Management model of banks credit risk: experience of Kazakhstan and Russian Federation

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Abstract. A growth of overdue loans is a threat to stability of functioning of any economy. That fully applies to Russia and Kazakhstan. In the study an analysis of an implementation practice of the most common credit risk management models in Russian and Kazakhstan banks is presented, their effectiveness is assessed, proposed recommendations for banks credit risks management improvement in contemporary conditions of world and national banking systems development. A feature of theoretical and methodological approach for an analysis of management models of banks credit risks is an interpretation of credit risks management as a continuous process of an adaptation of bank's capital structure and an amount of reserves for losses on loans of a bank's loan portfolio at any point in time considering external and internal factors. On that basis of an assessment of Russian and Kazakhstan banking systems' effectiveness in a context of credit risk management is presented. The principal methods of the study are comparative and cluster analysis.

Introduction

A reduction of past-due credit, an improvement of banking system operation indicators, an increase banks of reliability and a prevention of their bankruptcy had become a key issue for financial institutions in the world long ago. In order to find a solution to a problem of credit risk management improvement, Basel Committee on Banking Supervision had developed and recommended for an implementations several methodologies for an evaluation bank risks [1]; individual banks for more effective risk management implement a variety of mathematical and statistical models, including Merton, Black-Scholes, Black-Scholes-Merton and other models [2-5].

The global financial crisis and the accompanying credit crisis had forced the world banking community to transfer credit risk management into a normative plane. As a result, banking control regulators, which require more transparent structure of a credit portfolio and a continuous monitoring of a debt structure from banks were introduced. The banks are required to have full knowledge of clients' financial situation and their cumulative credit risk. The new Basel 3 rules create even heavier regulatory burden for banks. Switching over of Russian banks to Basel 3 requirements will force them to increase reserves and will reduce their ability to implement more risky policies. However, as a result, many commercial banks will be less competitive in comparison with state owned banks due to a reduction of a possibility to attract funding and credit [6].

In accordance with more sever regulatory requirements, that demand a creation of reserves sufficient enough to absorb expenditures for a credit risk, many banks had changed their approaches for a credit risk management. However, many banks are considering new rules only as a fulfillment of regulatory requirements, and only a very limited number of banks made attempts to create a truly effective credit risk management system. In general, it is expected that an introduction of Basel-3 rules will lead to a decline of banking loans growth rate in coming years up to 10-15% a year, which will have a negative impact on net income of credit organizations, as well as an adverse influence on crediting opportunities for companies of various branches of economy. An innovation development and structural modernization oriented companies can get in an especially difficult situation [7]. This requires a search for new effective credit risk management models, considering Russia and Kazakhstan economies need for a modernization and a general increase of their economic and financial security [8].

1. Theoretical and methodological basis for the analysis

Theory. Credit risk is characterized by a possibility of loses due to borrower's failure to make payments on any stage of loan. Credit risk management consists of methods and tools

implementation in order to mitigate those losses at an expense of an adequacy of bank's capital structure, reserve sizes for losses due to loans in credit portfolio structure at any point in time. In the presented study an approach for an understanding of banks' credit risk management mechanism as a continuous process of a bank's capital structure and loses' reserves adaptation in a structure of bank's loan portfolio at any point of time considering external and internal factors. In the authors opinion, an achievement of effective credit risk management is possible on a basis of an application of a set of special models for a price reduction and accounting of credit risk.

Methodology

The presented study is based on methods of comparative analysis and cluster approach. Comparative analysis method is used for an assessment of effectiveness of various models of credit risks management of Russian and Kazakhstan banks. Nowadays, the world banking system has designed and applied various economic and mathematical models for an evaluation of borrowers credit risk. However, in a context of Russian and Kazakhstan banking systems functioning, at which a large part of banks credit portfolio consists of borrowers, that do not have international agencies rating, a creation of effective credit risks management system, based on Basel Committee for Banking Supervision recommended standard approach, based on external rating agencies evaluation is impossible. Therefore, in accordance with Basel 3 for an assessment of credit risk and its management, in Russia and Kazakhstan credit risks assessment models, based on internal ratings based approach (IRB), which, in turn, are based on several models are implemented. In the presented paper comparative analysis of the most common in the banking system of Russia and Kazakhstan mathematical models credit risk is conducted.

An implementation of cluster method allowed to define several major groups of credit risk management models, which differ in applied methodologies and management tools. On the basis of clustering principle, all credit risk management models had been grouped according to following criteria:
- risk factors;
- subjects of risk.

In turn, in models that are created on a basis risk factors accounting, 4 groups of factors are indentified: 1) external risks; 2) internal risks; 3) limitation risks; 4) guarantee risks.

As about a decomposition models based on crediting subject, for a purpose of an analysis they were divided into 2 groups: 1) borrower is a legal entity (a corporation); 2) borrower is a physical person (citizens).

The analysis is carried out on a basis of financial activities results' statistical data of Russian Federation and the Republic of Kazakhstan banks, submitted by Central Bank of Russia [9] and the National Bank of the Republic of Kazakhstan [10], using materials of IMF [11], Agency of the Republic of Kazakhstan for regulation and supervision of financial market and financial organizations [12], rating companies, collection companies, information agencies, including, Finmarket, International Finance Corporation, "Sequoia Credit Consolidation" [13-17].

The Research

Credit risk management consists of an establishment of a mechanism for ensuring of an optimal ratio between profitability of banks' operation directions and a level of accepted risks, which is based on break-even of operations principle [18-20].

An effective model of credit risk management implies an organization of crediting process, which includes:
- an implementation of special management instruments, designed to avoid (prevent) negative result of credit operations;
- an establishment of effective system of credit;
- detailed credit operations management at all stages of crediting, starting from time of a decision for loaning up to the last payment and a closure of a credit contract.

An analysis of management models effectiveness of banks credit risk management, currently being used in banks of Russia and Kazakhstan, includes two approaches for effectiveness assessment of these models:
- an analysis of creditworthiness and financial reliability of borrowers (legal entities and physical persons), as well as credit risk sources, appeared in risk of borrower's obligations non-fulfillment;
- an analysis of loan portfolio, as an aggregate credit investments, risk of which is expressed through a potential reduction of assets cost, as well as through a significant reduction of actual profitability of a part of bank's assets.

Also in a process of effectiveness analysis of different models of banks credit risk management it was studied, to to what extent those models consider such credit risk factors, as:
- external risks;
- internal risks;
- limitation risks;
- guarantee risks.

3.1. Models of external risk management

An analysis of those models includes a separate assessment of external risks for different types of borrowers (corporate borrowers and physical persons). With regard to the first group (corporate borrowers), the most significant external factor is a negative impact of the global financial crisis [21-23]. In particular, in Kazakhstan, the sharp increase of overdue loans in January 2014 was assessed by experts as an associated with the onset of the "last" point of a problem credit's delay, appeared during the crisis of 2007-2009 for which further delay is not possible. A similar situation occurs in many Russian banks, as well as in the world as a whole [24].

With regard to physical persons, a creation of an effective credit risks management model in that context should include as a mandatory variables following trends assessment, which are characteristic both for developed countries and both of analyzed countries:

1. Sustainable reduction of real population disposable income volumes for several years. As a result of these, more and more money is spent on the payment for essential commodities and less than remains for a payment for previously made loans which increases credit burden for individuals and increases past-due loans.

2. Steady increase of inflation in all the countries, which also leads to a reduction in funds allocated for a loan service and payment. For example, inflation in Russia in a period from January to April 2014, makes up to 3.2-3.3% [25]. In Kazakhstan in a period from January to April 2014, it makes up to 1.7% [26].

3. In all countries, including Russia and Kazakhstan there is an increase of unemployment, which also reduces possibilities of population for a timely service and payment of loans.

4. Increasing the level population credit burden [27]. In average, in Russia one debtor has 1.4 problem credit.

5. Tightening of a credit obtainment system, which reduces a capability of refinancing a credit, i.e., an obtainment of a new loan to repay the old one, which also leads to an increase in a past-due of a long term loan.

As a result of the combined action of all those trends a credit paying capacity of Russian Federation citizens has fallen in early 2014 to a minimum for the last 3 years. A similar situation is observed in Kazakhstan.

Formulating policy in a field of credit and credit portfolio management banks should clearly consider those trends, including already recognized by all the experts fact, that a potential capacity of credit market in physical person's sector of is

virtually exhausted, and corporate sector should receive sources for overcoming economic recession.

3.2. Models of external risks management

Management models for internal risks control include a quite large mass of issues, including credit portfolio's structure management, including: considering types of borrowers, location of borrowers, industry affiliation, type of loans (investment, mortgage, consumer, etc.), foreign currency credit resources etc.

Not considering all of the structural directions of loan portfolio analysis, stopping on the foreign currency risk factor, which has a particular importance for banking systems of Russia and Kazakhstan at the present time. Even though foreign currency risk is an external factor, monetary structure of credit portfolio, structural ratio of loans in various currencies must be constantly controlled and monitored by banks to optimize their monetary risk.

An excessive loans issuing of Russian and Kazakh banks in foreign currency (in Euros and US dollars) had led to a fact that during the last period, many banks of Russia and Kazakhstan were increasing their volumes of foreign currency credit in consumer sector. However, an increase of currency price in both countries, as well as a negative influence of other external factors, had led to a fact that in early 2014 banking sectors of both countries experienced a rapid growth of past-due loans in foreign currency. As a result, companies and citizens had drastically reduced their payments for credits in foreign currency, especially in conditions of sharp foreign currencies exchange rates expectations in 2014. It became especially apparent in Kazakhstan, where in January 2014 there had been a vast increase in foreign currency past-due loans: their volume in the banking system of Kazakhstan had grown over a one-month period of 2014 to 588 billion tenge, whereas for the entire 2013 year, it amounted to 788 billion tenge [28]. Many banks had shown almost a double increase of debt. For example, Halyk Bank had shown in January of 2014 an increase in past-due loans up at 50% (149 billion tenge), that in market conditions can be explained only by an occurrence of a severe crisis, when simultaneously many borrowers stop credit payment. However, in early 2014 in Kazakhstan no serious crisis situation was observed. That is why financial experts evaluated such a surge in debt inflationary as an expectation for tenge devaluation in February 2014. A similar situation is observed in Russia, where the growth rate from 2008 to 2014 amounted to 54 %, in Euro – 45.2 %.

Another explanation for a dramatic growth of a volume of past-due foreign currency loans in early 2014, according to estimations of the

Kazakhstan experts, are special features bank reporting control, in particular, a reluctance of banks management to ruin financial reporting for 2013 and in order to do that transferring dates of payment of post-due loans for the beginning to 2014.

Analysis had shown that, as a result of a devaluation tenge in February 2014, a situation with past-due loans in Kazakhstan aggravated even more, because importers had experienced significant losses in foreign currency and gaps in cash flows. Because about 30% of loans in Kazakhstan banking system are denominated in foreign currency, it is only because of inflationary expectations and currency devaluation a real burden on the borrowers in a case of a loan payment increased by 20% additionally [28].

With regard to sector of physical persons, there is also a sharp decline in a credit discipline, because citizens of both countries receive their wages and other income in national currency.

Thus, a method of external credit sources attraction like borrowing in foreign currency, in contemporary conditions had led to an aggravation of a situation with a service and payment of loans in both countries.

3.3. Risk management models for limitation risks

Credit risk management model is based on an assessment of credit limits is considered effective enough and have proven itself effective abroad. However, a practice showed, that the majority of banks in Russia and Kazakhstan still has no reasonable and correct model for a calculation of credit limits for a certain groups of borrowers (corporate, individual), and within these groups [29-30]. Moreover, in an effort to compensate for losses from a reduction in credit potential of a corporate sector in recent years because of a deterioration of economic situation, many banks have stepped up its pressure on a sector of individuals. However, as has already been noted, in the recent years, an ability of individuals to pay for their loans has declined significantly, and both in Russia and in Kazakhstan already for 2 years there was a situation with a credit burden level in a sector of individuals, in particular, had experienced a rapid reduction of opportunities for credit service from early 2014. For example, if in Russian Federation in 2012, a loan was becoming past-due in average after 8.5 months, in 2014 debtors began to skip payments for loans already after 4.5 months after their receipt [26].

Thus, in order to create effective models of credit risk management on the basis of credit limits assessment, it is necessary to develop and timely adjust an appropriate for each specific phase of national economy development methodologies for a determination of credit limits and their application, considering global development trends, in the first instance, negative.

3.4. Risk management models for guarantee risks

The discussed model are quite well developed in terms of mathematical apparatus, however, their accuracy depends to a large extent on a good faith of borrowers in terms of provision of reliable information about objects of credit security.

In that context, one of the main tasks for credit risk management is a solution of problems of an inefficiency of data management about objects of credit security, an impossibility to obtain an access to correct about object of a credit security, a failure to control and monitor in a timely manner a movement and a condition of credit security objects.

Conclusions

The presented study showed that, in order to effectively manage credit risks in banks there is a need to develop for each specific phase of national economy development correct models and risk management mechanisms. In order to that it is necessary to:

1. Establish an effective control system structure for bank loan portfolio, which should become an important element of an integrated credit risk management system.

2. Develop special techniques for a determination of credit limits and their practical application, considering global development trends.

3. Implement special instruments of risks diversification by industries and sectors of economy, geographic areas, groups of borrowers, types of loans, type of currency, etc., that allows to reduce the overall losses within a tolerable average range.

4. Create a balanced portfolio.

5. Conduct on the basis of current and projected trends in world economy timely reconfiguration of credit.

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