26	2	18
Total	**5.03**	**100**	**9**	**100**

Table 7

Foreign exchange derivatives market (number of transactions, mln; notional value, EUR tn)

	Number of transactions	% (rounded)	Notional value	% (rounded)
ETD	**0.05**	**1**	**0.5**	**0**
Trade within EU	0.03	1	0.2	0
Trade with non-EU	0.01	0	0.2	0
OTC	**6.46**	**99**	**111.7**	**99**
Trade within EU	3.42	52	18.2	16
Trade with non-EU	3.02	46	93.3	83
Total	**6.52**	**100**	**112.3**	**100**

in terms of participants. This is explained by the widespread use of these instruments across industries and types of counterparties, including non-financial organisations. Around 9 million open positions in this class of assets were reported, with 54% of them ETD (EUR 5.4 trillion in terms of notional value). Just like in case of credit derivatives, the majority of transactions involve a non-EU counterparty. The average notional amount of trades here is less than for other asset classes, reflecting the presence of small non-financial organisations. The detailed information on the market size is provided in Table 6.

The concentration level is relatively high: HHI is 0.16 (higher than for any other market), DC is 0.44. This illustrates one of the characteristic features of the market where many small organisations interact with a few large brokers.

Foreign exchange derivatives

162,698 participants were reported in the market for foreign exchange derivatives with 6.5 million of open positions for the total notional value of EUR 112 trillion. It is notable that only 1% of all deals (for approx. EUR 475 billion) were exchange-traded. For this asset class, the result that nearly all deals are conducted over-the-counter is to be expected. See Table 7 for detailed information.

Concentration levels are insignificant by both indicators: HHI equals 0.05 while DC is 0.11.

Appendix 2. Regulatory innovations in the financial markets

Money market regulation

On 27 July 2017, the head of the Financial Conduct Authority (FCA) announced that by the end of 2021 LIBOR will no longer be officially published and will be replaced by reformed SONIA (Sterling Overnight Index Average) as the key market indicator. According to the FCA, the long transition period will help to lower the risks and costs related to the planned changes.

On 21 August 2017, China's State Council tightened control over financing guarantee companies. The State Council made a decision to establish a centralised framework for supervising the financing guarantee industry and to hold an interministry meeting. Local authorities will need to formalise the measures aimed at the development of the industry and prepare a list of potential risks. Financing guarantee companies will need to have the capital of at least CNY 20 million (USD 3 million).

On 24 August 2017, the Fed asked market participants for comments on the publication of three new money market reference rates to be calculated based on overnight repos secured with treasury bonds: Secured Overnight Financing Rate (SOFR), Tri-Party General Collateral Rate (TGCR), and Broad General Collateral Rate (BGCR). It is expected that SOFR will be similar to LIBOR (London Interbank Offer Rate).

All three rates will reflect the cost of short-term funding in highly liquid US markets and will be published daily. The Fed intends to start publishing the new rates in mid-2018. The Federal Reserve Bank of New York will be responsible for collecting data and calculation.

On 16 October 2017, the Bank of England announced that it will use the reformed SONIA calculation methodology since 23 April 2018.

Foreign exchange market regulation

On 25 July 2017, the ECB suggested that FX market participants should uphold the FX Global Code. Market participants should publicly proclaim their commitment to the FX Global Code principles by May 2018 or later, when an updated version of the code is issued. The FX Global Code is a set of global principles of good practices in the FX markets developed by central banks and market participants from 16 jurisdictions all over the world to promote the reliable, fair, liquid, open and transparent FX market.

Securities market regulation

On 3 July 2017, the People's Bank of China and the Hong Kong Monetary Authority announced the access of foreign investors to the domestic Chinese interbank bond market through the Hong Kong Exchange (Mainland – Hong Kong bond connect program) effective from 3 July 2017. Currently, the settlements can be made both in yuan and foreign currency.

On 14 August 2017, the International Organisation of Securities Commissions (IOSCO) published a consultation report on regulatory reporting and public transparency in the secondary corporate bond markets. The report is based on the examination of global corporate bond markets conducted by IOSCO Committee on the Regulation of Secondary Markets. The report notes the need to ensure the availability of information on corporate bonds for both the regulators (in the form of reporting) and the public (in the form of requirements for information disclosure).

Regulation of the financial derivatives market

Transactions with exchange-traded derivatives

On 9 August 2017, the Central Bank of Malaysia warned Malaysian banks against entering into futures contracts in Malaysian ringgits (MYR) at the Singapore Exchange (SGX) and the Intercontinental Exchange (ICE). The Central Bank of Malaysia informed that the ringgit was not an international currency and the authorities were against trading derivatives in the national currency at offshore markets. Entering into futures contracts at SGX and ICE does not comply with the Malaysian foreign exchange administration policy and rules. The regulator also noted that foreign market participants that need to buy ringgits should do so directly in the Malaysian market through licensed financial institutions or their authorised foreign offices.

On 29 August 2017, the Indian Commodity Exchange (ICEX)[2] officially renewed the trading in diamond futures after a 3-year break. The exchange stopped operations in 2014 due to capital shortfall. After the capital was increased, ICEX obtained an approval of the Securities and Exchange Board of India (SEBI) to renew trading. At the trading opening ceremony in Mumbai it was also announced that the Ahmadabad-based National Multi Commodity Exchange (NMCE) was to merge with ICEX.

Trades with OTC derivatives/derivatives not subject to centralised clearing

On 7 August 2017, the Australian Prudential Regulation Authority (APRA) published the final revision of the prudential standard on recognising the substituted compliance of foreign regulatory regime with regard to margin requirements and risk mitigation when conducting transactions with OTC derivatives taking into account the comments it had received (CPS 226). The changes are insignificant and involve mainly a clearer description of cases when the substitution of the regulatory regime with another regime is allowed. The standard will apply to all APRA-regulated financial institutions except for life insurers. Respondents were broadly supportive of the proposed standard. The revised provisions came into force on 1 September 2017.

On 7 September 2017, the International Swaps and Derivatives Association (ISDA) published a revised version of the methodology for the calculation of the initial margin for derivatives not subject to centralised clearing (Standard Initial Margin Model, SIMM 2.0). SIMM, the industrial standard used by market participants to calculate the initial margin, was adopted in September 2016 in response to the respective requirements. ISDA reviews the standard's adequacy and publishes updates annually. The current revision includes new risk factors for three product types: volatility indices, quanto CDS (CDS in different currencies), and municipal swaps (the municipal securities index swap for a percentage of LIBOR or a fixed rate). The new SIMM revision comes into force on 4 December 2017.

On 28 September 2017, the Committee on Payments and Market Infrastructures (CPMI) and the International Organisation of Securities Commissions (IOSCO) published a technical guidance for the Unique Product Identifier (UPI). The guidance provides the supervising authorities with an explanation on how to identify OTC derivatives for further accounting as products in trade repositories. The technical guidance contains the definition of UPI and describes its importance, characteristics, objectives and technical principles.

Regulation of financial market infrastructure institutions

Central counterparty

On 5 July 2017, the International Organisation of Securities Commissions (IOSCO) together with the Financial Stability Board (FSB), Committee on Payments and Market Infrastructures (CPMI) and Basel Committee on Banking Supervision (BCBS) published three guidances and two reports on improving the stability of central counterparties (CC), their rehabilitation and insolvency resolution.

The guidances cover such issues as stress-testing of credit risk, management and liquidity risks, marginal requirements, utilisation of CC's funds to cover losses; the procedure for the implementation of plans of rehabilitation of financial market infrastructure institutions; the key attributes of effective insolvency resolution regimes applicable to CCs.

The reports contain the results of the assessment of interactions between CCs, clearing participants and other financial service providers. The report on the implementation of the joint action plan notes the establishment of anti-crisis groups for systemically important CCs and describes further plans with regard to the evaluation of funding that CCs might potentially require for their insolvency resolution.

Trade repositories

On 24 August 2017, the European Securities and Markets Authority (ESMA) published a guidance on the exchange of information between trade repositories (TR). Pursuant to it, the possibility to exchange information is the key factor ensuring the competition between the seven trade repositories authorised in EU and the monitoring of risks. The guidance contains 29 provisions and covers the issues regarding information transfer upon request of a TR member and in case of the revocation of TR li-

[2] *2http://www.icexindia.com/*

cence. The provisions of the guidance come into effect in early 2017 Q4.

Regulation of cryptocurrency operations

On 24 July 2017, the US Commodity Futures Trading Commission (CFTC) registered LedgerX as a derivatives clearing organisation (DCO), which allows it to provide clearing services under collateral-backed virtual currency swaps. On 6 July, LedgerX was registered by CFTC as a swap execution facility (SEF). LedgerX members can buy and hedge bitcoins and other virtual currencies using exchange-traded option contracts with centralised clearing. CFTC noted that the authorisation as a DCO for virtual currency swaps does not mean that CFTC approves the usage of virtual currencies in general and bitcoins in particular.

On 25 July 2017, the SEC Distributed Ledger Technology Working Group (DLTWG) published the investigative report, according to which operations with digital assets conducted by 'virtual' organisations fall within the scope of the federal securities regulation requirements. Therefore, operations with digital assets, including initial coin offerings (ICO) or token sales, conducted using the distributed ledger/blockchain technology, should be governed by the US Securities Act.

On 4 August 2017, the European Bank Authority (EBA) published proposals on further activity in the sphere of financial technologies.

The document contains the results of the first-time monitoring of the usage of financial technologies in the EU (the information was provided by 282 fintech companies from 22 EU and 2 EEA countries). In line with the obtained results, EBA defined the prospective areas for further activity:

– the procedure for registering and establishing sandboxing regimes[3];

– the impact of prudential and operational risks on credit institutions, electronic money institutions, and payment institutions;

– the impact of financial technologies on the business of the above institutions;

– customer protection;

– the impact of financial technologies on the resolution of insolvency of financial companies;

– the impact of financial technologies on the anti-money laundering and anti-terrorist financing.

On 14 August 2017, the Italian Competition Authority (Autorita Garante della Concorrenza e del Mercato) imposed a penalty upon the organisers of the OneCoin cryptocurrency pyramid. The Competition Authority imposed a EUR 2.6 million fine on a group of companies that promoted a OneCoin investment scheme in Italy. The OneCoin scheme is prohibited in Germany. Measures against it are being taken in Belgium, the UK, Nigeria, Uganda, Belize, India and Vietnam.

On 17 August 2017, the Australian authorities intend to introduce new rules governing the use of cryptocurrencies, including bitcoin, in the country. The rules will be part of the new anti-money laundering regulation. In accordance with them, cryptocurrency exchanges will be accountable to the Australian Transactions and Reporting Analysis Centre (AUSTRAC).

The decision of the Australian authorities to regulate the cryptocurrency market came shortly after a similar decision was take in Japan. There, starting from Q4, all exchanges and money transfer services conducting operations with bitcoins and other cryptocurrencies will be accountable to the Japanese financial regulator. From now on, these services will be subject to the annual audit and anti-money laundering laws. When new rules come into force, Japan will become the first country where bitcoin will be de jure recognised as a legal tender.

On 24 August 2017, the Canadian Securities Administrators (CSA) published an information letter on cryptocurrency offerings. The information letter clarifies the position of the Canadian authorities on the initial coin offering (ICO) of cryptocurrencies. The regulator notes that many ICOs can be viewed as the sale of securities. The document aims to explain to fintech companies their obligations under Canadian securities market laws. Moreover, CSA recommends that companies planning an ICO use the regulatory sandboxing mechanism.

On 4 September 2017, the People's Bank of China, China Securities Regulatory Commission, China Banking Regulatory Commission, China Insurance Regulatory Commission and other relevant institutions published a joint announcement where the initial coin offering mechanism was called an illegal money collection scheme and prohibited any token sales in the country. Earlier, on 24 August,

[3] *A regime where organisations can test new technologies without risking violating regulations.*

China's State Council proposed for public consideration a draft law on countering the illegal financing.

On 5 September 2017, the Securities and Futures Commission of Hong Kong (SFC) published an information letter on initial cryptocurrency offering. In its letter, SFC explains that, depending on ICO facts and circumstances, digital tokens can be considered securities and be subject to Hong Kong securities laws. SFC also warns that they are prone to significant money laundering and terrorist financing risks. Moreover, SFC also draws investors' attention to increased risks accompanying ICOs and digital token investments as well as risks inherent in the secondary market for digital tokens.

On 6 September 2017, the European Central Bank (ECB) and the Bank of Japan published a joint report on the distributed ledger technology. The regulators presented the first results of their joint Stella project aimed at researching the prospects of using the distributed ledger technology (DLT) within the financial market infrastructure. The central banks studied the possibility of efficient and reliable operation of payment systems in a DLT-based environment. ECB and BoJ noted that the test results were promising but concluded that it was too early for DLT to be used for such large-scale payment systems as BOJ NET and ECB's TARGET2 at the current stage of the technology's development.

THE LIST OF CHARTS

THE LIST OF TABLES