EMPRICAL STUDY OF ANALYSIS AND ASSESSMENT OF CREDIT CREDIBILITY OF BORROWERS OF COMMERCIAL BANKS

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ABSTRACT

This article identifies typical problems of providing analysis and assessing the creditworthiness of borrowers of commercial banks focused on modernizing and updating their production base. On the example of commercial banks of Uzbekistan, a phased development of a special methodology is considered, the use of which will solve the identified problems. The implementation of this methodology is designed to provide analysis and assessment of the creditworthiness of borrowers of commercial banks and, in general, with a focus on achieving the criteria values of key performance indicators.

KEYWORDS: *Lending Operations, Banking Sector, Bank Lending, Credit Assessment Of Borrowers, Credit Transaction.*

INTRODUCTION

Credit operations are one of the main types of banking operations, and in modern economic conditions, lending is also one of the most profitable active operations of commercial banks. Even in the Strategy for the Development of the Banking Sector of the Republic of Uzbekistan dated January 1, 2022, the Government and the Central Bank of the Republic of Uzbekistan emphasized that one of the key conditions for the accelerated economic development of the country is the expansion of bank lending. The development of bank lending to the real sector of the economy is one of the strategic tasks of the state and in accordance with the new Strategy for the Development of the Banking Sector of the Republic of Uzbekistan for the period up to 2026. The share of loans and other placed funds provided by banks to non-financial enterprises and resident organizations in the country's GDP increased by 5.6% over the past 3 years. The share of credit operations in the assets of commercial banks of Uzbekistan also increased significantly over the indicated years. As of the beginning of 2002, the share of loans provided to non-financial enterprises and non-resident organizations in the assets of banks was 28%, and at the beginning of 2022. - 37%.

The dynamic development of bank lending to the real economy was caused, in particular, by the following factors: the growth of the resource base of commercial banks; an increase in the demand of enterprises for loans due to a decrease in the cost of bank loans; decrease in profitability in the main segments of the financial market.

At the same time, the growth in the volume of loans extended increases credit risks. Although the share of overdue loans granted to non-financial enterprises and organizations in the structure of assets of credit institutions as of January 1, 2022, compared to January 1, 2021, did not change and amounted to 0.9%. However, in absolute terms, overdue debt for the specified period increased by more than 12 trillion soums.

The growth in lending leads to the need to pay special attention to the organization of an integrated approach to the prevention and reduction of credit risks of banks. At the same time, increased competition requires banks to make prompt decisions on issuing loans. However, high credit risks associated with lending to the real sector of the economy (the share of unprofitable enterprises, filed by Uzstat, was more than 24% in January-October 2022), poses the need for banks to develop and improve technologies that can qualitatively and within an acceptable timeframe assess the creditworthiness of borrowers.

The urgency of the problem of accurately determining creditworthiness is also determined by the increased attention of supervisory authorities to the assessment by banks of their credit risks. In 2004, the Basel Committee on Banking Supervision adopted a new Capital Adequacy Agreement (Basel-P), the main purpose of which is to promote adequate capitalization of banks and improve the system. The theme of risk management, thereby strengthening the stability of the financial system as a whole. Particular attention in the document is paid to the assessment and management of credit risks, and in the first place early warning systems for these risks. At the same time, an adequate determination of the creditworthiness of each borrower is understood as an integral part of the early warning system for these risks.

Since February 1999, a new Regulation of the Central Bank of the Republic of Uzbekistan No. 242 dated November 9, 1998 «On the procedure for the formation of reserves by credit institutions for possible losses on loans, on loan and equivalent debts» came into force. One of the main requirements of this Regulation is a comprehensive and objective analysis of all information about the borrower and his activities, the formation of a reserve by the bank for possible loan losses. In this regard, many banks are faced with the problem of developing a methodology that will combine all the factors that characterize the borrower's creditworthiness, but at the same time will not lead to an increase in the time for processing loan applications.

The issues of determining the borrower's creditworthiness were in the focus of attention of domestic specialists even in the pre-revolutionary period. Among the researchers of that period, it is necessary to note Adadurov I.E., Bunge N.Kh, Kosinsky V.P. Currently, in almost every textbook on banking, when describing credit operations and credit processes in banks, a definition of the concept of the borrower's creditworthiness and methods for assessing it are given. The approaches to this problem of V.I. Kolesnikov, L.P. Krolivetskaya, Yu.S. Maslenchenkova, V.A. Moskvin, A.M. Tavasiev, A.G. Tagirbekova, N.F.In the process of determining the creditworthiness of enterprises, mainly techniques and methods of economic analysis are used, therefore, during the work on the dissertation, developments in the field of economic analysis of such domestic authors as Efimova O.V., Kovalev V.V., Negashev E.V., Savitskaya G. V., Saifullin R.S., Sheremet A.D. and etc.

Methods for determining the creditworthiness of a borrower are always of interest to banks. Therefore, recently, the works of specialists on this issue have been actively published (Edronova V.N., Tipenko N.G., Solovyov Yu.P., Panich VB), and some of their results and approaches are used by banks in the development of internal methods.

In foreign economic literature and banking practice, a significant number of methods for assessing the creditworthiness of borrowers have been developed. This problem was studied, in particular, by E. Reid, R. Kotter, R. Smith, P. Rose and others.

Despite numerous publications on the issues of creditworthiness, the methods presented in the economic literature and used in foreign banking practice do not make it possible to correctly and comprehensively assess the creditworthiness of bank borrowers in Russian conditions. The main reasons for the incorrectness of the methods are related to the inconsistency of domestic and foreign forms of financial statements, their constant variability; with insufficient transparency of Russian accounting forms provided by the borrower; with the lack of standards for financial indicators specific to enterprises.

Insufficient scientific and practical elaboration of the issues of determining the creditworthiness of borrowers, their high significance and relevance determined the choice of the topic.

The purpose of this study is to develop an integrated methodology for determining the creditworthiness of a bank borrower that meets the requirements of modern banking practice in Uzbekistan.

Unanimity on the concept of the creditworthiness of the borrower in all its aspects

tach is not worked out. All researchers consider creditworthiness asa certain set of characteristics of a potential borrower, allowingabout the likelihood of repaying the loan. But the methods and techniques proposedwhen assessing creditworthiness, differ.

Based on the study and analysis of the concept of creditworthiness, foreign and domestic approaches to this issue are proposed to be modified. The general concept of creditworthiness in such a way that from its definition it is clear that we are talking about the ability and readiness of the borrower in a timely manner and infully repay their obligations to the creditor (bank) filed (certain, specific) type of loan. In accordance with this approach, attempts to determine the creditworthiness "in general" of borrowers in relation to specific credit transactions lose their meaning. In our opinion, at least 2 types of creditworthiness should be distinguished - current and investment.The current creditworthiness of the borrower should be understood as the waythe latter's ability to timely and fully repay its obligationson a loan received from a bank for a relatively short period, at the expense of the results of its current financial and economic activities, and readinessdo it.

When assessing the current creditworthiness of a bank borrower, the criteria and methods of assessment will vary, in particular, depending on the subject of lending (individuals, enterprises in the real sector of the economy, financial organizations or authorities).In the course of considering the criterial components of creditworthiness in

Foreign and domestic literature concluded that they are all called differently, but the flail refers to a set of interrelated qualitative and quantitative indicators that allow assessing the creditworthiness of the borrower. Creditworthiness criteria, their application should provide answers to the main questions about the loan transaction, which have the greatest impact on the opinion of the loan officer: 1) who? 2) for what? 3) how much? 4) for how long? 5) under what security (against what)?

In credit practice, creditworthiness is an integral characteristic of the borrower, on the basis of which the bank makes a decision on lending. Therefore, it is proposed to consider the system of characteristics of the borrower, and not its individual elements.

The analysis carried out made it possible to conclude that the process of assessing credit properties can be considered: in terms of determining the borrower's compliance with the components (criteria) of creditworthiness; in the aspect of forming the opinion of bank specialists regarding the fact that the loan, if issued to this potential borrower, will be carefully repaid in due time. At the same time, the first aspect of this process plays a purely "technical", auxiliary role, i.e. the real purpose of assessing creditworthiness is to obtain a given degree of confidence in the future timely and qualitative repayment of the loan by the borrower.

Such a goal in its specific parameters is set by the lending policy of the bank and depends on the level at which the lending decision is made. Loans that are decided at the lower level should have a minimum risk of non-repayment. For loans with a more pronounced element of riskiness, the decision is made to the credit committee of the bank. When deciding the possibility (impossibility) of issuing a loan, the borrower's compliance with the requirements of the bank's credit policy is considered.

In the course of consideration and analysis of the regulations of the Central Bank of the Republic of Uzbekistan, regulating the activities of commercial banks in the field of active credit operations, it was concluded that the current norms of the acts rather force banks to look for ways to bypass the formal requirements imposed on them, rather than improve the quality of the analytical work of decision-making about lending.

The main work in this area should be carried out by the Central Bank of the Republic of Uzbekistan. The regulation of credit risks in the exclusive hands of the commercial banks themselves is risky, given the share of credit operations in the assets of banks. It seems that the activities of the Central Bank of the Republic of Uzbekistan in this part should be directed primarily to the analysis and systematization of assessments of the activities of business entities, in order to help and facilitate banks in assessing their pending credit risks. Thus, for an adequate assessment of the financial condition of borrowers, it is necessary to systematically analyze the activities of enterprises in different industries to identify industry average values of their financial ratios.

Methodology for assessing the creditworthiness of borrowers and the level ofcredit risks also depend on the organization of the credit process in each particular bank. The organization of the lending process varies depending on the bank and the nature of the loan transaction. The sequence of operations can also change, the analysis and evaluation of a credit transaction can be carried out by one analyst or a group of experts can be involved.

The paper analyzes the impact of creditworthiness analysis methodsorganization of the lending process. When assessing creditworthiness, many creditworthiness criteria are not amenable to formalization (the reputation of the borrower, the level of management, etc.), which is why the results of the analysis of creditworthiness initially contain elements of subjectivity, related, in particular, to the level of preparedness of the loan officer (experience, inclinations, theoretical training). analytics). The process of assessing creditworthiness is influenced by time and other factors (the time spent by analysts to consider the application, the availability of information sources).

Each bank in its own way solves the methodological problem of assessing the creditworthiness of borrowers. Most often, qualitative and quantitative methods of analysis are used.

The paper analyzes the information base for determining creditborrower's ability; financial statements of the borrower; transcripts and explanations of the financial statements; bank's own data; information from open sources.

The paper analyzes in detail 4 methods for determining creditworthiness, presented in the economic literature and used in the banking practice of Uzbekistan, for example, LLD «XXX», engaged in wholesale and retail trade (cars).

When assessing the borrower's economic opportunities, despite the incomplete reliability (and in some cases, unreliability) of financial statements, the primary source of information about the borrower in almost all methods is financial statements. If an auditor's report is presented, then it is necessary to familiarize yourself with it, it is also advisable to find out the opinions of other creditors and the borrower's rating agency.

When working with the financial statements of the borrower, it is necessary to payattention to short-term financial investments, accounts payable, under which loans and investments provided by the borrower to related organizations can be hidden Deciphering loans indicating the lender, maturity, loan amount allows you to identify the connectedness of the parties to such transactions. If there are organizations associated with the borrower, it is necessary to request and analyze their financial statements.

An analysis of methods for assessing collateral for a loan showed that banks consider collateral, surety and a bank guarantee as the main types of collateral. Security is a set of measures that perform the following functions: 1) encouraging the debtor to fulfill obligations to the creditor; 2) compensation to the creditor for damage caused to him by the debtor as a result of non-performance (improper performance) of obligations under the contract. In this paper, the assessment of collateral is analyzed according to 3 criteria: legal characteristics of the subject of collateral; the acceptability of the offered collateral; sufficiency of security.

To assess the borrower's readiness to repay the loan, information is analyzed information about his business reputation. Today, among the companies of Uzbekistan, first of all, companies operating in international markets take care of their reputation. Goodwill plays an important role in the performance of a company and its market value. The sources of obtaining information about the borrower's business reputation are the media, international rating agencies, bank security information, the borrower's credit history in the bank and other servicing banks.

In the analyzed methods, the business reputation of the borrower is unknown.

significant weight in the overall assessment of its creditworthiness. Although in practice it turns out. If the bank's security service has received information compromising the borrower (presence of a criminal record, prosecution of members or company executives, etc.), then the bank almost always refuses the borrower a loan.

The final rating (creditworthiness class) is determined in each method based on the assessment of the borrower's business reputation.

The results of assessing the borrower's creditworthiness according to the analyzed methods are different and vary from "unsatisfactory" to "high" due to different approaches to its assessment.

Comparison of 4 methods of banks shows that the results of rating methods for assessing creditworthiness are less subjective. In these methods, the evaluation criteria are more developed, and the approach to evaluation is complex, both quantitative and qualitative indicators are used. The main influence on the evaluation results is provided by quantitative indicators. The use of qualitative and quantitative indicators in the analyzed methods of banks, their significance and weight in the final assessment are presented in Table. 1.

TABLE 1 SIGNIFICANCE OF INDICATORS USED IN THE METHODS BORROWER RATING, %

Indicators	Method 1	Method 1	Method 1	Method 1
1. Economic borrower's capabilities	69	89	80	95
Quantitative indicators	69	80	62	84
- liquidity ratios	10	46	35	0
- financial independence ratios	20	17	13	22
- profitability and turnover ratios	0	17	13	40
- client cash flow analysis	0	0	0	2
- assessment of turnover on the borrower's bank account	39	0	0	0
- revenues from sales	0	0	0	20
Quantitative indicators	0	9	18	eleven
- industry risks	0	3	6	3
- commercial risks	0	3	6	5
- production risks	0	3	6	6
2. Evaluation of the business reputation of the borrower	32	eleven	20	5
Quantitative indicators	32	eleven	20	5
- borrower's credit history	10	6	7	0
- management quality	12	5	7	3
- borrower connectedness	10	0	6	2
Borrower rating	100	100	100	100

The data obtained indicate that when assessing the risk of non-repayment of a loan by a borrower, banks rely mainly on quantitative indicators that characterize the economic capabilities of the borrower. The main difference in the methods of banks is related to the composition of the indicators used to determine the borrower's rating and their shares in the total score.

Qualitative indicators occupy a smaller share in the final assessment. Bank 3 gives the highest significance to these indicators, due to a positive assessment of quality indicators, the borrower's rating can be increased, as in our example. In the methods of banks 2 and 3, there are no clear procedures and parameters for assessing qualitative indicators, so the results are subjective. Obviously, the assessment of qualitative indicators should be based on the exact indication of the parameters, their unambiguous characteristics and appropriate assessment in order to obtain objective and most accurate results.

To compare the methods of banks, the results of determining the solvency are summarized in a summary table. 2. From the table. Table 2 shows that in methods where more ratings (classes)

Saarj Journal on Banking & Insurance Research (SJBIR)
ISSN: 2319-1422   Vol. 12, Issue 01, January 2023   SJIF 2022 = 7.852

A peer reviewed journal

are used, qualitative indicators are taken into account and the parameters of a credit transaction are evaluated, the evaluation results are more reasonable. A positive decision to issue a loan can be made in Bank 1 and Bank 3. The lending limit in almost all banks is set by experts, with the exception of Bank 1, while the main question of determining creditworthiness is a loan for what amount and for how long can be issued to the borrower so that he can repay him on time?

TABLE 2 THE RESULTS OF DETERMINING THE CREDITWORTHINESS OF LTD "XXX" ACCORDING TO THE ANALYZED METHODS OF BANKS

Banks	Number of borrower ratings	Number of borrower ratings credit deal	Rating LTD "XXX"	Credit Deal Rating	final decision
1	5	3	R3	RS3	A positive decision on issuing a loan in the requested amount is possible
2	3	0	2	0	Lending requires a balanced approach, the borrower's credit limit is not calculated, installed expertly
3	4	4	1st or 2nd grade	0	Funding (accepting credit risks) appropriate
4	10	10	B3-	B3	Opportunities to attract borrowed funds are small. Credit limit is not calculated

As a result of the analysis of the advantages and disadvantages inherent in these methods, it was concluded that it is necessary to further develop the characteristics and criteria for assessing creditworthiness in order to obtain a more advanced system for assessing the creditworthiness of borrowers.

At the beginning of the work, an analysis and selection of sources of the information base for evaluation are carried out. To determine the objectivity of financial statements, typical errors and methods of distorting information are highlighted. They are divided into the following groups: 1) distortions that affect the clarity and reliability of information, but do not affect the value of the financial result or capital of the organization (veiling); 2) distortions associated with obtaining an incorrect figure of the financial result and equity (falsification).

It is proposed to assess the creditworthiness of borrowers-enterprises in the following sequence of stages: 1) building an aggregated balance sheet based on the borrower's financial statements, calculating financial ratios and their assessment, taking into account the dynamics for the analyzed period; 2) calculation and evaluation of indicators characterizing the dynamics of the financial and economic activities of the borrower for the analyzed period; 3) analysis and evaluation of qualitative indicators characterizing the economic capabilities of the borrower; 4) analysis and evaluation of indicators characterizing the business reputation of the borrower; 5) calculation of the integral scoring of the borrower's creditworthiness and establishment of the creditworthiness group; 6) analysis and evaluation of the proposed collateral for the loan and

determination of its category; 7) determination of the category of a credit transaction and calculation of the borrower's credit limit.

When choosing integrated characteristics of the borrower's economic opportunities, it should be taken into account that they should contain both quantitative and qualitative indicators. Of all the characteristics of the borrower's creditworthiness, it is necessary to choose those that most affect this ability. The influence of one or another indicator from among those indicated on creditworthiness can be assessed as low, moderate, medium, high and high.

To assess the borrower's economic opportunities, financial ratios were chosen as quantitative indicators. They must meet the following criteria: the calculated coefficients must determine the essential (significant) features of the enterprise; coefficients should overlap as little as possible.

When choosing financial ratios, expert and statistical methods were used. According to the results of the analysis, the list of indicators characterizing the borrower's economic opportunities includes the following coefficients: current liquidity (K_1); security with own working capital (K_2); return on sales (K_3); autonomy (K_4).

The analysis showed that the optimal value for the coefficients K_1, K_2 and K_4 must be taken in accordance with their industry average values calculated by Uzstat for the last year. In table. Figure 4 shows the values of the coefficients for 2003. For the K_3 coefficient, the optimal value is more than 0,1.

To determine the economic capabilities of the borrower, the value (in percent) of the deviation of the actual values of the coefficients as of the last reporting date from the optimal values is determined. Financial ratios are assigned points depending on the specified amount of deviation.

TABLE 3 OPTIMAL VALUES OF THE COEFFICIENTS OF SECTORS OF THE ECONOMY

Odds	Industry	Rural economy	Construction	Transport	Connection	Wholesale trade	Retail	Public nutrition	Housing communal economy
K_1	1,127	1,119	0,901	1,809	1,002	1,004	1,003	0,967	0,701
K_2	- 0,141	-0,049	-0,123	0,297	-0,49	-0,069	-0,14	-0,37	-0,030
K_3	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
K_4	0,531	0,527	0,364	0,701	0,432	0,198	0,207	0,313	0,817

At the same time, the author proceeds from the fact that, regardless of the reasons that led to a decrease in indicators by more than 50%, the financial position of the enterprise cannot be considered good. The probability of default of the borrower increases with the deterioration of its financial position.

Evaluation of the dynamics of indicators for the period under study makes it possible to judge the stability of the borrower's financial and economic activities. To determine the level of stability of indicators, it is advisable to calculate the coefficient of variation. It shows how the value of the coefficient for the analyzed period deviated from the average value: the denser the distribution, the more stable the borrower's activity; the wider the distribution, the more unstable the activity

of the borrower and, accordingly, the higher the probability of deterioration of its financial condition.

TABLE 4 DETERMINING THE STABILITY OF FINANCIAL RATIOS

Odds	Reporting date 1	Reporting date 2	Reporting date 3	Reporting date 4	Coefficient variations	Coefficient stability
K1	0.967	0.971	1.304	2.021	39%	0.7
K2	-0.014	-0.009	-0.014	-0.012	-12%	1
K3	0.049	0.031	0.041	0.042	18%	1
K4	-0.007	-0.009	-0.008	-0.005	-25%	0.7

The stability of the financial ratio is determined depending on the value of the coefficient of variation. The results of calculations according to the financial statements of the analyzed borrower are presented in Table. 4.

The total score of financial ratios is determined taking into account the significance of the coefficient (Table 5).

TABLE 5 DETERMINATION OF THE TOTAL SCORE OF FINANCIAL BORROWER RATIOS

Odds	The significance of the coefficient	Scoring grade	Coefficient stability	Total score grade
1	2	3	4	5 = 2 * 3 * 4
K_1	0,3	10	0,7	2,1
K_2	0,2	10	1	2
K_3	0,3	3	1	0,9
K_4	0,2	0	0,7	0
Total	1	x	x	x

To assess the dynamism of the financial and economic activity of the borrower, quantitative indicators should be analyzed: asset turnover ratio; growth rate of proceeds from product sales; growth rate of short-term liabilities; growth rate of overdue receivables; growth rate of receivables.

The calculated indicators make it possible to assess the development trends of the enterprise. The latter can be considered negative if: asset turnover decreases; the growth rate of proceeds from sales is less than the growth rate of short-term liabilities; the growth rate of overdue receivables exceeds the growth rate of receivables.

The sustainability of trends needs to be assessed. The negative trend in the activity of the borrower may be caused by the seasonal nature of its activity. If it can be traced constantly in the analyzed period of time, then it is stable, therefore, the probability of deterioration in the financial and economic activities of the borrower is high.

In addition to quantitative indicators, it is proposed to evaluate the following qualitative indicators: 1) the macroeconomic situation and the industry in which the borrower operates; 2) the reliability of suppliers and buyers (the more counterparties the borrower has, the less likely it is to lose solvency and stop production activities due to non-delivery of raw materials and materials); 3) the material and technical base of the borrower (availability of own storage facilities, equipment, necessary licenses and permits, the validity of which exceeds the term of the loan); 4) the position of the borrower in the industry (the severity of competition in the industry and the market share occupied by the borrower).

To assess the business reputation of the borrower, it is mainly analyzed its qualitative characteristics: 1) assessment of the organizational structure of the enterprise - the borrower. It considers the borrower's relationship with other enterprises, their impact on the borrower's activities, the distribution of assets and cash flows within the group of related enterprises and their participation in the loan transaction as guarantors; 2) the quality of information provided by the borrower to the bank. The disclosure of information about the company's activities and the provision of information requested by the bank, the transparency of the company's activities are assessed; 3) relationship between the borrower and the bank. The period of customer service in the bank is determined (the duration of the period during which payments were made on the borrower's current account). The borrower's fulfillment of obligations to the bank is assessed, the volume of cash flows of customers passing through his bank account; 4) the relationship of the borrower with the tax authorities. This indicator is proposed to be singled out separately, since in the event of claims from the tax authorities, the company's activities may be suspended for a long period, which may lead to its bankruptcy; 5) the quality of the company's management. The qualifications of the management team of the company, the use of modern approaches in management (budgeting, reporting in accordance with international financial reporting standards, management reporting) are assessed; 6) credit history of the borrower in other banks. At present, it is not possible to evaluate this characteristic in full, since credit bureaus have not actually started working yet. According to this, the assessment can be carried out on the basis of certificates, provided by the borrower from other servicing banks, about the presence of overdue debts to them; 7) external information about the borrower is evaluated on the basis of publications about the company, its owners and senior managers in the media, documents of authorities, data from the bank's security service.

After determining the impact of the main characteristics on the creditworthiness of the borrower, its integral score should be determined (Table 6). Depending on the measure of influence, the characteristic can be assigned the following scores - low - 10 points, moderate - 8, medium - 6, increased - 5, high - 0.

TABLE 6 CALCULATION OF THE INTEGRAL SCORE OF THE BORROWER'S CREDITWORTHINESS

Characteristics creditworthiness borrower	Low score	Moderate score	Average score	Increased score	High score	Significance factors, %	weighted score grade
Financial ratios		8				16	1,42

The dynamism of the financial and economic activities of the borrower	10					14	1,22
Macroeconomic situation and the situation in the industry	10					14	1,4
Supplier Reliability			6			16	1,0
Material and technical base of the borrower			6			10	0,8
Position of the borrower in the industry		8				10	0,6
Business reputation of the borrower				5		20	1
Integral assessment of the borrower's creditworthiness	**X**	**X**	**X**	**X**	**X**	**X**	**7,44**

Depending on the obtained integral creditworthiness score, the borrower can be classified into one of the following groups.

TABLE 7 DETERMINATION OF THE BORROWER'S CREDITWORTHINESS GROUP

Credit group borrower	Score	Group characteristic
1	Over 9,36	The borrower's creditworthiness can be assessed as high in terms of the totality of factors characterizing it. The bank's credit risk in lending to this group of borrowers is assessed as low. It is possible to provide the borrower with loan products without collateral.
2	7,60 to 9,35	The activity of borrowers in this group is subject to cyclical changes, concentrated on a certain group of suppliers or buyers. According to the totality of factors characterizing the creditworthiness, the bank's credit risk in lending to borrowers in this group is assessed as moderate.
3	6,00 to 7,59	There are negative trends in the activities of the borrower. According to the totality of factors characterizing the creditworthiness, the bank's credit risk in lending to borrowers in this group is assessed as medium. Lending to clients of this group is possible only if there is collateral.
4	4,00 to 5,90	The financial position of the borrower is unstable, its activity is deteriorating due to the unfavorable situation in the industry. Based on the combination of factors characterizing the creditworthiness, the bank's credit risk when lending to borrowers in this group is assessed as increased. Lending to borrowers in this group is possible only if there is liquid collateral.
5	Less than 4	The financial situation of the borrower is critical, a significant amount of overdue debt to creditors threatens its bankruptcy. Based on a combination of factors, the bank's credit risk when lending to borrowers

		in this group is assessed as high. Borrowers in this group are not creditworthy

The borrower analyzed in the work, in accordance with the integrated methodology, can be assigned to the 3rd groups of creditworthiness.

After determining the borrower's creditworthiness group, thecollateral they offer for a loan transaction. In accordance with the main criteria for such an assessment, the security is divided into 4 categories. The classification of collateral and characteristics of the respective categories are presented in Table 8.

TABLE 8 COLLATERAL CLASSIFICATION

Collateral category	Characteristics
1 category	Highly liquid collateral - property that the bank can quickly sell without financial losses or accept as compensation if the borrower fails to fulfill obligations under the loan pledge of quoted securities; security deposit; debentures; pledge of refined precious metals in bullion
2 category	Pledge of liquid vehicles (subject to insurance and collateral in the bank). Pledge of quoted securities and debt obligations of limited liquidity. Pledge of liquid real estate in the region where the bank operates. Guarantees of third parties belonging to the first group.
3 category	Pledge of goods in circulation or in stock, fixed assets (except for liquid vehicles). Pledge of unquoted securities or debentures of low liquidity. Pledge of property rights to real estate under construction. Guarantees of third parties belonging to more than the first group.
4 category	Other collateral or lack thereof

Depending on the proposed collateral for the loan transaction and the borrower's creditworthiness group, the category of the loan transaction is determined.

TABLE 9 DEFINITION OF CREDIT TRANSACTION CATEGORY

Credit group borrower	Collateral category			
1 group	1	2	2	2
2 group	1	2	2	3
3 group	1	3	3	4
4 group	1	4	4	5
5 group	1	4	5	5

In the example considered in the paper, goods in circulation are offered as collateral for a loan. Collateral category - 3. Therefore, the credit transaction is classified in the 3rd category. The credit limit is calculated depending on the category of the credit transaction. So, for the 1st category, the market value of the collateral should act as the basis for calculating the credit limit. Highly liquid collateral reduces the bank's credit risk. In other cases, the basis for calculating the credit limit should be the average monthly proceeds from sales for the analyzed periods.

The adjustment factor is set expertly by the bank's specialists based on its credit policy and the category of the credit transaction. It seems appropriate to set the following values of such a coefficient.

TABLE 10 DETERMINATION OF THE CORRECTION FACTOR

Credit transaction category	The value of the correction factor
2 category	0,7
3 category	0,5
4 category	0,2
5 category	0,0

When setting these coefficients, the following was taken into account: most often, the company's revenue goes to the borrower's settlement accounts in servicing banks. Most banks, when granting a loan, first of all put a condition on the transition to settlement and cash services in a lending bank. Thus, the latter can use the right without acceptance to write off funds from the bank account to repay the loan. In addition, a short-term loan is most often intended to replenish working capital, which means that in the future, the company's sales revenue will have to increase. If we take a pessimistic forecast, then the source of repayment of loan a will be the current sales proceeds.

The proposed integrated methodology for determining the creditworthiness of borrowers in practice can be automated using the Excel program.

The credit risk associated with the issuance of a loan to the borrower analyzed in the work on the stated conditions is medium. The bank may decide to issue a loan in the amount of 11 million rubles. secured by vehicles, subject to the transfer of proceeds from the borrower's financial and economic activities in the amount of at least the loan amount to a current account with a lending bank. In order to reduce the credit risk in a transaction, the bank may offer the borrower to consider as a guarantor for the transaction an enterprise that has real estate and fixed assets of related companies on its balance sheet.

CONCLUSIONS

The results of the study on assessing the creditworthiness of borrowers-enterprises are as follows:

Based on the identified shortcomings of existing practical methods of 4 banks by the author; The work suggests directions for improving methods and recommendations for compiling a methodology for assessing creditworthiness: the choice of quantitative indicators should be carried out by experts, but depending on the correlation between financial ratios in order to eliminate their possible duplication; normative values of financial, coefficients, it is necessary to establish diversification, for example, depending on the industry; or if there are appropriate databases, depending on the volume of products sold (manufactured); the significance of the indicators is established expressly depending on the credit policy of the bank; regional features, their justification is necessary, in addition, the decision should not be made individually, but collectively; quantitative indicators must be considered in dynamics, when calculating indicators, an expert needs to analyze the reporting, exclude or single out overdue debts, illiquid assets in order to obtain objective results; qualitative indicators must be concretized, characterize each indicator and possible development options; events, for example, the presence (absence) of

Saarj Journal on Banking & Insurance Research (SJBIR)
ISSN: 2319-1422   Vol. 12, Issue 01, January 2023   SJIF 2022 = 7.852

A peer reviewed journal

negative information about counterparties, including connection with criminal structures, litigation, etc.). Specification is necessary in order to reduce the subjective impact on the assessment; in the internal methodology of the bank, it is necessary to identify external information sources for the analysis of qualitative indicators. Often a negative or vice versa positive publication about a company is "custom-made";

An integrated methodology for determining the creditworthiness of borrowers has been developed. Based on the above approach, it is possible to single out the stages of determining the creditworthiness of borrowers-enterprises: building an aggregated balance sheet based on the borrower's financial statements, calculating financial ratios and evaluating them, taking into account the dynamics for the analyzed period; calculation and evaluation of indicators characterizing the dynamics of the financial and economic activities of the borrower for the analyzed period; analysis and evaluation of qualitative indicators that characterize the economic capabilities of the borrower: the macroeconomic situation and the industry in which the borrower operates; reliability of counterparties; material and technical base; the position of the borrower in the industry; analysis and evaluation of indicators characterizing the business reputation of the borrower; calculation of an integral scoring of the borrower's creditworthiness and establishment of a creditworthiness group; analysis and evaluation of the proposed collateral for the loan and determination of its category; determination of the category of a credit transaction and calculation of the borrower's credit limit.

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