

CONDUCTING FINANCIAL RISK ASSESSMENT OF INNOVATIVE ENTERPRISES BASED ON CUSTOMER SCORING ANALYSIS

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Abstract. *This article examines the theoretical foundations of financial risk assessment. It provides an overview of foreign countries' experience in reducing financial risk. Specific proposals are offered for reducing the financial risk of enterprises and their customers.*

Keywords: *Financial risk, financial resources, insolvency, consumer, risk assessment, unexpected losses, financial manager, rating, scoring analysis.*

Relevance of the Research Topic

Currently, special attention is devoted to financial risk management, as the portfolio of financial assets constitutes the main element of financial institutions' assets.

Financial risk is understood as the possibility of losses resulting from the inability of financial institutions to fully and timely fulfill their obligations to consumers of financial resources.

In this regard, forecasting the probability of their insolvency on obligations is the most important component of the financial risk management process, both at the stage of making a decision on granting a loan and in the process of subsequent financial risk monitoring. Having quantitative estimates of the probability of insolvency of financial resource consumers, the financial manager can determine the magnitude of expected losses on provided resources, which in turn will allow making a decision on the advisability of providing funds, determining the fair price

of this asset (interest on credit), as well as forming reserves adequate to the assumed financial risk.

However, at present, both in the practice of financial organizations in transition economies and in the practice of financial institutions in Uzbekistan, financial risk management based on the probability of direct assessments of the probability of resource consumer insolvency has not become widespread. This circumstance is alarming; apparently, this is due to the past insufficiency of information for constructing such assessments. This, of course, in our practice limits the capabilities of model developers and reduces the reliability of the obtained estimates.

In addition, currently many financial institutions, including commercial banks, when determining the creditworthiness of a borrower, are introducing into practice mainly independently developed scoring models.

Overview of Financial Risk

The availability of financial reporting will ensure ease of model application. It is no coincidence that special attention is paid to reforming and improving the financial stability of enterprises to achieve high rating results. This requires the development and implementation of modern methods of customer scoring analysis, taking into account the study of the experience of the most successful competitive enterprises in developed countries.

Based on the provisions of the scoring analysis model, it is necessary to develop one's own scoring analysis model and begin active practice of its application when making decisions on providing financial resources or enterprise products to customers.

Let us consider in practice the existing theoretical and methodological approaches to financial risk assessment. In accordance with certain considerations, the provisions currently in practice can be conditionally called risk assessment, where approaches to determining the magnitude of financial risk are used:

First. These are ratings determined by independent agencies that calculate the ranges of probabilities of enterprise insolvency corresponding to each rating value of financial institutions based on accumulated statistics of public materials. Such an approach is often called external rating assessment.

Second. This is an internal financial rating established by financial institutions, primarily commercial banks, for their clients based on their own methodologies.

If in developed countries the use of the first of these methodologies is widespread, then in modern conditions, in most transition economies, there is minimal prevalence of the practice of obtaining ratings from "international rating agencies," which determines the concentration of financial managers' efforts on implementing the latter approach.

In this case, the financial manager needs to determine the magnitude of forecast or expected losses for each type of asset carrying risk. This is more actively used in the activities of foreign financial organizations and has prospects for application in the practice of the republic's financial institutions:

$$\sum OP_{ot} = \sum VA_{ktR} \times \Delta OVN_{plat} \times \Delta O_{zhK_{oef}P_{(ot.sr.)}} \quad (1)$$

where:

- $\sum OP_{ot}$ – expected risk losses;
- $\sum VA_{ktR}$ – available amount (sum) of asset exposed to risk;
- ΔOVN_{plat} – relative probability of enterprise customer insolvency;
- $\Delta O_{zhK_{oef}P_{(ot.sr.)}}$ – expected coefficient of fund losses in case of customer insolvency (determined by the value and liquidity of transaction collateral).

The results of calculating the magnitude of forecast (expected) and unexpected losses are necessary for implementing the approach to financial risk management used in practice, often by commercial banks according to the

requirements of the Basel Agreement on capital, according to which expected losses are covered by internal resources [8]. Considering this, for enterprises with an innovative nature of development, it is necessary to use the method of expected losses at the expense of reserve funds (often this is presented as a reserve financial fund). In this case, unexpected losses can be compensated by capital allocated to certain types of assets.

In the process of calculating the forecast boundary, the problem of loss represents the procedure for calculating the probability of customer insolvency. In current conditions in the world, two approaches to assessing the probability of enterprise insolvency have formed [4;5;6;7]:

First. Based on models using information about the current value of debt obligations and spreads of bond yields relative to risk-free, in particular, bank interest rates (reduced form models), the value of equity capital and existing debt obligations (structural models).

Second. Based on the rating of enterprise customers by their financial indicators and factors characterizing their business environment (credit-scoring models).

The use of certain, but more profitable models for assessing the probability of insolvency is widespread in the practice of Western financial companies [5]. A necessary condition for applying these models is the assessment of the value of assets of companies – securities issuers. Since only a small part of financial companies' securities is quoted on the market, this limits the possibility of using this approach to solve the stated task. The applicability of this approach becomes even more limited when the fall in market quotations of securities reflects more the decline in investment opportunities for potential investors than the real deterioration of the financial condition of the issuing company.

In these circumstances, the most popular in the practice of foreign financial institutions, particularly for commercial banks, are credit-scoring models, the

prototype of which is the creditworthiness index proposed in 1968 by Edward Altman.

The Altman creditworthiness index (Z-score) is a linear combination of the following financial indicators:

$$Z\text{-score} = R1 \cdot X1 + R2 \cdot X2 + R3 \cdot X3 + R4 \cdot X4 + R5 \cdot X5,$$

where:

- X1 – working capital / total assets;
- X2 – retained earnings / total assets;
- X3 – operating profit / total assets;
- X4 – market value of shares / debt;
- R1, R2, R3, R4, R5 – weight coefficients characterizing the significance of each particular criterion.

The Altman coefficient was the most widespread method of risk assessment for commercial banks. It has evolved in the credit-scoring models of leading rating agencies: Moody's KMV, S&P, and others.

In these circumstances, the task of assessing the probability of insolvency based on data contained in official accounting reports remains the most acceptable option for most financial institutions.

Analysis of the State of the Studied Problem

To date, the practice of obtaining direct assessments of the probability of insolvency has not become widespread among financial institutions, particularly commercial banks operating in Uzbekistan, both due to the complexity of obtaining them and due to the absence of such requirements from government authorities.

One of the main methods of reducing financial risks is the application of the procedure for forming reserves. In the Republic of Uzbekistan, the formation of reserves for possible loan losses is regulated by the "Procedure for classifying the quality of assets, forming and using reserves created by commercial banks to cover possible losses on them" No. 242 dated November 9, 1998, according to which a

system of asset classification applies to all types of credits, including bank guarantees, credit lines, interbank credits, overdrafts. It should be added that this system is also applicable to the assessment of other bank assets, such as investments, purchase and sale of securities, accounts receivable, acquired right of claim for the fulfillment of obligations from third parties, and other assets with risk of non-return.

According to this provision, the classification of provided resources begins with customer assessment according to the following criteria:

- trend and future of enterprises or the industry as a whole;
- customer's financial position;
- customer's financial history;
- economic justification (position) of a specific project;
- quality of management and administration at the enterprise (if credit is provided to an enterprise).

The results of asset analysis and classification depend on such factors as the customer's financial position, credit payment history, and the presence of properly executed collateral. It is very important to use these factors when identifying and assessing risks present in the financial portfolio and other assets.

In this case, asset classification must be carried out in the following order and in accordance with the following categories: good, standard, substandard, doubtful, and hopeless. Based on the asset quality category, an appropriate reserve is created.

Conclusions and Proposals on the Research Topic

Indicators on the basis of which the customer's financial position is assessed are chosen by enterprises independently, based on their own financial policy. However, it should be noted that, despite significant differences in the internal methodologies used for assessing financial position, most of them are based on standard coefficients of liquidity, financial stability, capital structure, turnover, profitability and return, debt burden, interest coverage, etc.

In addition to financial coefficients, indicators characterizing the ownership structure, position in the market of produced products/services, situation and trends in the industry, market reputation, competitive advantages, management experience, etc., i.e., characteristics of the customer's business environment, are of great importance in the process of assessing customer creditworthiness.

These indicators in one combination or another are used by individual financial institutions in the process of assigning internal creditworthiness classes to customers. This approach has gained very wide distribution in the practice of financial institutions.

However, the process of obtaining sufficiently detailed information about the business environment, constructing analytical balances that bring financial coefficients closer to international financial reporting standards, in addition to significant time and effort costs for enterprises, requires the customer's willingness to provide the necessary information, which is not always possible.

The task of developing a scoring model for assessing the probability of customer insolvency, independent of the point of view of a particular analyst, based on official accounting report data remains relevant. In case of identifying relationships that allow directly assessing the probability of customer insolvency, the specified model can be used at the stage of preliminary selection of promising customers with subsequent in-depth study at the decision-making stage, as well as in the process of monitoring the financial condition of borrowers as a method of early warning about the deterioration of the quality of customers' financial obligations.

The first steps by the republic's large financial institutions have already been taken. Thus, as an appendix to the financial policy of enterprises, a methodology for calculating the creditworthiness of individual entrepreneurs (scoring analysis) is proposed. Also, factors such as age, work experience of the entrepreneur, ownership of buildings and structures, availability of production premises, technical condition

of production premises, availability of own transport, and many other factors obtained from the analysis of the customer's financial history and their business plan should play an important role as the basis of this analysis.

Based on the results of the conducted scoring analysis, 4 classes of customers (individual entrepreneurs) can be derived, a degree of risk is assigned, and a final result is derived in the form of points scored, within which the need for issuing funds or providing a reasoned refusal to finance the customer will be determined. This analysis will allow enterprises to reduce risks associated with issuing funds to insolvent customers.

Thus, the global crisis caused by COVID-19 has provided risk managers with new opportunities in terms of choosing financial risk assessment models due to the emergence of default statistics. This circumstance allows building a financial-scoring model for short-term forecasting of the probability of customer insolvency based on their accounting report data.

References

1. Mirziyoyev Sh. Critical analysis, strict order, discipline and personal responsibility – should become the daily rule of activity for every leader – Tashkent: NMIU "Uzbekistan" 2017.-104 p.
2. Mirziyoyev Sh.M. Together we will build a free and prosperous democratic state of Uzbekistan. – Tashkent: NMIU "Uzbekistan" 2017 – 56 p.
3. Decree of the President of the Republic of Uzbekistan dated February 7, 2017 No. 4947 "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan"
4. Lyalin, A. M. Risks in conditions of economic globalization: textbook – M.: YUNITI-DANA, 2019.- 280 p.
5. Martynov, V. L. Financial risks: theory and management methods. St. Petersburg: St. Petersburg State University Publishing House, 2022.- 450 p.

6. Abchuk, V. A. Risk management in economics and business. - M.: Finance and Statistics, 2018. - 312 p.
7. Vasiliev, S. A., and Ivanova, L. P. Financial risk management: textbook. - St. Petersburg: Piter, 2020. - 256 p.
8. Lavrushin O.I., Afanasyeva O.N., and Kornienko S. L. Banking: Modern credit system. – M.: KNORUS, 2007. - 264 p.