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## WAYS TO IMPROVE CREDIT RISK MANAGEMENT OF THE BANKING SYSTEM OF KAZAKHSTAN: THE POST-CRISIS APPROACHES

*The author examines the key trends of credit risk management system within the current banking system of Kazakhstan. The effects of the crisis at the global financial markets and its impact on new approaches to risk management are examined. The main ways on how to improve credit risks management in the banking system of Kazakhstan based on the best world experience are analyzed in detail.*

*Keywords: financial crisis; credit risks management; banking system; Kazakhstan.*

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## ШЛЯХИ ВДОСКОНАЛЕННЯ СИСТЕМИ УПРАВЛІННЯ КРЕДИТНИМИ РИЗИКАМИ В БАНКІВСЬКІЙ СИСТЕМІ КАЗАХСТАНУ: ПІСЛЯКРИЗОВІ ПІДХОДИ

*У статті досліджено ключові тенденції системи управління кредитними ризиками в сучасній банківській системі Казахстану. Розглянуто наслідки кризи на світових фінансових ринках та її вплив на появу нових підходів до ризик-менеджменту. Проаналізовано основні шляхи вдосконалення системи управління кредитними ризиками в банківській системі Казахстану, які базуються на передовому світовому досвіді.*

*Ключові слова: фінансова криза; управління кредитними ризиками; банківська система; Казахстан.*

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## ПУТИ СОВЕРШЕНСТВОВАНИЯ СИСТЕМЫ УПРАВЛЕНИЯ КРЕДИТНЫМИ РИСКАМИ В БАНКОВСКОЙ СИСТЕМЕ КАЗАХСТАНА: ПОСЛЕКРИЗИСНЫЕ ПОДХОДЫ

*В статье исследованы ключевые тенденции системы управления кредитными рисками в современной банковской системе Казахстана. Рассмотрены последствия кризиса на мировых финансовых рынках и его влияние на появление новых подходов к риск-менеджменту. Проанализированы основные пути совершенствования системы управления кредитными рисками в банковской системе Казахстана, которые базируются на передовом мировом опыте.*

*Ключевые слова: финансовый кризис; управление кредитными рисками; банковская система; Казахстан.*

### **Problem statement**

Credit is a powerful engine of current economies and the extent to which companies worldwide operate on credits is enormous. The recent financial crisis, accompanied by the failure of numerous large banks and companies on all industries and countries, has pointed out the weaknesses of the existing worldwide credit culture and (re)created awareness that international bank lending comes hand in hand with a wide variety of risks (Nijskens and Wagner, 2011).

The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need

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to manage credit risks inherent to the entire portfolio as well as risks in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of the comprehensive approach to risk management and is essential for long-term success of any bank.

Financial sectors in various economies are undergoing serious changes due to the world events such as the ongoing banking crisis. The crisis has highlighted the need for banks to incorporate the concept of credit risk management into their regular procedures (Goyal and Agrawal, 2010). Various aspects of increasing global competition for Kazakhstan banks by foreign banks, increased deregulation, introduction of innovative products, and financial instruments as well as innovations in delivery channels have highlighted the need for the local banks to be prepared in terms of risk management as well.

The current banking system in Kazakhstan was created as a result of various transformations within the bank reform which have occurred since "perestroika" and during the independent period.

Shortly before the beginning of the subprime crisis in the USA, Kazakhstan shifted to the International accounting standards (IAS) in 2003 and adapted the Basel II criteria's of capital adequacy in 2005. This set apart the banking system of the Republic from the Ukrainian and Russian ones, where only a few banks have moved to publishing IAS-compliant balance sheets, and it was one of the main factors why Kazakhstani bank system survived in the world financial turbulences. However, 2009–2012 were marked by a decline at the lending market. For instance, in 2010 the fall in the rate of granting loans was recorded as 9.2%.

Before the global financial crisis (as on January 1, 2007) the banking system of Kazakhstan consisted of 33 commercial banks and was developing actively (The current state of..., 2008).

Although the relative size of the banking system in Kazakhstan (in terms of total assets to GDP, or the total capital to GDP) was almost more than twice as high against Russian banking, the relative volume of loans in Kazakhstan was significantly higher than in other CIS countries – 61.5%, compared to Russia, where the same indicator was 30.2% (Ivanov, 2012).

The global financial crisis has used significantly this disproportion and other much more smaller problems.

Before the crisis, Kazakh banks faced two major problems due to their ill-conceived policies:

1) massive foreign borrowings, which accounted for over 50% of the total net borrowings. In particular, only during 2006 year, Kazakh banks received more than 18 bln USD of international loans and in 2007, Kazakh banks already had foreign loans for 40 bln USD (The current state of..., 2011). Till the end of 2008, servicing the foreign debt of Kazakhstan reached the level of 42% of the country's exports (because a significant proportion of loans was refinanced under a much higher interest rate due to the crisis);

2) the construction sector played the important role in banks' development (for example, 45% of the Alliance Bank loan portfolio consisted of construction loans and mortgages), and when it has crashed, banks were affected significantly.

### **Recent research and publications analysis**

The development of risk management methodological and organizational principles in banking, focused on efficiency improvement and the quality of commercial banks functioning, is one of the most important tasks in bank management.

The question of evaluation and credit risks regulation is widely studied by Russian and foreign scientists, such as V. Usoskin (1998), L. Ushvitsky et al. (2009), B. Needles, G. Anderson, and D. Coldwell (2002), B. Ozdemir and P. Miu (2008), D. Land (2004), A. De Servigny and O. Renault (2004), S. Finlay (2012) and A. Saunders (1999).

In our research, we use the theoretical works on banking system managing of such well-known Kazakhstani authors as A. Ahmetova (2011), M. Davletova (2001), U. Iskakov (2011), K. Dyusembayev (2009), S. Myrzhakypova (2002), A. Chelekbay, N. Khamitov and N. Rakhmankulov (2004) etc. It is very important to underline that despite a big number of works on risk management in banking, we can find just a few researches on new approaches to credit risk management for the today's banking system in the Republic of Kazakhstan.

The absence of a generalized experience and complex scientific researches in the field of risk management in banking, leads to losses and reduces the efficiency of commercial banks.

The main goal of this article is to analyse new approaches in credit risk management in banking and to formulate the main principles for efficient development of such system in Kazakhstan in the context of the post-crisis financial and economic realia.

Moreover, the problem of credit risks at the present stage is greatly raised with the development of new financial instruments and hedging techniques, and particularly with reference to the new requirements to capital adequacy and credit risks assessment within the framework of the Basel agreements.

### **Key research findings**

In banks and other financial institutions, risk plays a major part in earnings. The higher the risk is, the higher the return will be. Hence, it is essential to maintain a parity between risk and return. Thus, management of financial risk incorporating a set systematic and professional methods especially those defined by the Basel II becomes an essential requirement for banks. The more risk averse a bank is, the safer is its capital base.

In economic literature, the topic of credit risks management was developed both theoretically and practically.

However, in the theoretical aspect of this issue, there is no consistency between the authors on the content of "credit risk" definition and the applicability of different methods to control it. In this article, we are going to use the definition as developed by the Global Association of Risk Professionals:

"Credit risk is the potential for loss due to failure of a borrower to meet its contractual obligation to repay a debt in accordance with the agreed terms" (Credit risk management).

So, credit risk refers to a risk that a borrower will default on a loan obligation to a bank or that an issuer of a security held by a bank will default on its obligation. Default means a total or a partial loss of any amount lent to a borrower. But also the

risk of decline in credit standing of a borrower is credit risk. This situation does not imply default, but the probability of default increases.

Credit risk covers the two main components – a quantitative and a qualitative one. The sum of potential loss represents the quantity of credit risk. The amount depends on the amount of principal, amount of interests and on the type of used credit risk mitigation (the higher is the value of compensation for a bank, the lower is the amount of potential loss).

Let's analyse shortly some aspects of credit risk management in the banking system of Kazakhstan, before and after the world financial crisis.

The banking crisis has revealed significant weaknesses in Kazakhstan credit risk management systems. In some banks the systems of credit risk management have not been established at all, in others they do not protect the independence of this function, in the third – top management did not respond to the warnings of risk managers.

It is necessary to build relevant infrastructure that would help to reduce credit risks of the banking system. The relative decline of commercial banks' incomes, in comparison to the period before the crisis, requires from bank management such solutions that allow commercial banks operate as efficiently as possible.

Under these circumstances, the role of credit risk management in banking increased significantly. However, according to the analysis of the existing management systems it can be concluded that they do not fully meet the requirements and must be improved.

According to the best world banking and financial practice, the methodology which can be proposed for credit risk management system improving, aims to address two important issues: first, how to design a credit risk indicator for a portfolio of commercial banks; second, how to assess different sources of credit risks, i.e., to assess the contribution of each bank or each group of banks to credit risk indicators (Huang, Zhou, Zhu, 2012).

Moreover, the main principles for the assessment of banks' management of credit risk must include (according to Principles for the Management of Credit Risk and Best Practices for Credit Risk Disclosure issued by The Basel Committee):

- establishing an appropriate credit risk environment;
- operating under a sound credit granting process;
- maintaining appropriate credit administration, measurement and monitoring;
- ensuring adequate controls over credit risks.

Also, we need to take into account the IBM Software Business Analytics best practices in commercial bank credit risk management:

- 1) build a comprehensive view of exposure;
- 2) display a comprehensive view of credit processes;
- 3) minimize user interfaces and duplicate data entry;
- 4) provide universal access to consistent information;
- 5) make systems flexible and adaptable;
- 6) produce predictive information;
- 7) safeguard access to data (McClure, 2012).

All of these, can create an effective system of defense (such system is used for example by the Bank of Israel) based on the 3 pillars of defense: business line man-

agement (must recognize and manage credit risk); risk management pillar (responsible for planning, maintenance and development of credit risk management framework); internal audit (must examine the administrative procedures of previous pillars of defense and define problems and weak points in control).

The best world practices and the author's previous research findings allow us analyze the following four-level structure, which gradually will improve credit risk management in the banking system of Kazakhstan. For each level, we are going to underline major positive aspects for financial institutions due to this system implementation.

**Level 1: Usage of IRB-approach.** The vast majority of big European banks prefer to use an approach based on internal ratings (IRB – Internal Ratings Based). This helps form regulatory capital to cover credit risks. Even for Kazakhstani realias, when rating agencies are almost absent, it is very actual approach. Thus, we need to spend a lot of efforts to collect data on current risk liability and on the history of losses.

Historical data on losses must be transformed to the default probability evaluation (PD), amount of risk in case of default (EAD) and loss given default (LGD) (Gupton, Stein, 2002). Moreover, every portfolio needs a basis stress-test form.

At this level, stress tests are performed on the "internal parameters" of losses (i.e., assuming the "shocks" of default probability).

But simply the use of internal ratings and associated estimates for regulatory capital calculations is not enough, they should be a part of risk management processes at bank level.

The obvious benefit of compliance achieved with the rules of the IRB-approach for some banks use is the possibility to reduce the required amount of mandatory capital (Basel Committee on Banking Supervision, 2012).

For example, banks with a good mortgage loans portfolio can look forward to such reduction and corresponding benefits. However, bearing in mind the purpose of an approximately same capital rate conservation at the level of the whole banking system, it is clear that in addition to winners, in this situation we can get losers too.

Nevertheless, there is a certain degree of external pressure to use the IRB-approach, because regulators, rating agencies, investors are beginning to consider as more preferable the banks which are able to demonstrate the ability to implement this approach.

The most difficult task at this level includes: data management, especially for high-volume retail portfolios; ability to pass the "test of usage", for which the current definition of default is a bit different from the definition of regulators (banks usually use PD with the smaller than 12 months horizon as prescribed by the Basel agreements); the requirement to identify counterparties linked with the value at risk for a variety of banking products (Basel Committee on Banking Supervision, 2012).

**Level 2: Operative feedback.** At this level, the connection between analytics and decision-making process must be improved and automated.

An important aspect of this stage is a single view on customers, taking into account all the products used: so you get the optimal amount of information to make decisions and have the opportunity to organize different products in the case of default.

IRB calculations, performed at the stage 1, now can be used for the decision-making process.

Finally, the measures of credit risk function effectiveness can be associated with corporate and administrative standards.

The advantages which can be achieved in this situation consist of increasing the control sensitivity at all the stages of credit risk exposure – from strategies how to attract and retain customers, setting limits and prices for the process of authorization, data collection and debiting from accounts.

All of this, in its turn, leads to the possibility to reduce reserves and avoid fraud.

**Level 3: Portfolio management.** At this level, we are moving from the optimization of decision-making processes at the level of customers/accounts and transactions to the decisions on the level of credit portfolios.

It is expected to develop stress tests models, including the "shocks" of external macroeconomic factors and their impact on the "internal parameters" of losses (PD, LGD etc.).

Through this mechanism, the investment rating may already meet the whole portfolio, which is equivalent to the rating, assigned by a rating agency. These models usually show the time lag between the external factors movements and the corresponding changes in the defaults parameters.

And these time lags differ from product to product. For example, for an unsecured consumer loan portfolio an effect will be faster than for mortgage portfolio.

From this perspective, the possibility to reduce the requirements for economic capital can be found.

The benefits acquired at this stage are the measurable parameters of "appetite" for risk.

Risk reduction can be controlled by securitization, reinsurance or even withdrawal of investments.

Price determination, adjusted to risk, can be analyzed retrospectively at the level of the whole portfolio for the determination of actual profitability with the prices established.

External factors which are affecting the level of losses, must be identified in advance. All of this will allow a quick and timely response for changes in economic conditions.

**Level 4: Credit risk managing on the bank level.** At this final stage, the measurement of regulatory capital, adjusted for risk at the level of a bank, is performed. Strategic planning is tied to regulatory capital spending; therefore, business units or portfolios are compared on the objective, equivalent basis.

Efficiency is evaluated in relation to corporate and management standards at the level of the whole organization (Basel Committee on Banking Supervision, 2010). This level of credit risk management in a bank can be considered as the most optimal for the bank system. Moreover, because of that the architecture of this level applies the stress tests, developed at the previous stage, to the whole bank.

### **Conclusions**

Credit risk management in Kazakhstani banks is a relatively new practice, but it has already shown the increased efficiency in governing of these banks, since such procedures tend to increase corporate governance of financial institutions. In times of volatility and fluctuations at the market, financial institutions need to prove their strength by withstanding market variations and achieve sustainability in terms of

growth and well as have a stable share value. Hence, an essential component of risk management framework would be to mitigate all the risks and rewards of the products and service offered by a bank.

Nowadays, the situation in Kazakhstan banking seems to be relatively stable. Since the beginning of the last year, the assets of commercial banks increased by 786,4 bln tenge, or by more than 6,5% (Annual report of the National Bank of the Republic of Kazakhstan for the Year 2012). Furthermore, the share of nonperforming loans now is near its historical minimum.

However, when it comes to credit risk mitigation, the possibilities of Kazakhstan banks are very limited. The weak capital market does not allow using credit derivatives and due to the absence of the secondary market banks cannot sale loans. Only one special institution offers credit risk insurance. Despite this, banks can use and are using guarantees (either from other banks, state, legal entities or individuals) and collaterals (most often real estates, but movable properties, receivables and deposits as well).

To conclude, it is worth noting that the lessons learned from the financial crisis had a significant impact on the markets and led to new regulatory initiatives that will define new approaches to credit risks management.

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