
Solving the Problem of Credit Defaults in Retail Sector

Viktor M. Zaernyuk¹, Zinaida M. Nazarova², Vadim A. Kosyanov³, Nadezhda N. Filimonova⁴, Olga V. Vershinina⁵

Abstract:

The article analyzes dynamics of the volume and annual rate of loan delinquency of the country's population for intermediate quarter dates, compares default retail credit portfolios with similar portfolio of organizations, and determines the main reasons for appearance of population's debts before banks. It is concluded that it is necessary for banks to focus on development of their own tools and technologies of payment recovery, related to determination of early problematic debt for the purpose of taking preventive measures for preventing the appearance of past-due debts, which is possible under the condition of investing money assets into own analytical and technological tools. An approach to segmentation of debts and factors that could be used as indicators in the process of accompanying and servicing of credits are offered.

Key Words: *past-due debt, retail credits, tools of recovery of debts*

¹ S. Ordzhonikidze Russian State Geological-Survey University, Doctor of economic sciences, Professor of the Chair of economics of mineral resources sector, 23 Miklouho Maklay St., Moscow, 117997, tel. 8 (916) 908-75-41, e-mail: zym4651@mail.ru

² S. Ordzhonikidze Russian State Geological-Survey University, Doctor of economic sciences, Professor, Head of the Chair of economics of mineral resources sector, 23 Miklouho Maklay St., Moscow, 117997, tel. 8 (916) 910-91-01, e-mail: nazarovazm@inbox.ru

³ S. Ordzhonikidze Russian State Geological-Survey University, Doctor of technical sciences, Professor, Vice Rector for innovational and international activities, 23 Miklouho Maklay St., Moscow, 117997, tel. 8 (495) 438-15-26, e-mail: gs.rggru@mail.ru

⁴ Russian New University, PhD in economics, Associate Professor of the Chair of finances and banking business, 22 Radio St., Moscow, 105005, Russian New University, tel. 8 (903) 569-00-31 e-mail: filimonova-nadin@yandex.ru

⁵ Russian New University, PhD in economics, Associate Professor of the Chair of finances and banking business, 22 Radio St., Moscow, 105005, Russian New University, tel. 8 (495) 223-42-82, e-mail: vershinina_olga_2013@mail.ru

1. Introduction

Under the conditions of general economic decline and reduction of consumer demand, credit responsibility of population reduced as well. This is caused primarily by aggravation of economic state in Russia – more and more Russians face loan delinquency. While up to this time the analysts have been able to state that the cause of this is low level of population literacy, nowadays economic factors and reasons come to the foreground.

The problem of credit defaults in retail segment was studied by Russian and foreign scientists. Conceptual problems of credit defaults are presented in the works by Thalassinos, Liapis Thalassinos (2014), Thalassinos et al. (2013), Giovanni D’Alessio (2013), Dermine J., Netode Corvalho (2004), Фроет (2006) and others. Among the works by Russian authors, it is possible to distinguish A. Belousov (Belousov, 2014), V. Bobyl (Bobyl, 2014), E. Vaysbek (Vaysbek, 2014), O. Kuzina (Kuzina, 2013), E. Mozzhukhina (Mozzhukhina, 2013), and others. As the analysis showed, most researchers viewed determination of possible influence of sanctions on development of the spheres of national economies.

At the same time, analysis of modern studies showed the necessity for further study of the viewed direction of banking retail and, especially, its applied sphere – which predetermined the direction of this research.

2. Analysis of dynamics of volume and annual rate of growth of retail credits delinquency

Analysis of banking statistics data showed that the share of past-due debt in bank portfolio in retail segment exceeds the share of past-due debt for corporate profile: according to statistics of the Bank of Russia, it constituted 7.6%, as of the beginning of the second quarter of the current year, while in corporate segment – 5.0%. The banking system has not seen such bad indicators recently (January 2013 - March 2015) (Figure 1).

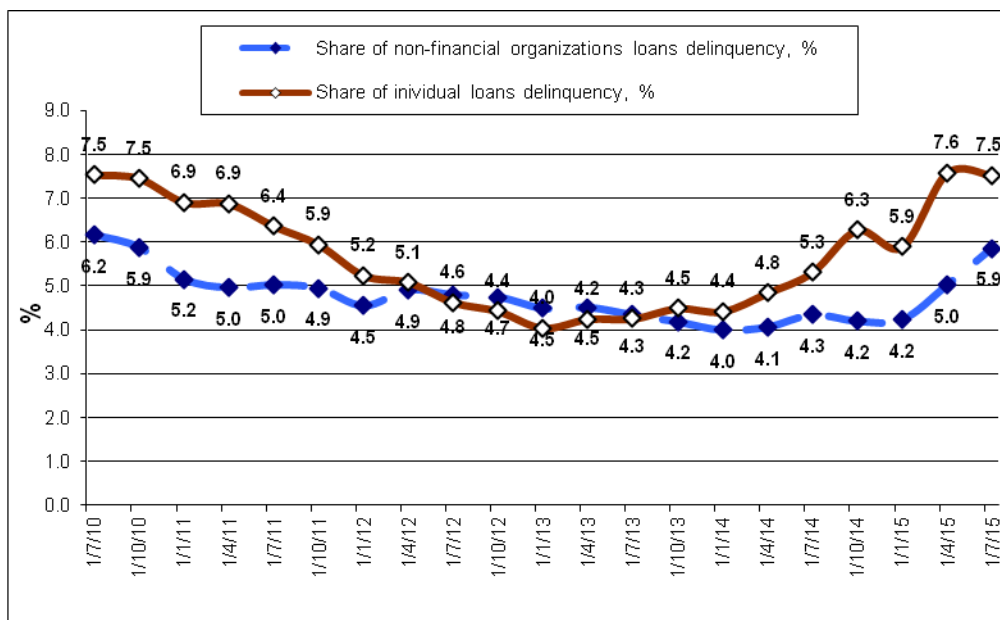


Figure 1. Dynamics of the share of delinquency on credits given to legal entities and individuals (2010-2015)

Source: Compiled on the basis of the data of the Bank of Russia.

<http://www.cbr.ru/analytics/?PrId=bnksyst>

Figure 1 shows that over 2010-2015, the share of delinquency on loans for individuals always exceeded the corresponding indicator for loans for companies. Only in the period of April 2012 – September 2013, the share of individual loans delinquency was at the level of non-financial companies (legal entities) loan delinquency.

As certain authors state, in some market segments the situation is nothing but critical. Thus, the highest delinquency is observed with consumer credits — 15.2%, then go POS credits (14.9%), and secured credits (14.4%). According to one of the largest collecting agencies “Sequoia credit consolidation”, the volume of past-due debt for auto loans constituted 47.6% in 2014, which exceeds the similar indicator of the previous year by 30%.

It should be noted that the share of unsecured retail credits of the portfolio of homogeneous loans does not reduce, staying at the level of 54-56% (Figure 2).

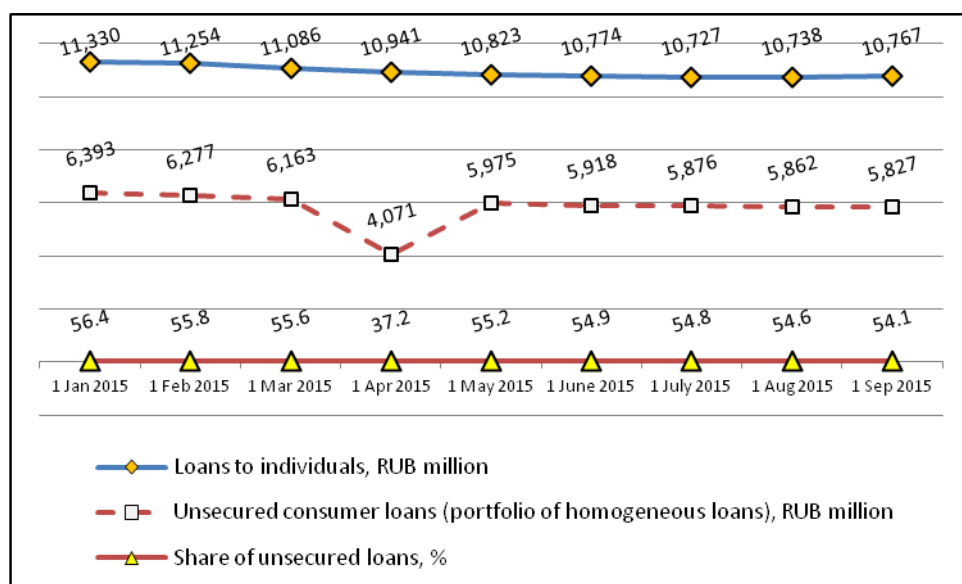


Figure 2. Share of unsecured retail credits of homogeneous loans portfolio of Russian banking sector in 2015

Source: Compiled on the basis of the data of the Bank of Russia
<http://www.cbr.ru/analytics/?PrId=bnksyst>

Many experts pay attention that Russians have failed to return credits in time. The share of credits to individuals, for which one or several payments are past due by more than 90 days grew by 2 times from January 1, 2014 to October 1, 2015, constituting 8.0%.

Delinquency grows, despite the fact that banks actively clean their portfolios. Banks write hopeless debts off, and transfer other debts to collector agencies. According to analysts of the National agency of collecting, banks offered for sale delinquent loans for RUB 137 billion in the first half of 2014, while in the previous year the offer had not exceeded RUB 115 billion. At that, the prices for delinquent portfolios reduced by 20-25% in 2014 (Zhelobanov, 2014).

The research showed that in mid-2012 the annual (as compared to the similar period of the previous year) growth rate achieved its peak values, exceeding the level of 40% (see Figure 3). At that, debt for unsecured consumer credits grew even faster – annual growth rate in this sector constituted 60%.

The analysis showed that a rather high indicator of penetration of consumer crediting in Russia exceeded this indicators in Europe by 2.5 times, where the share of consumer credits in the total volume of issued loans does not exceed 20%.

Thus, it is necessary to state that Russians are afraid of loans no more – they have realized that it is a quick and convenient means of realization of plans which they should not postpone due to lack of assets.

Growth of past-due debt is caused by the fact that reduction of growth rates of crediting market was accompanied by development of past-due debt for loans issues in late 2012 - early 2013, when banks did not conduct a strict credit policy, especially in retail segment. Strengthening of measures of state regulation in this sector – increase of allocations into reserves for unsecured consumer loans – led to reduction of growth rates of retail credits. Thus, from July 1, 2012 to July 1, 2015, the growth rate of retail credits (credits to individuals), as compared to the similar period of the previous year, reduced significantly: from 44.4% to 0.8% (Figure 3).

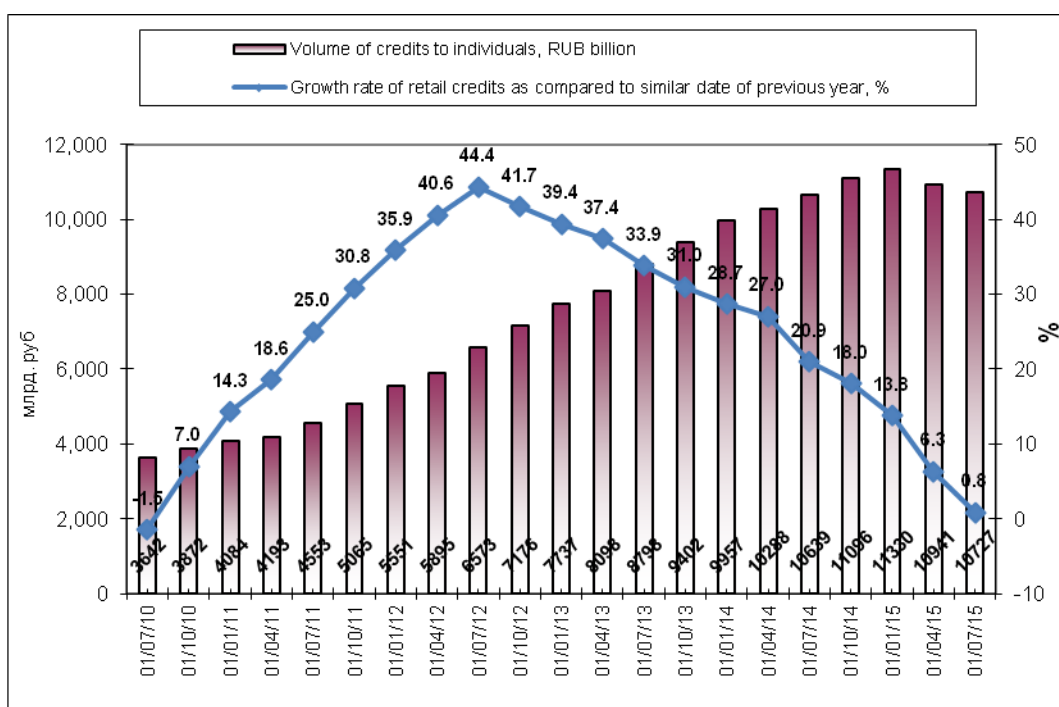


Figure 3. Dynamics of volume and annual growth rate of credits to individuals (2010-2015)

Source: Compiled on the basis of the data of the Bank of Russia

<http://www.cbr.ru/analytics/?PrId=bnksyst>

The opposite picture could be observed during consideration of changes of volumes and annual growth rates of delinquency for retail credits. Against the background of vivid reduction of annual rates of delinquency for retail credit portfolios, growth rates of past-due

debt grew over the last two years by more than 8 times, constituting 42.7% as of July 1, 2015 against 5.0% as of July 1, 2012 (Figure 4).

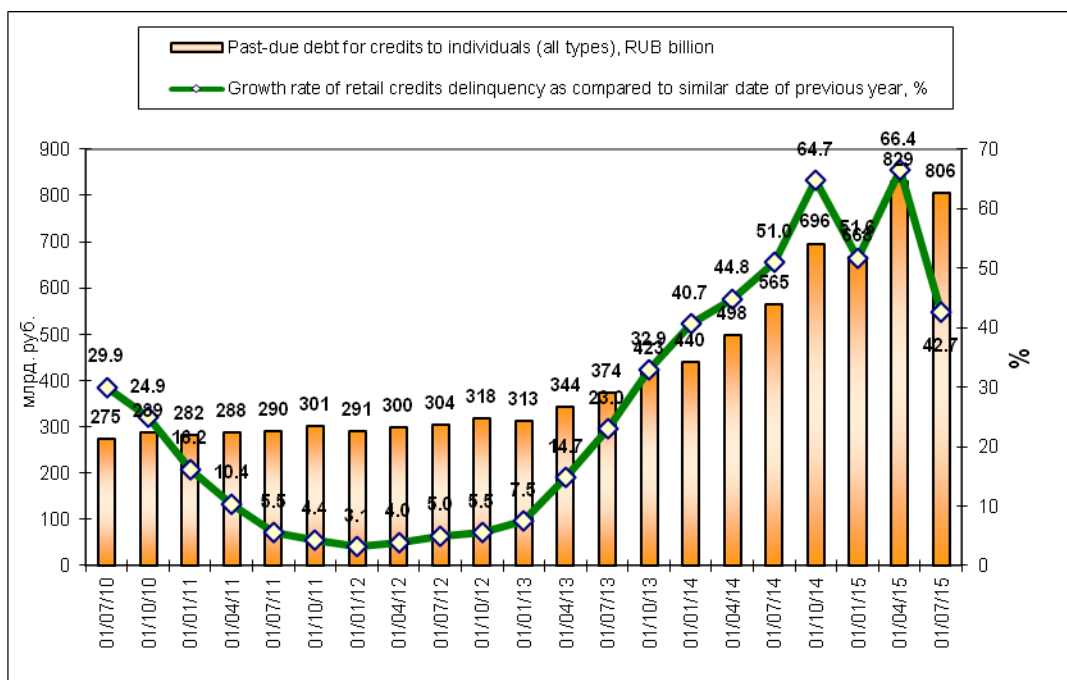


Figure 4. Dynamics of volume and annual growth rate of delinquency for credits to individuals (2010-2015)

Source: Compiled on the basis of the data of the Bank of Russia

<http://www.cbr.ru/analytcs/?PrId=bnksyst>

Quick growth rate of past-due debt, observed from mid-2012 until now, is caused by a range of macro-economic factors: aggravation of financial position of population in 2014 (population's income grew by 3.3% with inflation rate of 7%) and unemployment rate growth (5.2% against 4.9% in 2012).

That's why one of the main reasons of increase of the scale of debts of Russians before banks is lack of money. The research (Zaernyuk et al., 2015) proves a vivid connection between credit activity in Russian regions and income per capita. Russian citizens spend 21% of income for credit payments, which is by 2-7 times more than in developed countries. At that, according to the Federal State Statistics Service, real income of the Russians in the first quarter of this year was by 2.5% lower than in previous year.

Another reason is easy access to retail credits. Russians like to buy stuff – and to buy on credit. Quick money credits occupy 48% in the structure of population's

liabilities. Another 13% account for credit cards, 25% and 14% - for mortgage and car loans, accordingly. Besides, there is a share of citizens which take new credits in order to pay old ones. Growth of the number of such borrowers is rather high. Experts of the National bureau of credit histories say that the segment of consumer crediting is the fastest growing sphere in Russian economy.

Statistical data of the Bank of Russia and ranking agencies shows that Russians face loan obligations delinquency quicker and more often. Comparing the data for the recent three years, it is possible to see that there is a significant reduction of between the moment of credit issue and the date of emergence of past-due debt for credits to individuals.

3. Analysis of reasons for growth of past-due debts

Let us view the structure of past-due portfolios. Analysis showed that the most significant growth is observed with credit cards portfolios. Then go portfolios of consumer credits and car loans.

Quick growth of volumes of past-due debt is caused by large number of credits to individuals. Still, it is difficult to determine what number is high. Some scientists call this phenomenon “high debt ratio” (Frost, 2006). There is no single opinion on this issue in academic literature and among practitioners. On the whole, despite existing differences, high debt ratio is connected to high risk of credit default, so its indicators include variables that increase probability of such default. The set of indicators of high debt ratio of households, offered by Italian researchers Giovanni D’Alessio & Stefano Lezzi (Giovanni D’Alessio & Stefano Lezzi, 2013), deserves attention.

As analysis showed, substantial debt load of citizens influences the growth of past-due debt from the other hand as well. Thus, in the past, one or two credits accounted for one family. At present, average number of credit agreements for average family constitutes four and more. Russians cannot observe payment discipline against the background of growth of general high debt ratio: average indicators for the country constitutes 1.3-1.4 loans for a borrower, maximal – 17 past-due loans with different banks⁶.

This is one of the reasons of borrowers’ improper execution of their debt obligations. With such number of loans, borrowers are lost in dates and payments and forget to pay necessary fees for debt-services, which leads not only to emergence of past-due debt with the agreement but to fines and penalties from banks. Loan obligations of borrowers grow very quickly, and loan debt becomes a disabling burden.

⁶URL.: http://news.auto.ru/article/category/day_ratings/74556_rasplata_zaderzhivaetsya/

Under the conditions of aggravation of general economic situation, which led to general reduction of quality of retail portfolios of banks, it is impossible to dwell only on responsibility of borrowers and state that the growth of past-due debt is caused only by low literacy of population, low payment discipline, and lack of planning abilities for budget and expenses with citizens. A “thaw” which came after the global financial crisis of 2008-2009 stimulated banks to increase their retail portfolios, as it allowed ensuring higher level of obtaining profit.

A researcher O. Kuzina found that credit load puts 40% of Russians behind a poverty threshold (Kuzina, 2013). Having paid monthly loan obligations, borrowers cannot lead a “normal life”, as the family budget money is below subsistence expenses.

There are also certain facts that indirectly show low financial literacy of people who live far from large cities. It is obvious that financial literacy of population reduces with distance from large cities. Here an important role belongs to educational role of bank workers: it is necessary to explain to potential client that with increase of the number of credit, debt load on the borrowers grows as well and that a new credit would become impossible to pay, which should end up in refusal in issue of a new credit.

It should be acknowledged that in the current situation retail banks do not conduct proper personalization and verification of a borrower and information provided by borrower and do not perform proper forecasting of credit risks. Speaking of statistical data, it is possible to see that in the period of issue of credits, which generate past-due debt for retail banks, the banks were involved with increase of the volumes of credit issue and increase of portfolio profitability. However, at present, there is shift of priorities – credit organizations have to think of survival under the conditions of significant number of past-due debts against the background of strict requirements of the Bank of Russia and of preservation of their retail business.

4. Mechanisms of minimization of emergence of past-due debt

What is the solution of the problem for credit organizations, with the current heritage of “bad debts”? First of all, credit organizations have to improve mechanisms of accompanying the credit portfolios and technologies of collection. Special attention should be paid to preventive measures aimed at prevention of emergence of past-due debt. In other words, they should focus at the stage of pre-collection.

Pre-collection is a complex of measures that allows a bank to perform preventive measures for prevention of emergence of past-due debt. As a rule, it is performed with the help of e-mail or SMS. According to certain attributes, credit agreements of borrowers are selected from the portfolio which are then processed by the banking system and formed into files directed to Internet providers for sending mass notifications. Practice of work with problem assets of retail banks shows high

effectiveness of preventive measures based on monitoring of past-due debt at early stages of its emergence. Such approach to accompanying and collection of debt significantly reduces credit risks of the bank which emerge in the process of loan accompanying and servicing, ensures prejudicial solution of debt arguments, and minimizes expenses of credit organizations.

But how should the bank select loans of borrowers from a large number of loans (hundreds thousands) to be informed on the date of the payment beforehand? It should be noted that under the current conditions banks have to calculate expenses for collection, and the cost of one SMS might constitute RUB 2.00 (that's without expenses for wages for bank employees who would form files for sending messages). How would a bank know which loan would become delinquent? How a bank would determine borrowers who regularly forget to pay, have regular "technical overdue" up to five days, but still pay the debt regardless of bank reminder?

An answer to all these questions is in the approach to segmentation of debts used by collector agencies and factors which have to be used as indicators in the process of accompanying and servicing of credit portfolio. With the growth of volumes of retail crediting, banks have to develop and improve own mechanisms of collection in order to prevent appearance of past-due debt and fight against overdue at early stages. This is no wonder, as it is easier and more effective to return a borrower to the plan at an early stage of overdue than to "cure" large overdue.

First of all, a portfolio should be analyzed as to initial information on a borrower (his assets, environment, etc.);

- search for contact information (if there is none) – in order to make contact;
- analysis of the state of past-due debt (including the crediting program, etc.).

If there is no information on contact data of a borrower after issue of credit, bank employees should receive it for further work with the credit. This will allow determining illegitimate schemes and problem debt and is one of the factors of success during further work with the borrower. For verification and acquisition of data on the retail portfolio, banks use the methods of further verification of data on the issued credits. Several methods of data verification could be used here:

- mandatory selective test "calling" of all borrowers with the use of auto-call system;
- selective verification of documents in credit case.

As a rule, the first procedure is conducted by employees of contact-center of a bank. The procedure of verification of a documents set in credit case of a borrower is performed by employees of the back office or before the issue of a credit or within the first month after the credit issue.

Then the mechanisms of segmentation of credit portfolio for realization of measures of preventive character are started. For analysis of information, the banks use own data bases and, as a rule, analytical systems or specialized analytical complexes. The data set for segmentation, which should be used during evaluation and segmentation of retail portfolio, is peculiar for each bank, but they are based on credit agreement and borrower. Let us view this information in detail.

Information on credit agreement:

- debt structure (main debt, interest, fines);
- overdue terms;
- type and description of credit product;
- initial loan size;
- history of payments + DPD (flow/roll rates);
- processing stage (prejudicial, court, executive service);
- applied tools, number of placements in collector agencies;
- full information on security;
- fact of data transfer to credit bureau.

Information on debtor:

- date of birth;
- region of residence;
- contact information
- information on last contact with debtor
- sex;
- office (information on employer);
- education;
- family status.

Then, there is selection of credit portfolio for the given parameters in view of accumulated massive of statistical data on the stated massive (historical selection). At this stage of selection, it is possible to determine dead-end segments (no payment from the date of credit issue) and fraud schemes. At this stage, a bank determines a segment, in which measures for prevention of appearance of past-due debt should be conducted. Among the tools used by a bank for this segmentation the most popular is the method of statistical modeling and method of mathematical modeling.

The method of statistical modeling allows the bank to form expected collections and payments:

- multi-level polynomial regression (determination of expected collections);
- logit model (determination of payment probability);
- auto-regression model (formation of forecast plan of payments);
- Monte Carlo method (determination of collections at portfolio level).

Based on the method of mathematical modeling, credit organization forms a strategy of selection of optimal tools and the process of collection:

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- simplified structural and functional models (determination of behavioral characteristics of a borrower)
 - imitation model (building models of the collection process)
 - variation calculation (selection of optimal tools of collection)

Using the systems of forecast analytics significantly simplifies the process of segmentation of portfolio for determination of credits subject to usage of the tools of pre-collection.

As the research showed, banks use scoring cards for calling and informing clients prior to the date of credit payment. The card parameters differ, but, taking into account statistics and tools of collection, it is possible to state that preventive measures use the data on borrowers who have previously has overdue. For the purpose of prevention of future overdue payments, analytical system chooses credits, for which past-due debt has appeared earlier. Calling and informing such borrowers will allow a bank to keep the quality of credit portfolio and prevent the growth of the level of past-due debt.

By the example of a large systemic Russian bank with state participation – which is among top—5 Russian banks, let us add information regarding an interesting statistical fact. By the selection of more than 1 million credit agreements, bank analysts found out an interesting regularity. Having analyzes a pool of credits issued in 2014-2015, they found out that 75 % of the volume of portfolio of past-due debt consists of credits issues in workdays. At that, credits issues during week-end were paid much better. This, a regularity was determined, caused by the fact that borrowers who received a credit during a week-end are more disciplined in terms of payments than borrowers who received credit in workdays. The bank has taken this fact into account in a scoring card for issuing credits and for accompanying portfolio. The number of refusals grew in workdays, while borrowers who received credits in workdays and haven't has an overdue, were called by the bank prior to the payment date. This could not but lead to the increase of the number of refusals for applications given during workdays. However, by the end of 2015, the quality of retail credit portfolio of the bank grew, and the level of past-due debt reduced by 0.4 %.

5. Conclusions

Thus, under the conditions of current financial and economic situation, the banks must concentrate on development of own tools and technologies of collection aimed at determination of early problem debt and prevention of emergence of past-due debt. This is possible only under the condition of investing the assets of a bank into analytical and technological tools which allow accompanying and servicing credit portfolios, preserving the level of quality.

Under the conditions of economic war, declared by the USA upon Russia, it is necessary to seek for new managerial solutions in the practice of consumer crediting, especially in work with overdue credits. Thus, it is expedient to implement additional measures of regulation of consumer crediting through balanced approach to optimization of existing risk coefficient and reservation norms, which would stimulate strengthening and growth of stability of the banking system. For stability of national banking financial & credit system is in demand by everyone, and it is the key factor of sustainable growth of economy.

References

- Advancing Credit Risk Management through Internal Rating Systems. Bank of Japan, 2005, September.
- Ananiev A.N., Zaernjuk V.M. Procedural support of assessment of stability of non-bank crediting organizations in Russia // *Life Sci J* 2014;11(8s): pp. 243-245.
- Bank Loan Classification and Provisioning Practices in Selected Developed and Emerging Countries. Edited by Luring A., Majononi G. WB working paper. World Bank. Washington, D.C., 2003.
- Belousov A.L. Establishment of the institute of bankruptcy of individuals in the aspect of development of consumer crediting. // *Finances and credit*. 2014. No. 25. P. 32-38.
- Bobyl V.V. Use of neuro-fuzzy scoring model in evaluation of credit risk of borrower. // *Finances and credit*. 2014. No. 36. P. 18-25.
- Vaysbek E.N. Peculiarities of evaluation of credit risk in practice of commercial banks // *Finances and credit*. 2014. No. 24. P. 57-62.
- Vityutina T.A., Ermilova V.S. Analysis and management of problem debt in commercial bank (by the example of department No. 3652 BTB24, Kaluga) // *Financial analytics: problems and solutions*. 2013. No. 43. P. 19-28.
- D'Alessio, G, Lezzi S., 2013 "Household overindebtedness: definition and measurement with Italian data", *Occasional Papers (Questioni di economia e finanza)*. Bank of Italy. No. 149. P. 8. http://www.bancaditalia.it/pubblicazioni/econo/quest_ecofin_2/qef149;internal&action=_setlanguage.action?LANGUAGE=en
- Dermine J., Neto de Corvalho C, 2004, "Bank loan-loss provisioning: methodology and application", April 9.
- Zhelobanov D., Eremina A. Number of bad debts grows. // *Vedomosti*. 2014. No. 116 (3620). <http://www.vedomosti.ru/finance/news/28385901/plohih-dolgov-vse-bolshe>.
- Zaernyuk V.M., Nazarova Z.M., Yastrebinskiy M.A. Methodological approaches to evaluation of creditability of geological survey organizations – corporate emitters // *Economic analysis: theory and practice*. 2015. No. 39 (438), P. 21-31.
- Zaernyuk, V.M., Leonova V.P. Integration of foreign capital into Russian bank sector: mechanisms of entering, approaches to regulation. *Life Sci J* 2014; 11 (7s): pp. 343-345.
- Zaernyuk V.M., Chernikova L.I., Leonova V.P., Mukhomorova I.V., Belokhvostova N.V. Stress testing as a tool for assessing systemic risk organizations Russian banking sector // *Mediterranean Journal of Social Sciences*. Vol. 6, No. 3 S3, 2015. pp. 157-164.
- Zaernyuk V.M. Analysis of dependence between indicators of socio-economic indicators and credit activity in regions of Russia. // *Regional economics: theory and practice*. 2013. No. 21 (300). P. 46-52.

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- Egorov A.V., Merkurjev I.L., Chekmareva E.N. Russian market of population crediting: main problems and tendencies of development // *Money and credit*. 2013. No. 10. P. 33-38.
- Edgar M. Morsman-Jr. Commercial loan portfolio management /Trans. M.: Alpina Business Books, 2004, p. 208.
- Fernandez de Lis S., Martinez Pages J., Saurina J. "Credit growth, problem loans and risk provisioning in Spain". Banco de Espana Servicio de Estudios Documento de Trabajo. No 0018. 2000.
- Frost, Stephen M. The Bank Analyst's Handbook: Money, Risk and Conjuring Tricks /Translated and edited by M.V. Rud. Dnipropetrovsk: Balance Business Books. 2006.
- Kuzina O.E. Analysis of dynamics of bank credits use and debt load of Russians. // *Money and credit*. 2013. No. 11. P. 30-36.
- Majnoni G., Miller M., "Powell A. Bank Capital and Loan Loss Reserves under Base II: Implications for Emerging Countries", 2004, World Bank Policy Research Working Paper 3437, October.
- Mozzhukhina E.A. Responsible crediting as a standard of retail crediting // *Money and credit*. 2013. No. 31. P. 37-39.
- Sinki J. Jr. Financial management in commercial bank and industry of financial services/ M.: Alpina Business Book, 2007.
- Salmanov O.N., Zayernyuk V.M., Lopatina O.A. An Analysis of the Impact of Monetary Policy on Bank Lending in Russia // *Asian Social Science*; Vol. 11, No 6; 2015; pp. 221-228.
- Thalassinos, I. E., et al., (2013). Way of Banking Development Abroad: Branches or Subsidiaries. *International Journal of Economics and Business Administration*, 1(3), 69-78.
- Thalassinos, E., Liapis, K., & Thalassinos, J. (2014). The role of the rating companies in the recent financial crisis in the Balkan and black sea area. In *Economic Crisis in Europe and the Balkans* (pp. 79-115). Springer International Publishing.
- Timothy W. Koch. Bank management. Translated, 5 volumes, 6 parts. Ufa: Spectre. Part III, IV, 1993.