

ASSESSING BANKRUPTCY RISK USING THE ALTMAN, CONAN-HOLDER, AND TAFFLER MODELS: EVIDENCE FROM ROMANIAN SMES AND FINANCIAL SUSTAINABILITY

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Abstract:

In the present study, the bankruptcy risk of Romanian enterprises is investigated through the comparative analysis of traditional quantitative models of bankruptcy risk, such as the Altman Z-Score, Conan-Holder and Taffler models, in correlation with the integration of indicators of financial sustainability. Based on a sample of 152 Romanian companies, most of which are small and medium-sized enterprises (SMEs), the study identifies the importance of indicators related to financial autonomy and efficiency, as well as the importance of non-financial information in the assessment of the bankruptcy risk of such firms. The study reveals that over 80% of the respondents consider the information to be essential, and approximately 45% of the respondents indicated their support for the integration of indicators of financial sustainability into the models traditionally used for assessing the bankruptcy risk of Romanian companies. Additionally, it was confirmed through the analysis that the implementation of social responsibility and sustainability principles is significantly correlated with the reduction of the probability of financial difficulties for assessed companies. These findings support the need for the adoption of the traditional models for the assessment of bankruptcy risk to incorporate indicators of financial sustainability, indicating the link between financial sustainability and the reduction of the risk of bankruptcy for companies. Thus, the study also contributes to the expansion of the existing concept of financial sustainability, as it becomes evident from the investigation that the integration of indicators of social responsibility and the implementation of sustainable financial practices will improve the accuracy of the prediction of the bankruptcy risk of companies.

Key words: bankruptcy risk, financial sustainability, prediction models, social responsibility, Romanian enterprises

JEL classification: M10, M41

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1. INTRODUCTION

Given the unstable economy in the world today, it is unsurprising that the study of the occurrence of bankruptcies has garnered the attention of researchers in the literature of the last decades. Numerous models have been developed to evaluate the financial risk of given companies, such as the Altman Z-Score, Conan-Holder, and Taffler models. However, as indicated in new research studies, each of these models must be slightly modified to reflect the current economic circumstances, particularly in the consideration of financial sustainability and ESG (Environmental, Social, and Governance) metrics. For instance, research by Horváthová et al. (2023) indicated that to provide a more complete evaluation of the risk of a company experiencing bankruptcy, those models must also incorporate non-financial variables into their calculations. Furthermore, studies have also shown that the ESG scores of a company can have a major impact upon its likelihood of experiencing bankruptcy, especially within small and medium sized economies, as indicated by Mirzaei (2024).

Despite significant progress in bankruptcy forecasting research, a significant gap exists between traditional quantitative models and the growing need for a more comprehensive approach to risk assessment. Recent studies indicate that integrating environmental, social, and governance (ESG) factors into predictive models can improve both their predictive accuracy and their ability to identify financial distress early (Grygiel-Tomaszewska & Turek, 2021). However, the available evidence is largely based on developed economies, while emerging markets have received much less attention. This provides an opportunity to examine whether these approaches are equally suitable in countries like Romania. In the context of the existing literature on bankruptcy risk forecasting, this paper makes a contribution by comparing different bankruptcy forecasting models based on a sample of Romanian

SMEs, and by determining the added value of including financial sustainability as part of the assessment of the financial health of these SMEs.

The relevance of this research is supported by some recent economic development. According to Eurostat, the total number of bankruptcies that occurred within the European Union during the fourth quarter of 2024 decreased by 0.7% compared to the number of bankruptcies that occurred during the previous quarter of that calendar year. Romania, however, experienced an increase in the number of bankruptcies during 2024, especially within the manufacturing and transport sectors of the Romanian economy. Furthermore, according to the Coface report (2025), many of the companies within Central and Eastern Europe are continuing to suffer the effects of the economic shocks that have occurred within the region in recent years, leading to an increase in the number of bankruptcies within those countries. The importance of creating bankruptcy risk assessment models that are not only robust enough to account for the economic challenges that have afflicted these regions of Europe and beyond, but also that reflect the characteristics of those specific economies, is thus recognized.

The remainder of this paper is structured as follows. Section 1 presents a review of the relevant literature on bankruptcy risk forecasting models and financial sustainability. Section 2 describes the research methodology that was employed in this study, as well as the characteristics of the SMEs that were included in the research. Section 3 presents the results of the application of the Altman, Conan-Holder, and Taffler models and sustainability indicators to the SMEs included in this study. Finally, section 4 presents a discussion of the conclusions of this study and the implications of those conclusions for future research.

2. LITERATURE REVIEW

Previous research studies describe the risk element as uncertain and associated with the evolution of economic phenomena but which can have a great deal of influence upon the performance of the company in question (Horváthová & Mokrišová, 2018). Therefore, assessing bankruptcy risk has become an essential component of managerial decision-making, as it directly influences not only the financial stability of firms but also the decisions made by investors, creditors, and other stakeholders (Bărbuță-Mișu & Madaleno, 2020; Andreev et al., 2022). As business environments have become increasingly complex, driven by both internal organizational factors and external economic conditions, insolvency forecasting has attracted growing attention from both researchers and practitioners (Srebro et al., 2021).

Financial sustainability goes beyond the traditional goal of profitability and refers to an organization's ability to maintain stable, efficient, and responsible operations over the long term. Achieving this goal requires integrating financial performance with strategic management and sound governance practices (Zabolotnyy & Wasilewski, 2019; Gleißner et al., 2022). Imhanzenobe (2019) further argues that financial sustainability depends on maintaining operational efficiency, controlling costs, and effectively adapting to changing market conditions. In this context, established bankruptcy prediction models, including the Altman Z-Score, the Conan-Holder model, and the Taffler model, continue to provide valuable analytical support. However, their application can be strengthened by incorporating additional indicators that better capture the reality of the current business environment.

Poor social responsibility performance increases the risk of bankruptcy, as recent studies show that environmental and social risk factors directly threaten financial stability, especially for small companies (Cohen, 2023; Grosu et al., 2024). For instance, Douglas (2025) demonstrates the existence of a positive relationship between the aggregate ESG score and bankruptcy risk, using the Altman Z-Score model. Other authors propose an integrated approach, combining ESG score with traditional financial indicators (Elkady, 2025), providing a more comprehensive assessment of bankruptcy risk.

At the same time, the introduction of non-financial variables – such as firm size, industry, ownership structure and financial configuration – into bankruptcy prediction models has become an increasingly relevant research direction. Káčer et al. (2019) demonstrated that these variables contribute significantly to improving the ability to discriminate between high-risk and stable firms.

Grunert et al. (2005) highlighted the superiority of models that integrate financial and non-financial data. Wilson et al. (2016) confirmed the additional explanatory value of variables related to the type of enterprise and the industrial sector in the context of transition economies. In support of these findings, recent studies have reinforced the importance of integrating sustainability indicators into bankruptcy prediction models. Thus, high ESG performance is correlated with a lower probability of financial distress, suggesting an inverse relationship between sustainability and risk (Grygiel-Tomaszewska & Turek, 2021; Moraru & Boghean, 2025). A study by Aydoğmuş et al. (2022) demonstrated that investments in high ESG performance promise financial returns for the firm in terms of value and profitability. Prediction models that include ESG scores provide superior accuracy in estimating bankruptcy risk (Aliano et al., 2024). ESG contributes to increasing organizational resilience to systemic and market risks (Mirzaei, 2024; Chelba & Cosmulese, 2024). These findings suggest that integrating ESG indicators into bankruptcy risk assessment models can provide a more comprehensive and accurate assessment of financial risks, thus contributing to their more effective management.

Based on these findings, we formulate the following hypotheses:

Hypothesis 1 (H1): The relevance of traditional bankruptcy risk assessment models (Altman Z-Score, Conan-Holder and Taffler) is influenced by the integration of financial sustainability indicators within the firm.

Hypothesis 2 (H2): The integration of financial sustainability indicators into traditional bankruptcy risk assessment models significantly contributes to increasing the accuracy of bankruptcy risk prediction.

General characteristics of the sample

The sample consists of 152 respondents, representing economic entities from Romania, with a questionnaire being applied between November 12, 2022, and October 13, 2023. The sample selection criteria covered the following aspects: entities with financial activity were not included in the sample; respondents who did not agree to informed consent; respondents who, following the discussion with them, said that they would not answer all the questions. Furthermore, the descriptive analysis of the responses reveals a predominance of small and very small companies (*see Table no. 1*).

Table no. 1. Sample distribution by general characteristics

Criterion	Category	Percentage (%)
Turnover	≤ 700.000 EUR	62
	700.000–8.000.000 EUR	27
	> 8.000.000 EUR	11
Number of employees	≤ 10	54
	10–50	26
	> 50	20
Total assets	≤ 350 000 EUR	66
	350 000 - 4 000 000 EUR	22
	> 4 000 000 EUR	12

Source: authors' own processing based on questionnaire data

As can be seen in Table no. 1, most of the entities in the sample are micro-enterprises, with a turnover below EUR 700,000 and a low number of employees. This structure indicates a high representativeness for the SME segment, this study mainly reflecting the reality of SMEs in Romania, a segment with increased exposure to financial risks.

3. RESULTS AND DISCUSSION

The present research aimed to investigate the bankruptcy risk of Romanian enterprises by comparative application of traditional quantitative models Altman Z-Score, Conan-Holder and Taffler, analyzed in correlation with the integration of financial sustainability indicators.

According to the study conducted by Horváthová et al. (2023), SMEs are more exposed to the risk of bankruptcy due to limited resources and reduced capacity to adapt to economic changes. Regarding the distribution of respondents regarding the occurrence of financial difficulty in the last 5 years, approximately 40% of the companies analyzed in this research reported financial difficulties in the last five years, which confirms the structural vulnerability of SMEs to risks.

Vestlie (2025) demonstrates that ESG scores positively influence financial stability, and the integration of these data into the Altman Z-Score model improves the accuracy of the prediction. This finding is also supported by Douglas (2025) who showed that the integration of ESG into Altman Z-Score models provides a more nuanced picture of bankruptcy risk. Regarding the distribution of respondents regarding the perception of the usefulness of non-financial information in predicting bankruptcy risk, it is observed that most respondents (83%) believe that non-financial information can contribute to a more complete analysis of bankruptcy risk within their company (*see Figure no. 1*). Thus, the emergence of bankruptcy risk at the company level is a real perception and supports the need to adapt traditional models to the current context, including sustainability factors.

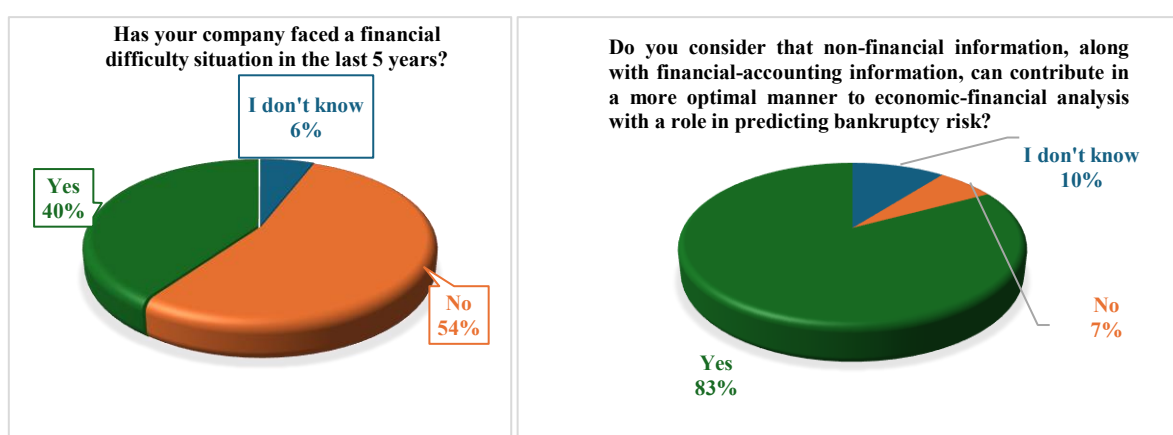


Figure no. 1. Distribution of respondents regarding the occurrence of a financial difficulty in the last 5 years and the perception of the usefulness of non-financial information in predicting the risk of bankruptcy

Source: authors' own processing based on questionnaire data

Cohen (2023) highlights that ESG performance reduces the risk of bankruptcy, especially for small firms, by strengthening operational resilience. Table 2 indicates that firms in the sample that implement social responsibility (SR) practices have a lower probability of financial distress (35%) compared to those that do not apply such practices (50%). These results support one of the study's conclusions that the implementation of social responsibility and sustainability principles is significantly correlated with a reduced probability of financial distress.

Table no. 2. Distribution of respondents regarding the application of social responsibility (SR) practices within the company and the existing link with financial difficulties

Companies that apply for SR practices	Companies that do not apply SR practices
- 70% of all respondents	- 30% of all respondents
- of these, reported financial difficulties: 35%	- of these, reported financial difficulties: 50%

Source: authors' own processing based on questionnaire data

Gleißner et al. (2022) argue that financial autonomy is a central pillar of long-term sustainability. Osazefua (2019) shows that cost control is essential for maintaining financial sustainability. Aliano et al. (2024) argue that profitability and operational efficiency ratios are relevant in assessing the firm's ability to generate economic value under risk conditions. The analysis of the distribution of respondents regarding the preference for ratios in the Altman, Conan-Holder and Taffler models (*see Figure no. 2 and Annex no. 1*) highlights a clear orientation towards indicators that reflect financial autonomy and operational efficiency, as follows: within the Altman model, Ratio

4 (Equity / Debt) is considered the most optimal by 56 respondents, suggesting the importance of the firm's ability to support its activity from its own resources; for the Conan-Holder model, Ratio 5 (Financial Expenses / Turnover) is preferred, indicating a concern for the efficiency of financing costs and in the Taffler model, Ratio 1 (Gross Profit / Current Liabilities) and Ratio 4 (Sales / Total Assets) are most valued, reflecting an interest in profitability and operational efficiency.

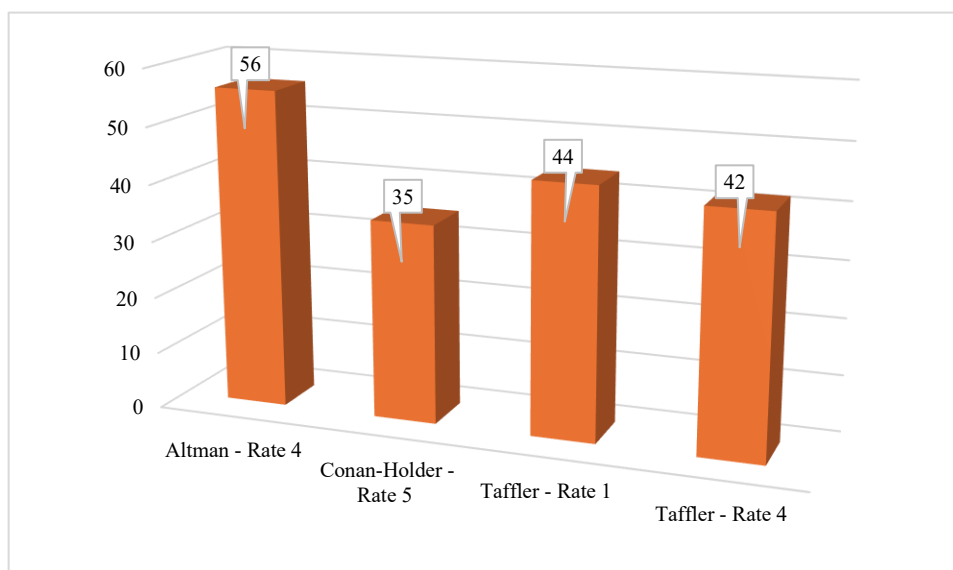


Figure no. 2. Distribution of respondents regarding preference for rates in the Altman, Conan-Holder and Taffler models

Source: authors' own processing based on questionnaire data

The study by Aliano et al. (2024) shows that models that include ESG scores provide higher accuracy and a more nuanced assessment of financial risks. On the other hand, there is a marginalization of social responsibility content in the professional training of company representatives – Stonkutė et al. (2018) show that only a quarter of the programs have a course on this topic, many programs do not have it at all, which suggests a need for additional training. The present research included a question regarding the possibility of including sustainability indicators in traditional bankruptcy risk models. In this direction, approximately 44–45% of respondents support the inclusion of sustainability indicators (*see Table no. 3*), while a similar proportion is undecided. The results confirm an increased interest in expanding traditional quantitative models by integrating sustainability dimensions, but also an obvious need for clarification and additional training in this area for representatives of the analyzed economic entities.

Table no. 3. Distribution of respondents who support the inclusion of sustainability indicators in the analyzed models

Model	Yes (%)	No (%)	I don't know (%)
Altman	44,1	10,5	45,4
Conan-Holder	45,4	11,2	43,4
Taffler	44,1	9,9	46,0

Source: authors' own processing based on questionnaire data

Respondents' preferences for ratios that reflect financial autonomy and operational efficiency, along with openness to integrating social responsibility practices, confirm the influence of sustainability on the relevance of traditional models, thus validating hypothesis H1. Studies by Gleißner et al. (2022) and Cohen (2023) support this relationship.

Over 80% of respondents believed that traditional bankruptcy prediction models should be integrated with sustainability-related indicators, providing empirical support for the second research hypothesis (H2). These findings are consistent with recent evidence reported by Vestlie (2025) and

Aliano et al. (2024), who demonstrate that ESG-based approaches improve bankruptcy prediction while contributing to more effective financial risk management.

4. CONCLUSIONS

Given the business context of today's economy, it is important to review the traditional models for predicting the likelihood of bankruptcy for companies. Through the performance of a comparative analysis of the Altman Z-Score, Conan-Holder and Taffler models, as well as by incorporating indicators of financial sustainability into those models, it becomes clear that traditional models for predicting bankruptcy are still relevant for businesses. Over 80% of the respondents to the survey indicated that information other than financial information is essential for analyzing the likelihood of bankruptcy, and additionally, around 45% of the respondents indicated their support for incorporating sustainability indicators into those models. Furthermore, the preference of the 80% of those who indicated a preference for ratios based upon financial autonomy (Altman - Rate 4), cost efficiency (Conan-Holder - Rate 5) and profitability (Taffler - Rate 1 and 4) indicates a general preference for utilizing models that indicate the sustainability of those companies. Thus, the results support both the hypothesis that the relevance of the traditional bankruptcy prediction models is influenced by the integration of financial sustainability indicators (H1), as well as the hypothesis that the integration of those indicators can significantly increase the accuracy of the models in predicting bankruptcy (H2). Finally, the additional result that companies that apply socially responsible practices have a lower incidence of bankruptcy confirms the inverse relationship between the implementation of these socially responsible practices and the likelihood of those companies experiencing financial difficulties. Thus, the adaptation of these traditional models to incorporate indicators related to social responsibility is that which is required to accurately assess the likelihood of bankruptcy for those companies. Therefore, the use of these sustainability indicators will not only increase the accuracy of the models in predicting bankruptcy, but will additionally contribute to the strengthening of the companies and their financial management practices.

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REFERENCES

1. Aliano, M., Cestari, G., Madonna, S. (2024). Bankruptcy Prediction Models: From Predictive Performance to Economic and Organizational Sustainability. In: Sustainable Finance for SMEs. Sustainable Finance. Springer, Cham. https://doi.org/10.1007/978-3-031-74193-7_10
2. Andreev, R., Tulvinschi, M., & Macovei, A. G. (2022). Analysis of the impact of social performance on financial performance. *European Journal of Accounting, Finance & Business*, 10(2), 59-65.
3. Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). *Impact of ESG performance on firm value and profitability. Sustainability*, 14(1), 103. <https://doi.org/10.3390/su14010103>
4. Bankruptcies slightly down and registrations up in Q4 2024, <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20250224-1> [accessed 18 October 2025].

5. Bărbuță-Mișu, N., & Madaleno, M. (2020). Assessment of bankruptcy risk of large companies: European countries evolution analysis. *Journal of risk and financial management*, 13(3), 58. <https://doi.org/10.3390/jrfm13030058>
6. Chelba, A. A., & Cosmulese, C. G. (2024). Methods of Resilience of Venture Funds in Business Lines. *The USV Annals of Economics and Public Administration*, 24(1 (39)), 202-208.
7. Cohen, G. (2023). ESG risks and corporate survival. *Environment Systems and Decisions*, 43(1), 16-21. <https://doi.org/10.1007/s10669-022-09886-8>
8. Elkady, S. (2024). *ESG Significance in Relation to Corporate Bankruptcy Prediction* (Master's thesis, The American University in Cairo (Egypt)).
9. Gleißner, W., Günther, T., & Walkshäusl, C. (2022). Financial sustainability: measurement and empirical evidence. *Journal of Business Economics*, 92(3), 467-516. <https://doi.org/10.1007/s11573-022-01081-0>
10. Grosu, V., Ionescu-Feleagă, L., Macovei, A. G., Ciubotariu, M. S., Hlaciuc, E., Socoliuc, M., & Petrescu, C. (2024). The Impact of IFRS 9 Adoption on the Financial Performance and Sustainability of Romanian Credit Institutions. *Eastern European Economics*, 1-22.
11. Grunert, J., Norden, L., & Weber, M. (2005). The role of non-financial factors in internal credit ratings. *Journal of banking & finance*, 29(2), 509-531. <https://doi.org/10.1016/j.jbankfin.2004.05.017>
12. Grygiel-Tomaszewska, A., & Turek, J. (2021). The role of ESG in default early warning. *Business Administration Quarterly/Kwartalnik Nauk o Przedsiębiorstwie*, 62(5).
13. Horváthová, J., & Mokrišová, M. (2018). Risk of bankruptcy, its determinants and models. *Risks*, 6(4), 117. <https://doi.org/10.3390/risks6040117>.
14. Horváthová, J., Mokrišová, M., & Bača, M. (2023). Bankruptcy prediction for sustainability of businesses: the application of graph theoretical modeling. *Mathematics*, 11(24), 4966. <https://doi.org/10.3390/math11244966>
15. Kacer, M., Ochotnický, P., & Alexy, M. (2019). The Altman's revised Z'-Score model, non-financial information and macroeconomic variables: Case of Slovak SMEs. *Ekonomický časopis*, 67(4), 335-366.
16. Mirzaei, A. (2024). The Impact of ESG Scores on Financial Performance, Capital Structure, and Bankruptcy Risk in the Finnish Corporate Sector. <https://www.theseus.fi/handle/10024/861605>
17. Moraru, M., & Boghean, F. (2025). ESG audit and its impact on companies' financial performance. In *Challenges of accounting for young researchers*. Ed. 9, 14-15 March 2025, Chisinau. Chișinău: Serviciul Editorial-Poligrafic al ASEM, pp. 42-45.
18. Osazefua, I. J. (2019). Operational efficiency and financial sustainability of listed manufacturing companies in Nigeria. *Journal of Accounting and Taxation*, 11(1), 17-31. <https://doi.org/10.5897/JAT2018.0329>
19. Slovenia, Romania, Croatia see rise in insolvency rates in 2024 – Coface, <https://seenews.com/news/slovenia-romania-croatia-see-rise-in-insolvency-rates-in-2024-coface-1276065> [accessed 18 October 2025].
20. Srebro, B., Mavrenski, B., Bogojević Arsić, V., Knežević, S., Milašinović, M., & Travica, J. (2021). Bankruptcy risk prediction in ensuring the sustainable operation of agriculture companies. *Sustainability*, 13(14), 7712. <https://doi.org/10.3390/su13147712>
21. Stonkutė, E., Vveinhardt, J., & Sroka, W. (2018). Training the CSR sensitive mind-set: The integration of CSR into the training of business administration professionals. *Sustainability*, 10(3), 754. <https://doi.org/10.3390/su10030754>
22. Vestlie, J. (2025). The link between ESG and bankruptcy risk: A quantitative study of US public companies. <https://www.diva-portal.org/smash/get/diva2:1968405/FULLTEXT01.pdf> [accessed 18 October 2025].

23. Wilson, N., Ochotnický, P., & Káčer, M. (2016). Creation and destruction in transition economies: The SME sector in Slovakia. *International Small Business Journal*, 34(5), 579-600. <https://doi.org/10.1177/0266242614558892>
24. Zabolotnyy, S., & Wasilewski, M. (2019). The concept of financial sustainability measurement: A case of food companies from Northern Europe. *Sustainability*, 11(18), 5139. <https://doi.org/10.3390/su11185139>

ANNEX

Annex no. 1. Respondents' preferences regarding optimal rates in the Altman, Conan-Holder and Taffler models for assessing bankruptcy risk within their firm

The model	Rates included in the model	Respondent response according to preference for the optimal rate for assessing the risk of bankruptcy within the company
Altman	Financial-accounting ratio 1 = Working capital/ Assets	Not at all optimal: 8 respondents; Rarely optimal: 8 respondents; Somewhat optimal: 61 respondents; Almost optimal: 44 respondents; Completely optimal: 31 respondents
	Financial-accounting rate 2 = Profit for development/ Assets	Not at all optimal: 4 respondents; Rarely optimal: 13 respondents; Somewhat optimal: 58 respondents; Almost optimal: 49 respondents; Completely optimal: 28 respondents
	Financial-accounting ratio 3 = Profit before tax and interest/ Assets	Not at all optimal: 7 respondents; Rarely optimal: 14 respondents; Somewhat optimal: 61 respondents; Almost optimal: 45 respondents; Completely optimal: 28 respondents
	Financial-accounting ratio 4 = Equity/Liabilities	Not at all optimal: 4 respondents; Rarely optimal: 12 respondents; Somewhat optimal: 38 respondents; Almost optimal: 42 respondents; Completely optimal: 56 respondents
Conan-Holder	Financial-accounting ratio 1 (Return on creditors) = E.B.E Total debts	Not at all optimal: 10 respondents; Rarely optimal: 11 respondents; Somewhat optimal: 58 respondents; Almost optimal: 44 respondents; Completely optimal: 29 respondents
	Financial-accounting ratio 2 (Liquidity) = Available and short-term realizable values / Total liabilities	Not at all optimal: 9 respondents; Rarely optimal: 10 respondents; Somewhat optimal: 41 respondents; Almost optimal: 60 respondents; Completely optimal: 32 respondents
	Financial-accounting ratio 3 (Solvency) = Equity / Total liabilities	Not at all optimal: 5 respondents; Rarely optimal: 12 respondents; Somewhat optimal: 54 respondents; Almost optimal: 47 respondents; Completely optimal: 34 respondents
	Financial-accounting rate 4 (Personnel expense rate) = Personnel expenses / Value added	Not at all optimal: 13 respondents; Rarely optimal: 9 respondents; Somewhat optimal: 54 respondents; Almost optimal: 47 respondents; Completely optimal: 29 respondents
	Financial-accounting ratio 5 (Financial expense ratio) = Financial expenses / Turnover	Not at all optimal: 10 respondents; Rarely optimal: 9 respondents; Somewhat optimal: 43 respondents; Almost optimal: 55 respondents; Completely optimal: 35 respondents

Taffler	Financial-accounting ratio 1 = Gross profit/Current liabilities	Not at all optimal: 8 respondents; Rarely optimal: 12 respondents; Somewhat optimal: 49 respondents; Almost optimal: 39 respondents; Completely optimal: 44 respondents
	Financial-accounting ratio 2 = Current Assets/Total Liabilities	Not at all optimal: 7 respondents; Rarely optimal: 9 respondents; Somewhat optimal: 46 respondents; Almost optimal: 53 respondents; Completely optimal: 37 respondents
	Financial-accounting ratio 3 = Current Liabilities/Total Assets	Not at all optimal: 10 respondents; Rarely optimal: 10 respondents; Somewhat optimal: 47 respondents; Almost optimal: 47 respondents; Completely optimal: 38 respondents
	Financial-accounting ratio 4 = Sales/Total Assets	Not at all optimal: 5 respondents; Rarely optimal: 6 respondents; Somewhat optimal: 49 respondents; Almost optimal: 50 respondents; Completely optimal: 42 respondents

Source: authors' own processing based on questionnaire data