



Bank of Russia



REGULATION OF RISKS RELATED TO A POTENTIAL WIDE USE OF VARIABLE INTEREST RATES IN MORTGAGE LENDING

Consultation paper

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This review was prepared by the Financial Stability Department.

Please send your comments regarding the topics covered in the consultation paper and your suggestions through 1 April 2021 to Vorozhtsovpa@cbr.ru.

The reference to the Bank of Russia is mandatory if you intend to use this consultation paper.

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INTRODUCTION

In a number of issues of its Financial Stability Review, the Bank of Russia noted an increase in banks' interest rate risk related to a higher proportion of short-term borrowings and growing asset maturities.¹ The increased interest rate risk may constrain the growth of lending and prompt banks to price it in their interest rates in a greater proportion.

During a discussion of the consultation paper *Best practices in the management of interest rate risk in the banking book of credit institutions*,² banks also expressed their concern with regard to interest rate risk and proposed a transfer to lending at floating, or variable, interest rates as a measure of its mitigation. This approach is actually already used in corporate lending (the share of ruble loans to non-financial organisations at variable interest rates is 34%) and [*is currently being discussed by market participants*](#) with regard to retail mortgage lending.

With interest rates at their historic lows in Russia, variable-rate instruments are becoming increasingly beneficial for banks. At the same time, international experience shows that lending at variable rates is riskier on average. This is explained by the fact that the quality of such loans substantially depends on market interest rates fluctuations.

If variable-rate mortgages were widely used, an increase in interest rates might lead to excessive growth of debt burden of a significant share of borrowers and their insolvency.³ This would entail substantial social and macroeconomic risks as households' debt problems would inevitably cause a decline in consumption, a crisis in the real estate market, and loss of housing.

For banks, that would mean inefficiency of their interest rate risk management, transformation of their interest rate risk into credit risk, and substantial losses. Therefore, banks have to rely largely on other interest rate risk management tools, such as attracting long-term liabilities, hedging using derivatives, etc. Variable interest rates should only be applied to those borrowers that have a DTI cushion and who will remain solvent if interest rates rise.

Currently, banks are authorised by law to offer variable interest rates to any individuals. This creates potential for misselling and other misconduct practices (misconduct risk). Certain banks can offer borrowers a lower variable interest rate without providing them with complete information about the associated risks. Not all retail borrowers would be able to adequately estimate risks of this product even if they had complete information because of insufficient financial literacy.

The Bank of Russia considers it necessary to determine the acceptable boundaries of this practice before the variable-rate mortgage market increases substantially in size and conditions for social and financial stability risks appear. It is important to ensure that banks use such products for the benefit of their customers and increase lending accessibility instead of generating additional risks.

In this consultation paper, the Bank of Russia invites financial market participants, financial consumers, and other interested parties to discuss potential ways to regulate the use of variable rates in retail mortgage lending.

¹ *Financial Stability Review 2020 Q2–Q3, 2019 Q4 – 2020 Q1, 2019 Q2–Q3, 2018 Q4 – 2019 Q1, etc.*

² *Bank of Russia consultation paper Best practices in the management of interest rate risk in the banking book of credit institutions, January 2020.*

³ *Russia is already characterised by a moderately elevated debt-to-income ratio of borrowers (the average DTI ratio of individuals who received mortgage loans in 2020 Q4 was 54%).*

1. REASONS FOR AND RISKS OF USING VARIABLE INTEREST RATES IN MORTGAGE LENDING

1.1. International experience of using variable interest rates

Lending at variable rates is widely used in both the developed and emerging market economies. At the same time, variable rates are more popular in corporate lending as companies are better prepared to bear the risk of interest rate changes. According to European Central Bank (ECB) data, as of end of August 2020, the proportion of variable-rate loans in the euro area was 57% of the total amount of corporate and retail loans and only 15.7% of mortgage loans.¹ However, in line with the methodology used by the ECB to calculate this indicator, all interest rates fixed for over one year are considered fixed, which is not completely correct. The data of the European Mortgage Federation are more complete, and they draw quite a heterogeneous picture for different European countries (Chart 1).

Variable rates prevail in a number of European countries (Sweden, Finland, Portugal, Latvia, Lithuania, Bulgaria, and Cyprus). In certain countries, the initial term of mortgage interest rate fixing is quite short – up to five years (91% of mortgages in the UK, 46% in the Czech Republic, and 41% in Hungary) (Chart 1). After that term, the interest rate is either reviewed or floats. In Germany, Belgium, and Denmark, mortgage loans at interest rates fixed for a long term (over 10 years) are popular.

Such significant differences even in the euro area countries can be explained by the fact that they had their own monetary policy and volatility of inflation and exchange rate before the introduction of the euro. The Eastern European countries, Greece, and Cyprus are characterised by higher volatility, therefore banks were ready to issue long-term loans only at floating rates to mitigate their risks. This difference can also be related to tighter regulation and more developed consumer protection practices. According to an ECB working paper,² the share of fixed-rate mortgages is higher in the European countries with lower historical volatility, higher correlation between unemployment and short-term interest rates, and lower financial literacy of the population.³

Variable-rate mortgage is less popular in the US (around 15%⁴) whereas in Australia, such loans account for 75–90% of new loans.⁵ The experience of emerging market economies (Brazil, Mexico, South Africa, etc.) can be summarised as follows: high-inflation countries usually used variable interest rates; however, as they reached macroeconomic and inflation stability, fixed rates gained popularity.

¹ [ECB statistics](#).

² Albertazzi U., Fringuellotti F., Ongena S. *Fixed rate versus adjustable rate mortgages: evidence from euro area banks/ECB. Working Paper Series. October 2019. No. 2322. It was also discovered that the use of mortgage loans as security for mortgage-backed bonds is one of the factors behind the application of fixed interest rates.*

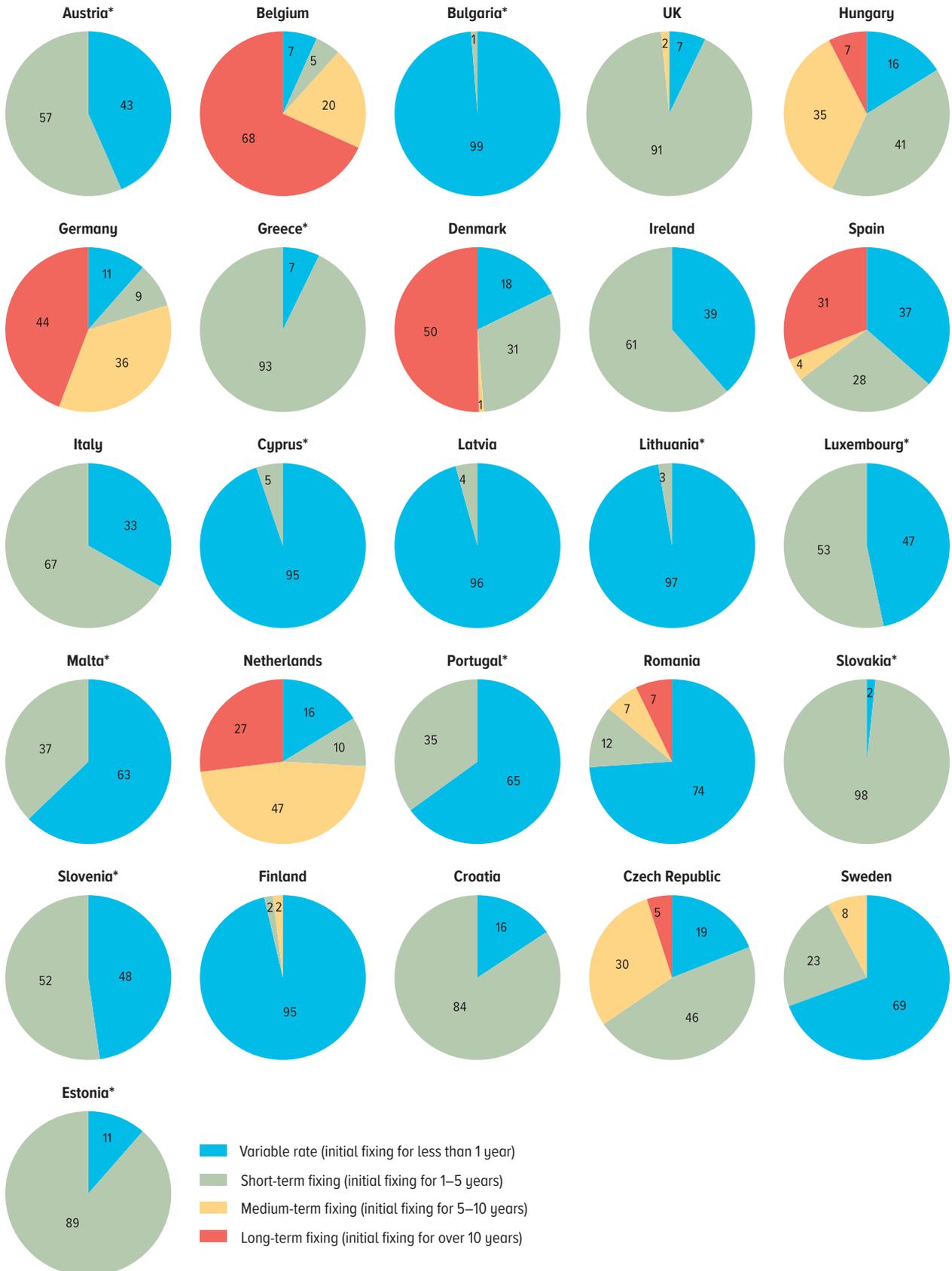
³ *If a central bank can pursue accommodative monetary policy in a recession (when the unemployment is higher), borrowers are more likely to use variable interest rates.*

⁴ [The Potential Increase in Corporate Debt Interest Rate Payments from Changes in the Federal Funds Rate.](#)

⁵ [Statistics of the Reserve Bank of Australia.](#)

MORTGAGE LOAN INTEREST RATE FIXING TERMS IN EUROPE IN 2018 (%)

Chart 1



* The initial fixing term for over 1 year was combined into a single category.
 Source: [European Mortgage Federation](#).

Box 1. Types of variable-rate loans

There are several types of variable-rate loans in global practice.

I. From the point of view of determining the amount of loan payment, the following options for structuring variable-rate loans can be distinguished:

1. Loans with variable annuity payment depending on interest rate changes and with fixed maturity (most countries).
2. Loans with a fixed annuity payment but variable maturity re-calculated depending on interest rate changes (India, Japan, France, and Belgium).
3. A combination of both with a variable monthly payment amount (usually to a certain extent) and variable maturity (used in countries specified in item 2 above).

The above options can be accompanied by setting limits on the variability of the payment amount and/or maturity. Limits can be set both as part of a loan agreement and in virtue of law, including based on the borrower's debt burden (for details, see Section 2).

II. By the term of interest rate fixing (or the time when interest rate starts floating), variable-rate loans can be divided into:

1. Loans where the variable rate is applied upon issuance.
2. Loans where the interest rate is fixed at a certain level and, after a certain period, starts to float and change periodically depending on the value of the underlying indicator or is reviewed based on a certain schedule taking into account changes of the underlying indicator (these loans are sometimes called 'variable-rate loans').

1.2. Reasons to use variable rates in mortgage lending

By analysing the international experience, we can identify the following features of variable interest rates that explain the reasons for their use in international practice and the interest that Russian banks currently express towards them:

1. They are used to manage the interest rate risk of a bank portfolio allowing banks to partially⁶ transfer their interest rate risk to the borrower, which supports lending in the context of low interest rates⁷ (the euro area) and high volatility of interest rates and short-term liabilities (emerging market economies).
2. All else being equal, variable interest rates allow lenders to offer a lower interest rate to their borrowers since the interest rate risk is not priced in.⁸ A relatively lower interest rate makes credit products more accessible for a wider range of borrowers as well as more attractive 'visually', which expands banks' customer base.
3. Transaction costs of lenders and borrowers are reduced as it is no longer required to refinance loans at a lower rate if market interest rates decline. Customers automatically start to pay less when market rates fall (and more when they rise).

In retail lending, variable interest rates are currently used very little in Russia, although their use is not prohibited by law. Variable-rate mortgage loans account for less than 1% of all housing mortgage loans. However, a number of large banks are intending to develop mortgage lending at

⁶ The interest rate risk is not transferred completely due to the existence of a basis risk and the fact that interest rates on assets and liabilities can be reviewed with different periodicity. Moreover, the aggregate interest rate risk of a bank portfolio depends on the term structure and the characteristics of all assets and liabilities of the bank. In other words, for a bank with relatively long-term liabilities and relatively short-term assets, issuing variable-rate loans can increase its gap risk. However, this balance sheet term structure is rare these days for the Russian banking system.

⁷ Variable interest rates are better for banks in the context of low interest rates since, if market rates start to rise, they will do it synchronously for assets and liabilities (adjusted for basis risk) and the bank's net interest margin will not decline. If the interest rate on assets is fixed, the margin will immediately fall or even become negative when market rates start to rise as short-term borrowings that currently prevail in liabilities will immediately become more expensive.

⁸ Interest rate risk assessments by market participants are closely related to the expectations of the further market rate path. For this reason, the interest rate risk value will exert a downward pressure on variable interest rates that are offered to customers, usually during the periods of accommodative monetary policy.

floating rates. This decision is based on a large level of the interest rate risk, which is characteristic of many banks, and their interest in developing long-term lending, especially mortgage.

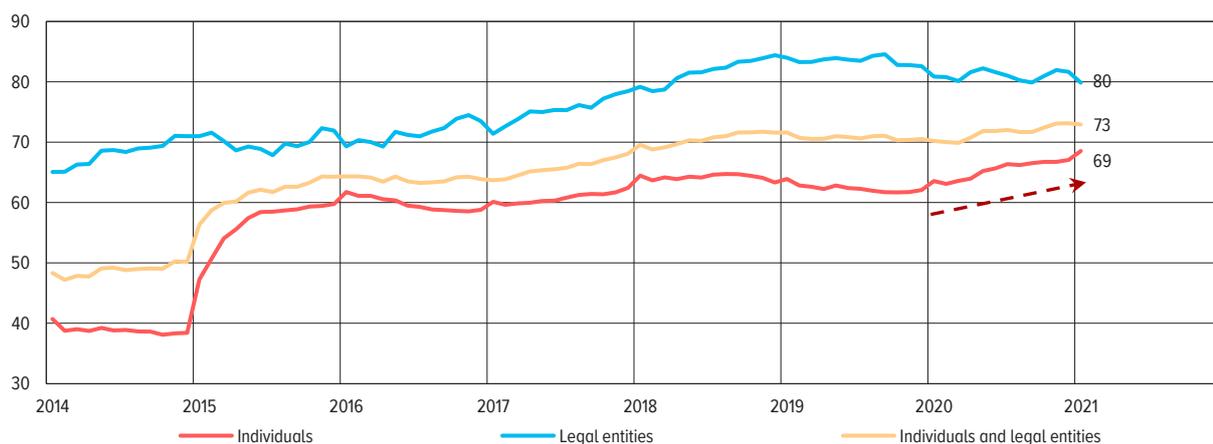
The interest rate risk of bank portfolios is influenced by diverse factors. In Russian banks, it is driven down by growing corporate lending at variable rates and purchasing corporate bonds and floating-coupon OFZs. On the other hand, it is driven up by the increasing share of short-term liabilities on Russian banks' balance sheets (Chart 2) and long-term assets, which is owing to a rapid rise of fixed-rate mortgage amounts, among other things.

This situation is partially provoked by banks themselves when they focus on attracting short-term deposits. A portfolio balanced in terms of maturity and demand for fixed-term assets and liabilities is key for reducing its interest rate risk. However, banks prefer to reduce the maturity of liabilities and save on funding costs thereby increasing their margin. In the context of low interest rates, it would be advisable for banks to adjust their interest rate policy (by increasing the difference between short- and long-term rates) and attract longer-term funds,⁹ which could help reduce the overall interest rate risk of their portfolio.

Certain Russian legal specifics objectively increase the interest rate risk for banks. Firstly, all retail deposits are callable,¹⁰ i.e. customers may close their long-term deposits early and open new ones at higher interest rates if market rates are rising. Secondly, retail loan rates are actually floating but only downwards for individual borrowers because the latter can refinance their loans at lower rates without any early repayment fees.

The aggregate influence of these factors is reflected in the gradual growth of banks' exposure to the interest rate risk. If market rates rise, banks may face a significant reduction in their net interest income and a negative impact on their capital. This may limit the growth of mortgage lending which is currently characterised by low credit risks and is a priority credit segment for a number of large banks. This may also drive mortgage interest rates higher if banks price a higher level of the interest rate risk in their interest rates.

SHARE OF RUBLE DEPOSITS WITH MATURITY OF UP TO ONE YEAR IN TOTAL RUBLE DEPOSITS AS OF 1 DECEMBER 2020* Chart 2 (%)



* Data on individuals include account balances (except for balances in escrow accounts).
Source: Reporting form 0409101.

⁹ Beside deposits, banks can also attract long-term funds by issuing their own bonds. Unlike household deposits, bonds are characterised by a lower risk of consumer behaviour optionality since Russian laws allow individuals to claim their deposits ahead of schedule.

¹⁰ Except for deposits with a savings certificate that does not provide for the depositor to claim funds ahead of schedule: pursuant to Clause 4, Article 837 of the Civil Code of the Russian Federation, any contract terms stating that a depositor waives their right to claim a term or sight deposit are null and void, except for deposits with a savings certificate that does not provide for the depositor to claim funds ahead of schedule.

1.3. Risks of using variable rates in mortgage lending

Lending and other types of borrowing at floating rates carries substantial additional risks for the parties. In retail, where borrowers' financial literacy is *a priori* lower than in corporate lending, these risks can become critical in a situation with rising interest rates.

At the same time, the longer the loan term, the higher the interest rate risk given the same interest rate delta.¹¹ Long-term loans with maturity of over 10 years are extremely sensitive to interest rate changes. For example, if the interest rate on a 15-year loan rises from 7% to 9%, the monthly payment will increase by 13% and the total excess payment – by 34%. If the rate rises to 10%, the monthly payment will increase by 20% and the total overpayment – by 51%. If this loan is structured so that the monthly payment is fixed and the maturity changes, then a 2 pp change in the interest rate will entail an increase in the maturity by one third, to 20 years, and a 3 pp change will entail an 1.7-fold increase, to 26 years¹² (Chart 3).

The experience of countries where lending at variable rates is popular demonstrates the following risks.

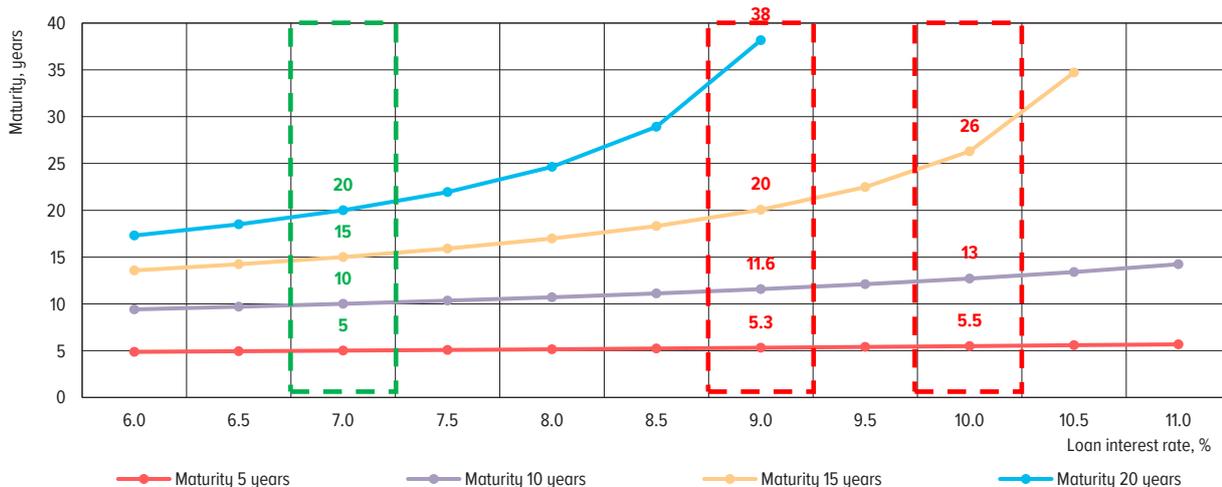
● Interest rate risk to credit risk transformation

In a situation of a significant increase in interest rates, the financial standing of borrowers and, consequently, the asset quality and financial position of banks can materially deteriorate. Financial stability risks, negative social and macroeconomic consequences can materialise. This is evidenced by a number of mortgage crises caused by widespread floating interest rates and the following interest rate risk to credit risk transformation (Box 2). According to a research by the Bank of the Netherlands,¹³ the average level of default on loans and its growth after the global financial crisis of 2007–2009 is lower in the countries where fixed interest rates prevail (Chart 4).

It is often possible to hear that these risks are mitigated by the fact that borrowers usually have a 'natural hedge': the central bank raises interest rates when inflation rises and nominal incomes of borrowers increase. However, it is mostly characteristic of the developed market economies, while emerging markets face high volatility of capital flows and foreign exchange rates and often have to

CHANGE IN MATURITY FOR VARIABLE-RATE LOANS WITH FIXED PAYMENT AMOUNT DEPENDING ON INTEREST RATE INCREASE (HYPOTHETICAL EXAMPLE)

Chart 3



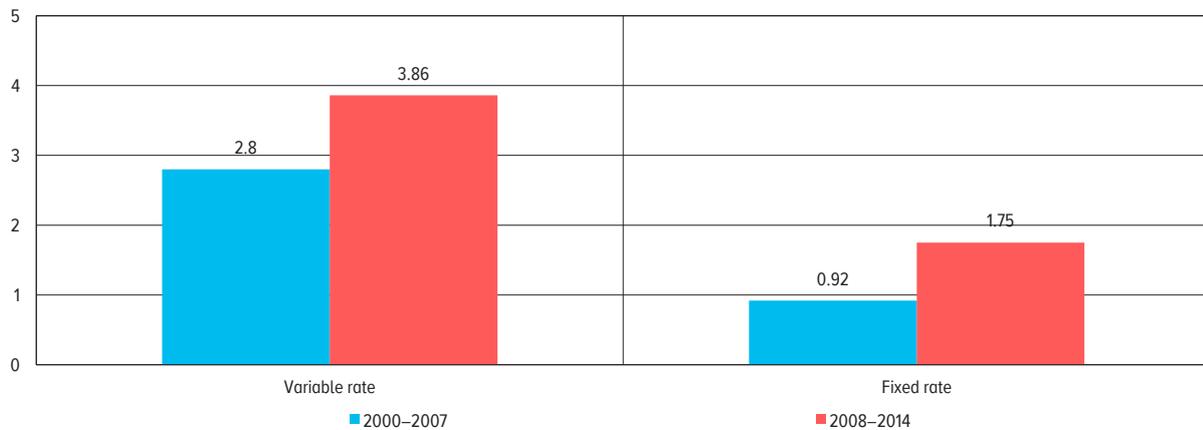
¹¹ It is supposed that the interest rate is changed for the whole loan term and not restored later.

¹² For longer-term loans with a fixed monthly payment, the sensitivity of maturity to interest rate changes is even higher. Thus, for 20-year loans, if the interest rate rises from 7% by only 2 pp, the maturity will increase to 38 years.

¹³ Stanga I., Vlahu R., Haan J. *Mortgage arrears, regulation and institutions: Cross-country evidence* / DNB Working Paper. December 2017. No. 580.

DEFAULTS ON LOANS WITH FIXED AND VARIABLE INTEREST RATES BASED ON DATA FOR 26 COUNTRIES (%)

Chart 4



pursue tight monetary policy in the situation of market volatility (e.g., during a global financial crisis). The coronavirus pandemic is basically the first example of the crisis when nearly all central banks of the emerging market economies (EMEs) successfully pursued countercyclical monetary policy. In many respects, this became possible due to a stabilisation of global financial markets owing to the unprecedented support measures by governments and central banks in the developed countries.

It is possible that in other circumstances the EMEs might again require to pursue tight monetary policy during a recession. In this case, the popularity of variable rates can become an additional factor affecting the well-being of households.

● Threats for the efficiency of the monetary policy transmission mechanism

Threats for the efficiency of the monetary policy transmission mechanism arise when the share of variable-rate loans in bank portfolios is high, especially with respect to borrowers that are sensitive to interest rate changes. A significant key rate hike amid growing inflationary risks can negatively influence financial positions of borrowers and banks themselves. This may require special measures to support financial stability that would limit the disinflationary effect of tight monetary policy.

● Misselling and other misconduct risk with regard to financial consumers

Variable-rate loans are a more complex product for consumers than traditional fixed-rate loans. It can be quite difficult for a person who is not financially experienced to comprehend loan agreement terms and conditions with regard to the interest rate and the underlying economic indicators. This will lead to a situation when an individual borrower makes a decision to take out a variable-rate loan without an adequate comprehension of the key term of the loan agreement and without being able to be guided by such important loan metrics as the monthly payment and overpayment amounts.

The example with foreign currency mortgage loans in Russia in 2014–2015 demonstrated that borrowers often chose such products guided by the value of the interest rate on foreign currency-denominated loans (which was lower than that of ruble loans) and estimated their future expenditures on such loans based on the then-current exchange rate. They did not adequately consider the associated potential foreign exchange risks.

It is possible that certain lenders may actually solicit variable-rate loans without providing an alternative, without disclosing risks of such products, and focusing only on their positive features. This problem is especially relevant these days in Russia since the rate difference is in favour of floating rates (banks are ready to offer discounts for variable-rate loans).

Among the existing variable-rate product types, loans with a fixed monthly payment and a floating maturity can, on the one hand, be potentially in demand, especially by young people whose

Box 2. Examples of mortgage crises related to a wide spread of variable interest rates

In global practice, there is a number of examples when banks that tried to mitigate their interest rate risk by using variable rates faced an accelerated growth of overdue loans (interest rate risk to credit risk transformation):

- **The UK mortgage crisis in the early 1990s**

In 1985–1988, during the economic boom (the Lawson boom), the UK housing market experienced an unprecedented growth. At the same time, in the late 1980s, all mortgage loans in the UK were issued at a variable rate. However, in order to protect the pound, the Bank of England raised the base rate twofold: from 7.4% in May 1988 to 14.9% in October 1989, which pushed interest rates on mortgage loans up. Many borrowers were not able to make payments due to the increased debt burden. As a result, the share of overdue and non-performing loans substantially rose in the early 1990s. This required the UK government to implement borrower support measures. The mortgage crisis was one of the reasons behind the 1991 recession. The key rate cuts implemented since 1992 improved the quality of mortgage loans. Later, the Bank of England turned to the inflation targeting and floating exchange rate regime with fixed interest rates prevailing in the mortgage market.

- **The 2007–2008 US mortgage crisis**

In the 1990s and the first half of the 2000s, securitisation and mortgage lending markets were booming in the US. Moreover, housing prices had been steadily growing for several decades.

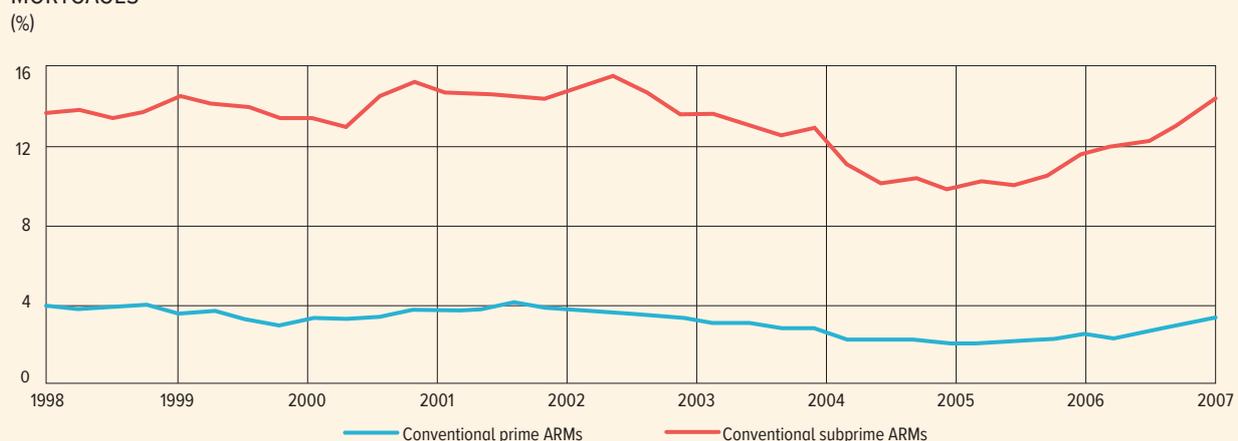
In 2006, the share of variable-rate subprime¹ mortgage loans reached 62%. The share of such loans in the total amount of prime mortgage loans was only 12.9%. The US Fed cut the key rate from 6.5% in 2000 to 1% in 2003. In 2004–2007, the key rate was gradually raised to 5.25%.

Overdue debt on subprime mortgage loans rose from 10% in 2004 to nearly 15% in 2007² simultaneously with the sharp increase in the Fed funds rate. For prime variable-rate mortgage, the growth of overdue loans was similar in relative terms but lower in absolute terms (Chart 5). At the same time, high-quality fixed-rate loans accounted for the largest share.

During the US subprime mortgage crisis, ‘interest rate risk to credit risk transformation’ was observed but it was limited and mostly related to the borrower’s initially weak financial standing. The bursting of the mortgage bubble and falling housing prices were among the key drivers behind the crisis. However, variable rates became one of its triggers: it was the deterioration in the quality of subprime mortgage loans that drove the repossession of real estate and set off real estate price slump.

OVERDUE ADJUSTABLE-RATE MORTGAGE LOANS (ARM)* IN THE US BROKEN DOWN BY PRIME AND SUBPRIME MORTGAGES

Chart 5



* Adjustable rate mortgage (ARM) is mortgage with the initial short-term fixed and then floating interest rate.

Note. Non-performing mortgage loans for 30, 60, and 90 days.

Source: Mortgage Bankers Association. Chicago Fed Letter. Comparing the prime and subprime mortgage market.

¹ Loans to high-risk borrowers with poor credit history and unconfirmed income.

² Chicago Fed Letter. [Comparing the prime and subprime mortgage market](#).

income is likely to increase over the course of their career. On the other hand, this product is the most complex in terms of comprehension and assessment of risks for borrowers with low financial literacy. Despite the unchanged monthly payment, the borrower's debt burden can actually increase (e.g., in terms of overpayment), which is more difficult for them to interpret with respect to the impact on their financial standing. Moreover, changes in the loan term will lead to the increased overpayment and additional collateral insurance premium payments.

Due to the fundamental impossibility to predict the dynamics of economic indicators included in the interest rate calculation, borrowers will not be able to fully assess the risks associated with this type of lending and effectively plan their expenses and budget, which will make them more vulnerable to adverse scenarios compared to fixed-rate lending. This is also relevant for borrowers with high financial literacy.

- **Systemic risks of rising household debt burden**

Lending at variable rates can imply higher systemic risks, including a materialisation of a contagion effect in the banking sector. If a borrower takes out a variable-rate loan and the interest rate significantly increases, their debt-to-income (DTI) ratio automatically grows leading to a deterioration of the quality of loans issued by other banks thereby causing their loan portfolios to deteriorate as well.

The international experience in general (and the example with the foreign currency mortgage lending in Russia) shows that the excess usage of variable rates can lead to a situation when their risks substantially outweigh their benefits. For this reason, retail variable-rate mortgage lending often requires specific regulation.

2. REGULATION OF VARIABLE-RATE LENDING

2.1. International experience of regulation of variable-rate lending

Regulatory measures used by various countries can be divided into the following categories:

1. Requirements for banks to duly inform borrowers about terms and risks of variable-rate loans

Many countries have introduced a requirement that banks should provide borrowers with complete information on variable-rate loan terms. For example, the Irish [Consumer Protection Code](#) states that if a bank issues a variable-rate loan it must provide the borrower with a written calculation of an increase in the payment amount if the interest rate rises by 2 pp or more.¹ It also sets requirements for variable-rate loan advertising.

2. Stress-testing the borrower's payment capacity

The requirements for banks to test the affordability of loans in case of a rate increase are the most popular approach to variable-rate mortgage regulation. These requirements are applied in the UK, Canada, the Czech Republic, Poland, Finland, Norway, and Australia. In some countries, regulators set the interest rate level where banks should stress-test the borrower's ability to service their debt (in Finland, 6%); in other countries, the delta to the loan interest rate is specified (+2.5%, in Australia; +2%, in the Czech Republic). The period when the interest rate change occurs is only set in some stress-test cases: In the UK, the stress-test horizon is five years while, in Australia, it is set at the bank's discretion.

3. Macroprudential restrictions

In Israel and Hungary, variable-rate lending is subject to special quantitative restrictions. In Hungary, the requirements for the payment-to-income (PTI) ratio differ depending on the borrower's income and the interest rate fixing period: the longer the interest rate fixing period, the higher the allowed PTI (the lowest PTI level corresponds to the five-year fixing period).² In Israel, mortgage lending has a complex structure: the Bank of Israel allows breaking a single loan into several parts with each part issued at its own interest rate. According to the regulator, no more than 1/3 of the total mortgage loan amount can be issued at a variable-rate for loans where the interest rate can be reviewed within the first five years. For all loans, no more than 2/3 of the loan amount can be issued at a variable-rate.³

4. Loan rate regulation

Some countries have set requirements for loan interest rates, which helps limit their fluctuation. In particular, the National Bank of Romania has introduced a mandatory benchmark index for banks to set variable interest rates on all types of loans (IRCC), to which a bank may add a fixed percentage that it will not be able to change over the whole term of the loan agreement.

The Bank of Portugal has set a [cap rate regime](#) with regard to payments under consumer loans. The Bank of Portugal on a quarterly basis calculates and publishes the maximum interest rates in force for each type of consumer loan.

¹ Similar regulation is effective in Russia. Federal Law No. 353-FZ, dated 21 December 2013, 'On Consumer Loans' states that a loan agreement shall indicate that, if the variable interest rate used in the consumer loan agreement rises by 1 pp, the borrower's costs will rise starting from the second scheduled payment as of the nearest date after the supposed date of the consumer loan agreement (Clause 5.1 of Part 9 of Article 5). It also sets a requirement for banks to provide information that variable interest rates are riskier (Clause 17 of Part 4 of Article 5).

² [Financial Stability Report of the Magyar Nemzeti Bank, 2018.](#)

³ [Israel, 2013 Article IV Consultation; Directive. Limitation on issuing housing loans.](#)

In order to limit the risk on variable-rate loans both for the borrower (if the rate grows) and for the lender (if it falls), the regulator may set limits on the highest and the lowest possible values of the interest rate. For example, in the US, when issuing variable-rate mortgage loans, the bank must specify the highest possible level of the interest rate in the loan agreement, with the bank deciding upon this level at its own discretion. In China, the interest rate is limited from below: it is tied to the loan prime rate (LPR) benchmark: the interest rate on the first mortgage loan cannot be lower than the LPR while all others must be at least 60 bp higher than the LPR.

According to the [Spanish law](#), the interest rate on variable-rate mortgage loans cannot be limited from below. At the same time, the law specifies that the interest rate cannot be negative.

5. Banks' obligation to convert variable-rate loans into fixed-rate loans

In some countries, regulators set requirements aimed at additional protection of borrowers from the interest rate risk. These include, in particular, banks' obligation to convert variable-rate loans into fixed-rate loans at the borrower's request (Poland, Hungary).

2.2 Options for the development of variable-rate lending regulation in Russia

In line with the international practice, we suggest that special regulation of variable-rate retail mortgage lending should be introduced. Currently, the use of variable interest rates on retail loans is allowed in Russia by Article 9 of Federal Law No. 353-FZ, dated 21 December 2013, 'On Consumer Loans' and by Article 809 of the Civil Code of the Russian Federation.

It is advisable that the following options of further development of the variable-rate retail mortgage lending regulation be considered. The implementation of these options might require an amendment of certain laws and/or Bank of Russia regulations.

2.2.1. Options that require legal amendments

OPTION 1. COMPLETE PROHIBITION OF RETAIL LENDING AT VARIABLE INTEREST RATES

Amendments required: amendments to Federal Law No. 353-FZ, dated 21 December 2013, 'On Consumer Loans'.

Advantages:

- **for borrowers:** a complete elimination of interest rate risks;
- **for banks:** an elimination of the risk of transformation of interest rate risk to credit risk.

Disadvantages:

- **for borrowers:** potentially worse access to mortgage lending, including lower mortgage issuance amounts, higher interest rates (by the interest rate risk premium); product choice limitations for financially literate borrowers who have complete understanding of risks;
- **for banks:** worse potential of mortgage lending development, including lower mortgage loan issuance amounts; worse options for interest rate risk management.

Alternatively, this option can provide for a prohibition of certain types of variable-rate lending, e.g. loans with a fixed annuity (i.e. with variable maturity) as the most complex type of loans for comprehension and assessment for borrowers and support (administration) for banks.⁴

⁴ From the point of view of lending support, loans with variable maturity may require signing annexes to loan agreements upon each maturity review, including with regard to collateral insurance agreements (and additional premium payments under insurance agreements when the loan maturity increases), re-registration of mortgage, etc.

OPTION 2. INTRODUCTION OF LEGAL RESTRICTIONS (CAPS) ON CHANGES IN INTEREST RATE OR MATURITY ON VARIABLE-RATE LOANS

Amendments required: amendments to Federal Law No. 353-FZ, dated 21 December 2013, 'On Consumer Loans'.

The following variants of this option can be implemented:

- Variable interest rates may be allowed only for loans with the remaining maturity of less than 10 (15) years.
- Interest rate changes may be limited to 2 pp of the initial rate (the specific deviation is to be discussed). At the same time, for variable-rate loans with a fixed monthly payment (i.e. with variable maturity), the maturity may be increased for no longer than three years (the specific deviation is to be discussed).⁵
- A combination of variants A and B (e.g. a variable-rate mortgage loan can only be issued with an initial maturity of no more than 15 years with a cap on interest rate / maturity changes).

Advantages:

- **for borrowers:** a limitation of debt burden growth when the interest rate rises substantially;
- **for banks:** a lower probability of interest rate risk to credit risk transformation when the interest rate rises substantially; partial re-allocation of interest rate risk from the bank to the borrower.

Disadvantages:

- **for borrowers:** the risk is still in place that this product will be offered to a wide range of borrowers, including those with inadequate financial literacy;
- **for banks:** information systems will require additional development and business processes will require transformation in order to monitor and (if necessary) adjust the actual level of the interest rate (maturity).

OPTION 3. AUTHORISATION OF THE BANK OF RUSSIA BOARD OF DIRECTORS TO SET LIMITS ON VARIABLE-RATE LENDING

Concept: it is proposed upon the decision of the Bank of Russia Board of Directors to set:⁶

- Limits, i.e. the allowed proportion of variable-rate mortgage loans in the total amount of mortgage loans issued over a quarter (hereinafter, 'limits'), including loans with specific characteristics (such as caps on change of the interest rate or maturity in the loan agreement as suggested in Option 2);
- the period when the limits on the proportion of variable-rate mortgage loans in the total amount of issued loans are applied.

Amendments required: amendments to Federal Law No. 86-FZ, dated 10 July 2002, 'On the Central Bank of the Russian Federation (Bank of Russia)', Federal Law No. 151-FZ, dated 2 July 2010, 'On Microfinance Activities and Microfinance Organisations'. Additional Bank of Russia regulations will need to be developed.

Advantages:

- **for borrowers:** a possibility to use a wider range of products compared to the complete prohibition option; a limitation of growth of debt burden;
- **for banks:** lower potential interest rate risk to credit risk transformation; higher flexibility compared to a complete prohibition of lending at variable rates.

⁵ The assessment of the sensitivity of the maturity to changes in the interest rate corresponding to the cap level proposed herein is provided in clause 2.3 of the report.

⁶ As an alternative to setting direct limits, it is possible to introduce a respective required ratio (to be calculated as a proportion of variable-rate loans to the total amount of retail loans), which will require amending Federal Law No. 86-FZ, dated 10 July 2002, 'On the Central Bank of the Russian Federation (Bank of Russia)' and Bank of Russia regulations.

Disadvantages:

- **for borrowers:** worse access to variable-rate products amid a restriction on the proportion of such loans;
- **for banks:** fewer opportunities to profit from a wider range of products during the period of restrictions.

OPTION 4. LEGAL RESTRICTIONS ON THE RANGE OF POTENTIAL BORROWERS WHO CAN TAKE OUT VARIABLE-RATE MORTGAGE LOANS

Concept: it is suggested that the range of potential borrowers of variable-rate mortgage loans be restricted to persons whose financial standing is stable enough when the loan is issued and will most probably remain stable in case of sharp interest rate growth (the so-called 'qualified borrowers'). In order to identify such persons, the following criteria can be used:

1. a mortgage loan is taken out to purchase a housing that will not be the only dwelling of the borrower during the loan term;
2. the stress debt-to-income ratio (stress DTI ratio), i.e. the ratio of the borrower's payments to income will not exceed the legally established threshold if the loan interest rate rises by 3 pp (the concrete value is subject for discussion);
3. the credit history bureau has no information of any existing variable-rate loans of the borrower.

Amendments required: amendments to Federal Law No. 353-FZ, dated 21 December 2013, 'On Consumer Loans' and Federal Law No. 218-FZ, dated 30 December 2004, 'On Credit Histories'. Additional Bank of Russia regulations will need to be developed.

Advantages:

- **for borrowers:** a wider range of products for 'qualified borrowers'; 'qualified borrowers' can take out a loan at a lower interest rate because the interest rate risk premium is not priced in the loan rate; contrastingly, all other borrowers can only take out a loan at a fixed rate and, correspondingly, do not carry interest rate risk;
- **for banks:** lower potential interest rate risk to credit risk transformation; higher flexibility compared to a complete prohibition of lending at variable rates.

Disadvantages:

- **for borrowers:** 'qualified borrowers' are subject to the unlimited interest rate risk while their future income can change;
- **for banks:** limited opportunities to profit from a wider range of customers.

2.2.2. Options that require macroprudential measures

These options provide for the introduction of specific macroprudential add-ons to risk weights on variable-rate loans when calculating capital adequacy requirements or the amendment of the borrower's DTI ratio calculation procedure in order to apply macroprudential add-ons.

OPTION 5. INTRODUCTION OF ADDITIONAL MACROPRUDENTIAL ADD-ONS ON VARIABLE-RATE LOANS

Concept: these add-ons can differ depending on the presence of interest rate change caps in the loan agreement. The Bank of Russia will be able to promptly adjust the add-on level depending on the market situation, so that banks have incentives not only to approve variable-rate loans to their customers but also to offer them fixed-rate loans as an alternative.

Amendments required: amendments to Bank of Russia Ordinance No. 4892-U, dated 31 August 2018, 'On Types and Characteristics of Assets for Which Risk-weight Capital Add-ons are Set and

on the Methodology for Applying These Add-ons to the Said Types of Assets for Credit Institutions to Calculate Their Capital Adequacy Ratios’.

Advantages:

- **for borrowers:** a better protection from risks because add-ons will motivate banks to offer overall less risky products to their borrowers and fixed interest rates to the borrowers for whom variable rates are too risky;
- **for banks:** a lower probability of interest rate risk to credit risk transformation.

Disadvantages:

- **for borrowers:** a worse protection of borrowers compared to the legal restriction option since certain banks with excessive capital will be able to continue issuing risky loans;
- **for banks:** additional add-ons will affect banks’ capital adequacy; limited lending potential and worse competition due to decreased lending ability of banks with relatively low capital adequacy.

OPTION 6. CHANGES IN THE DTI CALCULATION PROCEDURE TO APPLY THE EXISTING MECHANISM OF MACROPRUDENTIAL ADD-ONS TO VARIABLE-RATE LOANS

Concept: it is suggested that, for the purpose of the DTI calculation, the average monthly payment on variable-rate loans be calculated based on the highest possible rate as set by the agreement or law (in case of adopting law amendments as suggested in Option 1.2).

Specifics for variable-maturity loans: if the loan structure provides for a fixed payment amount and variable maturity, the level of payments under such a loan, for the purpose of the DTI calculation, must be estimated based on the implied interest rate corresponding to the maximum maturity extension as per the agreement or law.

Amendments required: amendments to Bank of Russia Ordinance No. 4892-U, dated 31 August 2018, ‘On Types and Characteristics of Assets for Which Risk-weight Capital Add-ons are Set and on the Methodology for Applying These Add-ons to the Said Types of Assets for Credit Institutions to Calculate Their Capital Adequacy Ratios’, Federal Law No. 353-FZ, dated 21 December 2013, ‘On Consumer Loans’, and Federal Law No. 218-FZ, dated 30 December 2004, ‘On Credit Histories’.

Advantages:

- **for borrowers:** borrowers’ ability to comply with their payment obligations is taken into account when the loan is issued considering a potential interest rate increase.
- **for banks:** a lower probability of interest rate risk to credit risk transformation.

Disadvantages:

- **for borrowers:** a worse protection of borrowers compared to the legal restriction option since certain banks with excessive capital will be able to continue issuing risky loans.
- **for banks:** high implementation complexity. In order to correctly estimate the borrower’s credit risks, the debt burden indicator at the cap interest rate level needs to be calculated not only by the bank that issues a variable-rate loan but also by all further lenders. The implementation of the new procedure to calculate capital adequacy requirements will require additional development of internal business processes and information systems of credit institutions.

QUESTIONS FOR MARKET PARTICIPANTS

1. Do you agree with the above list of variable-rate mortgage lending-related risks and their assessment? Do you see any other risks?
2. Which approaches does your bank use when determining the interest rate risk premium for mortgage loans? What is the share of the interest rate risk premium in the overall interest rate on mortgage loans in your bank? What is your bank's estimate of the interest rate risk over the long-term horizon?
3. Do you see any additional reasons to use variable-rates in mortgage lending beside those specified herein?
4. At which DTI / stress DTI ratio level, in your opinion, issuing a variable-rate mortgage loan can substantially increase the risk of default?
5. Which regulation option is the best, in your opinion?
6. Which drawbacks do other options have?
7. In the case of implementing the regulation options providing for setting legal caps on the interest rate (maturity), which is the level that they should be set at in order to maintain an optimal balance of borrowers' and lenders' interests, in your opinion?
8. How much time does your bank need to implement each of the suggested regulation options in internal procedures and business processes?
9. Does your bank plan (and if it does, when) to offer such a product as variable-rate mortgage? What is your estimate of the potential share of this product in your bank's overall mortgage loan portfolio and in new issues?
10. Does your bank see any additional risks related to variable-rate mortgage loans with a variable (floating) maturity compared to those with a variable payment amount?