



Research regarding creditworthiness estimation for bond issuers listed on Bucharest Stock Exchange

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Abstract: *The purpose of this research is to test the resilience of issuers to the financial pressure generated by the commitments made in connection with the issuance of debt instruments (bonds) and to identify issuers whose financial position and performance present the susceptibility of a major default risk. The research actions involved determining the indicators specific to the fundamental analysis, applying the classic insolvency risk assessment models (Altman and Conan Holder) and assessing the future evolution of the key financial indicators on the basis of the forecasts. The results obtained confirm or disprove the existence of significant uncertainties regarding the ability to repay the bond loans.*

Keywords: *bond issuers, fundmental analysis, default risk, financial liabilities, creditworthiness*

JEL Classification: M41, M42, G41

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1 INTRODUCTION

The financial markets enable investors with various alternatives for the use of financial resources at their disposal. These include fixed-income financial instruments whose mechanism gives investors both increased security of invested capital and attractive economic benefits. Thus, bonds represent an investment vehicle to which investors often turn to diversify their portfolio of financial instruments, as they ensure attractive risk-return ratio.

In the context of a booming domestic bond market, a dynamic highlighted by the considerable increase in the number of companies resorting for bond issues, this study addresses a current issue. The opportunity of research is born from the impact that a possible default event could have on investor confidence in the quality of bond issues, taking into account potential losses that could significantly affect their financial interests.

2 DEFINING THE RESEARCH PROBLEM

The study aims to capture the essence of credit risk assimilated to the process of investing capital in fixed-income financial instruments, with the aim of identifying issuers whose financial situation outlines the prospects of a credit risk. Therefore, a process of documentation and analysis was initiated on a sample of bond issuers in order to substantiate conclusions on creditworthiness. Actually, the architectural basis of the sample consists of four companies whose bond issue was admitted to trading on the multilateral trading system administered by the Bucharest Stock Exchange (AeRO). The process of selecting issuers is underwritten by the principle of diversification, with an essential criterion of separation being the sector in which issuers operate (Table 1 – Technical information on bonds issues). The conclusions shall justify the results of the analysis and express the ability or inability of issuers to fulfil their obligations.

Table 1 – Technical information on bond issues

Issuer	Industry	Notional Value (lei)	Coupon	Maturity
ASCENDIA SA	E-learning services	3.000.000	10%	06.06.2023
ELEFANT ONLINE SA	On-line trading	7.651.400	9%	27.09.2021
BITTNET SYSTEMS SA	IT Components	1) 4.500.000 2) 4.700.000 3) 9.703.700 4) 10.000.000	9%	1) 08.09.2022 2) 05.07.2023 3) 28.12.2023 4) 23.01.2023
INVESTIA FINANCE SA	Real estate	1) 2.254.000 2) 1.000.000	7%	1) 30.03.2023 2) 23.03.2022

Source: authors' projection

The primary purpose of the research is to test the resilience of bond issuers to the financial pressure generated by the associated liabilities and, by consequence, to identify issuers whose financial position is likely to be a credit risk. The preparation of the study was based on the assumption of an increased attractiveness of bond issues, through interest rates above market level, but which, in terms of the financial position of the issuer, presents a default risk through the financial dimension of repayment efforts. By contrast, a sound financial position for bond



issuers amounts to an average default risk, without any default uncertainties arising from the financial outlook.

The research methodological protocol involved each issuer passing through the filter of fundamental analysis, focusing mainly on liquidity and solvency indicators. In order to outline a general perspective on the financial position of issuers, the analysis process has been extended, including the efficiency of current business management or profitability. Factors of a non-financial nature were also considered, factors which could jeopardise the ability of issuers to repay the bonds, through SWOT analyses. The research materialised in the assessment of the prospects of the issuers, by applying the exponential smoothing method. The overall picture of issuers is complemented by the application of the Altman and Conan Holder models, indicating a perspective on the risk of bankruptcy.

3 PRESENTING THE RESEARCH FINDINGS

Following the analysis of the four issuers, a validation of the premises that formed the basis of the research is found, as follows:

- the hypothesis of a major credit risk was identified for two issuers in the sample analysed, namely: Elefant Online SA and Investia Finance SA. Therefore, the ability to repay the financial obligations assumed by these issuers is in doubt, and there is a real risk that the financial interests of investors could be significantly affected;
- in the case of Ascendia SA and Bittnet Systems SA issuers, the payment capacity at maturity is secured by a consolidated financial position in terms of liquidity/solvency and by optimistic prospects.

The results of the research were mainly justified by the fundamental testing of key financial liquidity and solvency indicators, with the following values presented in Table 2:

Table 2 – Values for liquidity and solvency ratios

Issuer Indicator	Ascendia			Elefant Online			Investia Finance			Bittnet Systems		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
RLG	190%	156%	642%	77%	67%	70%	97%	68%	128%	182%	144%	141%
RLI	141%	125%	584%	32%	25%	24%	97%	68%	128%	178%	141%	135%
RLE	54%	20%	258%	21%	19%	18%	2%	4%	8%	73%	51%	53%
RSP	48%	29%	15%	5%	n.a.	n.a.	46%	42%	40%	20%	21%	16%
RAF	100%	66%	24%	85%	n.a.	n.a.	51%	49%	43%	39%	39%	28%
GIG	41%	101%	352%	96%	116%	132%	117%	137%	147%	402%	364%	543%
RSG	503%	339%	196%	105%	86%	76%	187%	174%	171%	125%	131%	116%

Source: authors' projection

A brief analysis of the results of the investigations carried out is presented in Table 3:

Table 3 – Synthesis of research findings

ISSUER	FINDINGS
ASCENDIA S.A.	solvency and liquidity indicators reveal a favourable situation, but the negotiating policy of contractual agreements does not ensure consistency between debt collection deadlines and supplier payment deadlines, which may affect cash flows and hence the creditworthiness. The identification of non-financial influence factors and perspectives complements the issuer's analysis.
ELEFANT ONLINE S.A.	the liquidity and solvency analysis highlights the existence of negative equity and a consistently operational loss, adversely affecting the outlook for the creditworthiness. The company's SWOT analysis identifies possible causes: concentration of revenue in a single source, stock-based sales, inventory liquidation pressure, inefficient spending optimization policy, high and short-term debt concentration.
INVESTIA FINANCE S.A.	although the analysis of solvency and operational activity indicators would not signal the confirmation of the credit risk hypothesis, the analysis of non-financial factors reveals a expansion process for the issuer. The merger with another entity resulted in a significant increase in indebtedness and, therefore, increased financial pressure. Similarly, the current context and future prospects outline a pessimistic scenario, with unfavourable estimates on behalf of industry specialists.
BITTNET SYSTEMS S.A.	the specific indicators of the fundamental analysis confirm the hypothesis of a major credit risk in the light of a high degree of indebtedness, as an effect of the four bond issuance programmes. The mismatch between the deadlines for the collection of receivables and the deadlines for vendor payments, as well as a condition of profitability which has depreciated considerably in the last year, amplifies the state of uncertainty regarding the creditworthiness. On the other hand, the SWOT analysis and the estimates made for that issuer diminish the importance of the inability assumption to meet the financial liabilities. We retain the transfer of the issuer to the regulated market, which implies better visibility and implicitly the shaping of new financing opportunities.

Source: authors' projection

The research is completed by the application of the insolvency risk assessment models (Altman and Conan Holder), the results of which have shown a division between issuers whose financial position reflects a high default risk likelihood and issuers whose sound financial position significantly reduces that risk. Thus, depending on the score obtained by the issuers, the following classification was performed: issuers with low risk of insolvency (Bittnet Systems SA and Ascendia SA), respectively issuers with high insolvency risk (Elefant Online SA and Investia Finance SA). Therefore, it was validated the assumption that high-debt issuers may face a higher risk of insolvency and, as a consequence, the likelihood of recording payment incidents. Table 4 summarises the results obtained from the application of the insolvency risk assessment tests.



Table 4 – Score values obtained through classic models

Indicator/Issuer	Ascendia	Elefant Online	Investia Finance	Bittnet Systems
Altman Z-score	2,35	1,16	0,31	2,45
Risk assessment	low	high	high	low
Conan & Holder score	-0,10882	-0,04604	-0,2433	0,1869
Bankruptcy likelihood	65% - 90%	65% - 90%	65% - 90%	Sub 10%

Source: authors' projection

4 CONCLUSIONS

The results of this research highlighted a strong development of the Romanian bond market, characterized by risks with different magnitudes for each issuer, with temperate possibility for extrapolation. However, we note the importance of fundamental analysis in decision-making, as well as the impact of non-financial factors in making estimates of the creditworthiness for a bond issuer.

Considering that bond issuers have selected the option for repayment of the principal in full at maturity, which implies the commitment of a substantial amount of financial resources in the last year of repayment, it is advisable to secure the liabilities by setting up "sinking funds". This ensures that the financial effort is uniformised by making regular supplies of funds on the basis of which the bond loan will be repaid at maturity.

The limitations of this research were primarily generated by the small number of issuers selected in the sample, insufficient to support an extension of the results up to the entire bond market. Another limitation was also generated by the lower level of transparency for issuers whose shares are not traded. Uncertainty about the future development of the COVID-19 pandemic constitutes another significant limitation, with a direct impact on the forecasts performed.

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