

BANKRUPTCY RISK - CONCEPTS AND APPROACHES IN THE ECONOMIC LITERATURE

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Abstract

In a competitive economy, the development of a business is closely linked to the occurrence and manifestation of any type of risk. The risk consists in the occurrence of a future event, probably, but uncertain which results in a damage or loss manifested in the form of a company's inability to meet its objectives. The main objective of this article is to provide a realistic and useful introduction to addressing the concept and definitions of bankruptcy risk in the literature. This topic was chosen because we believe that only by applying a bankruptcy risk assessment model will economic entities know the real financial situation they face at a given time, thus having the opportunity to rethink the decision-making process.

Key words: *bankruptcy risk, prediction model, financial difficulty*

JEL Classification: *A10, M40*

I. INTRODUCTION

The process of globalization together with the existing legislative, economic and other changes at the macroeconomic and microeconomic level immediately left their mark on companies, the concern being the first manifestation of economic agents in this context. The global statistical situation on the number of bankruptcies is currently growing rapidly. Under these conditions, economic entities become more aware of the importance of early bankruptcy prediction and attach particular importance to the use of general models for assessing the probability of bankruptcy, models based on well-founded principles, techniques and methodologies (Kliestik, Misankova, Valaskova, & Svabova, 2018).

Over time, many authors have distinguished themselves by their representative contribution to research in bankruptcy risk prevention models. In this context, Beaver was one of the first researchers to apply statistical techniques to predict bankruptcy; according to him, forecasting is an act independent of the decision-making process, a decision cannot be called correct unless it was taken on the basis of a forecast (Kordestani, Biglari & Bakhtiari, 2011). Beaver's work became the inspiration for many applied studies that began to appear in the mid-1960s. Altman, who studied and implemented probably the most popular model of bankruptcy prediction, a model widely used in empirical research, but especially in practice (Dichev, 1998), applied multivariate discriminatory analysis for the first time to build models of bankruptcy prediction. Another widespread mathematical method, used to predict bankruptcy, is logistic regression that was first applied by Ohlson, a method that has also been used successfully in many researches (Kliestik et al., 2018). Other methods of predicting bankruptcy are: Springate, Zmijewski, Grover, etc.

There is also a close link between the terms 'debt' and 'risk of bankruptcy', as it is considered that the company's inability to pay its debts may lead to the risk of bankruptcy. Thus, the concept of bankruptcy is attributed to the phenomenon that causes considerable losses for shareholders, investors, creditors, managers, employees, suppliers and customers, being characterized by the situation in which total debts exceed the total assets of the company (Kordestani et al., 2011). In general, this is due to capitalization, lack of cash flow, lack of proper use of resources in the efficient management of all activities, declining sales, the market situation, and so on (Venkataramana, Azash, & Ramakrishnaiah, 2012).

The idea of its duty and forgiveness dates back to ancient times and can be found in the Bible in the Old Testament. There was, at that time, every 50 years a holy year, called the jubilee year. This year the debts were canceled, the lands that had been sold returned to the rightful owners, and the people sold into slavery were released.

Also in the Bible, it is observed that the frequency of moments of forgiveness of all debts and loans has intensified, occurring once every 7 years. This command was addressed to the people of Israel, while for the ancient Greeks forgiveness of debts was a totally unknown concept. Thus, the debtor who did not fulfill his obligation became a slave together with all his family members and his servants, providing physical labor services until the debt was fully repaid (Onakoya & Olotu, 2017). Under these conditions, we can say that the moral landmarks of the Christian religion could be remedies, nowadays, to prevent the risk of bankruptcy.

II. CURRENT STATE OF RESEARCH

The term bankruptcy has its origin in the Latin verb “fallo-fallere”, which means “to miss, to escape” and indicates that the bankrupt does not make payments to his creditors (Dumitrescu, 2010). In English, the term “bankruptcy” comes from the Latin words “bancus” and “ruptus”, which translated mean “bank or table”, respectively “broken” (Onakoya & Ayooluwa, 2017). It is also considered that the term has its roots in the French expression "banque route", this expression delimiting a metaphorical practice that left a mark on the table of an abandoned banker. For a full understanding of the complexity of this topic we chose to start by studying the presence of the research topic in the literature and used as search parameters keywords such as "bankruptcy risk" and "financial difficulty" for the period 2011-2020 . Regarding the keyword “bankruptcy risk”, 1410 results were revealed following the performed verifications (articles, chapters from books, etc.), and for the keyword “financial difficulty” 1205 works resulted.

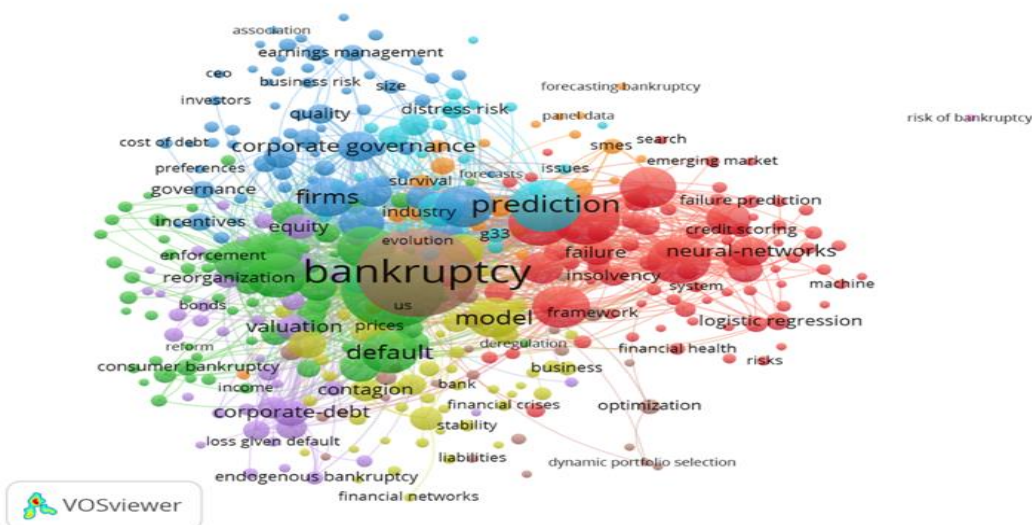


Figure 1 – The main key concepts regarding the risk of bankruptcy used in the most relevant scientific papers published on the Web of Sciences (2011-2020)

Source: Developed by the author using the Web of Science database, <http://apps.webofknowledge.com>

In order to analyze the main research trends on our topic, we considered it appropriate to identify the cluster method using the VosViewer program. Thus, we studied the frequency of keywords in the titles / summaries of articles included in the database on the Web of Sciences. Figure 1 indicates the existence of 9 clusters, correlated with the thematic research on the risk of bankruptcy; there is a cluster consisting of a single item or at the maximum limit, a cluster of 81 items.

The same analysis was performed for the keyword financial difficulty, an analysis that can be seen in Figure 10. Unlike the first situation, only 7 clusters could be identified here. The largest cluster is oriented on notions related to corporate governance, empirical analysis, financial performance, responsibility. The second largest cluster covers an area that identifies with the research topic, containing elements such as: bankruptcy, debt, financial difficulties, insolvency. The other clusters capture notions of the same significance for our study, namely: market, prices, financial crises, globalization, monetary policies, managerial risks, accounting standards - IFRS, capital structure, cash flow.

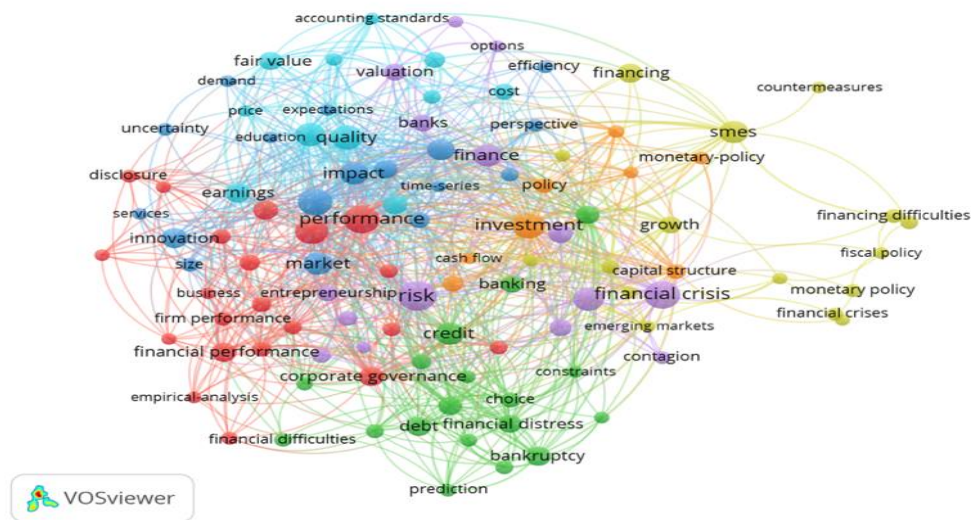


Figure 2 – Main key concepts regarding financial difficulty used in the most relevant scientific papers published on the Web of Sciences (2011-2020)

Source: Developed by the author using the Web of Science database, <http://apps.webofknowledge.com>

Problems with "financial difficulties often occur in both large and small companies. Financial difficulties are manifested as a condition in which the company's finances are in an unhealthy state or a crisis that occurred before bankruptcy. Companies experiencing financial difficulties have relatively weaknesses in corporate governance. The better the corporate governance in a company, the better the performance of a company. In its management system, companies need to implement good corporate governance, because it allows a company to experience a healthy state and a good financial condition" (Lu and Chang, 2009).

In the period 2011-2020, both the number of studies on "bankruptcy risk" and the thematic areas in which scientific production was observed became much more diverse. The research flow covers over 40 thematic areas (more precisely 51). Thus, the studies were analyzed or performed mainly in the categories of Economics, Business Finance and Management, but the research interest extends to other thematic areas such as: Social Sciences - Mathematical Methods, Regional Urban Planning, Statistical Probability. Existence of crises economic, unstable economic environment has made research based on the assessment and prevention of bankruptcy risk to a significant extent after 2010. Thus, in 2016 there are 153 papers on this topic, and in 2019 almost 200 papers, the countries of the USA, China, England and Germany, being leaders in the number of research carried out (<http://apps.webofknowledge.com>).

The financial difficulty of economic entities has been studied in various fields, but the main areas remain Economics, Business Finance and Business. Also, the number of researches in this field has seen an upward evolution over time, reaching the highest value in 2019 (168 papers). The year 2020 being analyzed in its entirety (the date of accessing the information being September 2020), shows a slight decrease. Most studies have been conducted in the US, China, England, Spain and Romania, which shows that both emerging and non-emerging countries are interested in preventing, diagnosing and treating financial difficulty (<http://apps.webofknowledge.com>).

For a clearer understanding and an overview of the disastrous economic situations created by the bankruptcy of companies, we consider it necessary to perform a meta-analysis based on the most recent and significant research papers in the last 6 years. This meta-analysis can be seen in Table 1.

Table 1. Meta-analysis on the concept of "bankruptcy risk"

No.	Authors	Concept and definition	Research purpose	Results	Research impact
1.	Biddle, Ma & Song (2020)	Bankruptcy is the terminal condition of the existence of a business, a condition of insufficient cash despite maintaining profit. The risk of	This study tests, on a sample of 4,621 companies listed in the US, whether accounting conservatism helps	Accounting conservatism helps reduce the risk of bankruptcy. Also, the mitigating effect of accounting	The study has a high impact as the results found are relevant and timely to the recent FASB and IASB considerations on

		bankruptcy is the probability that a company will be liquidated or reorganized, in accordance with the legislation in force, when it is unable to meet its debt obligations.	reduce the risk of bankruptcy	conservatism on the risk of bankruptcy is manifested by improving the cash situation and more efficient revenue management. This evidence helps explain the long-standing presence of conservatism as a pervasive feature of financial accounting.	conservatism as a "tenant" of financial accounting.
2.	Nguyen, Pham, & Nguyen (2020)	Bankruptcy risk and its evolution are closely linked to companies' concern for community, employment and environmental issues. Thus, the risk of bankruptcy tends to decrease as more entities pay more attention to the issues mentioned above.	This study investigates the link between the importance of presenting information on corporate social responsibility and the risk of bankruptcy on a sample of companies that are listed on Vietnamese stock exchanges.	Presenting information on social responsibility is one way in which businesses can "enhance their image and reputation with stakeholders, especially in the trend towards integration, when developed countries are very interested in green growth and sustainable development". Assuming social responsibility also helps reduce the risk of bankruptcy.	The impact of research is medium due to the small number of variables included in the research.
3.	Mai, Tian, Lee, & Ma (2019)	Business bankruptcy is a phenomenon that can attract a strong negative social cost and spread the recession and thus endanger the economy in general.	This study aims to use narrative explanations of the company's operations, at the end of the annual reports, in forecasting corporate bankruptcy.	The predictive power of the final explanations in the annual reports was assessed and proved to be a very useful data source in detecting the risk of bankruptcy along with numerical data.	The impact of research is an environment as the study has some limitations (found by the authors) that determine the need for future investigations.
4.	Valencia, Cabrales, Garcia, Ramirez & Calderona (2019)	Bankruptcy is the result of a chronic condition that occurs when a firm's total liabilities exceed its total assets, measured at fair value.	The paper aims to explore the advantages of using a generalized additive model for predicting bankruptcy.	Experimental results show "that generalized additive models with embedded variable selection work very well in terms of predictive power of bankruptcy risk".	The research has a high impact due to the different view of variable selection on a generalized additive model that uses built-in mechanisms in order to eliminate unimportant predictions.

5.	Korol (2019)	The risk of bankruptcy occurs when the company is characterized by a lower return on equity in the long run compared to the level of profitability possible obtained by similar companies.	The aim of the paper is to develop and evaluate dynamic bankruptcy prediction models for European companies.	Dynamic bankruptcy prediction models generate fewer errors, and the decrease in the efficiency of these models is smaller with the extension of the forecast period than in the case of static models.	The research has a high impact due to the diversity of the selected sample which includes companies from several European countries (Germany, France, United Kingdom, Spain, Finland, Italy, Poland, Sweden, Denmark).
6.	Horváthová, & Mokrišová (2018)	The risk of bankruptcy can occur at all stages of the company's life cycle. Its appearance is conditioned by the vulnerability of the environment and the insufficiency of the company's resources.	The aim of the paper is to research the application of the DEA (Data Envelopment Analysis) method in predicting the risk of bankruptcy and comparing its results with the results of the Altman model.	The DEA method has been found to be a suitable alternative to the Altman model in predicting the risk of possible business bankruptcy.	The impact is medium due to the small size of the selected sample, but also the quality of the data, findings made even by the authors.
7.	Prusak (2018)	Bankruptcy is an indispensable part of a company's operating cycle, categorized as a normal situation, as competition "forces" the liquidation of inappropriate units and the creation of space for those units that use resources more efficiently.	The main purpose of the article is to review and assess the level of progress of bankruptcy research in the countries of the former Eastern Bloc (Poland, Lithuania, Latvia, Estonia, Ukraine, Hungary, Russia, Slovakia, Czech Republic, Romania, Bulgaria and Belarus), compared to the latest global research trends in this field.	The literature review shows that "best practices from the former Eastern Bloc are reflected in research provided in Poland, the Czech Republic and Slovakia. Advanced models have also been developed in Russia, Estonia, Hungary and, to a lesser extent, Ukraine. In Romania and Lithuania, mainly classical techniques were used to create bankruptcy forecasting models, using only financial indicators. Bulgaria, Belarus and Latvia ranked the weakest in this respect".	The impact of the research is high because, according to the author, this study is the first of its kind, on a large scale, involving the countries of the former Eastern Bloc.
8.	Chou, Hsieh, & Qiu (2017)	Bankruptcy of companies is a phenomenon that often occurs unexpectedly, affecting not only goodwill but also losing shareholders and therefore affecting economic growth.	The main purpose of the paper is to design a model for predicting financial bankruptcy.	The results of the research consist in providing a synthesis about the advantages and limitations of many bankruptcy prediction models and proposing a hybrid bankruptcy risk prediction model, based on both statistical and soft computing theory.	The research has a high impact due to the thorough analyzes performed in order to achieve the proposed objectives, but also in order to provide realistic results.
9.	Teodorescu (2017)	Bankruptcy risk is the indicator that any	The paper aims to present the classic	By analyzing the risk of bankruptcy at OMV	The impact of the research is one

		potential investor takes into account before investing in an existing business in the market.	models, based on bankruptcy risk forecasting scores, compared to the models used in the Romanian economy by investigating the risk of bankruptcy at S.C. OMV Petrom S.A.	Petrom for a period of three years, it was proved that the Altman 2, Conan-Holder and Anghel models were effective in predicting bankruptcy, so that the company's bankruptcy risk is practically non-existent based on 2008 data., 2009 and 2012.	environment as the bankruptcy risk forecasting models under comparison are applied based on the financial data of a single company.
10.	MacCarthy (2017)	Bankruptcy is a "logical extension of the misappropriation and mismanagement of a company's funds".	The purpose of this research is to determine whether the Altman Z score and the Beneish M model could detect Enron Corporation's financial fraud and corporate failure, based on financial information for the period 1996-2000.	The result from the Altman Z score on Enron Corp revealed that three of the five years analyzed (ie 1998, 1999 and 2000) were only in a harmless gray area, while the analysis of 1996 and 1997 showed the real financial difficulty facing the company. The Beneish M model confirmed the likelihood that post-1997 financial statements would have been manipulated to improve the company's performance.	The impact of the research is high as it captures the real financial situation before the bankruptcy of Enron.
11.	Telipenko, Zakharova & Sopova (2015)	In this paper, the term corporate bankruptcy is used to define the phenomenon of "theft", this phenomenon being a tool used in Russia to take over the business of various economic agents.	The paper provides an overview of well-known bankruptcy risk forecasting models developed by Russian and foreign authors based on data on the financial and business activities of the largest machine building factories in Russia.	The authors confirm the usefulness of the fuzzy set model in the problem of predicting the risk of bankruptcy	The research has a medium impact due to the focus of the study on a single field of activity of the studied enterprises.
12.	Boettcher, Cavanagh, & Xu (2014)	Bankruptcy is considered in this paper the most popular competitive strategy by which liability is limited by the sanctions imposed by the court.	The paper aims to address the basic issues in determining the ethical nature of a bankruptcy.	The study supports the unethical nature of premature or unnecessary bankruptcy, as well as bias in a court in establishing bankruptcy.	The impact of the research is high due to the approached topic.

Source: Author's compilation

As found in the analysis above, bankruptcy has many negative effects, both on the company and on the economy in general. According to Biddle, et al. (2020) bankruptcy is the terminal condition of the existence of a business, a condition of the insufficiency of cash in spite of maintaining the profit. The risk of bankruptcy is the probability that a

company will liquidate or reorganize, in accordance with the legislation in force, when it cannot fulfill its debt obligations. On the other hand, the risk of bankruptcy and its evolution are closely linked to the concern of companies for issues related to the community, employment and the environment. Under these conditions, the authors Nguyen et al. (2020) support the idea that the risk of bankruptcy tends to decrease as entities pay more attention to these environmental issues. Bankruptcy is also the result of a chronic condition that occurs when a firm's total liabilities exceed its total assets (Valencia, et al., 2019). Mai, Tian, Lee & Ma (2019) consider that bankruptcy is the phenomenon that can attract a strong negative social cost and can spread the recession. In the same context, the authors Chou, Hsieh, & Qiu (2017) consider that the failure of a company affects not only goodwill, but also causes the loss of shareholders and therefore affects economic growth. Other authors have a different approach, considering bankruptcy a natural process. Prusak (2018) considers that bankruptcy is an indispensable part of a company's operating cycle, categorized as a normal situation, as competition "forces" the liquidation of inappropriate units and the creation of space for those units that use resources more efficiently.

However, most studies focus on the idea that an "economic entity has a social responsibility and a moral duty in relation to stakeholders. Under these conditions, a company that does not properly manage its activity and goes bankrupt, generates negative effects on the economic environment, not only on the owners of the company. Thus, companies have a social responsibility for all their deeds and decisions, this approach being deontological in nature" (Chelba & Anisie, 2020).

If we refer to the saying "prevention is better than treatment", we realize that it is more effective to use bankruptcy forecasting methods to predict financial difficulty, compared to the most failed attempt to remedy the poor financial situation. of economic entities. In this regard, regarding the history of the scientific literature on large-scale works containing models (see Figure 3) for predicting bankruptcy, we find that it experienced a flourishing period in the late 1960s (Beaver, 1966; Altman, 1968) and in the first half of the 1980s (Ohlson, 1980; Zmijewski, 1984).

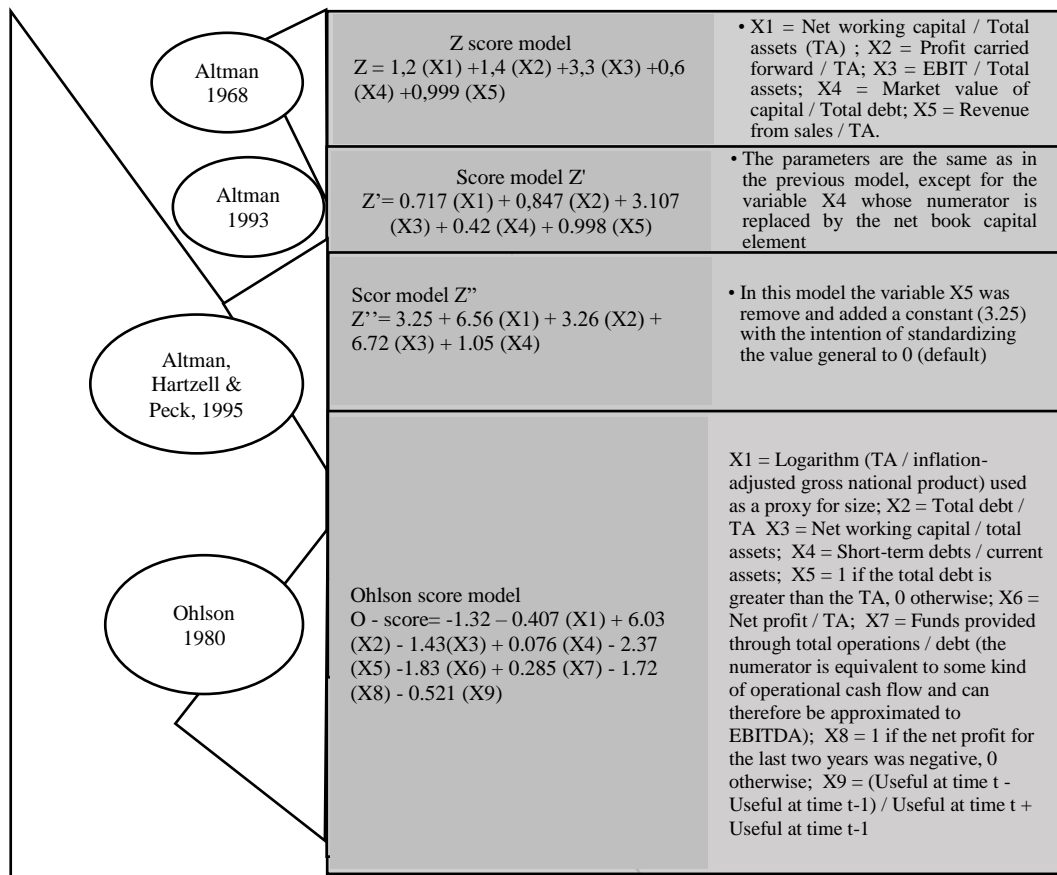


Figure 3 – Bankruptcy risk forecasting models

Source: Author's compilation

The objective of the models mentioned above is to identify some indicators capable of predicting the level of risk using appropriate econometric techniques.

IV. CONCLUSION

Following the work studied, we can conclude that bankruptcy is a constant threat to any company, and the growing number of bankruptcies against the background of this crisis shows that the results of research studies on the prediction of bankruptcy risk are insufficient. The subject is particularly important for the economies of all countries, regardless of the level of development. In this context, the research topic is a topical one, widely debated internationally and intensely publicized. Management must pay special attention to the situation of companies, and try to build action plans aimed at ensuring the continuity of the companies they manage. Comparing the 6 bankruptcy prediction models presented, we find that the Altman model is one of the most representative models used so far, being the benchmark of many other prediction models. The main criticism of Zmijewski's (1984) model refers to the small number of variables considered, as well as for the Grover model. The Ohlson model is considered the most complex model from this point of view, as it contains 9 financial installments in the calculation model. A particularly important detail to keep in mind is that bankruptcy prediction efforts do not always manage to reflect the complexity of local laws, regulations or traditions or fail to reflect the specific behavior of market sectors and the community as a whole. Moreover, the predictive ability of most models can vary over time. For this reason, it is essential that most derivative instruments for bankruptcy prediction be applied only in the same sector and in the same economic situation for which they were originally modeled. Otherwise, these bankruptcy prediction tools provide less effective forecasts. This information is useful in future research.

Finally, we consider that any research topic is a challenge for the author. In addition to the indisputable pleasure of searching, of the questions and answers that often open doors to other and other directions of study, there is insecurity, fear of the unknown and error and last but not least the problem of how to be written and shared information.

REFERENCES

1. Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The journal of finance*, 23(4), 589-609.
2. Altman, E., Hartzell, J. and Peck, M. (1995). Emerging Markets Corporate Bonds: A Scoring System, (New York, Salomon Brothers Inc), Reprinted in the Future of Emerging Market Flows, edited by Levich, R. Mei, J.P. 1997, Kluwer, Holland.
3. Altman, E.I. (1993). *Corporate Financial Distress and Bankruptcy*, Second Edition, John Wiley & Sons, New York.
4. Beaver, W. H. (1966). Financial ratios as predictors of failure. *Journal of accounting research*, 4, 71-111.
5. Biddle, G. C., Ma, M. L., & Song, F. M. (2020). Accounting conservatism and bankruptcy risk. *Journal of Accounting, Auditing and Finance, Forthcoming*. Retrieved August 3, 2020 from https://papers.ssrn.com/sol3/Papers.cfm?abstract_id=1621272
6. Boettcher, J., Cavanagh, G., & Xu, M. (2014). Ethical Issues that arise in bankruptcy. *Business and Society Review*, 119(4), 473-496.
7. Chelba, A. A. & Anisie, L. (2020). Accounting practices regarding the means of operation with cash flows, *European Journal of Accounting, Finance & Business*, 13(23). Retrieved August 3, 2020 from <http://accounting-management.ro/index.php?pag=showcontent&tissue=23&year=2020>
8. Chou, C. H., Hsieh, S. C., & Qiu, C. J. (2017). Hybrid genetic algorithm and fuzzy clustering for bankruptcy prediction. *Applied Soft Computing*, 56, 298-316. <https://doi.org/10.1016/j.asoc.2017.03.014>
9. Dichev, I. D. (1998). Is the Risk of Bankruptcy a Systematic Risk? *The Journal of Finance*, 53(3), 1131-1147. doi: 10.1111/0022-1082.00046
10. Dumitrescu, G. (2010). Studii de cercetare cu privire la riscul de faliment: Modele și metode de previzionare, *Revista Română de Statistică*, 4.
11. Holt, G. (2009). Riscul de faliment - punct central în diagnosticul financiar- contabil. *Annals of "Constantin Brâncuși" University of Târgu Jiu*, 3, 321-332.
12. Horváthová, J., & Mokrišová, M. (2018). Risk of bankruptcy, its determinants and models. *Risks*, 6(4), 117, <https://doi.org/10.3390/risks6040117>
13. <http://apps.webofknowledge.com>
14. Kliestik, T., Misankova, M., Valaskova, K., & Svabova, L. (2018). Bankruptcy prevention: new effort to reflect on legal and social changes. *Science and Engineering Ethics*, 24(2), 791-803.
15. Kordestani, G., Bakhtiari, M., & Biglari, V. (2011). Ability of combinations of cash flow components to predict financial distress. *Business: Theory and Practice*, 12(3), 277-285. doi: 10.3846/btp.2011.28
16. Korol, T. (2019). Dynamic bankruptcy prediction models for European enterprises. *Journal of Risk and Financial Management*, 12(4), 185, <https://doi.org/10.3390/jrfm12040185>
17. Lu, Y. C., & Chang, S. L. (2009). Corporate governance and quality of financial information on the prediction power of financial distress of listed companies in Taiwan. *International Research Journal of Finance and Economics*, 32(1), 121-139.
18. MacCarthy, J. (2017). Using Altman Z-score and Beneish M-score models to detect financial fraud and corporate failure: A case study of Enron Corporation. *International Journal of Finance and Accounting*, 6(6), 159-166, doi: 10.5923/j.ijfa.20170606.01
19. Mai, F., Tian, S., Lee, C., & Ma, L. (2019). Deep learning models for bankruptcy prediction using textual disclosures. *European Journal of Operational Research*, 274(2), 743-758, <https://doi.org/10.1016/j.ejor.2018.10.024>

20. Nguyen, S. L., Pham, C. D., & Nguyen, A. H. (2020). Impact of Corporate Social Responsibility Disclosures on Bankruptcy Risk of Vietnamese Firms. *The Journal of Asian Finance, Economics, and Business*, 7(5), 81-90, doi:10.13106/jafeb.2020.vol7.no5.081
21. Ohlson, J.A. (1980). Financial Ratios and the Probabilistic Prediction of Bankruptcy, *Journal of Accounting Research*, 18(1), 109-131.
22. Onakoya, A. B., & Ayooluwa, E. O. (2017). Bankruptcy and insolvency: An exploration of relevant theories. *International Journal of Economics and Financial Issues*, 7(3), 706-712.
23. Telipenko, E. V., Zakharova, A. A., & Sopova, S. P. (2015, September). Forecasting risk of bankruptcy for machine-building plants. In IOP Conference Series: Materials Science and Engineering, 91(1), p. 012066, doi:10.1088/1757-899X/91/1/012066
24. Teodorescu, C. D. (2017). Bankruptcy risk—classical models versus Romanian models. *Scientific Bulletin" Mircea cel Batran" Naval Academy*, 20(1), 126-131. doi: 10.21279/1454-864X-17-II-022
25. Valencia, C., Cabrales, S., Garcia, L., Ramirez, J., & Calderona, D. (2019). Generalized additive model with embedded variable selection for bankruptcy prediction: Prediction versus interpretation. *Cogent Economics & Finance*, 7(1), 1597956. <https://doi.org/10.1080/23322039.2019.1597956>
26. Venkataramana, N., Azash, S., & Ramakrishnaiah, K. (2012). Financial performance and predicting the risk of bankruptcy: A case of selected cement companies in India. *International Journal of Public Administration and Management Research (IJPAMR)*, 1(1), 40-56. doi: RCMSS/IJPAMR/12004