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REVIEW**

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SUMMARY

In the reporting period, the Russian economy began to recover, adapting to external conditions. Risks in the financial sector overall declined. Liquidity situation improved and the quality of assets remained stable in the banking sector. Fiscal risks softened due to the consistent implementation of the budget consolidation program and the introduction of the transitional budget rule in the reporting period. With the persistence of favourable external conditions, economic recovery and financial sector strengthening are expected to continue. In this situation, increased capital inflow may be observed, and macroprudential policies to prevent the formation of ‘bubbles’ in certain markets may be required. At the same time, the escalation of risks associated with a possible decline in oil prices and a slowdown in global economic growth should not be excluded.

Assessment of risks of the financial system and its sectors

External risks

During the reporting period, despite the rise of political risks and the increase in the US federal funds rate, positive expectations persisted in the global financial markets, and capital inflow to emerging markets was observed. This was promoted by the revival of economic activity in leading economies. Coordinated actions of OPEC members and other oil producers led to 8% increase in prices for Brent crude oil from 1 October 2016 to 1 April 2017.

Against the background of favourable market conditions, there was a decrease in the sovereign risk premium in Russia and growth of foreign investments in Russian assets; however, the capital inflow was moderate comparing to previous periods (for example in comparison with 2012). In many countries, including Russia, the carry-to-risk ratio has increased, which was caused not by the change in interest rate differential but by lower volatility of the ruble exchange rate. The share of non-residents in the Russian government debt market (OFZ) increased from 27.0% as of 1 October 2016 to 30.1% as of 1 April 2017, while the yields of Russian bonds declined. Foreign investors are more actively involved in auctions and secondary trading of OFZ, contributing to the implementation of the program of market borrowing of the Ministry of Finance, which increased in comparison with 2016. Nevertheless, the demand from Russian credit institutions, primarily systemically important ones, remains a crucial pricing factor in the OFZ market.

Potential global factors of volatility include the possible deterioration of the situation in China, given the continued lending growth in the economy, as well as the planned change in the US trade and economic policies. Negative dynamics of global trade may reduce the potential for economic growth in a wide range of countries that will be more exposed to the negative effects associated with the tightening of the Federal Reserve monetary policy. The strengthening of political disagreements in Europe (including in light of Brexit) may impede the coordinated implementation of structural reforms, including in the banking sector. The materialization of these global risks could potentially cause a deterioration in market conditions, including lower oil prices and capital outflows from emerging markets.

Banking sector's risks

Banking sector's risks generally declined. Bank profit continues to increase: the quarterly financial result increased from 109 billion rubles in 2016 Q1 to 341 billion rubles in 2017 Q1, and the share of profitable credit institutions as of 1 April 2017 equalled 75%.

One of the factors contributing to the profit growth is a decrease in new loan-loss provisions, which occurred both in systemically important credit institutions and in other banks. Furthermore, net interest income of the banking sector is growing and reached 677 billion rubles in 2017 Q1, exceeding the average level of the past three years. The increase in interest rates in the US and the euro area should not have a significant negative impact on the interest margin of Russian banks due to the fact that a significant share of FX loans is provided by them at floating rates, and FX claims and liabilities are fairly balanced by maturity.

The credit quality of the corporate portfolio of the banking sector remains stable. With the exception of banks that are under resolution, the share of category IV-V loans in the last six months increased by 0.2 percentage points only, to 8.6%. In the segment of lending to small and medium enterprises, the quality of the loan portfolio is also stabilising. The share of category IV-V loans decreased by 1.2 percentage points to 20.0% (with the exception of banks under resolution).

The main instrument of the banks in managing credit risk is still the restructuring of loans, mainly in foreign currency to companies that do not have sufficient foreign exchange revenues for debt servicing (organizations engaged in construction and real estate).

There are favourable conditions for the decline in the liquidity risk in the banking sector. However, positive dynamics of liquidity ratios is demonstrated mainly by systemically important credit institutions: the average value of the quick liquidity ratio N2 for these banks increased in six months by 30 p.p., and the current liquidity ratio N3 increased by 55 percentage points. For other banks, the liquidity ratios in six months did not change significantly. Systemically important credit institutions also increased the average value of the liquidity coverage ratio from 93% as of 1 October 2016 to 104% as of 1 April 2017, mainly due to an increase in investments in liquid assets, primarily OFZ. Against the background of liquidity surplus, the list of securities accepted by the central bank in refinancing operations may be limited, which increases the importance of liquidity risk management by banks.

Non-bank financial organisations' risks

The main problems of insurance companies remain fraud and arbitrage practice in the segment of compulsory motor third party liability insurance (OSAGO). In order to reduce the pressure of overhead costs on insurance companies, legislation introduced fundamental changes that stipulate the priority of a natural form of damages recovery. In the medium term, we can expect a reduction in investment income due to the expiry of deposits and debt securities with higher rates. At the same time, the reduction in deposit rates revives the life insurance market: demand on life insurance is steadily growing, as is the interest of intermediary banks in selling insurance products with an investment component.

As part of the analysis of the risks in the pension market, the Bank of Russia pays special attention to assessing the possible interconnectedness risks of private pension funds (NPFs) through cross investments and is implementing measures to prevent the growth of this risk. Thus, in 2016, regulatory requirements of the Bank of Russia came into force with regard to the organisation of the risk management system of NPFs, and in 2017 the market expects significant changes in the rules on investment of pension savings (in particular, by 2019 NPFs will have to reduce investments in bank assets to 30%). In addition, the Bank of Russia is analysing the issue of using motivated judgment when assessing NPFs investments in related parties.

Macroprudential policy

Shift in the scale of risk weights in the unsecured consumer lending market

In the segment of unsecured consumer, lending there is a gradual recovery in lending activity, which is reflected in an increase in new loans provided. Credit quality continues to improve due to conservative

underwriting standards. In the future, we can expect a continued decline in the share of 'bad' loans: given the current level of credit activity, this indicator will reach 16% by 1 January 2018 (against 16.6% on 1 April 2017).

Against the background of a slowdown in inflation and a reduction in the deposit rates, there is a significant decrease in the effective lending rates on unsecured consumer loans. According to the data for the 2016 Q4, credit institutions did not provide consumer loans with an effective rate of more than 45% p.a., and consumer loans with an effective interest rate from 35 to 45% accounted for 1.4% of all consumer loans provided.

Given the lower cost of deposits, the same level of effective rate reflects a higher level of credit risk of the borrower. In this regard, maintaining the previous scale of risk weights would mean the weakening of regulatory requirements (lower risk ratios for riskier loans); therefore, the Bank of Russia set a new scale of risk ratios for consumer loans to calculate banks' capital adequacy ratios.

The segment of mortgage lending continues to maintain high growth rates, but this trend does not bear systemic risks, as banks adhere to high underwriting standards, and the quality of the loan portfolio continues to improve. During 2017 the level of non-performing loans will be 2.5-3% (2.5% as of 1 April 2017). In advanced countries, mortgage loans account for about 80% of total loans provided to households, therefore the accelerated growth of mortgages compared to unsecured consumer loans is a natural process of financial market development.

Development of macroprudential tools based on debt burden indicators

High effective rate is one of the risk factors for consumer loans. Accumulation of systemic risks can occur even in conditions of relatively low levels of effective interest rates on loans. In this regard, in order to differentiate loans by the level of risk within the framework of macroprudential regulation, it is practicable to use the indicators of the aggregate debt burden of the borrower.

The Bank of Russia's consultative report 'On the assessment of individual borrowers' risks on the basis of debt burden indicators' showed that most market participants, as well as the regulator, consider it necessary to improve the quality of information from credit bureaus for the implementation of debt burden indicators. The Bank of Russia has already started drafting an appropriate bill and is developing a model for integrating data from credit bureaus.

Reducing dollarization of assets

As a result of the measures implemented by the Bank of Russia¹ and reassessment of risks on FX loans by the banks, the dollarization of the portfolio of loans to non-financial organisations is decreasing. The portfolio of FX loans to non-financial organisations from 1 October 2016 to 1 April 2017 decreased by 8.2%. Lending in foreign currency is mainly reduced for companies from non-tradable sector, which do not have sufficient FX revenues for debt servicing (organizations engaged in construction and real estate). At the same time, companies from export-oriented industries continue to attract FX loans. Stable level of non-financial companies external debt has been observed (for large companies reporting data on external liabilities to the Bank of Russia, foreign debt decreased over the past 12 months by about 13%), but in case of an improvement in the market situation, this trend may quickly reverse. In this regard, the Bank of Russia plans to expand the current monitoring system (a survey of largest 30 borrowers), both in terms of the number of organisations interviewed and the composition of the information requested.

¹ Since May 1, 2016, the risk ratio has increased to 110% for loans to residents of the Russian Federation whose foreign currency proceeds for the last completed financial year is less than 60% of total proceeds and less than 120% of total loan payments for the current calendar year in the same foreign currency as the proceeds.

Results of monitoring of the risks of development institutions

During the reporting period, based on the results of the analysis conducted by the interagency working group set up on behalf of the National Council on Ensuring Financial Stability (FSC) in the spring of 2016 to assess the potential risks of the development institutions (Agency for Housing Mortgage Lending (AHML), the Federal Corporation for Development of Small and Medium Enterprises), there is no risk to financial stability in the short term. However, taking into account strategic plans some of development institutions and their social focus, preconditions for systemic risks are possible. In this regard, within the framework of inter-agency working groups of FSC the necessity and form of financial regulation and supervision of certain institutions is being discussed.

RISK MAP

Chart 1

Russian financial market risk map

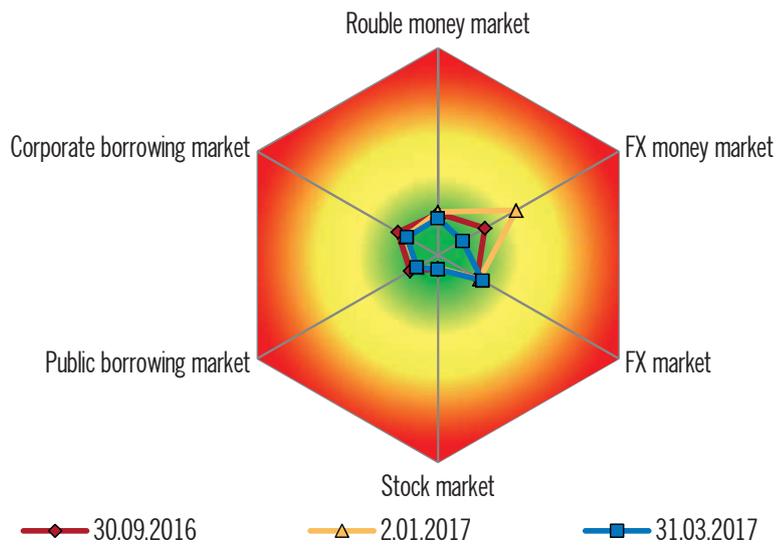
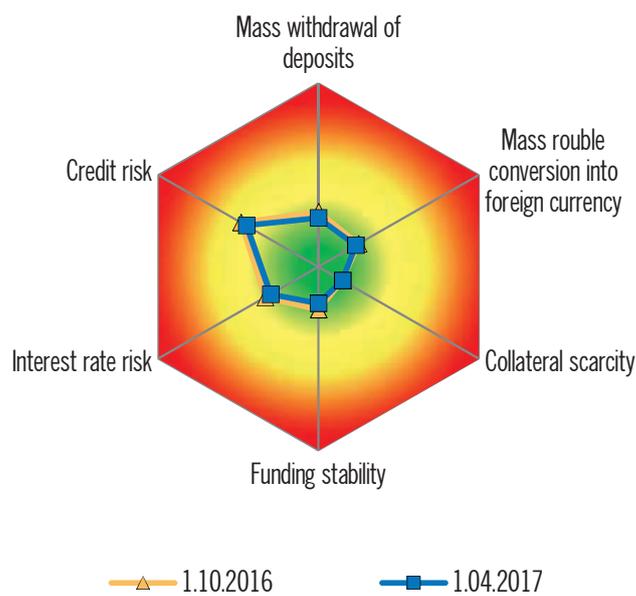


Chart 2

Russian banking sector risk map



1. GLOBAL ECONOMIC AND FINANCIAL MARKET RISKS

The reporting period was characterised by improvement in global economic growth prospects despite the increase of political risks. Developed countries saw a revival of economic activity, improvements in the labour market and accelerated consumer prices. Emerging market economies (EME) remained stable with a decrease in market risks (Chart 3). The International Monetary Fund (IMF) forecast an acceleration of growth rates of the global economy to 3.5 and 3.6%, respectively, in 2017–2018 (Table 1).

The reporting period saw an increase in optimistic sentiment among global investors within the context of improved macroeconomic conditions. In mid-2016, some leading economies, including the USA, Eurozone states, China, and several other countries, showed growth in business activity indicators (Chart 4). As a result, the global financial markets saw a significant increase in global stock indices. The USA witnessed a more significant growth in the value of shares in the banking sector amid expectations of the deregulation of the financial sector (revision of the Dodd Frank Act). Growing risk appetite among global investors facilitated capital inflow to EME (Chart 5). Oil and metal price recovery had

positive effects on many exporting states, both from developed countries and EME.

Table 1

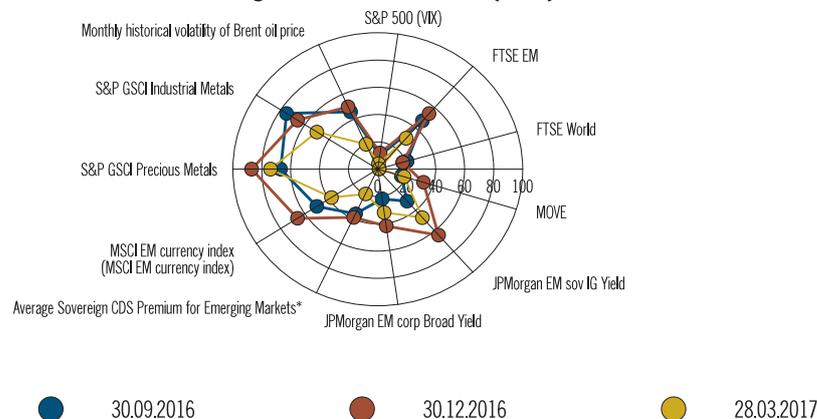
GDP growth rates

	GDP growth rates, %				Deviation from October 2016 forecast, pp	
	2015	2016	Forecast		2017	2018
			for April 2017	2018		
			2017	2018		
World	3.2	3.1	3.5	3.6	0.1	0.0
Developed countries	2.1	1.7	2.0	2.0	0.2	0.2
USA	2.6	1.6	2.3	2.5	0.1	0.4
United Kingdom	2.2	1.8	2.0	1.5	0.9	-0.2
Eurozone	2.0	1.7	1.7	1.6	0.2	0.0
Japan	1.2	1.0	1.2	0.6	0.6	0.1
Emerging markets and developing countries	4.1	4.1	4.5	4.8	-0.1	0.0
China	6.9	6.7	6.6	6.2	0.4	0.2
India	7.6	6.8	7.2	7.7	-0.4	0.0
Russia	-3.7	-0.2	1.4	1.4	0.3	0.2
Brazil	-3.8	-3.6	0.2	1.7	-0.3	0.2
South Africa	1.3	0.3	0.8	1.6	0.0	0.0
Mexico	2.6	2.3	1.7	2.0	-0.6	-0.6

Source: IMF.

Chart 3

Change in key performance indicators of the global financial market (units)

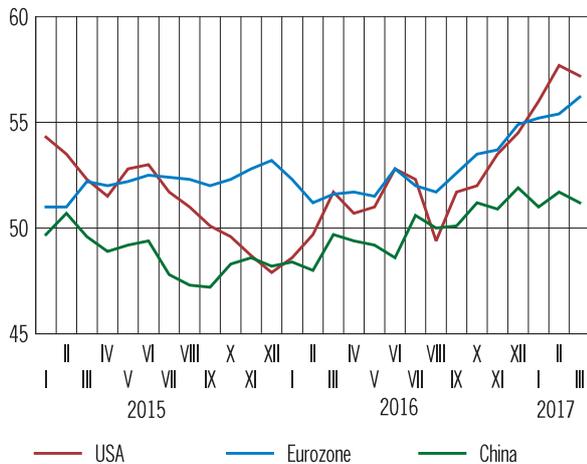


* The sample includes: China, Brazil, South Africa, Indonesia, Philippines, Malaysia, Mexico, Peru, Chile, Turkey, Hungary, Poland.

Note. The 0 to 100 scale reflects the minimum and maximum values of indicators in the period from 1 January 2012 to 1 April 2017. From the centre to the periphery – the decline in stock indices, the growth of volatility of VIX, the growth of volatility of the prices of Brent oil, the decline in prices for industrial metals and gold, the weakening of currencies of emerging markets, the growth of yields of government and corporate bonds, the increase in premium on sovereign CDS.

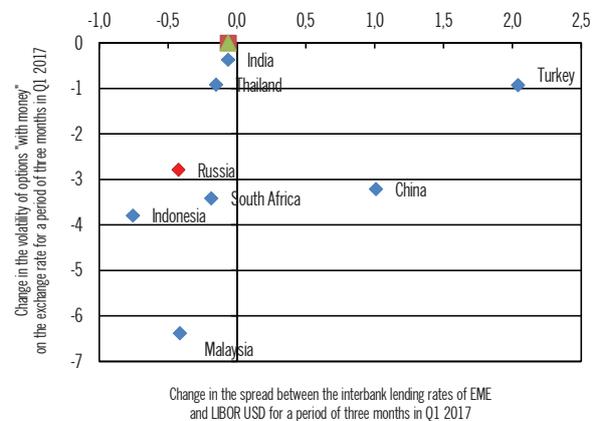
Source: Bloomberg.

Chart 4
PMI in production



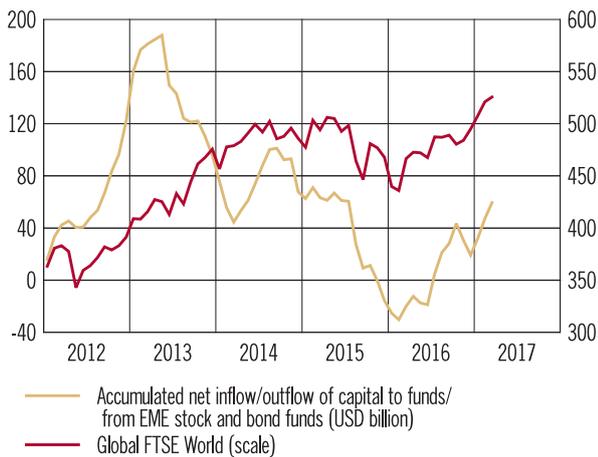
Source: Bloomberg.

Chart 6
Change in the differential of EME rates and the imputed volatility of EME exchange rates against the US dollar in Q1 2017 (pp)



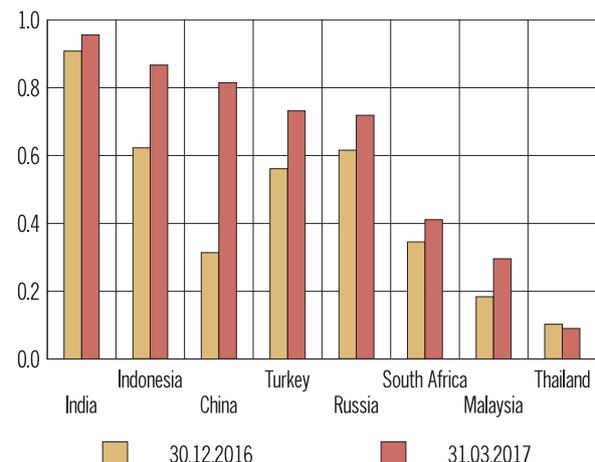
Source: Bloomberg.

Chart 5
Dynamics of the global shares and capital flow index



Source: Bloomberg, EPFR.

Chart 7
Change in carry-to-risk ratio in EME in Q1 2017



Source: Bloomberg.

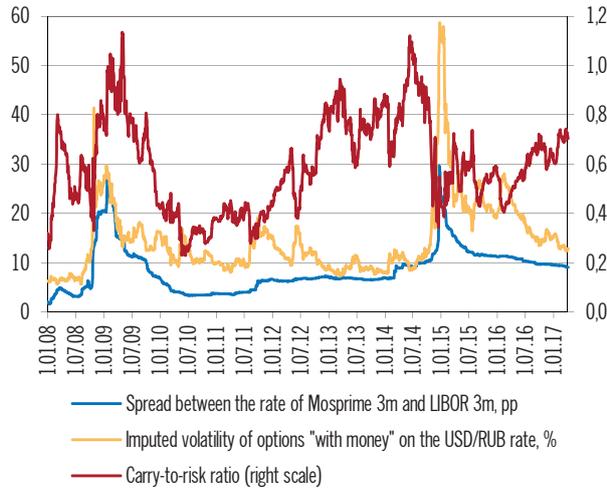
Such increased capital inflow into EME is partly driven by the preservation of the attractiveness of the so-called carry trade transactions (Box 1), given the continuing rate differential and decreased volatility of EME currency rates. The carry-to-risk ratio rose in 2017 Q1, which reflects the ratio of interest rate difference by country (carry trade return) to the relevant currency volatility with time. Carry-to-risk growth is driven by the decrease in EME currencies rate volatility (Chart 6) amid improving economic prospects. India and Indonesia are currently showing the largest indicators (Chart 7).

Russia has also been observing an increase in capital inflow since early 2017; however, its scope does not exceed past figures and is not a record

high among EME. A slight increase in the carry-to-risk figures in Russia and other EME states is primarily due to a decrease in the ruble volatility, not to an increase in the rate differential (Chart 8). The Russian government debt market shows an increase in the involvement of non-residents – their share in the OFZ market increased to 30.1% as of 1 April 2017 from 27.0% as of 1 October 2016 (Chart 9). While non-resident operations increased in the Russian government debt market, this factor has no impact on the total stability of the financial market (Section 5.2). Strengthening of the ruble in 2017 Q1 was caused by fundamental drivers, such as foreign currency inflow through foreign trade and, in a much lesser degree, by carry trade trans-

Chart 8

Dynamics of carry-to-risk ratio in Russia



Source: Bloomberg.

Chart 9

Premium on sovereign CDS of Russia and share of non-residents' investments in OFZ



Source: Bank of Russia, Bloomberg.

actions. According to the preliminary estimate of the Bank of Russia, the positive balance of Russia's current account was \$22.8 billion in 2017 Q1, compared with \$12.9 billion a year earlier.

While the optimism in the global financial market grows, a dramatic market change and renewed capital outflow from emerging markets cannot be excluded. Among the key global risks are the following.

Box 1. Carry Trade Transactions

As part of carry trade strategies, investors borrow money from low-rate countries and invest in more profitable assets in other countries. The more favourable environment for carry trade strategies must maintain a relative stability in financial markets, opportunities to generate profits from the interest rate difference, and an acceptable level of country risks.

Regulators should monitor carry trade operations, as the closing of carry trade positions may disrupt the national currency rate and thus affect financial sustainability. To pursue carry trade strategies, investors must correctly assess

Chart 10

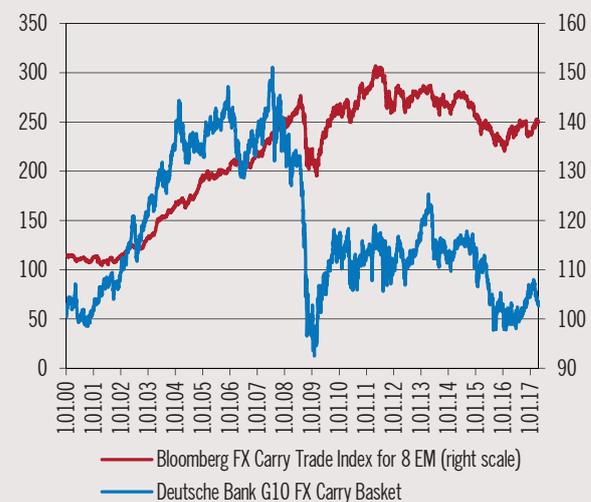
Carry-to-risk ratios



Source: Bank of Russia, Bloomberg.

Chart 11

Carry trade indices



Source: Bloomberg.

their risks related to increasing volatility of currency rates. Carry trade operations remain profitable unless high-yielding currencies begin to depreciate relative to low-yield ones. Even a slight weakening of currency in any country of investment may deprive investors of their proceeds from interest rate differences.

Market players applied carry trade strategies at different historical stages, primarily in the context of market booms. The attractiveness of carry trade transactions may be assessed by the carry-to-risk ratio, which shows the ratio of interest rate difference by country (carry trade return) to the relevant currency volatility with time. The higher the ratio, the more profitable carry trade is for investors. In 2006–2007, the Japanese yen was the key funding instrument of carry trade operations and investors preferred to invest in Australian and US dollars (Chart 10). However, when all leading central banks decided to pursue a very accommodative monetary policy, carry trade transactions focused on investments in developed economies became less popular as profits from interest rate differences decreased.

When developed markets established ultra-low rates, investors became increasingly interested in strategies that enabled them to gain proceeds from investing in assets in emerging markets. Still, a plunge in commodities prices in mid-2014 accompanied with high volatility of currency markets made carry trade transactions even less attractive. Deutsche Bank Index, which tracks carry trade on 10 basket currencies and Bloomberg Index on eight EME currencies reached the minimum rates in 2016 since 2009 (Chart 11).

Amid the stabilisation in the global finance markets and improved EME economic prospects in 2016, foreign investors improved their view of EME risks. Carry trade index relative to EME currencies rose by 9.8% from 1 January to 8 November 2016. Investors tended to close their positions on high-yield EME currencies after the US presidential elections, but the index continued to grow in 2017 (by 5.7% in 2017 Q1).

1.1. The risk of economic slowdown and increased debt burden in China

Global risks continue to include a high risk of negative developments in the economy and financial sector of China, although the current situation looks better than expected. China's GDP growth rate slowed to 6.7% in 2016 (6.9% in 2015). According to the IMF, China's economic growth will slow to 6.6% and 6.2% in 2017 and 2018, respectively. Ongoing credit expansion continues to be the main support of China's economic growth. Lending activity increased as the People's Bank of China (PBC) eased its monetary policy in 2012. According to Bloomberg reports, the total assets of China's banking sector increased to 312% of the GDP and Total Social Finance, a measure showing corporate and household liabilities related to bank and non-bank loans, reached 213% of the GDP as of 1 January 2017 (Chart 12).

However, an increase in the loan burden of China's economy contributed to the formation of a "credit boom". According to the Bank for International Settlements, China's credit gap¹ reached a significant level (26% as of 30 September 2016).

Outflows from China accelerated in 2016 amid increasing concerns about the sustainability of its financial system. According to estimates by the Institute of International Finance (IIF), net capital outflows from China reached a record-high \$75 billion in 2016². At the same time, increased outflows and strengthening of the US dollar contributed to the weakening of the yuan. In late 2016 and early 2017, the authorities adopted a range of regulatory measures to limit outflows. The PBC had to make interventions to support the yuan, which substantially reduced gold and foreign exchange reserves. China's foreign exchange reserves decreased by \$200 billion from 1 August 2016 to \$3 trillion on 1 April 2017 (the lowest figure on record since March 2011).

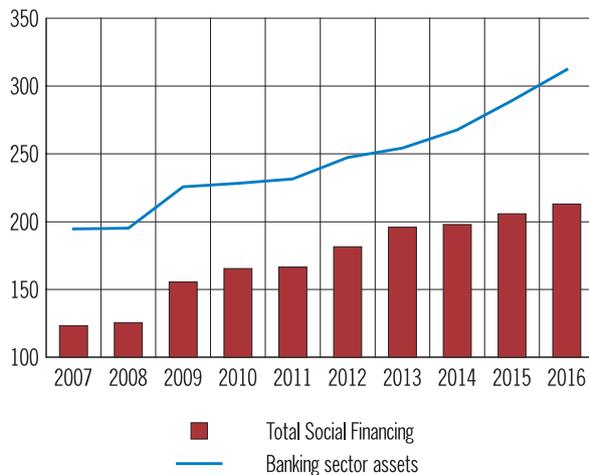
Moreover, in order to limit the credit boom, the PBC began tightening its monetary policy in 2017 Q1: the bank increased interest rate on one-year loans issued as part of the Medium-Term Lending Facility (MLF) and short-term interest rate on loans issued under the Standing Lending Facilities (SLF). The increase in SLF interest rate (Chart 13) may signal that the PBC has shifted its focus from encouraging economic growth to limiting risks in the financial sector. At the same time, the following vol-

¹ Deviation of the non-financial sector debt, including non-financial companies and households, relative to GDP from the long-term trend.

² <https://www.iif.com/publication/capital-flows-tracker/january-2017-iif-capital-flows-tracker>.

Chart 12

Dynamics of banking sector assets and Total Social Finance indicator (% of GDP)



Source: Bloomberg.

atility growth in the financial market shows that China has troubles in dealing with its high debt burden. The interbank lending rates for overnight SHIBOR rose by 50 bp from early August 2016 to 2.5% as of 1 April 2017. China's rates are expected to rise very slowly and gradually.

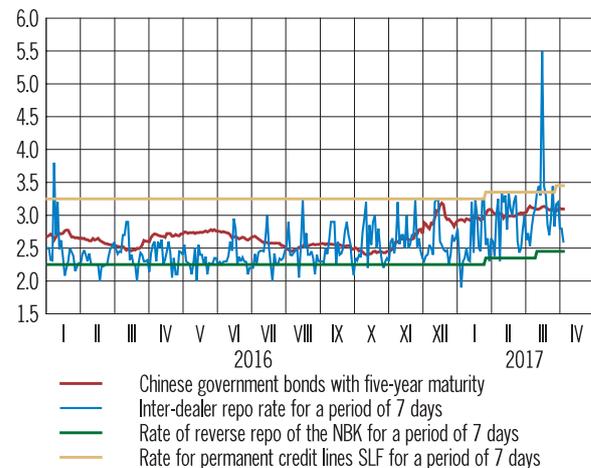
This rise may be followed by significant risks, primarily given the use of wealth management products (WMP) by the banks. Given low interest rates in the money market, WMP became a standard business practice in China. Funds raised from WMP issue are often used to finance long-term investments (with the average corporate bond maturity of 7.7 years), while WMPs themselves have short maturities (primarily three or less months for fixed yield). According to PBC, WMPs on off-balance bank accounts reached CNY 29.1 trillion (\$4.2 trillion) in late 2016. Given the increase in rates, fund raising may become challenging and the existing timing discrepancies will put the stability of the financial system at risk. Small banks will become more vulnerable, given their involvement in transactions with the shadow banking sector.

The vulnerability of China's financial sector also increases due to more frequent corporate defaults. Defaults on bonds in China skyrocketed after the first large-scale corporate default in 2014. According to WIND data³, the total bonds declared in default were CNY 56 billion during the period from

³ Wind Information Co., Ltd is a leading service and data provider to China's financial sector headquartered in Shanghai.

Chart 13

Interest rate dynamics in China (%)



Source: Bloomberg.

2014 to February 2017⁴. Defaults were primarily related to mining corporate and land/real estate bonds and reflected a significant slowdown in heavy industry and construction. In this context, China is witnessing an increase in corporate and government bond yields.

Along with a high corporate debt burden, China may face another significant risk of inadequate transparency in the banking sector. Despite the debt-to-equity swap program,⁵ the asset quality in China's banking sector continues to decline. According to the China Banking Regulatory Commission (CBRC), the non-performing loan share in the banking sector was 1.74% as of 1 January 2017. Still, the NPL coverage ratio went down to 53%⁶, which is much lower than the statutory 150%, including special-mention loans⁷.

1.2. Economic Policy Uncertainty

The reporting period saw a growth of economic uncertainty indices up to the maximum levels (Chart 14). The key factors include persisting uncertainty related to Brexit, aggravation of the Eurozone political risks, changes in the economic poli-

⁴ <http://www.wind.com.cn/en/newsletter.html>.

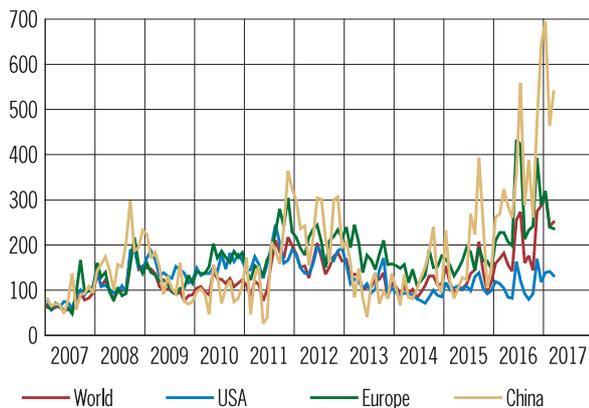
⁵ According to CBRC, debt-to-equity swaps totaled CNY 430 billion (\$62.5 billion) in early February 2017.

⁶ <http://bruegel.org/2017/02/china-banks-in-2017-no-rebound-in-sight-rising-risks-for-smaller-banks/>.

⁷ This category includes loans, which the borrower is able to service currently, but the principal settlement may be a challenge if any unfavourable events occur in future.

Chart 14

Indices of economic policy uncertainty*

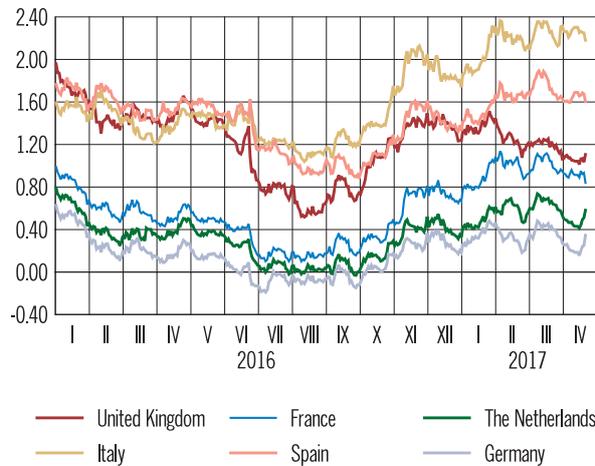


* Indices of economic policy uncertainty are based on the estimates of the frequency of mentioning the terms economy, politics, uncertainty in periodicals.

Source: Bloomberg.

Chart 15

Yields on 10-year government bonds of selected European countries (%)



Source: Bloomberg.

cy pursued by the new US administration (including protectionist policy), and geopolitical risks.

Brexit⁸ may have negative effects on financial stability and economic growth in Europe, given challenges that may arise in negotiating a new format of the UK and Europe relations (new foreign trade and financial transactions conditions). The UK financial institutions and banks may be deprived of the opportunity to use the “single passport” to do business across the union on common grounds. The UK’s central counterparties will have to be recognised according to EMIR (European Market Infrastructure Regulation) to perform clearing operations and settlements in the EU states. To obtain access to TARGET2 and EURO1, the UK banks will have to meet the requirements of the euro payment zone. The most sensitive issue here is reaching a compromise on the UK’s contribution to the EU budget upon request of the European Commission. The UK was the second largest donor of the EU budget, next to Germany. Brexit will cause other EU member states to pay higher contributions to the EU budget and possible budget cuts may result in substantial contradictions among the net givers and the net recipients in the EU.

The sharpening of political differences may aggravate the situation in Europe. Pre-election expectations in Europe increasingly come with protests and market volatility. Unlike the equity market, the bond market has already reflected political risks in

Europe. Many European states witness an increase in government bond yields (Chart 15) with widening spreads vs. Germany’s yields. Aggravated political differences may also challenge the agreement of the unified approach to dealing with Europe’s banking sector (including a large share of non-performing loans) and disrupt the well-coordinated implementation of structural reforms.

The protectionism pursued by the US government may have global secondary effects as it will directly affect global trade and capital flows. As a result, many emerging markets, which are highly integrated into the global trade system and involved in capital flows, may face an increase in the sovereign risk premium. Trade barriers may decrease the EME potential economic growth. The proactive pursuit of protectionism may aggravate trade and currency wars. Amid the US protectionist expectations, Mexico and China have faced significant capital outflows and weakening of their national currencies.

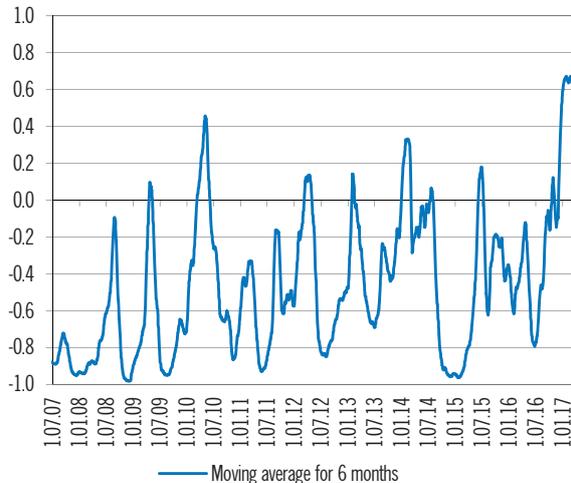
1.3. High Uncertainty in the Oil Market

Oil prices have stabilised at above \$50 per barrel (Brent added 7.7% to \$52.8 per barrel during the reporting period); however, it is not unlikely that prices will go down again influenced by a number of factors.

The oil price growth was driven by a successful implementation of the agreement between OPEC

⁸ Article 50 of the Treaty of Lisbon was launched on 29 March 2017.

Chart 16
Correlation between the US dollar index as compared with the key DXY currencies and price of Brent oil

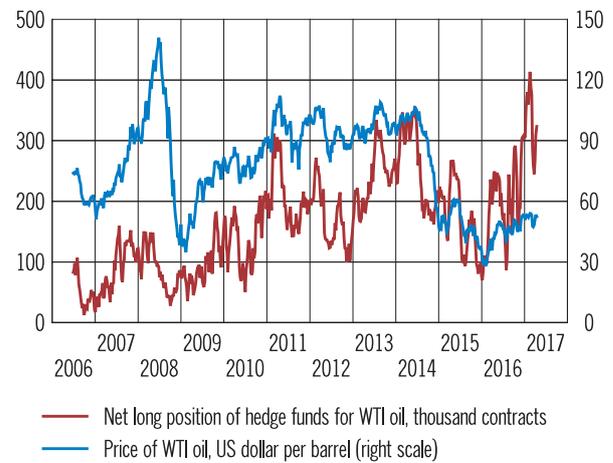


Source: Bloomberg.

and other largest oil producers related to limiting oil production made in late 2016. Still, the global market continues to face an oil surplus. According to the International Energy Agency (IEA), the total oil supply decreased by 0.4 million barrels per day (“MMBD”) to 97 MMBD in 2016, while the global oil demand rose by 1.7 MMBD to 96.6 MMBD. The 2017 forecasts expect a slowdown in the global oil demand (with a 1.3 MMBD increase)⁹ and the supply is expected to face a significant rise from the US oil production. According to IEA forecast¹⁰, the US oil production will rise by 1.4 MMBD by 2022 with prices maintained at about \$60 per barrel and with an \$80 per barrel price the USA may increase production by 3 MMBD.

The strengthening of the dollar with the normalisation of the US Federal Reserve monetary policy may be an important factor in bringing oil prices down. Historical data show a consistent inverse correlation between the US dollar index relative to a basket of foreign currencies (DXY) and Brent oil prices. The dependence of oil prices on the US dollar strengthening declined in 2017 (Chart 16) due to the market optimism related to the agreement to cut oil production by OPEC and other large-scale oil

Chart 17
Dynamics of the price of WTI oil and weekly data on the net long positions of hedge funds by WTI



Source: Bloomberg.

producers. The inverse correlation between oil prices and the US dollar rate may soon resume.

Speculative market players may put increased pressure if oil prices decline. Weekly reports of the Commodity Futures Trading Commission (CFTC) show that hedge funds enhanced their net long open positions on WTI to a record high in early 2017 expecting further oil price growth (Chart 17). If the market becomes negative, hedge funds will have to close their net long positions and fix losses causing oil prices to plunge.

1.4. Risks of Increasing Costs of Dollar-Denominated Financing

The reporting period witnessed growth in dollar loans against the backdrop of the US federal funds rate increase in December 2016 and March 2017 (USA three-month interbank rate LIBOR USD rose 30 bp to 1.15% (Chart 18)). The US market faced expanded LIBOR-OIS spread in the second half of 2016 (Chart 19) in the context of US money market funds (MMFs) reforms, which caused MMFs to increase investments in the US government bonds and decrease financing in the money market. The situation stabilised in February and March 2017 when global bank subsidiaries withdrew surplus funds in the US Federal Reserve.

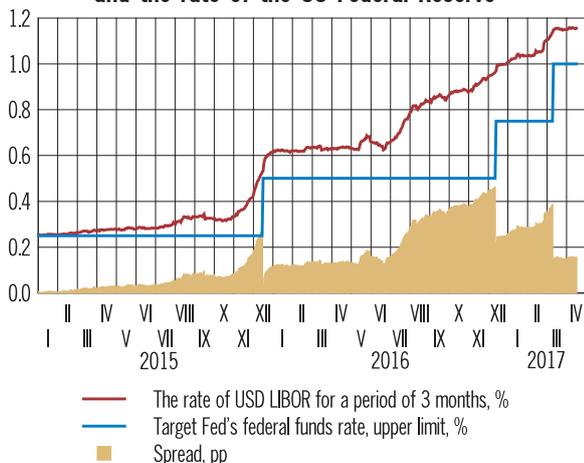
In this context, the offshore markets witnessed an increase in dollar-denominated funding costs that indicates maintenance of negative cross-cur-

⁹ IEA monthly Oil Market Report, 13 April 2017, <https://www.iea.org/media/omrreports/tables/2017-04-13.pdf>.

¹⁰ <https://www.iea.org/newsroom/news/2017/march/global-oil-supply-to-lag-demand-after-2020-unless-new-investments-are-approved-so.html>.

Chart 18

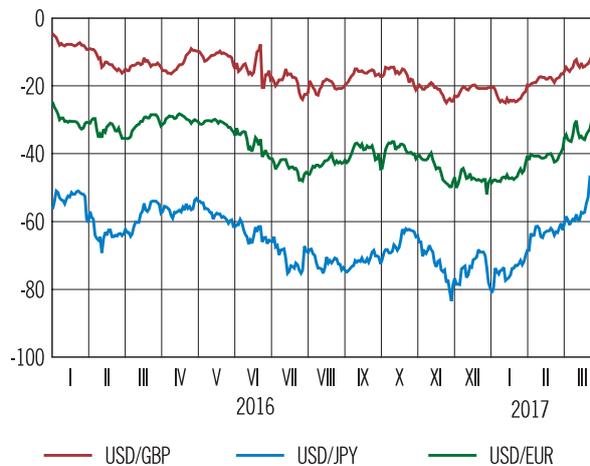
Dynamics of the spread between the rate of USD LIBOR for a period of 3 months and the rate of the US Federal Reserve



Source: Bloomberg.

Chart 20

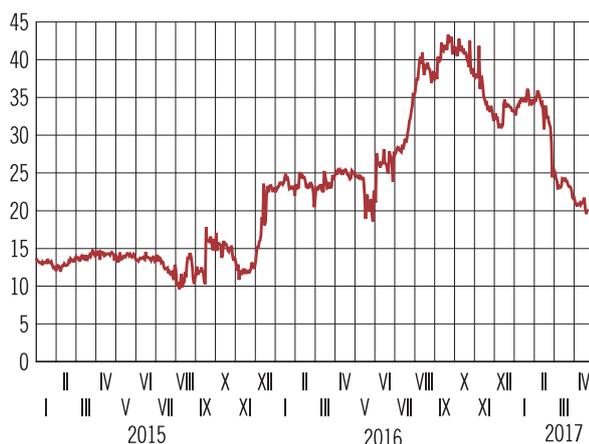
Dynamics of cross-currency spreads for a period of 1 year



Source: Bloomberg.

Chart 19

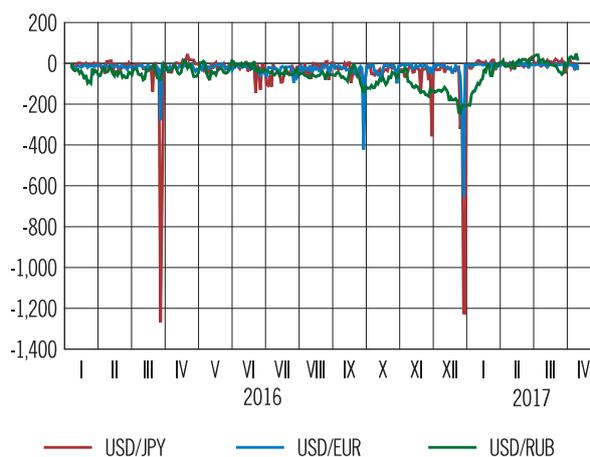
Dynamics of USD LIBOR-OIS for a period of 3 months (bp)



Source: Bloomberg.

Chart 21

Dynamics of cross-currency spreads for the period of overnight (bp)



Source: Bloomberg.

rency spreads¹¹ in many countries. Moreover, cross-currency spreads expanded in late 2016, indicating a more substantial rise in dollar-denominated funding cost in offshore markets compared with the US market (Chart 20). The growth in dollar-denominated lending costs was driven by more frequent volatility upsurges in the currency swap markets on a quarterly basis (Chart 21) caused by banks' need to comply with the Basel standards.

Russia also saw an increase in dollar-denominated lending costs in late 2016. To offset a high

demand for currency liquidity, the Bank of Russia increased the limits on the currency repo auctions on 26 and 27 December 2016, which increased the debt of credit institutions on such transactions in 2016 Q4. However, the limits were brought down in January 2017, which brought cross-currency spreads back to normal and reduced the debt of credit institutions on currency repo transactions. No volatility upsurges occurred in the global and Russian markets as of 1 April 2017.

As long as the US Federal Reserve continues to increase the rate, dollar-denominated loan costs will continue to rise. At the same time, the US Federal Reserve's key rate may grow faster, if US inflation accelerates. There are stronger expecta-

¹¹ Cross-currency spread is the difference between a dollar-denominated interbank rate LIBOR and an interest rate in a cross-currency swap on the dollar part of the deal for the set period.

tions that the European Central Bank (ECB) will normalise its policy. The ECB decreased its monthly asset purchase plan from 80 billion to 60 billion euro from April 2017. Accelerated rise in rates will primarily affect debt sustainability, i. e. public debt servicing in developed economies, in particular, the Eurozone, and the EME corporate debt. In this context, European regulators focused on the effects of rising rates on financial sustainability; in particular, they are discussing efforts to counter non-performing loans. The ECB decided to conduct an analy-

sis of bank sensitivity to changes in interest rates (changes in assets and liabilities and net interest income).

Along with the above risks related to the impairment of macroeconomic and financial settings, there are risks arising due to market overoptimism that is not based on fundamental factors. This may cause market players to re-evaluate their financial assets, bring about an asset overgrowth in the financial sector, excess inflows into EME, and “bubbles” in some segments of the financial market.

2. BANK OF RUSSIA MACROPRUDENTIAL POLICY

The Bank of Russia applied macroprudential regulation instruments during 2016 and 2017 Q1 to prevent accumulation of systemic credit risks in the banking sector. The major regulatory changes affected unsecured consumer loans and FX corporate loans. The Bank of Russia revised its scale of risk weights of banks' capital adequacy ratios to maintain the regulatory requirements for consumer loans with high effective interest rate in the changing macroeconomic environment. The Bank of Russia is developing new approaches to calculating debt burden for further development of its macroprudential instruments in the consumer lending segment.

The practice of applying increased capital requirements with regard to expected asset risk proved to be effective in the regulation of the corporate lending segment. The Bank of Russia's efforts to limit risks related to FX loans (and securities investments) granted to legal entities who lack the adequate foreign currency proceeds brought about a decrease in foreign currency portfolios available to non-credit institutions. Loan debt decreases primarily across the companies focused on the domestic market (construction and wholesale and retail trade). Still, export-oriented companies continue to raise FX loans (see Section 3.1 for more details about the Bank of Russia's efforts to limit FX corporate loans).

2.1. Systemic Risk Assessment and Efforts of the Bank of Russia in the Consumer Lending Market

The unsecured consumer lending market

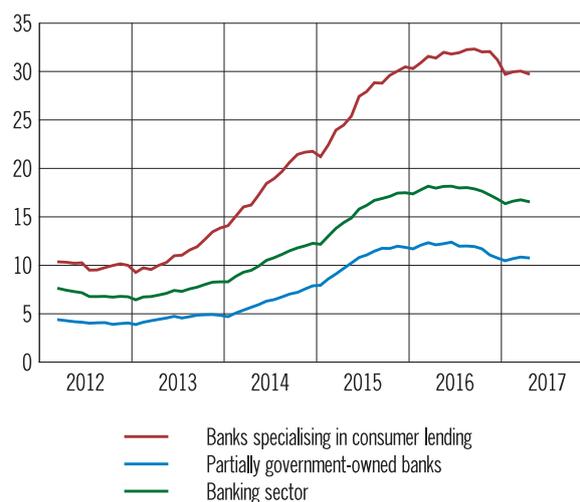
The unsecured consumer loan market showed a range of positive trends in 2016 Q4 and 2017 Q1, which indicates that retail banks have successfully coped with negative developments arising in 2013–2014. The share of overdue loans of more than 90

days¹ continued to shrink during the three quarters following its peak figures in mid-2016 (from 18% on 1 July 2016 to 16.6% on 1 April 2017) (Chart 22). Credit quality improved because banks maintained high underwriting standards on newly issued loans and borrowers improved their payment discipline on existing loans. The risk level on the aggregate portfolio determined by the NPL origination ratio² was 4.7% as of 1 April 2017 (7.9% in 2015) and 6.0% for retail banks (10.4% in 2015) and continues to decline. Risks are declining against the backdrop of near-zero debt growth rates on unsecured loans due to the amortisation of "large" vintages generated in 2013–2014.

The leading indicators of credit quality show that the bad loan share is expected to decline further in the mid-term³. Vintage analysis shows that the risk on loans issued in the first half of 2016 is the lowest since 2011 (Chart 23): the expected share of bad loans is less than 5% by the 12th month from

Chart 22

Share of bad loans in terms of types of credit institutions (%)



¹ According to Sections 1 and 3 of form 0409115 "Information on Asset Quality of the Credit Institution (Banking Group)".

² The growth of loan impairment provisions and write-offs over 12 months relative to the average size of the loan portfolio over 12 months less provisions created during 12 months.

³ Overdue loans of 90 or more days.

Chart 23

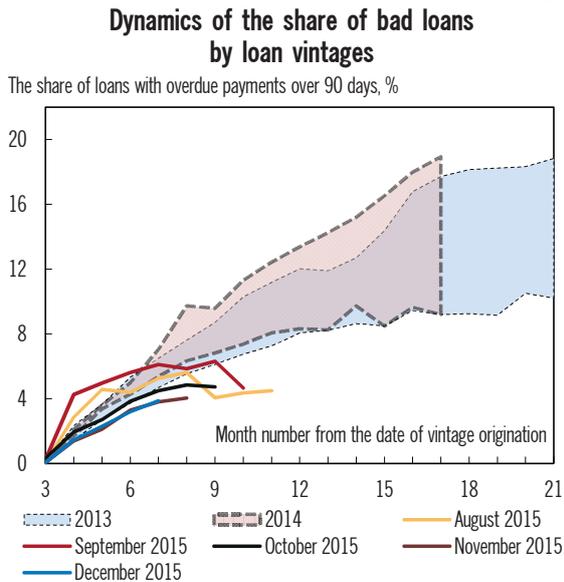


Chart 25

Equity distribution of the banks specialising in unsecured consumer lending, by the value of N1.0 (%)

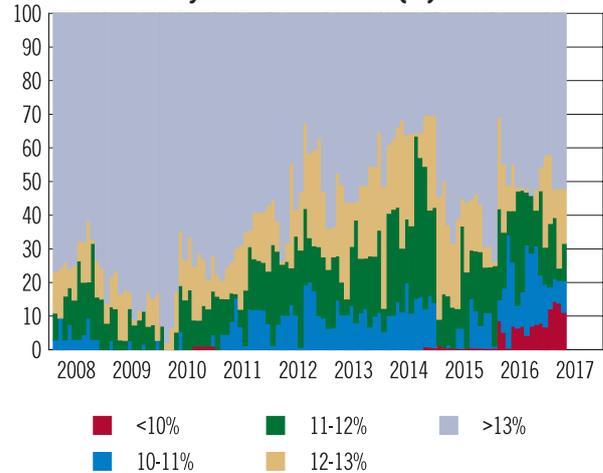
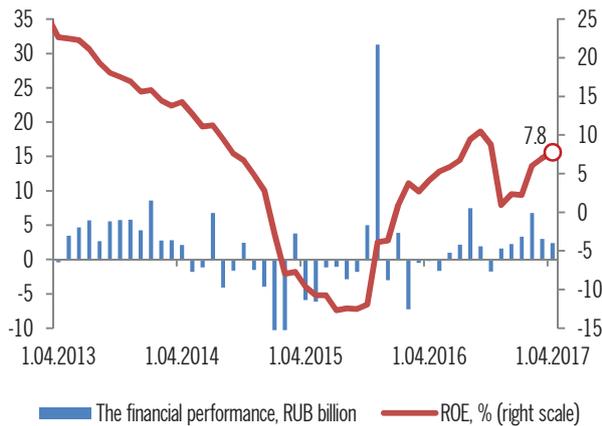


Chart 24

Financial performance and ROE* of banks specialising in unsecured consumer lending**



* The ratio of the financial performance for the 12 months preceding the reporting date to the value of the credit institution's own funds.

** The following criteria are used for inclusion in the group of banks specialising in unsecured consumer lending: the amount of unsecured loans is more than RUB 10 billion; the ratio of the amount of unsecured loans to assets is more than 20%; share of interest income on loans to the population in the total amount of interest income is more than 35%.

or less account for 20.5% of total retail banks' capital (Chart 25).

The consumer lending market tends to a gradual recovery. Credit risks accumulated during the period of excess demand in 2012–2013 have materialised and will not have a dominant influence on market development. The base macroeconomic scenario for 2017 expects a gradual recovery in this segment.

Decline in effective interest rate and efforts of the Bank of Russia to shift its scale

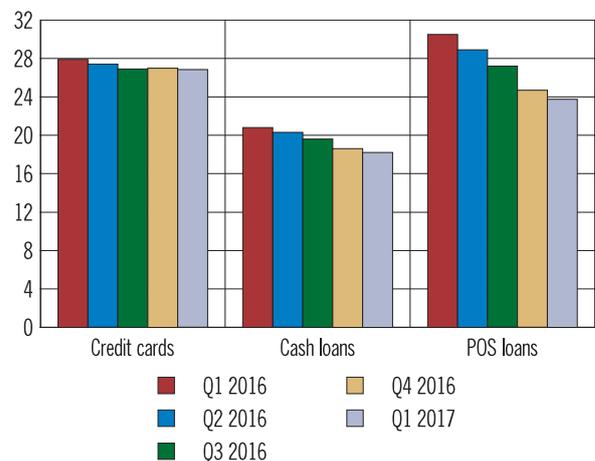
Along with the reduced share of non-performing loans, 2016 and early 2017 saw a significant decrease in effective interest rate of all types of un-

the issue date (compared with 10–12% in 2014). The credit quality of retail portfolios will improve as unsecured loan portfolios will be replaced with new generation loans.

The improvement of the credit quality of loan portfolio drove a consistent recovery of the return on equity in retail banks, which was 7.8% as of 1 April 2017 (compared with 4.1% in 2016). Such credit institutions received a profit of 19.3 billion rubles from 1 October 2016 through 1 April 2017 (Chart 24). This facilitates the recovery of capital adequacy of retail banks to the 2013 figures in the medium term. Retail banks with N1.0 value of 11%

Chart 26

Dynamics of the full loan value (FLV) in terms of categories of loans (%)



Source: The Bank of Russia.

secured loans (Chart 27). The weighted average effective interest rate with respect to newly issued loans in the segment of cash loans⁴ dropped below 20% per annum for the first time since 2014 and reached 18.2% per annum in Q1.

This trend was driven by a number of factors:

- application of the Federal Law dated 21 December 2013 “On Consumer Loans” that limits the maximum effective interest rate level on consumer loans;
- slowdown of inflation;
- a decrease in individual deposit rates (1.6 pp for 12 or more months for the period from 2016 Q3 to 2017 Q1)⁵;
- a tightened competition for solvent borrowers.

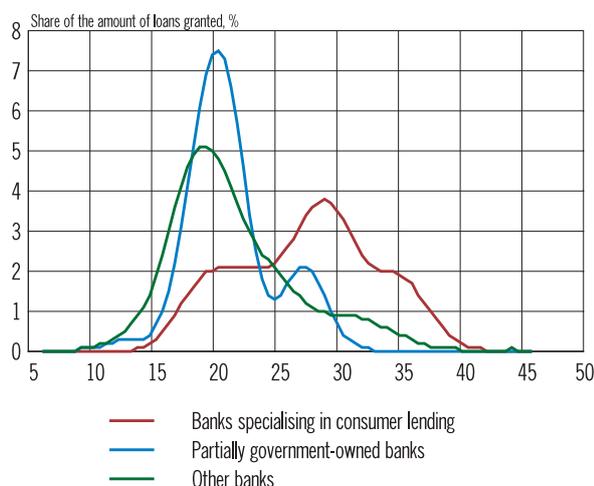
According to 2016 Q4 data, credit institutions granted no consumer loans with effective interest rate of 45% or more; loans with effective interest rate of 35 to 45% accounted for 1.4% of total consumer loans, and loans with effective interest rate of 30 to 35% accounted for 4.1% of total consumer loans (Chart 25).

Loan rates are structured to include the cost of a bank’s resources, operating costs, risk premiums, and a bank’s margin:

$$FLV = r_{\text{cost of a bank's resources}} + r_{\text{risk premiums}} + r_{\text{bank's margin}} + r_{\text{operating costs}}$$

Chart 27

Distribution of FLV according to data for Q4 2016



⁴ Non-targeted consumer loans, targeted unsecured consumer loans (except for POS loans), consumer loans for debt refinancing.

⁵ Using preliminary data for March 2017.

Table 2

Risk ratio for consumer loans

	The value of FLV, %					
	20-25	25-30	30-35	35-45	45-60	More than 60
Risk ratio before 1 March 2017	1	1.1	1.1	1.4	3	6
Risk ratio after 1 March 2017	1.1	1.4	3	6		

Given the lower cost of borrowed funds ($r_{\text{cost of a bank's resources}}$) and maintaining the bank’s margin and the operating costs levels, the same level of FLV reflects a higher level of credit risk for the borrower ($r_{\text{risk premiums}}$). In this regard, maintaining the previous scale of risk ratios would mean the weakening of regulatory requirements (lower risk ratios for riskier loans); therefore, the Bank of Russia set a new scale of risk ratios for consumer loans to calculate banks’ capital adequacy ratios (Table 2).

A new effective interest rate scale is applicable only to loans issued after 1 March 2017 rather than to the whole portfolio, which limits its effects on banks’ capital adequacy. The future profit of credit institutions, which may be capitalised, may offset negative impacts of this effort on capital adequacy figures of most banks.

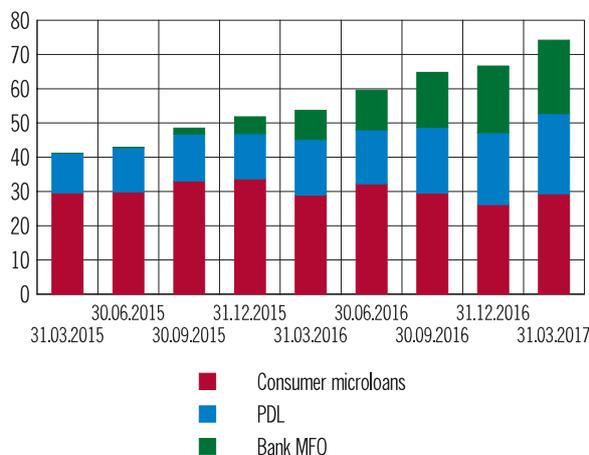
Risks in the unsecured consumer lending by MFO

Given the restrained lending activity of retail banks and the Bank of Russia’s efforts to bring the effective interest rate scale in line with the current macroeconomic conditions, there are risks that credit institutions may use the benefits of regulatory arbitrage. In this context, the Bank of Russia monitors lending activities of micro-finance organisations affiliated with large retail banks (“banking MFOs”) and assesses their credit portfolio quality.

Banking MFOs have been building up their microloan portfolios since late 2015, which reached 21.5 billion rubles or 28.9% of total consumer microloan portfolios as of 31 March 2017 (Chart 28). The debt on microloans is insignificant compared with bank loans and is 1.2% of the total debt on unsecured consumer loans. The weighted average effective interest rate of banking MFOs was 43.4% per annum, which is significantly below all other microloan segments. Overdue debt on microloans of 90 or more days was 7% as of 31 March 2017.

Chart 28

Dynamics of the consumer microfinance market (RUB billion)



Source: The Bank of Russia.

Given the dynamic growth rate of this microlending portfolio, such loans may continue to grow in future.

The “payday loans” (PDL) segment showed high performance and an increase in loan debt from 16.2 billion rubles to 23.4 billion rubles due to a high demand from low-income customers and their limited access to other credit sources. The average effective interest rate of PDLs remained unchanged at 600% in 2017 Q1. Given this, it is worth noting restrictions introduced from 1 January 2017⁶ on interest income that should not exceed the threefold amount⁷ of the initial agreement and limits on the accrual of interest income on overdue microloans in excess of twofold amount of the outstanding debt (until partial repayment of debt and/or interest) to ease the debt burden on residents. High effective interest rate of microloans in this segment may be due to low risk management culture in such MFOs and their target clients who have the minimum income and weak credit histories (about 60% of effective interest rate structure accounts for loss settlement). The PDL segment is characterised by a high rate of overdue debt of 90 or more days (54%) and the largest share of debt assignment (8.6% of the total portfolio) (Chart 29). High cost of microloans is also related to short-term credit period and high operating costs of finding and supporting cus-

⁶ According to Federal Law No. 407 FZ dated 29 December 2015 “On Amending Certain Legislative Acts of the Russian Federation and Invalidating Certain Provisions of Legislative Acts of the Russian Federation”.

⁷ The limit of fourfold amount of accrued interest income of the initial contractual amount applied from 29 March 2016 through 1 January 2017.

Chart 29

Main characteristics of consumer microfinance segments for Q1 2017

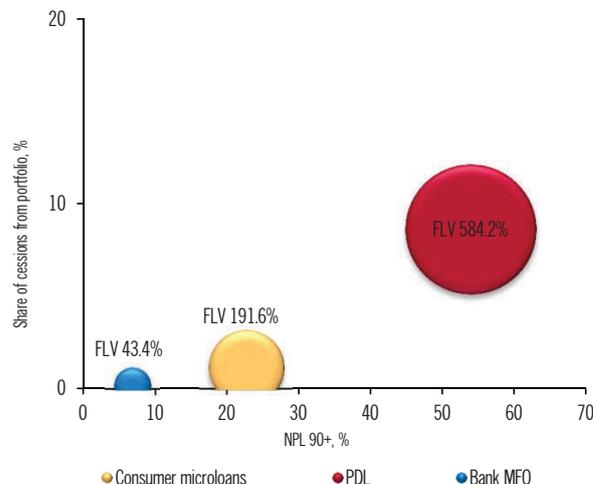
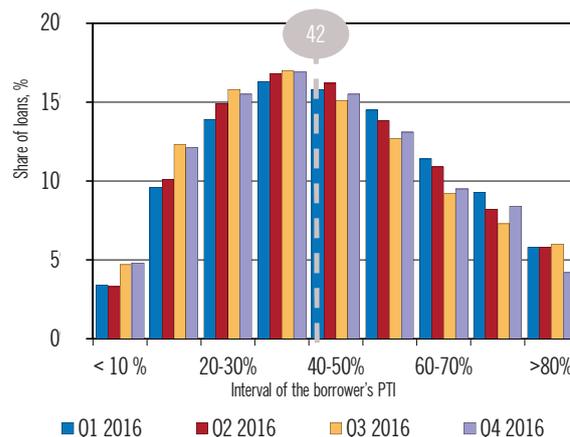


Chart 30

Distribution of loans in cash by the value of customers' PTI*



* PTI (payment to income) is the ratio of the amount of payments established for all loans issued by one credit institution to the borrower, to the amount of the borrower's income for the quarter.

tomers, which reach 30% of total effective interest rate.

The largest retail lending sector – consumer microloans – showed a slight growth in debt (1%) due to withdrawal of several microfinancing organisations from the market with the total portfolio of 11 billion rubles in 2016. This lending segment has the average market share of non-performing microloans (22.6%) and a low share of assigned agreements.

Thus, the current MFO market shows no signs of systemic risks or any significant asset flows from banks due to regulatory arbitrage.

Development of macroprudential tools based on debt burden indicators

Table 3

Distribution of borrowers by the number of outstanding loans (%)

Credit bureau	1	2	3	4	5	>5
NBKI	65,7	21,3	7,7	3,0	1,2	1,1
Equifax	63,9	21,8	8,3	3,3	1,4	1,3
OKB	60,8	23,4	9,3	3,7	1,5	1,3

As stated above, all unsecured consumer lending segments showed a decrease in effective interest rate during 2016. At the same time, high effective interest rate is only one of several indicators of consumer loan risks. Accumulation of systemic risks can occur even in conditions of relatively low levels of effective interest rates on loans. In this regard, in order to differentiate loans by the level of risk within the framework of macroprudential regulation, it is potentially attractive to use the indicators of the aggregate debt burden of the borrower.

The Bank of Russia regularly monitors debt burden figures based on surveys of large retail banks. The decline in borrowers' debt burden improved the retail portfolio quality in the second half of 2016. The average PTI in the cash loan segment decreased from 45 to 42% during this period (Chart 31) and heavily leveraged customers (80% or more PTI) went down from 6.0 to 4.2%. At the same time, the survey results include borrower's debt only to one credit institution; therefore, they are incomplete.

Largest credit bureaus show that there are many borrowers with more than one loan and their number varies from 39.2 to 34.3%. In average, one borrower has more than 1.6 effective loan agreements. The most leveraged are borrowers in the Kemerovo, Tyumen, and Novosibirsk regions. In those regions one borrower accounts for an average of 1.7 loans.

In February 2017, the Bank of Russia website published the Consultation paper "On the assessment of individual borrowers' risks on the basis of debt burden indicators", which discussed the international experience in debt burden assessment and proposed methods to calculate and use such figures in Russia. As part of public consultations, respondents could leave their comments on information sources related to borrower's loans and incomes, and whether or not it is reasonable to calculate debt burden indicator for various types and sizes of loans, the most reasonable period to calculate borrower's income and frequency of revaluation of borrower's aggregate debt, as well as select the best debt burden indicator for the Russian environment.

The survey covered more than 100 credit institutions, including systemic ones, and some microfinancing institutions and credit cooperatives⁸. Most respondents supported the use of PTI to assess borrowers' debt burden (the ratio of borrowers' monthly payments on all loans to their average monthly income). Fewest respondents spoke in favour of DTI or two indicators at the same time (DTI and PTI). Some respondents emphasised the need for a differentiated approach to applying PTI to borrower's income and type/currency of loans.

The paper proposed an option to calculate the aggregate of borrower's debt on all loans based on the credit bureau data. Many respondents stated that the credit bureau data were inadequate and stressed the need to introduce the credit history integrator to determine the aggregate borrower's debt.

The most controversy was caused by the issue of information sources on borrower's income, which lenders could use to assess debt burden. Most respondents proposed to use all information sources available to lenders, including the income level disclosed by the borrower. Respondents also noted the need to develop infrastructure, which will enable lenders to contact government authorities for obtaining individual income information (the Pension Fund of the Russian Federation and the Federal Tax Service).

The Bank of Russia will rely on these comments to prepare proposals on amendments to Federal Law No. 218FZ dated 30 December 2004 "On Credit History", which will enable creditors to assess the aggregate of individual borrowers' debt on all their loans. Besides, such amendments will help to address current challenges faced by customers and market players in dealing with the credit bureau.

⁸ The survey involved Association Russia, the National Financial Association, the National Council of the Financial Market, and the Union of Microfinancing Organisations "Microfinancing and Development" (SRO M&D).

Box 2. The Consumer Lending Market and Its Regulation Abroad

The consumer lending structure is broken down into secured lending (mortgage or car loans) and unsecured lending (education, credit card loans, etc.). Developed markets are dominated by the first type of loans, where unsecured consumer loans account for the lesser part of household debt (5–30%). Emerging economies are characterised with the opposite ratio.

This structure of household liabilities of developed countries has formed gradually along with the development of loan markets and decreasing interest rates while inflation decelerated. Emerging markets face a dynamic growth in the share of mortgage and secured lending in general: e.g. consumer lending in Poland increased from 52% in 2009 to 61% in 2016, and in Brazil from 35% in 2013 to 44% in 2016.

The structure of the consumer lending market is changing in the context of applicable regulatory measures. In 2014, the World Bank conducted research¹ that showed that 40% of the World Bank member jurisdictions impose restrictions on loan interest rates. Restrictions are imposed to protect consumers from rates that are too high, make loans more accessible and deter excessive lending or bank risks.

The above measures may apply to various market segments. Some jurisdictions apply effective interest rate limits specifically in the unsecured consumer lending sector. The maximum consumer loan interest may be linked to the average market effective interest rate by a specific ratio and is calculated for various loan categories or the whole

segment. Effective interest rate limits in some countries are linked to the key rate of a central bank. Thus, in the Netherlands the effective interest rate may not exceed the ECB rate by more than 12 percentage points. In South Africa the maximum interest rate on unsecured loans is calculated based on refinancing rate (repo) and equals (repo x 2.2 + 20%). At the same time, the the maximum application fee is limited in South Africa. Any bank transactions in granting loans at any rate that exceeds the maximum set rate are viewed as usury, which is punishable by law (sometimes criminal law).

If there is a bubble threat in the unsecured consumer lending market, countries apply macroprudential instruments, in particular, sectoral instruments (increased risk weights and reserve requirements, DSTI limits, etc.). Some countries, such as Brazil (2010), Korea (2002), and Mexico (2011), applied high-risk weights to unsecured loans or requirements for loan loss provisions. The United Arab Emirates (2011) and Canada (2012)

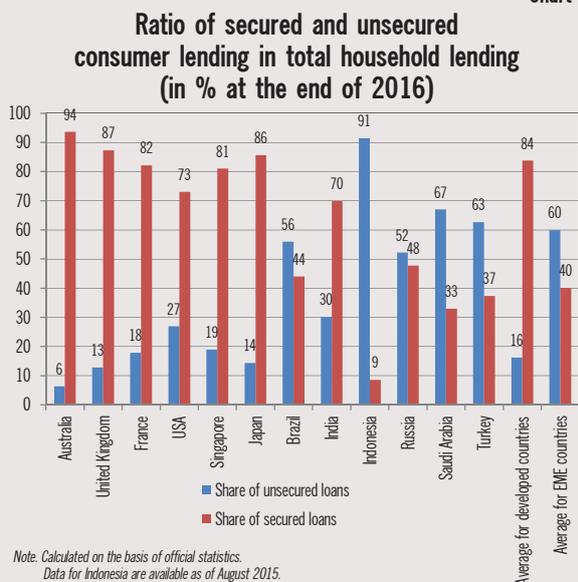


Chart 31

Table 4

Basic types of limitations

Limit by type of rate	Description	Using
By the annual percentage rate (APR)	Effective interest rate in annual terms is an analogue of the term of "full loan value" used in Russia, FLV	Using limitations on FLV is common in Western Europe (Belgium, France, Germany, Ireland, Italy, the Netherlands, Portugal, Spain and the UK), in some countries in Eastern Europe (Estonia, Slovakia, Slovenia).
By the effective interest rate	It covers all financial costs charged as a percentage of the loan amount (including fees and charges) within each payment period	It is used, for example, in the countries of the Central African Monetary and Economic Community, the West African Economic and Monetary Union, in Tunisia and Zambia.
By the nominal interest rate	It is used less often and does not include additional interest expenses	It is used in Chile, Poland, Colombia, Greece, India, and Kyrgyzstan.

¹ <http://documents.worldbank.org/curated/en/876751468149083943/pdf/WPS7070.pdf>.

imposed restrictions on DSTI on mortgage loans as well as aggregate of borrower's debt. In 2005, Romania saw a record high DSTI ratio at 40%, which was calculated with the aggregate of all household loans.

Turkey took some macroprudential measures to counter excess debt in 2011 (as amended in 2013). In particular, the country set increased risk weights to calculate capital adequacy (150 to 250% on unsecured loans and 100 to 250% on credit cards, depending on the loan term), increased provisioning standards on consumer loans (4 to 8% depending on the loan category), limited the permitted lending period for such loans (up to 36 months)², and tightened credit limits for first-time credit card holders (200% of the monthly income for the first year and 400% for subsequent years).

² M. Bumin, F. D. Taşkin, *The Impact of Macro-Prudential Measures on Retail Loans: Evidence from Turkey*. <http://www.ijceas.com/index.php/ijceas/article/view/105>.

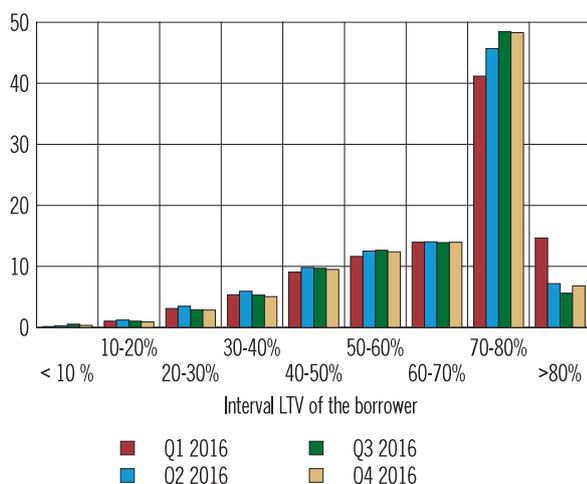
Risks of housing (including mortgage) lending

The housing (including mortgage) lending market shows sustainable growth rates in loan debt and relatively low credit risks that continue to decline due to the restructuring of foreign currency mortgage loans and increasing solvency of borrowers.

Loan debt on residential (including mortgage) loans increased by 5.7%⁹ during the period from 1 October 2016 to 1 April 2017. The volume of extended loans were 6.7%¹⁰ higher in the above period than for the same period last year. The completion of the governmental programme for interest rate subsidisation had no material effect on the issued residential (including mortgage) loans due to

Chart 32

Distribution of mortgage borrowers by LTV (%)

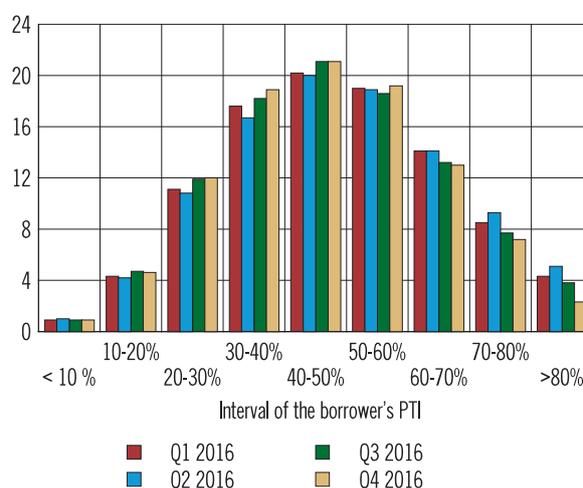


⁹ According to Sections 1 and 3 of form 0409115 "Information on Asset Quality of the Credit Institution (Banking Group)".

¹⁰ According to form 0409316 "Residential Loan Information".

Distribution of mortgage borrowers by PTI (%)

Chart 33



the general decline in rates on residential (including mortgage) loans. The weighted average interest rate on loans issued in 2016 Q4 and 2017 Q1 was 11.9%¹¹ or 1 pp below the average figure in 2016 Q2 and Q3 and 1.5 pp below the average figure in 2015¹².

Loans secured by pledge of claims under shared participation agreements comprised a major part of issued loans. They account for 37.3% of the total disbursements in 2016 Q4 and 2017 Q1.

The quality of the mortgage loan portfolio continues to improve due to high underwriting standards maintained by banks: more than 90% of loans are issued with LTV < 80%¹³ (Chart 32). The total debt

¹¹ Using preliminary data for March 2017.

¹² For reference: the weighted average interest rate on residential (including mortgage) loans was 12.37% in 2014 and 12.56% in 2013.

¹³ According to data of the Bank of Russia's project for monitoring individuals' outstanding loans.

on overdue loans of 90 or more days continues to decline, primarily due to refinancing of foreign currency mortgage loans. Bad loans decreased by 0.4 pp to 2.5% from 1 October 2016 to 1 April 2017 and the total market credit risk¹⁴ is less than 0.5% with a trend to decline.

To review the mortgage loan portfolio sensitivity to the stress scenario, the Bank of Russia tested four of the largest banks operating in the mortgage loan sector. The banks subjected to stress testing account for 77.5% of the total debt on residential (including mortgage) loans as of 1 April 2017.

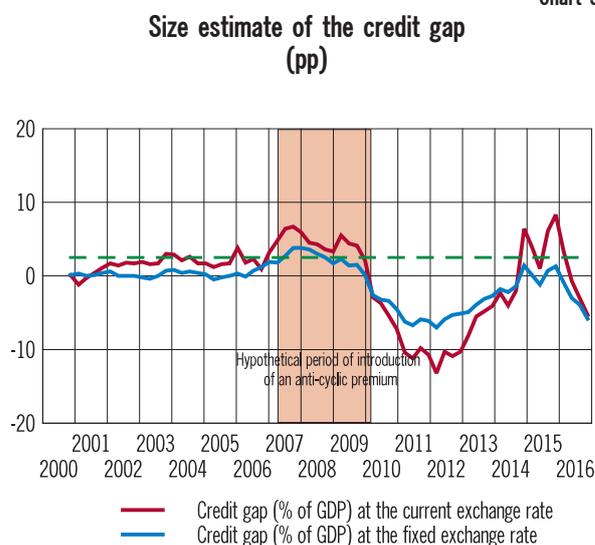
Stress testing applied the migration matrix to the mortgage portfolio, which included loan migrations by overdue debt range and changes in LTVs and PTIs. Loan LTVs and PTIs were calculated based on all loan liabilities of a mortgage borrower to the bank where such mortgage loan was issued. The loan debt migration probability was forecast by using the neural network, the training of which was based on historical data since early 2011. The loan debt migration probability included scenarios of such macroeconomic variables as unemployment, real household income, and real estate prices, and was based on loan LTV and PTI and presence of overdue payments. The macroeconomic scenarios were built on the assumption of a twofold decline in Urals oil prices over the course of two years. The use of loan LTV and PTI in the migration matrix accounted for dissimilarity of mortgage loan portfolios of stress testing participants.

Stress testing of top mortgage lending banks shows the high quality of their mortgage loan portfolio. Bad mortgage loans will grow by 1.5 to 2.5 pp across various banks. The share of such bad loans in their mortgage portfolios will be insignificant (2.5 to 5.1%). Several factors limit the growth of bad loans. Firstly, the banks apply conservative underwriting standards to reduce the mortgage portfolio sensitivity to real estate price shocks and real household incomes. Secondly, given the current demography, the scenario included no significant changes in unemployment; however, this parameter is one of the key factors.

2.2. Assessment of the Current Credit Cycle Phase in the Russian Economy

The Bank of Russia Board of Directors relies on the Basel Committee on Banking Supervision documents to make quarterly decisions on the national countercyclical buffer¹⁵. The level of the national countercyclical buffer in the Russian Federation is set at zero percent. The decision to set the national countercyclical buffer is based on the assessment of the current phase of the credit cycle, debt burden

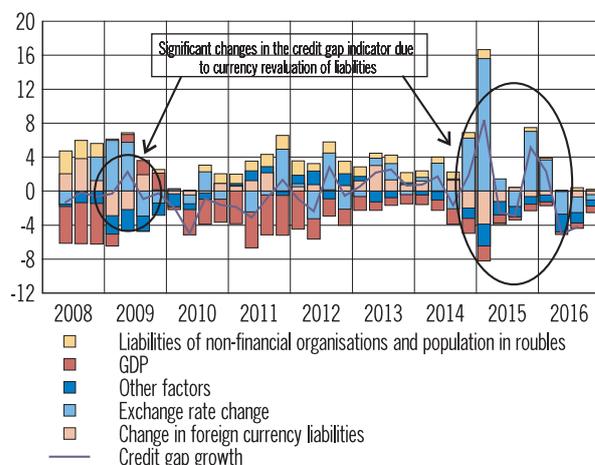
Chart 34



Source: Bank of Russia.

Chart 35

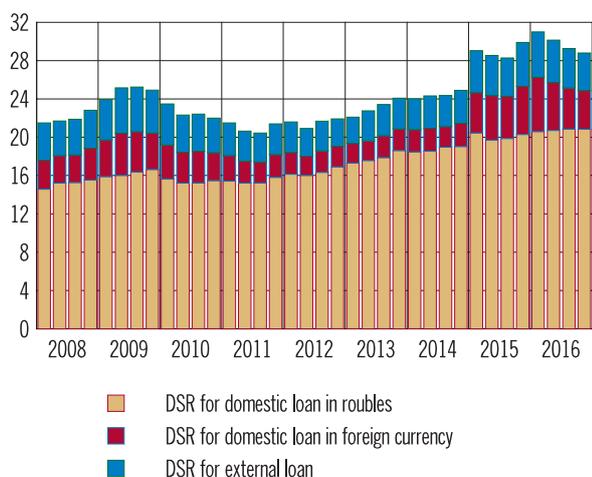
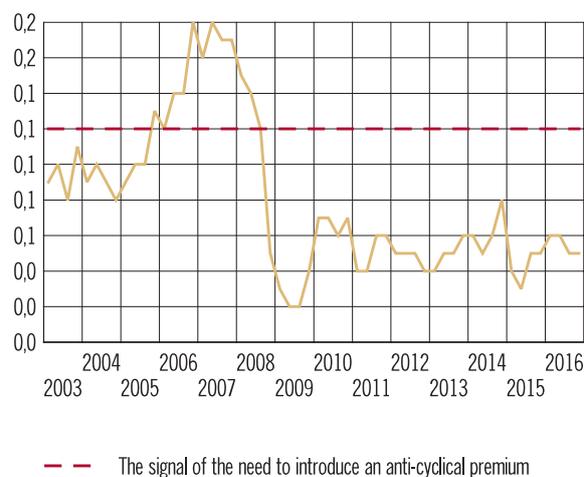
Contribution of certain factors to the change in the credit gap (in the broad definition, pp)



Source: Bank of Russia.

¹⁴ The growth of loan impairment provisions and write-offs over 12 months relative to the average size of the loan portfolio over 12 months less created provisions.

¹⁵ Guidance for national authorities operating the countercyclical capital buffer. Basel Committee on Banking Supervision. December 2010.

Chart 36
Debt Service Ratio (DSR)Chart 37
Model of early warning

of economic entities, bank underwriting standards in different economic segments, and other data.

The current phase of the credit cycle is assessed by the methodology proposed by BCBS. It calculates the credit gap defined as the loan-to-GDP deviation from its long-term trend. The loan supply value is viewed in its broad¹⁶ as well as narrow¹⁷ definition. Calculated as above, the 2016 Q4 credit gap is negative (-5.3 pp in the broad definition of loan supply and -5.8 pp in the narrow definition), which may be interpreted as a descending phase of the credit cycle and signal that the value of the national countercyclical buffer should maintain at the zero level (Chart 34). The factor analysis shows that the change in the 2016 Q4 credit gap (down from -3.0 to -5.3 pp) was driven by revaluation of currency liabilities of non-banking institutions due to strengthening of the ruble (Chart 35). After this factor was eliminated, the credit gap was -3.9 pp. The credit gap analysis related only to liabilities of residents or non-banking institutions also does not indicate the need to introduce such buffer.

Along with the BCBS methodology, the Bank of Russia uses some other models to determine the need to introduce the national countercyclical buffer. Such models include the Debt Service Ra-

tio (DSR) for liabilities of residents and non-financial organisations. The DSR for the total economy is calculated as a ratio of principal and interest payments to GDP¹⁸ and takes into account loan maturity and interest rates. The DSR is used as an indicator signalling excess debt burden growth across economic entities. The debt burden defined by such indicator has declined since 2016 Q1 to 28.8% as of 1 January 2017 (Chart 36). This debt burden decline is driven by the revaluation of non-financial organisations' FX liabilities and the reduction of the foreign currency loan portfolio. Given this downward trend, the DSR and the credit gap show that there is no need to set the non-zero buffer value.

Early warning models are commonly used to forecast credit boom periods that precede a decline in lending activity. The Bank of Russia uses such models to assess the credit cycle phase. The model is based on the following values: annual GDP growth rate, private debt burden, the ratio of banks' liabilities to non-residents to loans issued to Russian residents, the share of added value created by the finance sector in GDP, and credit gap¹⁹. The model parameters were calibrated on a sampling of emerging markets, including Russia. This model in retrospect shows the need to set a non-zero countercyclical buffer in 2006. In the current situation,

¹⁶ It includes the debts of households and non-financial organisations on bank loans, and also takes into account non-financial organisations' obligations under debt securities and external liabilities.

¹⁷ It includes the debts of households and non-financial organisations on bank loans and also takes into account non-financial organisations' liabilities under debt securities owned by Russian credit institutions.

¹⁸ S. Donets, A. Ponomarenko, 2015. Debt Burden Indicators. Bank of Russia's Working Paper Series, No. 5.

¹⁹ Y. Deriugina, A. Ponomarenko, 2017. Real-Time Identification of the Credit Cycle Phase in Emerging Market Countries. Bank of Russia's Working Paper Series, No. 17.

the model signals no need to set the non-zero buffer, which accords with other indicators (Chart 37).

Thus, the combination of the above indicators and some other auxiliary values (banking portfolio growth rates, the share of non-performing loans,

etc.) indicate the descending phase of the credit cycle. Given this, the meeting of the Bank of Russia Board of Directors on 24 March 2017 decided to maintain the national countercyclical buffer at zero percent of the risk-weighted assets.

3. ASSESSMENT OF BANKING SECTOR'S SYSTEMIC RISKS

3.1. Quality of Banks' Portfolios of loans Issued to the Corporate Sector

The corporate lending segment faces stabilised credit risk defined by the share of IV and V quality category loans and overdue debt share. High risks remain in non-tradable sectors (construction, wholesale and retail, and real estate transactions). To manage their credit risks, banks restructure their FX loans to borrowers who face temporary financial difficulties. Non-financial organisations continue the process of dedollarization of their loan portfolios as banks reevaluate risks in FX loans and applicable macroprudential measures of the Bank of Russia.

Corporate loan portfolio quality

The general credit portfolio quality across the banking sector remained stable. The overdue debt share increased by 0.3 pp to 7.1% from 1 October 2016 to 1 April 2017. The share of IV and V quality category loans increased by 0.6 pp to 11.1%¹ due to impairment in the credit portfolio quality of banks subject to sanctions. Excluding such banks, the share of IV and V quality category loans increased by 0.2 pp to 8.6% during the above period.

Reporting form 0409303 "Information on loans granted to legal entities", which took effect on 1 January 2016, underlies the Credit Register of the Bank of Russia and is the key information resource to setting up the single risk assessment methodology in credit institutions. Such information analysis among other things compares quality categories and overdue debt by type of economic activities, identifies restructured loans, and assesses loan security with collateral on all bank loan agreements (previously only on Top 30 borrowers).

The largest share of non-performing loans (IV and V quality categories) and overdue debt is concentrated in the construction segment and is caused by borrowers' defaults on ruble and FX

loans. The share of IV and V quality categories in rubles was 27.5% as of 1 March 2017 (22.1% of overdue debt) and the share of foreign currency loans was 26.5% (4.0% of overdue debt).

The share of non-performing loans in construction-related real property deals remains high at 12.4% for ruble loans and 15.9% for foreign currency loans as of 1 March 2017. The share of overdue debt on ruble and FX loans is insignificant (6.9% and 4.1%, respectively).

Declining effective consumer demand in 2015–2016 affected the financial standing of wholesale and retail companies. As of 1 March 2017, the share of non-performing ruble loans to such companies was 16.7%, and that of overdue debt was 12.4%.

The SME lending segment maintains a high credit risk level. The share of IV and V quality category loans increased by 1.4 pp to 25.3%² from 1 October 2016 to 1 April 2017 with the decreased overdue debt from 1.4 pp to 13.1%³. Bad debts grow primarily in credit institutions, which are subject to financial rehabilitation. Excluding loans issued to such credit institutions, the share of IV and V quality category loans decreased by 1.2 pp to 20.0% from 1 October 2016, with the share of overdue debt decreasing by 2.2 pp. SME loans are concentrated in the wholesale and retail sectors (25.9% of the total SME debt) and real estate transactions (25.7% of the total SME debt).

Benchmarking of the share of bad loans on corporate loans (other than credit institutions) and the share of overdue debt based on form 0409303⁴ shows their high correlation on almost all types of business operations of borrowers (Chart 38). Ex-

¹ According to Section 1, form 0409115 'Information on Asset Quality of the Credit Institution (Banking Group)'.

² According to form 0409115 "Information on Asset Quality of the Credit Institution (Banking Group)".

³ According to the data of reporting form 0409302 "Information on Placed and Raised Funds".

⁴ Data according to form 0409303 are stated as of 1 February 2017. The sampling included only loans that were extended to legal entities resident in the Russian Federation. The number of respondent banks, for which the calculation is made, is 550 (95.2% of net assets of the banking sector).

Chart 38

Dependence of the share of overdue debt on the share of IV, V quality category loans on loans to legal entities by type of economic activity (as of 1 March 2017)

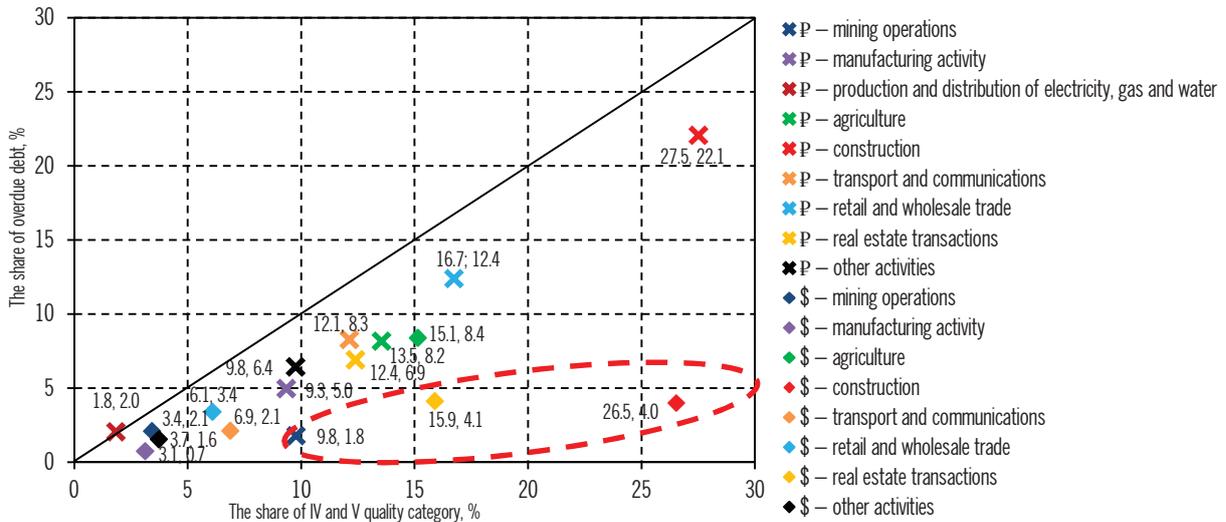
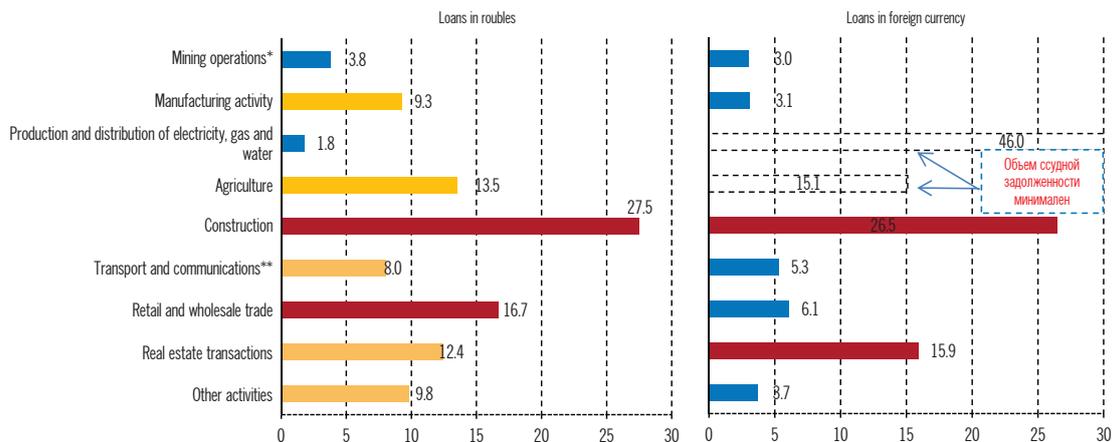


Chart 39

Share of IV, V quality category loans on loans to legal entities by type of economic activity (as of 1 March 2017, %)



* With the exception of banks' requirements for coal companies.
 ** With the exception of banks' requirements for TRANSAERO Airlines.

ceptions are mining, construction, and real estate companies.

The excess of the share of bad loans over the share of overdue debt of mining companies is caused by impairment of the financial standing of mining companies in 2013–2015 amid the decrease in coal prices. Loans of this group of companies were restructured, causing a decrease in the overdue debt. Excluding bank claims against coal companies, the share of IV and V quality category loans to mining companies is 3.8% on ruble loans and 3.0% on FX loans (Chart 39).

Banks also restructure loans to maintain financial sustainability of their construction and real estate company borrowers. This is typical for FX loans where borrowers who have inadequate foreign currency proceeds have difficulties with timely debt service. It is worth noting that such loan restructuring does not impair banking sector stability as there are adequate provisions for these loans in line with the loan quality categories.

The types of business where borrowers have high quality loans include mining (except for coal companies), energy, gas, and water generation

and distribution and transport and communications (except for claims against TRANSAERO Airlines, which is undergoing reorganisation)⁵.

Dedollarization of the loan portfolios to non-financing organisations

The predominance of foreign currency in the loan portfolio to non-financing organisations continues to decrease due to revaluation of bank risks in FX loans as well as the effort of the Bank of Russia aimed at limiting risks on currency loans (and investments in securities), which are extended to legal entities with no adequate foreign currency proceeds. The aggregate exposure of legal entities on FX loans that are subject to increased risk weight of 110% was 2,079.9 billion rubles as of 1 April 2017 (20.8% of the aggregate FX claims against non-financial and non-bank financial institutions).

Affected by the above factors, the foreign FX portfolio of loans to non-financing organisations lost 8.2% from 1 October 2016 to 1 April 2017 (761.8 billion rubles at the exchange rate as of 1 April 2017), while the ruble loan portfolio remained unchanged during the above period (the debt growth was less than 0.1%).

Lending in foreign currency is mainly reduced for companies that are oriented to the domestic market and do not have sufficient foreign exchange proceeds for debt servicing. The FX loan debt of construction companies fell by 242.3 billion rubles (56.8%) from 1 October 2016 to 1 April 2017 and of wholesale and retail companies by 113.6 billion rubles⁶ (22.8%).

At the same time, companies from export-oriented industries continue to attract FX loans. The loan debt on currency loans to mining companies added 172.3 billion rubles⁶ (48.4%) from 1 October 2016 to 1 April 2017.

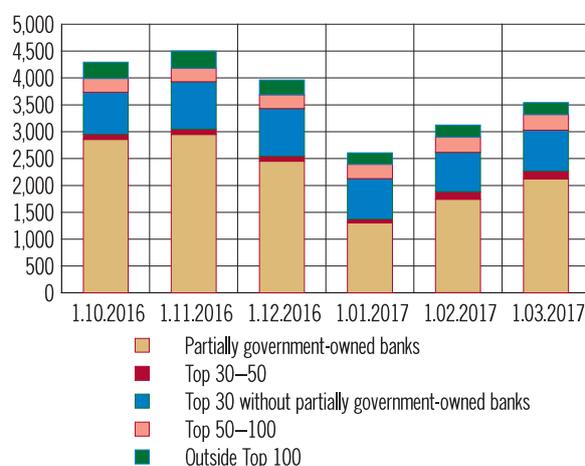
3.2. Banking Sector Liquidity Risks

In 2016 Q4, the banking sector continued its transition to a structural liquidity surplus, which was

⁵ Given claims against TRANSAERO Airlines, the share of bad loans and overdue debt on ruble loans in the transport and communications sector is 12.1 and 8.3%, respectively, and 6.9 and 2.1% for FX loans.

⁶ Eliminating the currency revaluation factor. Excluding loans extended by Vnesheconombank.

Chart 40
Distribution of budget funds
by groups of banks
(RUB billion)



generated in the second half of January 2017⁷. The market participants maintained their segmentation by liquidity distribution. The funds to finance budget costs were distributed among Top 30 banks (Chart 40). These banks deposited acquired funds with the Bank of Russia or in the money market securing lending to market participants by Top 100 banks. State-owned banks continued to reduce debt to the Bank of Russia on repo transactions and loans secured by non-market collateral. However, the reduction of debt of state-owned banks to the Bank of Russia is offset by raising the ruble liquidity from currency swap transactions in the money market at the end of the year. Banks outside Top 100 deposited their surplus cash with the Bank of Russia given that the largest banks had limited demand for their liquidity (Chart 41).

Credit institutions comply with N2 and N3 liquidity ratios: as of 1 April 2017, the average instant liquidity ratio N2 among 10 systemically important banks (SIBs) was 131% and 99% for other banks (with the minimum of 15%); the current liquidity ratio N3 was 201% for SIBs and 137% for other banks (with the minimum of 50%). SIBs liquidity ratios grew slightly and remained unchanged for other banks during the period under review. Thus, both bank groups have a significant liquidity cushion, but only SIBs shows a positive N2 and N3 growth.

⁷ The Banking Sector Liquidity and Financial Markets No. 8–13 // www.cbr.ru.

Chart 41
Distribution of liquidity by groups of banks, attracted from the Bank of Russia and in the money market (without taking into account the budget channel, RUB billion)

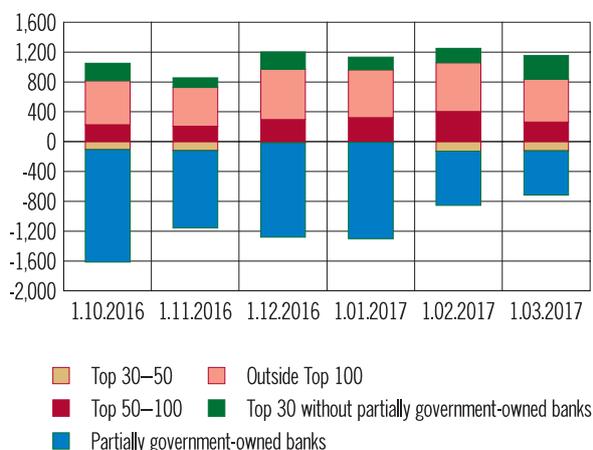
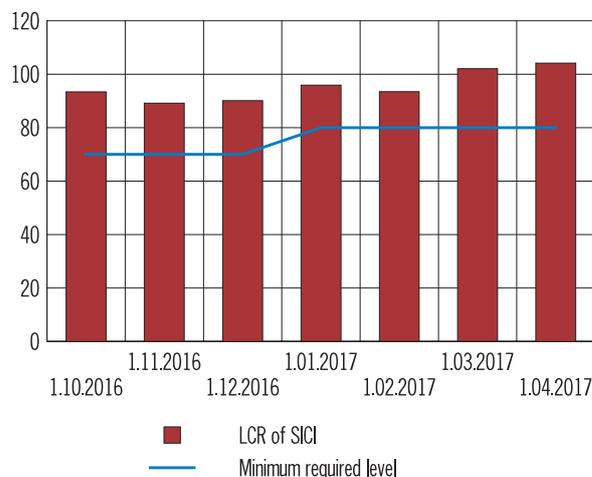


Chart 42
Average for 10 SICI value of Liquidity Coverage Ratio (%)



The systemically important banks must comply with N26 (N27) short-term liquidity ratios.^{8,9} The minimal acceptable short-term liquidity ratio rose to 80% from early 2017¹⁰. As of 1 April 2017, this ratio of systemically important credit institutions was between 83 to 181%. The average N26 (N27) of 10 SIBs rose from 93% as of 1 October 2016 to 104% as of 1 April 2017 (Chart 42).

Nearly 140 banks, which are not obliged to comply with the LCR, calculate the liquidity coverage ratio¹¹ independently and disclose its level to the Bank of Russia for analytical purposes. During the period from 1 October 2016 to 1 April 2017, the average LCR value of the above banks fell from 60.5 to

52.9% (50.6% as of 1 August 2014 and 52.6% as of 1 January 2016).

To maintain the liquidity coverage ratio at the required level, some SIBs restore their high quality liquid assets by purchasing OFZ and use committed liquidity facility provided by the Bank of Russia ("CLF")¹².

Of the five SIBs, which have concluded the CLF agreements with the Bank of Russia, four banks included the above lines in their N26 (N27) ratios from 1 October 2016 to 1 April 2017. The aggregate value of the maximum acceptable CLFs for the banks, which have entered into such agreements, is 687.8 billion rubles. CLFs were used to a maximum extent on 1 January 2017, when banks included the lines in the calculation of N26 in the amount of 443 billion rubles (64% of the maximum available limits). SIBs decreased the use of CLF in 2017 Q1; the banks included the lines in the amount of 104 billion rubles in their N26 (N27) calculation as of 1 April 2017.

The potential adverse scenario may involve the excess use of CLF by banks to comply with the short-term liquidity ratio to the detriment of the sources used to restore high-quality liquid assets. This may distort the balance structure of other banks and negatively affect liquidity manage-

⁸ According to Regulation No. 510 P of the Bank of Russia dated 3 December 2015 "On Calculation of Liquidity Coverage Ratios (Basel III) by Systemically Important Credit Institutions", N26 ratio is calculated by the parent company of the banking group on a consolidated basis and N27 is calculated by a credit institution, which is not the parent company of the banking group, on a case-by-case basis.

⁹ The previous Financial Stability Review provides more details on the introduction of the BCBS liquidity coverage ratio in the Russian environment: http://www.cbr.ru/publ/Stability/fin-stab-2016_2-3r.pdf.

¹⁰ According to Regulation No. 510 P of the Bank of Russia dated 3 December 2015 "On Calculation of Liquidity Coverage Ratios (Basel III) by Systemically Important Credit Institutions", the minimal acceptable short-term liquidity ratio will rise to 90% from 1 January 2018 and up to 100% from 1 January 2019.

¹¹ Unlike N26 (N27), the numerator of the Liquidity Coverage Ratio includes no additional claims (assets) set forth in Regulation No. 510 P of the Bank of Russia dated 3 December 2015 "On Calculation of Liquidity Coverage Ratios (Basel III) by Systemically Important Credit Institutions".

¹² The use of the committed credit line means that the bank, which enters into the CLF agreement with the Bank of Russia, includes the CLF in the N26 (N27) nominator. No actual money resources within the framework of the CLF have been provided so far.

ment incentives (in particular, it may lead to excess dependence on refinancing by the Bank of Russia). However, this risk did not materialise in 2016 and 2017 Q1: banks continued to increase their investments in OFZ by using CLF. Most banks that used CLF restored their high-quality liquid assets by means of OFZ investments in proportion to the use of CLF.

In line with BCBS documents, the Bank of Russia sets a fixed fee for using CLF to prevent excess use of committed credit lines by banks to the detriment of the sources used to restore high-quality liquid assets. For this purpose, we consider a nominal bank, comparing two alternative ways to comply with the liquidity coverage ratio:

OFZ investments or other low- and high-quality liquid assets.

Investments in less liquid and more profitable assets (such as low-rated corporate bonds) and their use as a collateral for loans raised under CLF.

The fixed CLF fee³⁴, which reflects the yield difference of such assets, may make the alternatives in question equally attractive to the bank and avoid adverse arbitrage. At the same time, the asset liquidity premium, if possible, should not cover credit risks. Furthermore, the choice between OFZ investments and corporate bonds should take into account the burden on the bank's capital that arises in the second option.

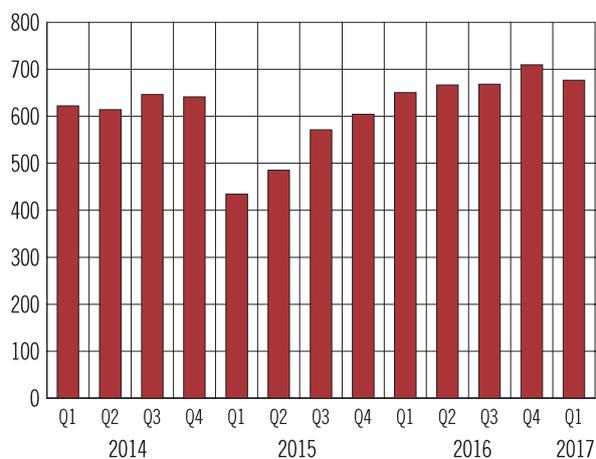
The CLF fee is currently set at 0.15% of the maximum acceptable limit of committed credit lines. The Bank of Russia will further monitor CLF use by banks and adequacy of the fees and, if necessary, review such fees based on the above reasons.

While credit institutions do not face any liquidity problems, there is a noticeable difference in the dynamics of liquidity ratios between SIBs and other banks. If the banking sector has a liquidity surplus and adequate collateral, the materialisation of liquidity risk in some banks will not cause systemic problems. An increase in liquid assets to mitigate individual liquidity risks continues to be a relevant task for the banks not included in the list of SIBs.

3.3. Interest Rate Risk in the Banking Sector

Interest rates in the banking sector only changed slightly during the period from 1 October 2016 to 1 March 2017. The Bank of Russia maintained

Chart 43
Net interest income of the banking sector
(RUB billion)



the key rate at 10%, reducing it by 0.25 pp, starting from 27 March 2017. In this context, credit institutions made no significant changes in their pricing policy: credit institutions reduced their rates on raised and invested funds¹³ by 0.2–1.0 percentage point.

Without interest rate shocks, net interest income of Russian banks in 2016 Q4 reached a record high over the last three years of over 700 billion rubles and was 677 billion rubles in 2017 Q1 (Chart 43). Liquidity surplus and foreseeable monetary policy are expected to have positive effects on the net interest incomes of the banking sector.

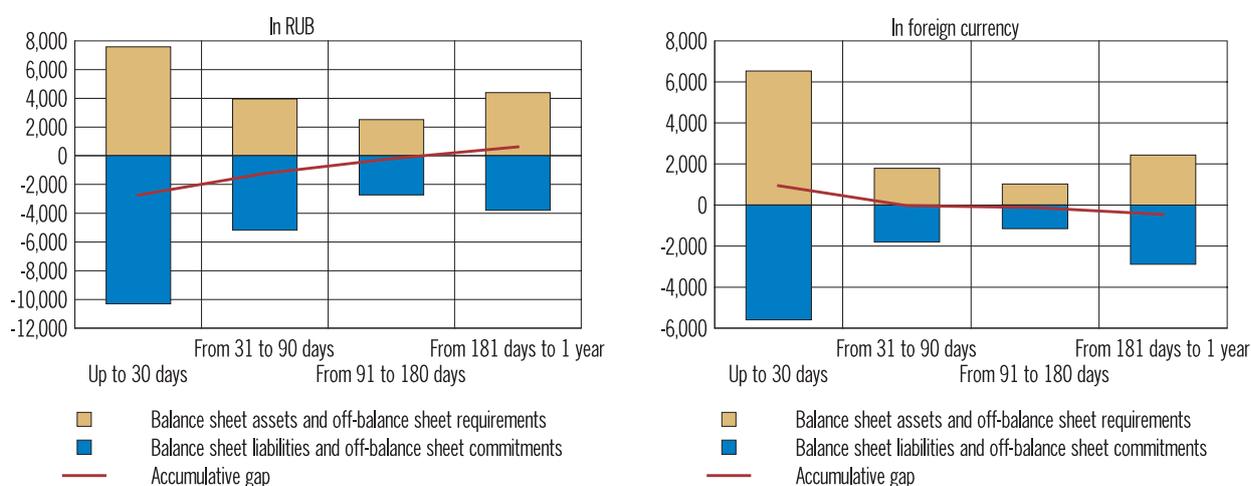
The interest rate gap is maintained in the banking sector, i. e. the difference between claims and liabilities, which are sensitive to interest rate changes. The highest negative gap is typical for ruble funds with maturity of up to 30 days (Chart 44). It is worth mentioning that this gap is a normal situation that reflects specific features of banks that finance long-term asset by raising short-term liabilities.

The change in interest rates in the foreign money market should not have a significant negative impact on the interest margin of Russian banks due to the fact that a significant portion of FX loans is granted by them at floating rates, and the claims and liabilities in foreign currency are fairly balanced by maturity.

¹³ Weighted average for fund raising and investing rates for all terms and banks within one month.

Chart 44

Term structure of claims and liabilities of banks, which are sensitive to interest rate risk as of 1 April 2017 (RUB billion)



Despite low current interest risks in the banking system, the Bank of Russia believes it is important to improve the risk management systems in credit institutions and shift to advanced methods of assessing interest rates in major banks. Leading central banks also address the issues related to interest rate risk assessment. In particular, the European Central Bank (ECB) decided to conduct the sensitivity analysis of banks subject to the ECB's supervision of changing interest rates in February 2017. Such stress testing will be performed by a bottom-up method¹⁴ with the use of six scenarios of interest curve changes, of which the parameters are set forth in the interest rate risk standards set by the Basel Committee on Banking Supervision¹⁵.

In 2016 Q4, the Bank of Russia surveyed 27 top banks regarding the current practice of interest rate risk management and assessment in order to check its compliance with the best international practice. The banks disclosed their methods of interest rate risk assessment used in assumptions and scenarios, assessment frequency and application of its results to the bank's operations.

According to the survey, most major Russian banks apply methods established by the Bank of

Russia¹⁶ as well as, in part, their internal methods for interest rate risk assessment (regarding their banking or trade portfolios). Thus, major banks are well-prepared to improve the regulatory methods for interest rate risk assessment.

While the frequency of interest rate risk assessments varies, in some instances trade portfolio risks are assessed on a daily basis, while banking portfolio risks are assessed on a monthly basis.

Banks normally use several methods to assess interest rate risk simultaneously (gap analysis, duration method, sensitivity assessment of net interest income and net present value of assets and liabilities sensitive to interest rate risk and interest rate changes). In such instances, the gap analysis is applicable to the assessment of interest rate risk in the banking portfolio and the duration method is applicable to the assessment of interest rate risk in the trade portfolio.

The BCBS interest rate risk standards contemplate that the main interest rate risk assessment method of the bank book is the sensitivity analysis of asset net present value (NPV) and economic value of equity (EVE) to interest rate risk. Five Russian major banks report using similar methods, although in a more simplified form. For example, the EVE calculation uses the scenario of a parallel interest

¹⁴ In bottom-up stress testing the regulator provides member banks with general scenarios, and each bank conducts stress testing of its own data based on its own methodology, and the regulator aggregates the results.

¹⁵ Interest rate risk in the banking book – Basel Committee on Banking Supervision, April 2016.

¹⁶ Regulatory methods for calculating interest rate risks as part of market risks of the trade portfolio according to Bank of Russia Regulation No. 511 P dated 13 December 2015 "On the Procedure for Calculating Market Risk by Credit Institutions".

curve shift, whereas BCBS recommends addressing six different scenarios, which include, among other things, a non-parallel shift of interest curve.

The BCBS standard addresses the assessment of non-standard instruments sensitive to interest rate risk: instruments with indefinite maturity (in particular, on-demand deposit) and instruments with embedded options (in particular, early redeemable loans). Some respondents do not include such instruments to calculate interest rate risks while others use approaches with various degrees of complexity (historical deposit disposal models, detection of stable and unstable deposit parts, expert judgement, and more). Twelve banks include embedded optionality of banking portfolio instruments with the help of behaviour models (such as simula-

tions of early repayment of retail loans). Four banks do not formalize such models, however, behaviour adjustments, if necessary, are included in the calculations of some instrument categories.

The respondents use different approaches to interest rate risk assessment, which follows naturally from differences in bank sizes, business models and assets/liabilities structure. Given that the Bank of Russia is gradually introducing the BCBS standards, it is expected that interest rate risk assessment standards will be included in the Russian banking regulation. In this context, banks may be recommended to consider a possibility to calculate the net current asset value and economic value of equity and an option to use any other approaches to assessing interest rate risk proposed by BCBS¹⁷.

¹⁷ For more details, see the consultation report of the Bank of Russia "The Interest Rate Risk Management System in Major Russian Banks" published on 11 April 2017. Based on the feedback to this report, the Bank of Russia plans to develop recommendations on interest rate risk management, which credit institutions may use before the introduction of the BCBS standards in Russia.

4. SYSTEMIC RISKS OF NON-CREDIT FINANCIAL INSTITUTIONS

4.1. Risks of Insurance Organisations

In 2016 Q4 and 2017 Q1, the key source of risks for insurance companies was the compulsory motor third party liability insurance (OSAGO), which is undergoing comprehensive reform aimed at expanding insurance policy consumer outreach and easing the burden of non-insurance legal fees on insurance companies. In the coming years, investments of insurance companies will be affected by the decrease in interest rates on major instruments along with the repayment of deposits and debt securities with higher interest rates. However, this process has a stimulating effect on the insurance market: consumers become increasingly interested in life insurance products as a possible alternative to bank deposits.

In 2016, the level of financial leverage remained stable in the market: the debt-to-equity ratio was 5.1% (5.5% in 2015). The return on equity of insurance companies reached 24.1% (Chart 45) and net profit was 81.9 billion rubles. Such results are related to the decline in loss ratio of some voluntary insurance types (the combined loss ratio of non-life insurance¹ lost 8.2 pp to reach 89.7% compared with 2015) as well as high investment income on major investment types². Given interest rate changes in 2017, insurance companies are likely to receive less return on their investments.

The total insurance market grew by 15.3% to reach 1,180.6 billion rubles. Life insurance collections contributed the most to the absolute market growth: this segment grew by 66.3% and became the second-largest segment (Chart 46) next to the OSAGO segment. Life insurance growth was driven primarily by growing demand for investment products, which in part replaced bank deposits amid de-

clining deposit rates. Life, accident and illness insurance premiums collections (gained 33.5%) were driven by the recovery of retail lending.

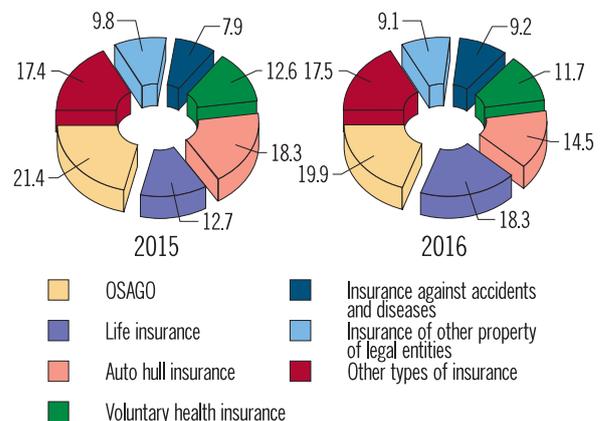
Auto hull insurance premiums continued to decline and lost 8.8% in 2016 (-14.3% in 2015). Insurance companies managed to streamline their portfolios: the combined loss ratio (excluding management costs) declined to 62.7% in 2016 (89.9% in 2015) and the share of capital of insurers with a

Chart 45
Return on equity and financial leverage of insurers (%)



Source: Bank of Russia.

Chart 46
Changes in the structure of Insurance Premiums (%)

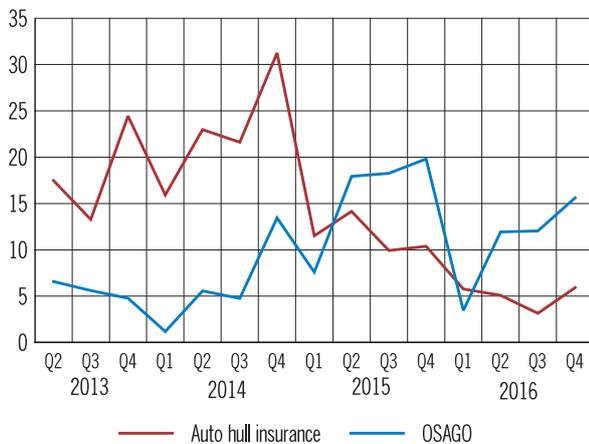


Source: Bank of Russia.

¹ The combined loss ratio is calculated as a ratio of the sum of incurred losses, business expenses, etc. to the value of insurance premiums received.

² In late 2016, 26% of insurers' assets were deposited in banks and 26.2% were invested in corporate bonds and government and municipal securities.

Chart 47
Share of insurers' capital with a negative technical result in vehicle insurance (%)



Source: Bank of Russia.

negative technical result³ was 6.0% or less in 2016 Q4 (Chart 47).

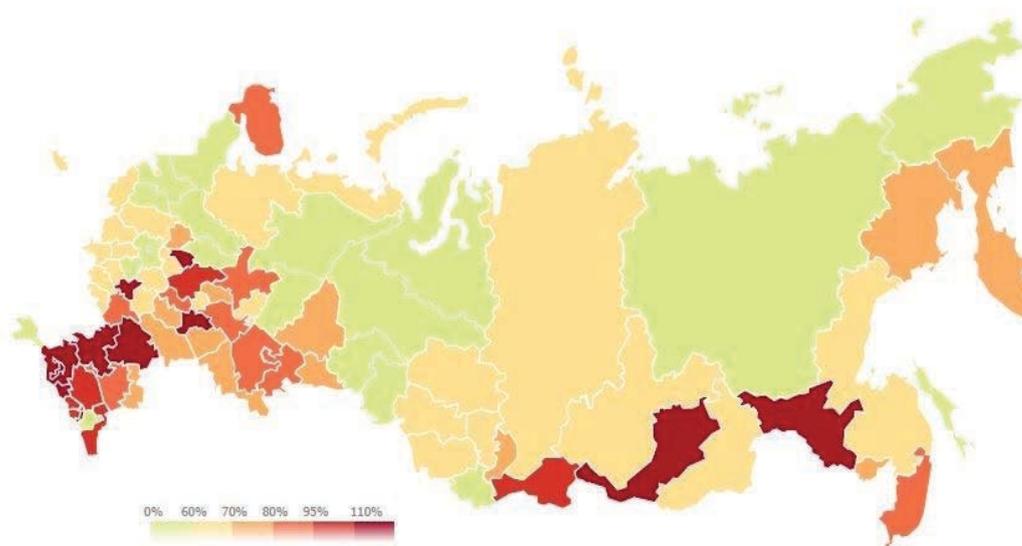
The OSAGO segment results remained negative: the combined loss ratio (excluding management costs) declined to 97.8% in 2016 (96.3% in 2015) and the share of capital of insurers with a negative technical result continued to grow to 15.6% in 2016 Q4 (Chart 47). In 2016, the insurers' indemnity⁴ ratio was above 70% in 40 regions and 90% or more in 20 regions (Chart 48). Increased out-of-pocket proceedings costs remained the key con-

cern for insurers: according to the Russian Association of Motor Insurers (RAMI) data in 2016, these costs were equal to the main court claim amount and exceeded it by 1.5 or 2 times in some regions. In problem regions, insurance companies sought to minimise sales: one third of Russian Federation constituents faced difficulties in buying OSAGO policies by late 2016.

Introduction of compulsory ongoing e-OSAGO sales for the market players mitigated problems with policy availability: according to RAMI, 760,000 of such policies were sold in 2017 Q1 or 2.3 times more than the total amount in 2016.

Amendments to Federal Law No. 40FZ dated 25 April 2002 "On Compulsory Civil Liability Insurance of Vehicle Owners"⁵ were made to reduce the burden of non-insurance costs on the market players and established the priority of indemnification in kind over cash payments. The above amendments are expected to bring about the increase in indemnity payable under this type of insurance due to the requirement to use new spare parts, which will be offset for insurance companies by the reduction of non-insurance expenses paid to intermediaries in court proceedings. Such priority of in-kind indemnification will be applicable only to the OSAGO agreements made after these amendments were put into effect on 28 April 2017; therefore, the effect of this

Chart 48
Ratio of payments in the context of the constituent entities of the Russian Federation at 2016 year-end

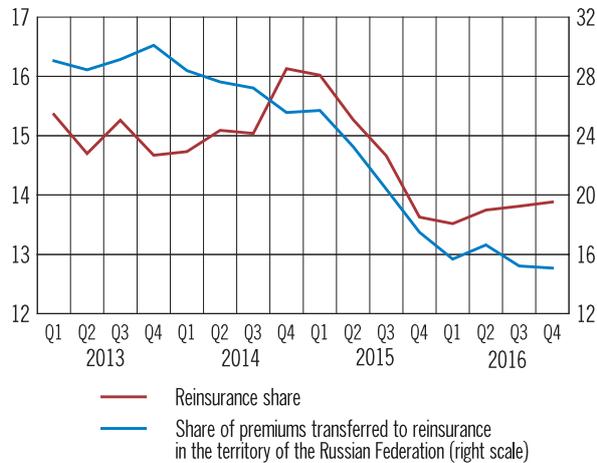


³ The technical result is calculated as a difference between insurer's income and expenses related to the insurance business.

⁴ Indemnity to premium ratio.

⁵ Federal Law No. 49 FZ dated 28 March 2017 "On Amending the Federal Law 'On Compulsory Civil Liability Insurance of Vehicle Owners'."

Chart 49
Share of reinsurance and share
of premiums transferred to reinsurance
in the territory of the Russian Federation (%)*



* Reinsurance share is the ratio of the amount of insurance premiums transferred to reinsurance for the last 12 months preceding the reporting date to the total amount of insurance premiums for the last 12 months preceding the reporting date; the share of insurance premiums transferred to reinsurance in the territory of the Russian Federation is calculated as the total amount of insurance premiums transferred to reinsurance for the last 12 months preceding the reporting date.

Source: Bank of Russia.

measure will manifest itself as soon as insurance companies update their portfolios.

Insurance fraud continues to be relevant to the OSAGO and motor insurance market and illegal developments continue to penetrate into other insurance types, including personal insurance and agricultural risk insurance. The Bank of Russia is aware of these issues and is developing joint efforts with the law enforcement authorities.

In 2016, the main corporate insurance types recovered their traditional growth rates after a slowdown and decline in 2014–2015: voluntary health insurance premiums grew by 6.9% and other corporate property insurance gained 7.5%.

The nominal outgoing reinsurance premiums grew by 9.3% in 2016 following the general growth in direct insurance, in particular, corporate property⁶. The reinsurance share remained at the minimum level during the last years as long as top direct insurers expanded their ability to increase their own retention and declined to reinsure some risks to decrease costs (Chart 49). This process mostly affected Russian reinsurers: insurance premiums transferred for reinsurance in the Russian Federation continued to decline (-11.9%) in 2016. The Russian reinsurance market is expected to transform further due to the commencement of the obligation

⁶ Hereinafter: excluding life insurance (reinsurance).

to transfer 10% of risk (with some exceptions) to the Russian National Reinsurance Company (RNRC) from 1 January 2017: insurance companies tend to review the need in reinsurance.

4.2. NPF Risks

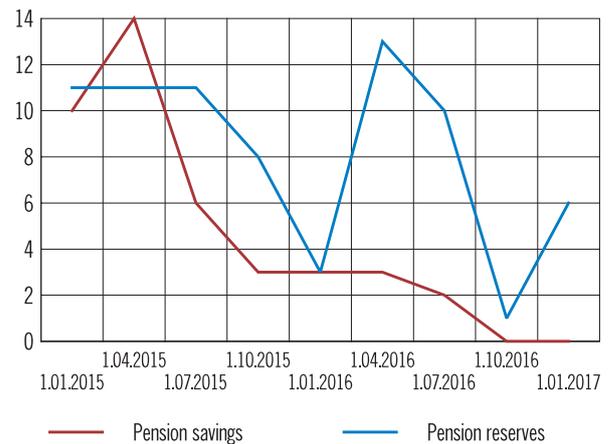
The importance of the effectiveness of NPF business model has increased due to the moratorium on the funded component of pension and regulatory changes made by the Bank of Russia. Currently, the pension business generates profit from the return on pension fund investments. Furthermore, new customers coming from other funds and the Pension Fund of the Russian Federation (PFR) play an important role.

By the end of 2016, the aggregate value of NPF pension savings was 2,153 billion rubles and pension reserves were 1,132 billion rubles⁷. NPF will gain another 234 billion rubles in 2017 as a result of the transition campaign⁸. The pension savings transfer campaign in 2016 proved to be the most active in history. The customer flow from PFR to NPF has increased and transfers across NPF has reduced almost twofold.

The weighted average yield⁹ on NPF pension savings in 2016 was 9.6% per annum and pension

Chart 50

Share of NPFs
with negative returns (%)



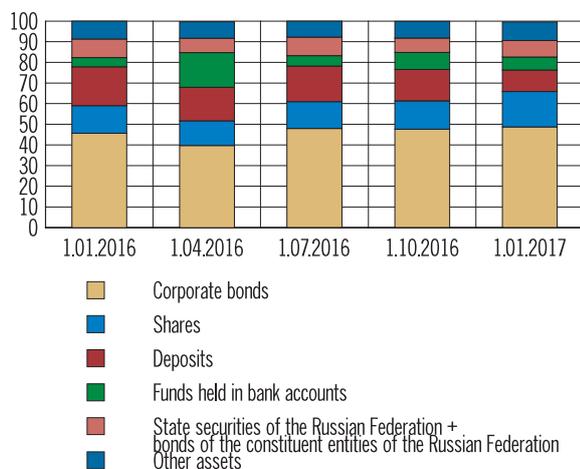
Source: Bank of Russia.

⁷ According to specialized depository reports.

⁸ According to the Pension Fund of the Russian Federation as of 20 March 2017.

⁹ The yield of invested pension savings is calculated as the weighted average yields (on pension savings) by each fund in percent per annum from the beginning of the year.

Chart 51
Structure of the pension savings portfolio by asset classes (%)



Source: Bank of Russia.

reserves were 10% per annum, which is 4.2 and 4.6 pp above inflation respectively. In 2016 Q4, all funds maintained a positive return on investment relative to their pension savings portfolios. Four funds with an aggregate pension reserves value of 2.2 million rubles showed losses by the end of the year.

In 2016, NPFs preferred the equity and debt market to invest pension savings: bank deposits in the pension savings portfolio lost 9 pp (down to 10%), shares and bonds grew by 4 pp (up to 17%) and 3 pp (up to 49%) respectively (Chart 51). The NPF market expects significant changes in pension savings investment in 2017. According to new requirements of the Bank of Russia,¹⁰ funds will have to cut their investments in bank assets to 30% by 2019 and the list of high-risk assets will be expanded (their share in the pension savings portfolio must not exceed 10%). In particular, such high-risk instruments include units in unit investment funds and shares in hi-tech companies listed in the IIM-Prime segment of MICEX. NPFs may be able to make repo and financial derivative transactions. Such

new requirements for pension savings investment to decrease the bank instrument share will facilitate diversification of the NPF investment portfolio by economic sector. Moreover, the Bank of Russia is considering an option to authorize NPFs to invest pension savings independently.

In analysing pension market risks, the Bank of Russia focuses on the assessment of intra-group¹¹ and intergroup¹² investments (“mutual investments”) by NPF members of top financial groups. Pension funds may use mutual investments in assets of other financial groups to implement potential beneficial financial schemes (cross-transactions), which can enhance contagion risks. The Bank of Russia analysed mutual investment of pension savings portfolios by 20 NPFs (95% of the pension savings held by all NPFs) included in 10 financial groups formed upon expert judgement¹³. According to the Bank of Russia, the total mutual investment amounted to 40–45% of the total pension savings portfolio of the groups in question in 2016. Currently, the NPF interconnection level involves no systemic risks for the financial market. At the same time, the Bank of Russia will continue to monitor mutual investments.

To prevent any potential growth of such risks, the Bank of Russia enacted Ordinance No. 4060U dated 4 July 2016 “On the Requirements for the Organisation of the Risk Management System of a Non-Governmental Pension Fund”, which requires NPFs to have a risk management system in place, including the development of internal documents, identification and management of risks (including imposing risk limitations), measurement and assessment of risks, control of risks and remedying any detected breaches. Besides, the Bank of Russia addresses the issue of using reasonable judgement in assessments of NPF investments in their related parties as it is implemented in the supervision of credit institutions.

¹⁰ Bank of Russia Regulation No. 580 P dated 1 March 2017 “On Setting Additional Limitations on the Investment of Pension Savings of a Non-Governmental Pension Fund Providing Compulsory Pension Insurance, When Management Companies Acting as Trustees for Pension Savings May Enter into Repo Agreements, and Requirements Aimed at Mitigating Risks, in Compliance with Which Such Management Company May Enter into Agreements, Which Are Derivative Financial Instruments, and Additional Requirements for Credit Institutions, Which Deposit Pension Savings and Savings for Housing Provision for Servicemen, and Additional Requirements, Which Management Companies Must Meet During the Term of Trust Agreement Related to Pension Savings Management for Funded Pension.”

¹¹ NPF investments in assets of their affiliates.

¹² NPF investments in assets of other NPF affiliates.

¹³ The criterion of single ultimate beneficiary was used to form some NPF groups.

Box 3. NPF Investment Risks Analysis in 2016 Q4

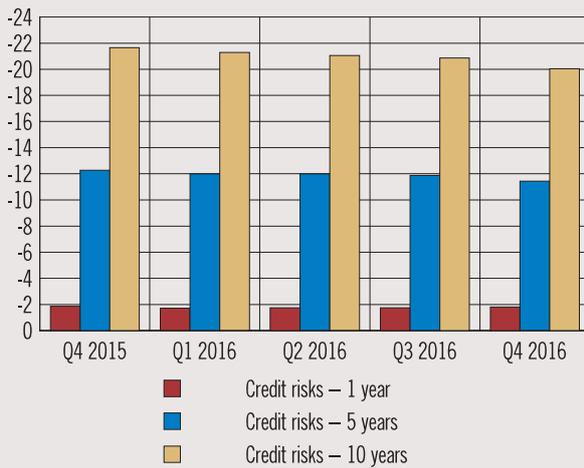
The analysis of pension savings of NPFs included in the system for securing the rights of policyholders (41 NPFs in 2016) focuses on the assessment of credit and market risks of NPF investment portfolios, NPF sensitivity to financial shocks and loss absorbance capacity.

The most essential to NPFs credit risks¹ of the investment portfolio are gradually decreasing: potential expected losses incurred upon the materialisation of credit risk related to pension savings within 5 years were -11.43% of the aggregate value of NPFs pension savings portfolios. It is noteworthy that the share of unrated assets fell from 12 to 8% during the period in question. In total, the analysis of NPFs assets and liabilities showed that the market players are tolerant to credit risks in the mid-term: only 7 NPFs showed the funding ratio² at the level of less than one. The capital of five out of seven NPFs allows them to absorb potential losses from credit risk materialisation within the one-year horizon.

NPF market risks increased from -8 to -12% due to the increase in shares with high CVaR³ in the NPFs pension savings portfolio. The long-term nature of NPFs liabilities makes them largely insensitive to market risks. At the same time, market risks may become essential to NPFs due to liquidity risks, which increase during transition campaigns⁴.

Chart 52

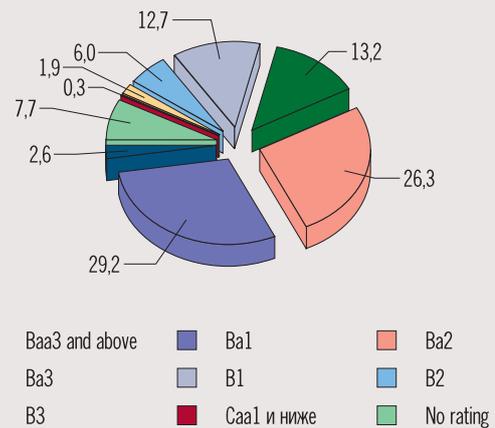
Dynamics of changes in credit risk indicators (%)



Source: Bank of Russia.

Chart 53

Structure of Assets by Rating as of 31 December 2016 (%)



Source: Bank of Russia.

¹ The credit risk assessment assigned every asset in an NPF's portfolio a quantitative parameter (an indicator of the probability of default) to determine the loss limit depending on the time horizon (1, 5, and 10 years). The default probability indicator was determined in accordance with ratings of credit rating agencies or by expert assessment depending on the asset class if there was no rating available.

² The ratio of liabilities coverage by NPFs assets.

³ CVaR gives a conservative investment assessment relying on less profitable results.

⁴ According to applicable law, policyholders apply for transfer to any other NPF to the fund where they plan to transfer their pension savings rather than to the initial insurer. Given this, funds lack information related to the size and scope of pension savings of those customers who plan to leave them.

5. FISCAL POLICY IMPACT ON FINANCIAL STABILITY

5.1. Results of the Monitoring of Development Institutions Risks and Proposals on Their Regulation by the FSC

To minimize budget risks and improve the performance of government development institutions, the National Council on Ensuring Financial Stability (FSC) commenced creation of the interdepartmental working group under the Bank of Russia for assessment of potential systemic risks of AHML JSC and SME Corporation.

Unified Development Institute in the Housing Sector¹

From early 2015 to 2016, the key financial performance indicators of the Unified Development Institute in the Housing Sector (Agency for Housing Mortgage Lending, AHML) showed positive growth (Chart 54): financial leverage decreased to 95%, the portfolio of redeemed pledge and mortgage-backed securities (MBS) totaled 279.3 billion rubles, and return on equity increased to 10%. At the same time, the share of non-performing mortgages and loans issued by AHML is above the average value in the mortgage market (Chart 55), which is related to the implementation of social support programs for borrowers who face temporary financial difficulties.

AHML plans to implement a new business model² related to MBS Factory³ to simplify MBS issue and ensure the full transfer of MBS credit risk to AHML. If the goals set are successfully met, the share of mortgage loans issued through AHML will

¹ Organizations within the Unified Development Institute in the Housing Sector are defined according to Article 3, Clause 1, Federal Law 225 FZ dated 13 July 2015 “On Assistance to Development and Increase in Management Efficiency in the Housing Sphere and on Amending Separate Legal Acts of the Russian Federation”, except for credit institutions.

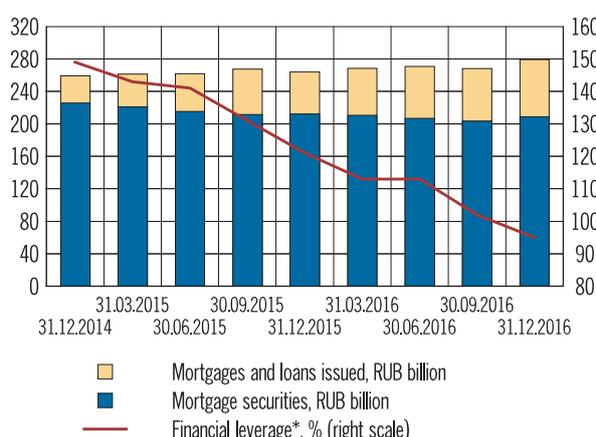
² Unified Development Institute in the Housing Sector // Long-Term Development Program of the Unified Development Institute in the Housing Sector for 2016–2020, Moscow, 2015.

³ Securitisation of bank mortgage portfolios and their swap into mortgage-backed securities is issued and guaranteed by AHML with an option of its further sale or repo.

grow from 6% in 2016 to 45% in 2020 and MBS are expected to become second-largest after OFZ by issue volume, which will make AHML a systemic institution. The project is expected to have a positive effect on the mortgage market development in Russia and bring down bank funding risks. It is worth mentioning the following potential aspects of this new business model:

Chart 54

Key performance indicators

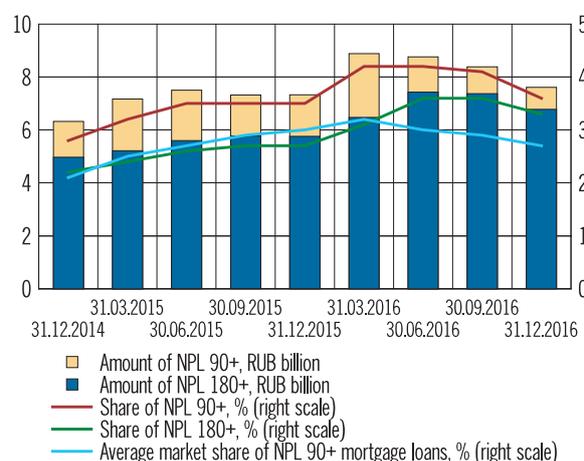


* Less liabilities to Vnesheconombank.

Source: The Bank of Russia on the basis of AHML's IFRS reporting.

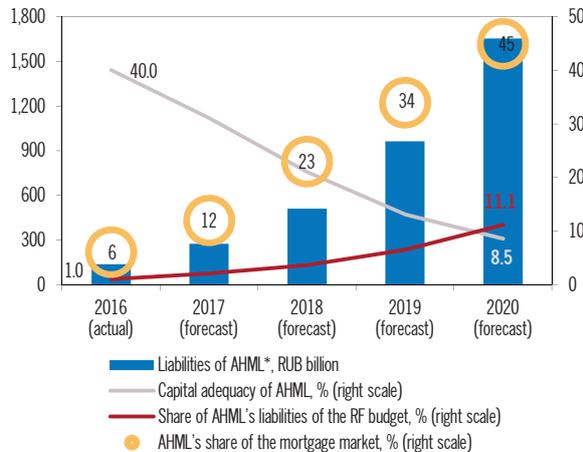
Chart 55

Dynamics of the quality of the portfolio of mortgages and loans issued



Source: The Bank of Russia on the basis of AHML analytical data.

Chart 56

Forecast indicators of the implementation
of the new business model

* Including MBS Factory project.

Source: The Bank of Russia on the basis of AHML analytical data and the Ministry of Finance of Russia.

Financial leverage (quasi-public debt obligations) will increase to 1.3 trillion rubles (or 11.1% of the Russian Federation budget by 2020), which may increase the risks of financial sustainability;

Capital adequacy calculated by the methodology set forth in the Bank of Russia Instruction 139I⁴ will decrease to 8.5% (Chart 56), which may be insufficient to ensure financial sustainability during any stressful events;

Sensitivity to interest and market risks will grow.

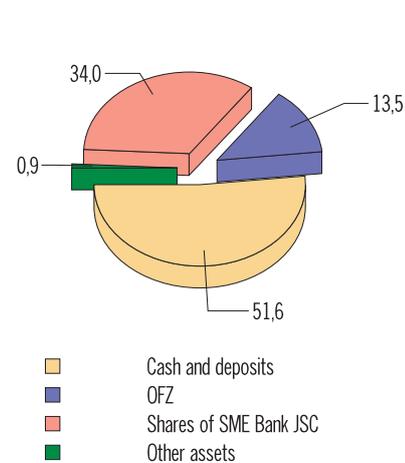
Given the expected growth in transactions, the Bank of Russia has conducted stress testing of the AHML mortgage portfolio since the beginning of 2017. Furthermore, the interdepartmental working group of FSC discusses the feasibility and form of financial regulation and supervision of AHML with regard to its systemic importance and social mission.

Development Institute in the Small and Medium Business Sector (SME Corporation JSC)

The core business of SME Corporation JSC ("Corporation") includes the issuing of guarantees and sureties to small and medium-sized businesses (SME), which have no adequate collateral. The Program 6.5% was approved in late 2015 as addi-

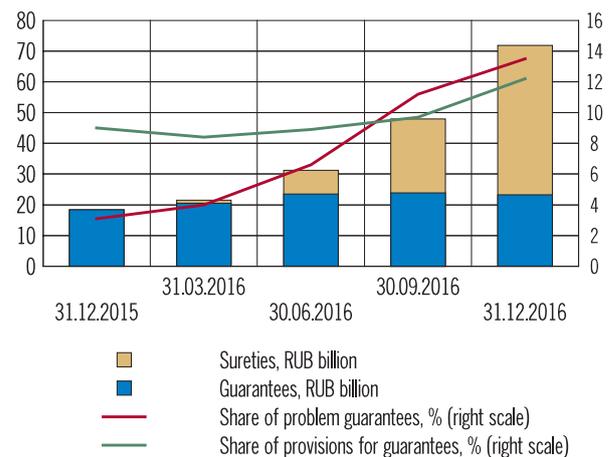
⁴ The Bank of Russia Instruction 139 I dated 3 December 2012 "On Statutory Ratios for Banks".

Chart 57

Structure of assets
as of 31 December 2016 (%)

Source: The Bank of Russia on the data of SME Corporation JSC.

Chart 58

Dynamics of guarantees
and sureties

Source: The Bank of Russia on the data of SME Corporation JSC.

tional support to SME, which operate in priority economic sectors⁵.

A characteristic feature of the Corporation is absence of borrowed capital and investment of assets in high-quality liquid instruments, such as OFZ and three-month deposits (Chart 57). A moderate quality of assumed contingent (off-balance) liabilities, which account for major risks, maintains a relatively low rate of return (2.5% in 2016). The above liabili-

⁵ The "Program 6.5%" provides loans to SMEs for business development at a reduced fixed rate of 10.1% for medium businesses and 10.6% for small businesses. Such a reduced loan cost is supported by loans granted by the Bank of Russia to its authorised banks under the Corporation's guarantee at 6.5% per annum.

ties are provided within the limit of equity and consist of two major segments: sureties under the “Program 6.5%” and guarantees⁶.

In 2016, no credit risk materialized in the Corporation under the “Program 6.5%” guarantees as systemic credit institutions acted as their principals (no provisions were created for this product). The Bank of Russia extended the “Program 6.5%” list of partner banks with regional banks to improve the accessibility of loans to SME customers of other organisations.

The Corporation spends most of its funds to create loss provisions for the guarantee portfolio. The

share of guarantees with impairment signs in 2016 (+10.4 pp) increased due to the provision of security for project financing. It is worth mentioning that the share of guarantee with impairment signs was about 14% in 2016 and reserves were 12% (Chart 58).

Given the scope of business and the current financial status, including the scheduled additional capitalisation of 20.8 billion rubles in 2017 and 2018⁷, the Corporation expects no additional systemic risks in the financial market. The interdepartmental working group will continue the monitoring of possible risk increase tasked by FSC.

⁶ The guarantee portfolio includes 13 product types.

⁷ According to Federal Law 415 FZ dated 19 December 2016 “On the Federal Budget for 2017 and the Planned Period of 2018 and 2019”.

Box 4. Regulating Experience of Foreign Development Institutions: Europe and China

The Bank of Russia conducted an overview of development institutions (hereinafter, “institutions” or “funds”) established in the European countries¹ and the China Development Bank (CDB)². The Bank of Russia selected the major European institutions, such as KfW³ (Germany), FMO⁴ (the Netherlands) and OeEB⁵ (Austria).

Development institutions are focused on providing financial resources to those economic sectors that face difficulties in raising loans to support consistent and sustainable economic growth. The selected projects are financed by establishing companies jointly and/or associated with beneficiaries. This approach is favourable for influencing decision-making, high-quality risk assessments and mitigating project risks at the initial implementation stage.

Most institutions under review raised outside funding primarily from related parties. Only half of the funds provided a direct reference to the guaranteed government support of liabilities in their accounts (similar to Public Sector Entity). Such funds rely on the principles of efficiency and self-financing, which prevented negative return on equity (Table 5).

Individual tier 1 and 2 capital adequacy requirements are defined to ensure financial stability and cover unexpected losses of development institutions and such standards are set high for the funds under review (Table 5) in line with their systemic importance.

A reasonable risk management policy is an important driver of high performance. According to open sources, funds use the following risk management instruments (credit, market, operational, currency, and liquidity risks):

- use of internal and external ratings to assess credit risks;
- constructing internal models and stress testing of specific risks;
- VaR analysis;
- capital adequacy control;
- application of policy of limiting risks;
- use of internal control and audit procedures.

Table 5

Comparative Table of International Development Institutions for 2015 (%)

Indicator		KfW	FMO	OeEB	CDB
Capital adequacy ratios	Level 1	18.3	22.9	60.2	8.8 (8.9 – group)
	Level 2	18.4	23.6	65.7	10.7 (10.8 – group)
ROR (gross)*		65	63.9	1.5	20.7
ROE		8.1	7.5	1.1	11.9

* Return on revenue (ROR) is the ratio of net profit to revenue.

Source: The Bank of Russia (according to IFRS reporting of development institutions).

¹ The institutions were selected based on the data of the Association of European Development Finance Institutions (EDFI, www.edfi.be).

² China Development Bank.

³ Kreditanstalt für Wiederaufbau – Reconstruction Credit Bank.

⁴ Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V. – Netherlands Development Company.

⁵ Oesterreichische Entwicklungsbank AG – the Development Bank of Austria.

5.2. Government Debt Market in the Context of Growing Borrowings

Table 6

The main characteristics of the federal budget in 2017–2019 (RUB billion)

Indicator	Actual	Forecast		
	2016*	2017	2018	2019
Revenues	13,369 (12,665)	13,492	13,955	14,823
% of GDP	16.1 (15.3)	15.5	15.1	15
<i>Oil & gas revenues</i>	<i>4,778</i>	<i>5,063</i>	<i>5,085</i>	<i>5,322</i>
% of GDP	5.8	5.8	5.5	5.4
In % of the total volume	35.7	37.8	36.4	35.9
<i>Non-oil & gas revenues</i>	<i>8,591 (7,888)</i>	<i>8,342</i>	<i>8,870</i>	<i>9,501</i>
% of GDP	10.4 (9.5)	9.6	9.6	9.6
In % of the total volume	64.3	62.2	63.6	64.1
Expenses	16,404	16,160	15,951	15,962
% of GDP	19.8	18.6	17.3	16.1
Deficit (-) / surplus (+)	-3,035 (-3,739)	-2,754	-1,996	-1,139
% of GDP	-3.7 (-4.5)	-3	-2.2	-1.2
Non-oil and gas deficit in % of GDP	-9.4 (-10.3)	-9	-7.7	-6.5

* In (brackets) parameters without taking into account receipts related to the sale of 19.5% shares of Rosneft PJSC.

The government will implement its debt policy in a completely new environment in the coming years. The main objective for the next three years will be a seamless transition to market financing of the budget deficit.⁸ The use of sovereign funds will decline: it is planned to use 1.82 trillion rubles in 2017, 1.16 trillion rubles in 2018, and 0.14 trillion rubles in 2019 (budget parameters and comments under Federal Law No. 415FZ)⁹.

The existing volatility in the commodity markets and uncertainty of the foreign economic situation may give rise to deviations from the plan in actual budget performance. In this context, foreign debt will be applied to maintain liquidity of the sovereign Eurobonds market. The sustainable operation of the federal bond (OFZ) market becomes a key factor that will determine the ability to cover the budget deficit in the planned scope.

The Federal Budget of the Russian Federation

The main characteristics of the 2017–2019 federal budget (Table 5) involve compliance with the target structural deficit curve of 3%, 2%, and 1% of GDP respectively (excluding the efforts related to the additional capitalisation of Vnesheconombank of 150 billion rubles per year). Based on the forecast of the federal budget of 2017 and the planned period of 2018 and 2019, the Ministry of Finance approved 1,050 billion rubles as the domestic borrowing budget for 2017 in December 2016.

The volume of government borrowings is determined by debt service costs according to the budget rule (0.8–1% GDP per annum). To prevent replacement of the shortage in financing sources or budget revenues not related to oil price deviations with the Reserve Fund, the borrowing will increase/decrease by the deviation of the non-oil and gas deficit from the base level. Furthermore, the restoration/use of the Reserve Fund may require additional adjustment of borrowing amount for the de-

viation of the actual ruble rate in calculating oil and gas expenses.

The regional budget of the constituents of the Russian Federation

The fiscal policy data¹⁰ also show that the increase in the government debt will persist for the constituents of the Russian Federation due to financing of the regional budget deficit planned at 0.1% GDP for 2017–2019 (Chart 59).

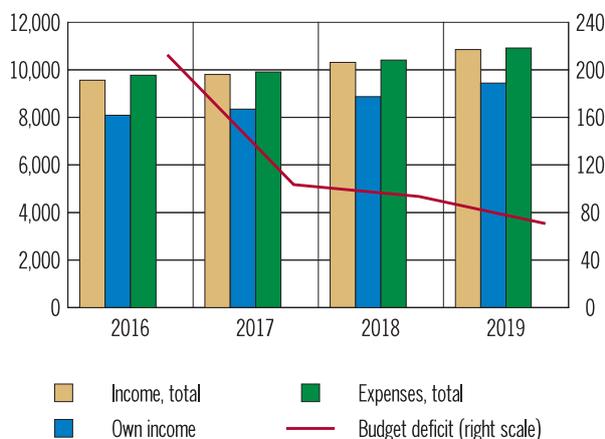
The government debt of the constituents of the Russian Federation increased at the average of 10% per annum from late 2013 to early 2017 (Chart 60) due to increased need to finance social liabilities amid the general impairment of the economic situation. In this context, the state implemented the policy of substitution (or refinancing) of the market debt with budget loans. The share of budget loan debt went up from 27 to 42 percent and the market financing share (securities and bank loans) fell from 66 to 54%. Budget loans are viewed as a temporary anti-crisis measure of the federal authorities to

⁸ Key areas of fiscal policy for 2017 and the planned period of 2018 and 2019. Ministry of Finance of the Russian Federation.

⁹ Federal Law 415 FZ dated 19 December 2016 "On the Federal Budget for 2017 and the Planned Period of 2018 and 2019".

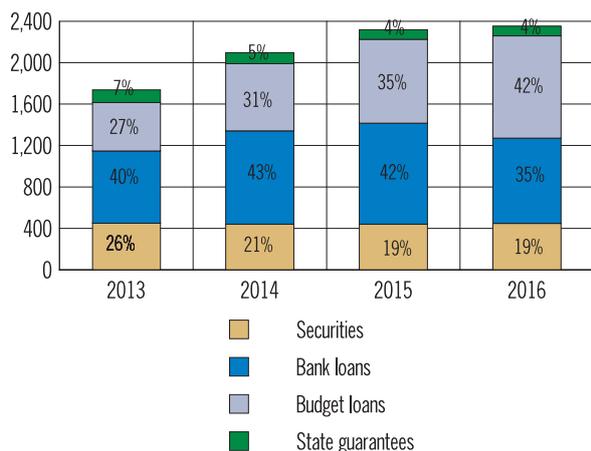
¹⁰ Key areas of fiscal policy for 2017 and the planned period of 2018 and 2019. Ministry of Finance of the Russian Federation.

Chart 59
The main parameters of the consolidated budgets
of the constituent entities in 2017–2019 (RUB billion)



Source: Ministry of Finance of Russia.

Chart 60
Dynamics of the state debt of the constituent entities
of the Russian Federation (RUB billion)



Source: Ministry of Finance of Russia.

support regions. A large share of budget loans may show that the borrower has problems with access to market financing. Thus, the borrower is deprived of the accrued debt management experience.

The Ministry of Finance of Russia will tighten requirements for budget loans after 1 January 2018, in particular, their inclusion in the calculation of the maximum debt amount. This will encourage regions to borrow in the market by issuing debt instruments. At the same time, the Ministry of Finance of Russia will improve the system for debt sustainability assessment of constituent and municipal communities to track borrowers with low debt sustainability. It is planned to increase the responsibility for inef-

ficient debt policy including the removal of municipal unit heads.

Operations of the Ministry of Finance of Russia in the domestic currency market

The Ministry of Finance of Russia purchases/sells foreign currency in the domestic market from February 2017 to decrease dependency of internal economic conditions on the market situation. The scope of currency purchase/sale depends on the forecast of oil and gas revenues of the federal budget based on the key parameters of the mid-term forecast of the social and economic development of Russia. The Ministry of Finance of Russia spent 113.1 billion rubles to purchase foreign currency, 70.5 billion rubles in March and 69.9 billion rubles in April, which in average means daily currency purchases of 4.2 billion rubles.

According to the Bank of Russia, currency purchase transactions of the Ministry of Finance of Russia had no material effect on the currency market. Other factors, such as currency sales by oil exporters and rising oil prices, support the strengthening of the ruble.

The structure and conditions of market of federal bonds

The growing amount of borrowing did not affect the initial demand for government bonds. Amid the increase in domestic borrowings by 447 billion rubles from November 2016 to March 2017, the activity ratio in the Ministry of Finance auctions¹¹ remains at about 2.4 (i. e. demand exceeded supply by 140%), which indicates that the market players maintain interest in OFZ.

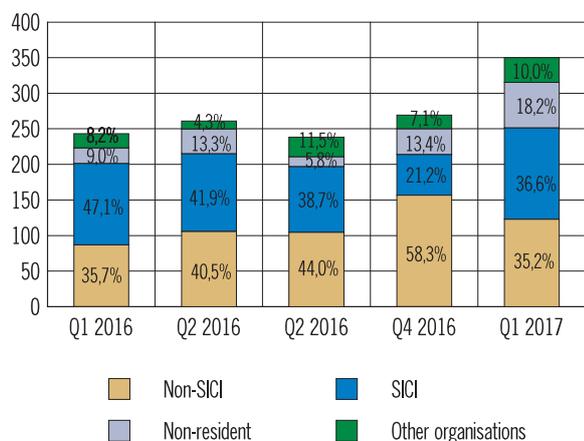
The OFZ auctions held from January 2016 to March 2017 show that the demand primarily comes from Russian systemically important banks (36.8%)¹², foreign banks' subsidiaries (25.3%), and other banks (19.7%) (Chart 63). Non-residents and other organisations accounted for 12.5% and 8.3% respectively. The share of sum of initial trades with non-residents and trades with foreign bank subsid-

¹¹ The indicator is calculated as the ratio of the aggregate nominal demand to supply.

¹² Some organisations may be recorded several times in different categories.

Chart 61

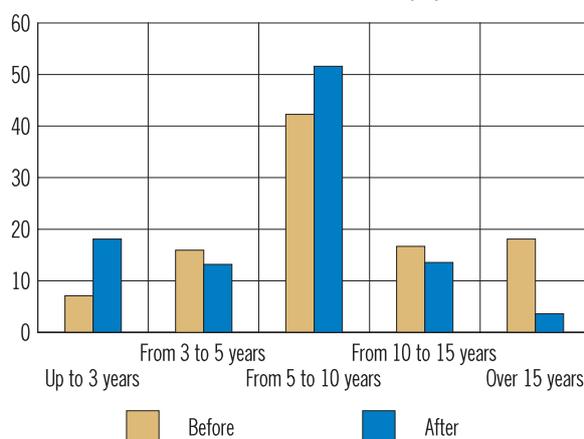
Structure of buyers of new issues of OFZ (RUB billion)



Source: Moscow Stock Exchange.

Chart 62

Term structure of the OFZ issue since 2016 on the date of borrowing on 22 November 2016 (%)



Source: Moscow Stock Exchange.

aries will be 37.8%. The need to comply with the LCR requirement supports the demand from SIBs.

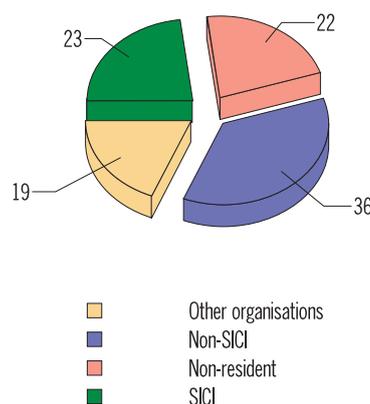
The structure of OFZ buyers in initial offerings has changed. Purchases by non-SIBs rose substantially to 104.4 billion rubles (purchase share of 38.8%) in 2016 Q4 up from 38.1 billion rubles in average during the first three quarters of 2016. The share of non-residents in initial offerings rose to 18.2% in 2017 Q1 (up to 43.9% including foreign banks' subsidiaries).

The temporary OFZ issue structure faced changes after the increase in domestic government borrowings (Chart 62)¹³: the share of short-term borrowings with up to three-year maturity (from 7.1 to 18.1%); the share of mid-term OFZ with 5 to 10 years of maturity rose from 42.3 to 51.6%; the share of long-term bonds with the maturity of 15 or more years substantially decreased (from 18.1 to 3.6%); the share of other maturity bonds slightly decreased (by 2.9 pp in average).

Given decreased inflation expectations in Russia in 2016, the structure of government bond placements changed to increase the share of fixed-coupon OFZ (OFZ-PD), which totalled 61% of the annual domestic borrowings. The share of OFZ-PD continued to grow to 76% in 2017 Q1. Amid high inflation expectations of economic agents in 2015, the market was dominated by floating-yield instruments (linked to RUONIA and inflation): such instruments accounted for 67% of the offered bonds.

Chart 63

Shares of OFZ traders in the secondary market (%)



Source: Moscow Stock Exchange.

Still, investors continue to show interest in floating-yield securities: the activity ratio for OFZ-PK rose from 2.5 to 3.0 (nominal applications increased by 43%) and OFZ-PD activity ratio fell from 2.6 to 2.1 from the time when the maximum level of domestic government debt was increased on 22 November 2016.

The secondary OFZ market contained a similar structure of auctioneers. Non-SIBs were most actively involved in market pricing from January 2016 to March 2017. Their share amounted to 36% in the period in question (Chart 63). SIBs and non-resident trades accounted for almost the same at 23% and 22% respectively and other organisations totalled 19%.

¹³ Federal Law No. 397-FZ dated 22 November 2016 "On Amending the Federal Law 'On the 2016 Federal Budget'."

Box 5. The Bank of Russia Survey of Non-Residents' Demand in the OFZ Market

The Bank of Russia surveyed the market players in relation to OFZ investments. The respondents included Russian banks as well as investors. The survey shows that non-residents' demand for OFZ in the current market will not face substantial changes or tend to decline (relative to other market players) due to an increase in borrowings.

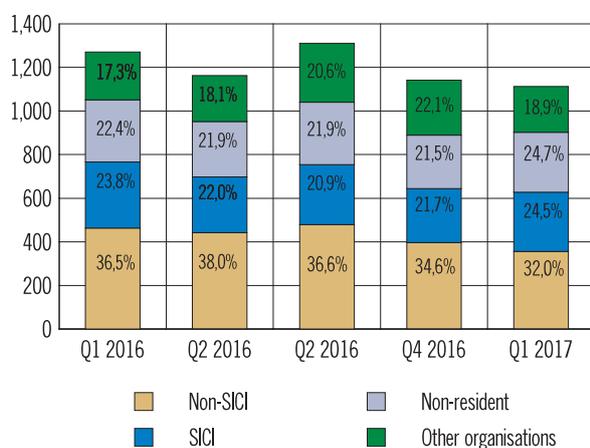
Respondents provide the following answers to questions related to oil prices and non-residents' demand for OFZ: if oil prices are below \$40, non-residents' demand will fall by 50%; with oil prices between \$40 and \$60, the demand will remain unchanged, and with \$60 or more, it will rise by 15%. According to respondents, 60% of the non-resident OFZ portfolio is used to pursue active purchase/sale strategies in the secondary market.

The survey shows that according to the demand structure, non-residents are primarily interested in fixed-yield OFZ as they are included in the key indices of emerging markets (JP Morgan GBI-EM Global Diversified; Bloomberg Barclays EM Local Currency Government Index). As for temporary bond structure, non-residents are primarily interested in OFZ with 5 to 10 years of maturity and investments in such bonds tend to grow. Most non-residents hedge no currency risks and use no credit leverage.

There are no regulatory restrictions on OFZ investments by non-residents; however, the following factors have some deterrent influence: the sovereign rating below the investment rating (according to two international rating agencies) deters active investment growth; institutional investors are restrained with the weight of Russian bonds in the emerging market indices; some clients are unable to buy OFZ placed in the initial market due to sanctions against Russia and are trading only in specific issues approved by their internal compliance service.

Chart 64

Structure of the amount of OFZ trades in the secondary exchange market (RUB billion)



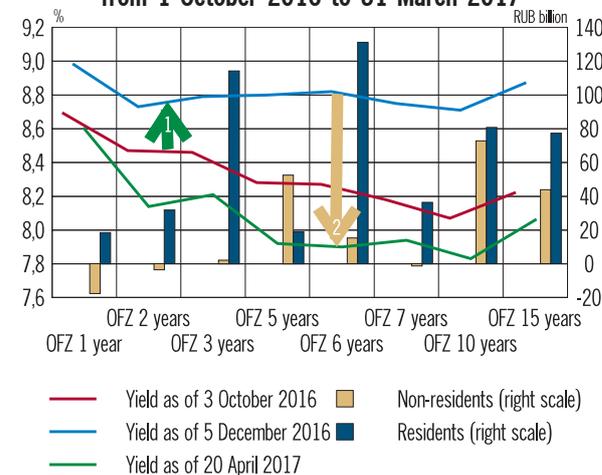
Source: Moscow Stock Exchange.

Total OFZ trades decreased slightly during the period in question. There are two reasons for this decrease:

- in October and November 2016, government borrowings were at the maximum level under the budget rule and new placements must not exceed the repayment amount. This led to a decrease in the average OFZ auction placement (from 22 billion rubles to 10 billion rubles within six weeks);

Chart 65

Net purchases of OFZ by bidders and the dynamics of the OFZ yield curve from 1 October 2016 to 31 March 2017



Source: Moscow Stock Exchange, Bloomberg.

- the demand shifted from secondary trades to increased OFZ auction volumes in 2017 Q1. The Ministry of Finance of Russia offered securities at a discount to the market price in auctions.

The OFZ yield curve showed two main periods from 1 October 2016 to 31 March 2017: yields increased up to early December against the backdrop of uncertain election cycle in the USA and further yield decrease. The OFZ yield curve is close

to the minimum for the period in question as of 20 April (Chart 65).

Amid decreasing inflation expectations, OFZ continue to be an attractive instrument for investors with a profitable ratio of yield to expected interest rates of the following periods. Foreign investors are becoming more involved in initial and secondary OFZ offerings and thus affect securities pricing. According to the Bank of Russia, non-resident investments in OFZ increased by 358 billion rubles from October 2016 to March 2017 and their share increased from 27.0 to 31.1%. Maturities of 10, 5, and 15 years accounted for the largest purchases.

At the same time, non-residents have limited influence on the government debt market. Domestic demand in the OFZ market continues to be the key pricing driver, with a substantial share of Russian investors in the initial and secondary markets of

75.7% (59% if all foreign banks subsidiaries are excluded). Despite the growth of non-residents' share in the reporting period, the OFZ level is comparable to that of October 2016.

Thus, the existing internal conditions are favourable for growing borrowing in the OFZ market. Decelerating inflation along with decreasing interest rates make bonds an attractive investment asset for Russian as well as foreign investors. Despite the active presence of non-residents in the Russian market, Russian credit institutions remain the key investor group and major trade participants. SIBs make an additional demand for government bonds as they need to comply with the liquidity coverage ratios. The above circumstances will support the government stock market and facilitate compliance with the set scope of the borrowing program.

ANNEX.

SUMMARY OF RECENT FOREIGN MACROPRUDENTIAL MEASURES

1. Requirements for Countercyclical Capital Buffer, CCyB

- In September 2016, the Financial Policy Committee (FPC) of the Bank of England published a decision to fix CCyB at 0% of RWA at least until July 2017, unless there are significant changes in economic forecasts (the UK ruled out the decision to upgrade the buffer to 0.5% in July 2016 after the Brexit Referendum). CCyB is reviewed quarterly.
- The Hong Kong Monetary Authority (HKMA) increased CCyB from 0.625 to 1.25% from 1 January 2017 and from 1.25 to 1.875% from 1 January 2018. The reason is that according to current credit/GDP gap, and property price/rent gap (i. e. housing and rent prices ratio) internal risks remain high.
- Norway increased the required CCyB from 1.0 to 1.5% of RWA from 30 June 2016. The CCyB increase is caused by high household debt level, increasing real estate prices and disbalances in the financial sector. The decision to increase CCyB from 1.5 to 2.0% of RWA from 31 December 2017 was made in December 2016.
- The National Bank of Slovakia will set its CCyB at 0.5% of RWA from 1 August 2017. Such buffer introduction is caused by growing lending amounts (with the ratio of issued loans to GDP exceeded the trend by more than 2% to 2.4% by the end of 2016 Q1) against the backdrop of low interest rates. The buffer requirement covers all banks in Slovakia.
- The Czech National Bank set its CCyB at 0.5% of RWA from 1 January 2017. This decision included factors, such as accelerating lending growth rates, potential growth of systemic risks and housing price growth.
- Sweden decided to keep its CCyB at 2% of RWA on 19 March 2017 (CCyB was raised from 1.5% in March 2016). Household lending continues to grow faster than the nominal GDP and real available income, although growth rates have slowed down. In this regards the regulator decided to keep the rate unchanged.

2. Requirements for Capital Conservation Buffer, CCB

- The Australian Prudential Regulation Authority (APRA) in 2016 issued the guidelines on prudential requirements for the capital conservation buffer (CCB). CCB is set at 3.5% of RWA for Domestically Systemically Important Banks (D-SIBs) and 2.5% of RWA for all banks.

3. Systemic Risk Buffer

- The UK Prudential Regulation Authority (PRA) published an approach to the introduction of the systemic risk buffer for ring-fenced banks and large-size building societies with deposits of 25 or more billion pound sterling. The initial buffer is planned to be introduced in early 2019 and enacted within three months after approval. It further plans to renew this buffer annually with entrance into force from 1 January of the next year (e. g. the buffer size established in December 2019 and becomes effective on 1 January 2021). Building societies, which are major organisations subject to consolidated supervision, will apply the consolidated buffer, while other societies will apply buffers on a case-by-case basis.
- In June 2016, the German Federal Bank (Bundesbank) and the Federal Financial Supervisory Authority (BaFin) published the list of 16 banks subject to gradual introduction of the systemic risk buffer from 1 January 2017 to 1 January 2019. Individual capital add-on is established for each bank: 0.16% in 2017 for eight banks (0.32% in 2018 and 0.5% in 2019); 0.33% for six banks in 2017 (0.66% in 2018 and 1% in 2019); 0.5% for one bank (Commerzbank AG) in 2017 (1% in 2018 and 1.5% in 2019); and one bank (Deutsche Bank AG) is subject to a 2% buffer as the global systemically important bank (GSIB) according to FSB and BCBS in 2017. However, Bundesbank and BaFin plan to introduce this indicator gradually at 0.66% in 2017, 1.32% in 2018, and 2% in 2019.

Table 7

**Systemic Risk Buffer
in selected EU member countries (% of RWA)**

Country	From 1.01.2017	From 1.01.2019
Portugal	0,25%	1%
Luxembourg	for some banks – 0,25%	for some banks – 1%
	for the others – 0,125%	for the others – 0,5%
Netherlands	0,25%	1%

- The European Systemic Risk Board introduced the systemic risk buffer in some EU states for systemically important banks from 1 January 2017.
- The European Banking Authority (EBA) published the first list of Other Systemically Important Institutions (O-SIIs) in the EU. EBA defines the O-SII list as an addition to the global systemically important financial institutions (GSIFI). The above institutions must comply with additional requirements for the systemic risk buffer. Such institutions were identified based on the EBA's harmonised methodology according to 2015 data. The GSIFI list includes 173 financial institutions. 36 institutions are subject to the maximum capital add-on of 2.0% of RWA; 11 institutions to 1.5%; 35 institutions to 1.0%; six institutions to 0.8%; 31 institutions to 0.5%; nine institutions to 0.3%; three institutions to 0.2%; and 40 institutions to 0.0%. EBA publishes the O-SIIs list annually.
- Comisión Nacional Bancaria y de Valores, CNBV, Mexico, introduced the systemic risk buffer for systemically important banks. It will calculate the relevant capital add-on for each of the five categories of systemically important banks, which will vary from 0.6 to 2.25% of RWA and gradually become effective within four years. No list of systemically important banks has been published so far.
- The Czech National Bank increased the systemic risk buffer for two systemically important banks from 1 January 2017: Komerční banka – from 2.5 to 3.0% of RWA, UniCredit Bank Czech Republic and Slovakia – from 1.0 to 2.0% of RWA. Raiffeisenbank is subject to the systemic risk buffer of 1.0% of RWA.
- In August 2016, the Central Bank of Estonia introduced a 2% add-on for systemic importance for two systemically important banks (Swedbank AS and AS SEB Pank).

4. The maximum acceptable ratio of loan to collateral value (Loan-to-value ratio, LTV).

- In August 2016, several of China's regions (Nanjing, Suzhou, and Hefei) decided to tighten mortgage lending requirements for purchasing second and further real property. In Nanjing, the maximum LTV was lowered from 60 to 50%.
- From 1 October 2016, New Zealand introduced new LTV requirements for mortgage lenders. These limits apply to mortgage loans for investment real estate. The new requirements will limit the maximum share of:
 - New issued investment mortgage loans with 60% or more LTV of the purchased real estate value at 5%;
 - New issued investment mortgage loans for personal residential premises with 80% or more LTV of the purchased real estate value at 10%.
 No limits will apply to mortgage loans for housing construction.
- The Financial Supervisory Authority (FSA) of Norway tightened the requirements for mortgage loans from 1 January 2017. In particular, there is a loan limit of the fivefold amount of borrower's gross annual income with the maximum LTV of 85% and 60% LTV for purchasing secondary homes. 10% of mortgage loans (8% in Oslo) may deviate from the standard. New measures will limit the excess growth of debt burden and increase the quality of bank credit portfolio.
- The National Bank of Slovakia established the following LTV requirements from 1 January 2017:
 - LTV shall not exceed 100%;
 - The share of new mortgage loans with 90% or more LTV shall not exceed 10% of the total mortgage loans;
 - The share of new mortgage loans with 80% or more LTV shall not exceed 40% of the total mortgage loans.
- The National Bank of Slovenia established the maximum LTV at 80% for all new mortgage loans from September 2016.
- In January 2017, the Saudi Arabian Monetary Authority, SAMA, published information related to the increase in the maximum acceptable LTV from 70 to 85% applicable to first home ownership loans.

- From 1 April 2017, the Czech National Bank decreased the maximum acceptable LTV from 95 to 90%. Furthermore, the banks must limit the share of first issued loans with the minimum initial contribution: the share of first issued loans with a 10–20% contribution shall not exceed 10% of the total amount of first issued loans. For mortgage applications, banks must clarify purposes of purchasing housing property (residential or investment) and decrease the minimum initial contribution to 40% if any increased risks are identified (i. e. decrease LTV to 60%).

5. Setting the maximum values of Debt-to-income – DTI, Debt-service-to-income – DSTI, Loan-to-income – LTI, and Payment-to-income – PTI

- The UK introduced the loan-to-income (LTI) ratio from 1 October 2014. Mortgage loans with LTI above 4.5 shall be not more than 15% of the total bank's mortgage loans. An exception is made for lenders, which annual issued mortgage loans are under 100 million pound sterling or 300 mortgage loans per year. The changes related to LTI calculation became effective from 27 February 2017 following consultations that were initiated in November 2016. According to such changes, the share of 4.5 or more LTI will be calculated on a quarterly basis, but the calculation period will be extended to four quarters (the reporting quarter and three preceding quarters). Thus, the first calculation is made at the end of Q1 of 2017 (the calculation period is Q1, Q2, Q3, and Q4 of 2016 and Q1 of 2017). It is planned to include the seasonality of mortgage lending.
- In Cyprus, credit institutions must calculate the DSTI for each borrower. The changes, in particular related to debt service limits became effective in September 2016. Subject to such changes, while reviewing loan applications, credit institutions must analyse the repayment ability of prospective borrowers, i. e. calculate their DSTI. The recommended DSTI is not more than 65% of net disposable income for FX loans and 80% for other loans. Net disposable income is calculated as a difference between the aggregate monthly income and aggregate monthly expenses. Borrowers will disclose income and expense data according to their personal financial statement, PFS. This form discloses the list of approximate expenses, which borrowers may include in such calculations (taxes, insurance, utility, healthcare, education, etc.). Income includes salary, alimony, property ownership revenue, interest and other incomes (pensions and other payments).
- From 1 January 2017, Norway introduced LTI where the principal should not exceed the gross annual income by more than five times. According to the Bank of Norway and the Financial Supervisory Authority of Norway, this indicator will efficiently replace DSTI.
- Slovenia established the following DSTI values from September 2016:
 - 50% for borrowers with \leq 1,700 euro monthly income;
 - 67% for borrowers with $>$ 1,700 euro monthly income.

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