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THEORETICAL BASIS FOR ESTIMATING THE CREDIT CAPACITY OF BORROWERS

ТЕОРЕТИЧЕСКИЕ ОСНОВЫ ОЦЕНКИ КРЕДИТОСПОБНОСТИ ЗАЕМЩИКОВ

Бул макалада кредиттик баалоонун банк мекемелеринде мааниси жана ролу, заманбап банктык практикада колдонулган ыкмалар каралган.

***Өзөк сөздөр:** банктык кредиттөө, финансылык туруктуулук, карыз алуучулар, андеррайтинг, скоринг, кредиттик тарых, кредиттик тобокелдиктер.*

В статье рассматриваются важность и роль оценки кредитоспособности заемщиков для банков, подходы, используемые в современной банковской практике для оценки кредитоспособности заемщиков.

***Ключевые слова:** банковское кредитование, кредитоспособность, платежеспособность, финансовая устойчивость, заемщики, андеррайтинг, скоринг, кредитная история, кредитные риски.*

The article discusses the importance and role of assessing the creditworthiness of borrowers for banking institutions, the approaches used in modern banking practice to assess the creditworthiness of borrowers.

***Key words:** bank lending, creditworthiness, solvency, financial stability, borrowers, underwriting, scoring, credit history, credit risks.*

In recent years, there has been an increase in the volume of transactions in banking and non-banking lending to legal entities and individuals in the republic. In the context of a decline in economic activity associated with the COVID-19 pandemic, a decrease in household income, the problem of repayment of loans is becoming very urgent. As noted in the study of the Eurasian Development Bank, the share of classified loans issued by banks in the republic increased from 4.7% to 4.9%, which is caused by the suspension of economic activity due to quarantine restrictions. The share of nonperforming (classified) loans increased to 8.6% (7.8% in 2019) [1]. The pandemic had a negative impact on the economy of the Kyrgyz Republic, causing a decrease not only in consumer spending, but also in government spending associated with a sharp reduction in budget revenues (tax volume for January-May 2020 decreased in 2019). Closing borders, completely stopping production, lack of supplies - reduced the total supply. These factors influenced the increase in inflation and the increase in problem loans [2].

In this regard, this article aims to study the essence and theoretical approaches to assessing the creditworthiness of bank borrowers, as well as to identify the most appropriate methods for assessing the creditworthiness ... This problem is important not only from the point of view of the



reliability and well-being of the borrowers themselves, but also from the point of view of the effectiveness of the activity of a particular bank issuing a loan, and of the entire banking system as a whole. In this article, we used methods of analysis, synthesis, classification, works of scientists engaged in the study of the practice of assessing creditworthiness, the practice of assessment used in the banks of the Kyrgyz Republic.

In fact, as noted by the authors, the inhibiting factors of the development of bank lending in our republic (for example, in mortgage lending - it is not only the absence of secondary mortgage market instruments) is the initial inaccessibility of lending conditions for most companies and citizens (high interest rates, collateral security, initial payment, monthly payments, etc.) [3]. Moreover, Basel II-III standards, designed to improve the stability of the banking system in crisis conditions, reduce liquidity shortages and dependence on cyclical fluctuations, require compliance with strict lending standards by improving the quality of banks' loan portfolio, corporate governance and risk management, and increasing transparency. Compliance with banking standards, in turn, requires banks to tighten their assessment of the creditworthiness of borrowers. Therefore, banks must conduct a qualitative assessment of the borrower to make a decision on the issuance of a loan and its terms, determine the ability and willingness to repay funds in accordance with the terms of the loan agreement.

The analysis of various factors that can ensure the timely repayment of loans or cause the risks of non-repayment holds a special place in the banking system. For any bank, when carrying out credit operations, the creditworthiness of borrowers (individuals and legal entities) is of paramount importance. As noted by some authors, the effectiveness of lending is hampered by such factors as imperfect taxation system, weak legal framework and the pace of structural transformations, low creditworthiness of the borrowers (enterprises) themselves, as well as high inflation [4, p.13].

Financial crises, a decrease or shifts of demand, increased competition, changes in technology, legislation, change of leadership and other factors can change the economic situation of a company from profitability to unprofitability. Individuals are also affected by unfavorable factors - job loss, decreased income, changes in the family wellness, which can significantly worsen the financial situation of the borrower. Therefore, when concluding a loan agreement, banks should carefully study all the factors affecting the creditworthiness of borrowers, i.e. conduct a credit analysis.

Creditworthiness is a complex characteristic of borrowers, based on an assessment of financial, legal and other indicators, through which their ability and ability to fully repay borrowed funds in a timely manner is tested. According to the definition of A.D. Sheremet, the creditworthiness is understood as the state of the financial position of an enterprise, which makes it possible to take out a loan and make a timely repayment. During the creditworthiness assessment, such moments as credit history, borrower's reputation, availability and qualitative composition (liquidity) of property, financial stability, market conditions and other indicators are considered [5, p. 6]. During the creditworthiness assessment, banks must be sure of the advisability of providing a loan to a borrower, therefore they must determine the likelihood that customers will be able to timely return the borrowed funds on a long-term or short-term basis, to pay all interest.

One should note that such approaches to assessing the creditworthiness of borrowers as a system of financial ratios, statistical models, analysis of the structure and directions of cash flows, analysis of business risks, limited and unlimited expert assessments [6, p.74].

During the creditworthiness assessment, the ability of a person to fulfill the borrowed obligations (distributed over time) is analyzed both for the main sum of the loan and accrued interest [7]. Also the forthcoming obligations of the borrower should be taken into account, and especially, the possible risks of non-repayment. For these reasons the present situation and results of the company's activity for a certain period are important, i.e. not only solvency, but also a full forecast of performance indicators for the entire crediting period. A full analysis of the financial condition (liquidity, profitability, financial flows, payments, etc.) is required. It is important to analyze the actual and projected cash receipts, liabilities and expenses of the company during the credit period. Banks pay great attention to indicators that characterize the stability of the company



that receives this loan. For this, some financial indicators are calculated, that characterize the ratio of the average monthly payment on a loan to its average monthly profit [8, p. 205].

Obviously, companies have different conditions and the nature of their activities, the same is for individuals. Therefore, there are no uniform and universal methods for studying their creditworthiness. In the absence of the correct methodology for assessing the creditworthiness of borrowers, a real qualitative deterioration of the bank's loan portfolio may occur, which may require the creation of additional reserve funds [9, p. 59]. In accordance with this, banks, in order to manage credit risks, attach great importance to the development of methods for assessing the creditworthiness of borrowers. The need to develop a competent assessment of the borrower's creditworthiness is due to the increasing volumes of loans issued, which leads to an increase in the bank's risks [5, p. 45].

The world banking system has accumulated an extensive valuation practice that have been tried and tested for several centuries. For example, as some authors note, the USA banking institutions use separate assessment methods such as 6 C, CAMPARI, PARTS, etc., allowing to analyze qualitative and quantitative indicators taking into account external factors, personal qualities of borrowers, goals, size and terms of lending (Fig. 1 .) [10].

In any case, in the process of forming relations between a bank and a borrower, banks should consider:

- the presence of mutually important interests, both on the part of the borrower who needs funds, and on the part of the bank, which provides funds on a paid basis (at certain interest rates);

Evaluation system	6C (USA)	PARTS (UK)	CAMPARI (USA,	Evaluation system (Russia)
EV- enterprise value estimation. BSA - Balance Sheet Analysis. SM – own designed methods of a concrete bank. UBCF- unified bank card-file	Character – borrower's reputation; Capacity - financial opportunities; Capital (Cash) - equity, property; Collateral - provision; Conditions - general economic conditions; Control – control of any change of conditions.	Purpose - purpose of obtaining a loan. Amount - amount of a loan. Repayment – refund of debt and interest. Term - loan term. Security - securing loan repayment.	Character – borrower's reputation; Ability - ability to repay a loan; Marge - margin, profitability; Purpose - purpose of a loan; Amount - amount of a loan; Repayment - loan repayment terms; Insurance - insurance of the default risk.	- Comprehensive analysis (forecast of income and expenses, accounts receivable and payable, profitability, sustainability); - Ratio (liquidity, turnover, profitability, sustainability, financial leverage, debt service, etc.) Statistical (reliability criteria, the likelihood of bankruptcy, etc.); - Analysis of cash flows (working capital, stocks, short-term debt obligations based on the balance of cash flows); - Analysis of business risk; -Predicted assessment (creditworthiness index, formal and informal criteria, etc.)

Fig. 1. Borrower appraisal methods used by foreign banks

- achieving maximum profitability in credit relations is possible only with optimal consideration of the interests of the both parties;

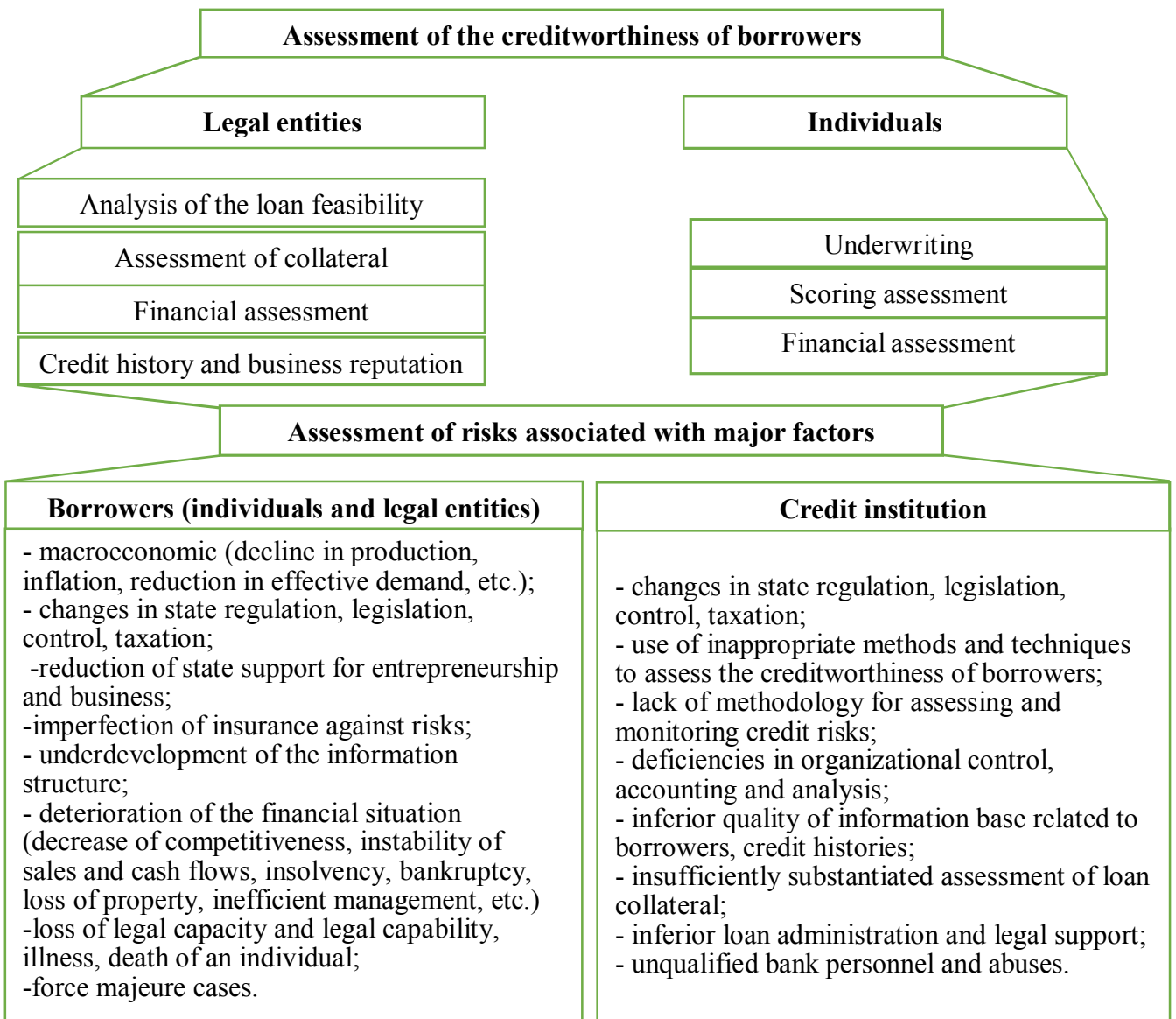
- excessive requirements for borrowers will cause a decrease in the number of people who want to receive loans in this bank, on the other hand, understated requirements will reduce the repayment of loans and worsen the bank's loan portfolio;

- when determining the methodology for assessing the creditworthiness of borrowers, the type and form of loans, supply and demand in the credit market, cost of services and other factors should be taken into account. Often, in the process of assessing creditworthiness, banks conduct an analysis of solvency. But it is of great importance that the credit liabilities of borrowers must be repaid in cash and on a certain date, and creditworthiness is also assessed by the future potential of activity.

The “solvency” is determined by the ability of a borrower to make payments on a specific date or for a period, for example, payment of loan obligations, payment of wages, taxes, invoices to



pay for supplies or services rendered, etc. When analyzing solvency, it is important to assess what funds and how they can be mobilized for the upcoming calculations [11, P.41]. This indicator is calculated as the ratio of cash to the required payment to the payment on a specific date. If the cash exceeds the liabilities (the ratio is greater than one), then the borrower will be considered as a solvent, if less than one, then delays are possible. When assessing the solvency of a company, banks analyze its financial statements, and to study the solvency of individuals, their income can be analyzed. Thus, the current (in dynamics) financial conditions are assessed. In the Kyrgyz Republic, when analyzing the solvency, the regulation on the minimum requirements for management of credit risk recommended by the NBKR is applied [12]. For legal entities, banks consider such documents as the general profile of a borrower - the questionnaire (application) indicates (the main type of activity, the amount of working capital, the structure of income, the loan repayment plan, the main business partners, etc.), constituent and registration documents, financial statements confirmed by an external audit, business plan, collateral and documents confirming the rights of ownership, guarantee documents. For individuals - identity documents, a salary certificate for the last 3-12 months or documents confirming the borrower's income, as well as other documents that the bank needs, including the documents for assessing the borrower's solvency (contracts, agreements, recommendation letters, etc.). The process of assessing the creditworthiness of individuals and legal entities is illustrated in the following form (Fig. 2).



* designed by the authors

Fig. 2. The process of assessing the creditworthiness of borrowers.



When assessing the creditworthiness of an individual, banks consider such indicator as the credit burden, calculated by the ratio of the amount of the loan received to the personal income of the borrower. Next, the value of the existing movable and immovable property owned by the borrower (including personal property, furniture, etc.), the financial situation of family members, and the borrower's credit history are considered and analyzed. In addition, the social status, position, career prospects of the borrower can be also considered.

In this article, we will consider the methods of assessing the creditworthiness of individuals in more detail. Each banking institution can use different approaches when assessing the creditworthiness of its borrowers. But in general, the following methods can be distinguished: underwriting, scoring and solvency assessment.

Underwriting. One of the most responsible procedures aimed at assessing risks when providing a bank loan. In normal practice, an underwriter (a bank employee involved in risk assessment) must carefully study the amount of income received by a borrower, i.e. to what extent he will be able to pay off the undertaken obligations. Secondly, the borrower's credit history, his behavior, responsibility and discipline in fulfilling obligations are studied. Thirdly, the quality of the collateral provided is analyzed, i.e. whether the collateral presented can actually secure the loan, as far as the collateral is highly liquid. For example, if real estate is pledged, the underwriter must check how legally it is (who is the owner, various encumbrances), assess the potential value of real estate, trends in the development of the real estate market, etc. Underwriting allows the bank to make an informed decision on the amount of the loan to be issued, interest rates and the timing of the loan, which can guarantee the timely repayment.

Scoring assessment. This assessment represents the same automated underwriting. The methodology is based on the analysis of factors that are clearly or potentially may influence the timely repayment of borrowed funds by the borrower. When applying for a loan, the borrower fills out a special questionnaire, usually in electronic form. The borrower must answer the questions that are assessed by the program with increasing or decreasing rates. Also, on the basis of the submitted relevant documents, the credit history is traced. During the scoring assessment the borrower's credit history is checked, how accurately the obligations on previously received loans were fulfilled (and not only in this bank). Not only loans actually received are taken into account, but also rejected applications. In aggregate, a special program automatically displays a scoring score based on responses, analysis of documents and credit history, verification and comparison of the data received. The result of this analysis is the recommendation or refusal to approve a loan application. Unfortunately, such an assessment is impersonal, the borrower is not aware of what specific parameters he is being refused. But, almost all banks trust the results of such assessment methods. Along with this, the submitted data of the borrower (passport data, registration, place of work and the truth of contacts) are subject to verification. Personal information concerning the borrower (family status, family composition, number of minor children and dependents, place and length of service) is subject to scoring. When assessing the borrower's solvency, not only the availability of income is taken into account, but also their stability and the form of transactions. If the borrower has deposit accounts, or he is a payroll client, this can increase his credit rating. At the same time, it is important that the cost of servicing the received loan for the borrower should be less than a half of the regularly received income (tab.1).

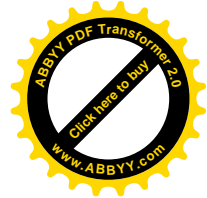


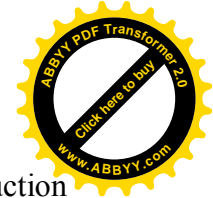
Table 1- Assessment of the client's financial situation

Approaches	Advantages	Disadvantages
Underwriting	<ul style="list-style-type: none"> - comprehensive and scrupulous analysis; - individual approach (availability of valid loans in the absence of delinquencies) does not serve as a reason for refusal 	<ul style="list-style-type: none"> - need to collect and provide a large amount of supporting documentation; - a fairly long time for consideration of the application;
Borrower scoring assessment	<ul style="list-style-type: none"> - efficiency and speed of decision-making, processing of large amounts of information based on automated calculation; - speed and no need to provide a package of documents; - depersonalization or objectivity, exclusion of decision-making for personal reasons; - the ability to painlessly cut off unreliable borrowers at an early stage; - flexibility that allows adjust the system to the changing policy of the bank 	<ul style="list-style-type: none"> - suitable for small loans; - the influence of certain factors, the exaggeration of the importance of some factors that have insignificant effect; - inability to take into account all the factors that may affect the result; - in the presence of a valid loan, it is possible to refuse to issue even small amounts if there is an impeccable credit history; - lack of intuition of experienced specialists
Solvency assessment	<ul style="list-style-type: none"> - obtaining reliable information about the state and prospects of the financial solvency of the borrower (analysis of financial statements - assets, liabilities, profit and loss, cash flow) 	<ul style="list-style-type: none"> - requires qualified staff to conduct analysis; - takes time for informed analysis.

One should note that there are problems in the correct assessment of the creditworthiness, there are moments that distort the final assessment. Firstly, there are problems related to the systemic administration of credit lines, banks must monitor the activities of borrowers, apply corrective measures in time, on which the repayment of loan funds will depend. Secondly, as to the collateral, which is perceived by banks as a fundamental condition for granting a loan, i.e. other components of credit relations are less important. In an economic downturn, this can lead to a decrease in the liquidity of collateral, to great difficulties in the sale of pledged property. Thirdly, in the context of general digitalization, it is necessary to create a single credit bureau, where all credit and deposit histories of borrowers should be concentrated (ideally, also it should contain all the foreign transactions). Fourth, banks should apply differentiated approaches to the same loan products, depending on the current and future expected results. Fifth, not all banks have adequate forecasting techniques. Also, if we are talking about short-term lending, then adequate current indicators of solvency are sufficient. But with long-term lending, it is not enough to carry out a simple analysis of the solvency, here we should forecast scenarios taking into account some macroeconomic trends (economic growth, inflation, exchange rate fluctuations, pandemic, etc.). Approaches to assessing the creditworthiness must be constantly modernized. It is necessary to move from the traditional quantitative approach to integrated qualitative assessments that take into account the size, timing, borrower profile, and risks.

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