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IDENTIFICATION OF DEBT-CAPITAL-RELATED RISKS IN JOINT-STOCK COMPANIES

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Abstract

This paper addresses the identification of risks associated with debt capital in joint-stock companies (JSCs). It outlines the principal categories of debt-related risk — financial-leverage, insolvency (default), liquidity, interest-rate, and refinancing risk — and reviews the main analytical indicators used to detect them, including capital-structure and coverage ratios, the degree of financial leverage, and the Altman Z-score bankruptcy-prediction model. The relevance of these tools for JSCs in emerging markets, with particular reference to Uzbekistan, is discussed, and recommendations for improving early identification of debt-capital risks are proposed.

Keywords: debt capital, financial leverage, joint-stock company, capital structure, solvency, Altman Z-score, coverage ratio, financial risk.

1. Introduction

Debt capital is a central element of the capital structure of joint-stock companies (JSCs). By financing part of their assets with borrowed funds, companies can expand operations, exploit the tax shield on interest, and amplify the return on equity. However, the use of debt simultaneously introduces financial risk: fixed contractual obligations must be met regardless of operating performance, and excessive leverage can threaten a company's solvency. The timely identification of debt-capital-related risks is therefore the first and most critical stage of corporate financial risk management.

This concern is especially pronounced for JSCs in emerging markets. In Uzbekistan, where corporate financing remains heavily bank-based and a significant share of borrowing is denominated in foreign currency, the accurate identification of debt-related risks is essential for maintaining financial stability. This paper reviews the principal categories of such risks

and the analytical indicators used to detect them, and considers their application in the Uzbek context.

2. Debt Capital and the Sources of Risk

The reliance on debt within the capital structure gives rise to financial leverage, which magnifies both the potential returns and the potential losses borne by shareholders. According to the trade-off theory of capital structure, firms balance the tax benefits of debt against the rising costs of financial distress as leverage increases. The principal categories of risk arising from debt capital are summarised in Table 1.

Table 1. Principal categories of debt-capital risk and their indicators

Type of risk	Source	Key indicator
Financial-leverage risk	A high proportion of debt magnifies the volatility of net earnings and earnings per share.	Debt-to-equity ratio; degree of financial leverage (DFL)
Insolvency (default) risk	Inability to meet interest and principal obligations, leading to default or bankruptcy.	Interest coverage ratio; Altman Z-score
Liquidity risk	Insufficient liquid assets to service near-term debt obligations.	Current ratio; debt-service coverage ratio (DSCR)
Interest-rate risk	Rising market rates increase the cost of floating-rate borrowing.	Share of floating-rate debt; debt duration
Refinancing (rollover) risk	Inability to roll over maturing debt on acceptable terms.	Debt maturity profile; short-term debt ratio

3. Indicators for Identifying Debt-Capital Risks

3.1. Capital-structure (leverage) ratios. The starting point for identifying debt-capital risk is the assessment of the firm's leverage. The debt-to-equity and debt-to-assets ratios indicate the relative weight of borrowed funds and the degree to which the company is exposed to financial risk:

D/E = Total debt / Total equity D/A = Total debt / Total assets

3.2. Coverage ratios. Coverage ratios measure a firm's capacity to service its debt out of operating earnings. The interest coverage ratio (times interest earned) and the debt-service coverage ratio are the principal indicators of insolvency and liquidity risk:

ICR = EBIT / Interest expense DSCR = Net operating income / Debt service

3.3. Degree of financial leverage (DFL). The DFL quantifies the sensitivity of earnings per share to changes in operating profit, capturing the amplifying effect of fixed financing costs:

$$DFL = EBIT / (EBIT - I)$$

where EBIT is earnings before interest and taxes and I is the interest expense. A higher DFL signals greater financial-leverage risk, since a given change in operating profit produces a larger change in earnings per share.

3.4. Bankruptcy-prediction models. To identify the cumulative risk of default, multivariate models such as the Altman Z-score are widely employed:

$$Z = 1.2 \cdot X_1 + 1.4 \cdot X_2 + 3.3 \cdot X_3 + 0.6 \cdot X_4 + 1.0 \cdot X_5$$

where X_1 is working capital to total assets, X_2 is retained earnings to total assets, X_3 is EBIT to total assets, X_4 is the market value of equity to total liabilities, and X_5 is sales to total assets. Lower Z-scores indicate a higher probability of financial distress, making the model a useful early-warning tool for debt-capital risk.

4. Financial Leverage and the Risk–Return Trade-off

These indicators are most informative when interpreted jointly rather than in isolation. Moderate leverage can enhance return on equity and firm value through the interest tax shield, consistent with the Modigliani–Miller propositions under taxation. Beyond an optimal point, however, the expected costs of financial distress and the rising required returns of both creditors and shareholders outweigh these benefits. Identifying debt-capital risk therefore involves locating a company's position relative to this trade-off, using leverage, coverage, and distress indicators together with industry benchmarks and the firm's earnings stability.

5. Identifying Debt-Capital Risks in Uzbek Joint-Stock Companies

The application of these tools in Uzbekistan requires attention to several features of the local environment. Corporate financing remains predominantly bank-based, with limited recourse to capital-market instruments such as corporate bonds; a substantial portion of debt is denominated in foreign currency, linking debt-capital risk closely to exchange-rate movements; and shorter financial histories together with limited market valuations complicate the direct application of market-based models such as the Altman Z-score, which may require recalibration for unlisted or thinly traded firms.

Accordingly, it is recommended that Uzbek JSCs (i) monitor leverage and coverage ratios systematically and against sectoral benchmarks; (ii) apply book-value-adjusted or emerging-market versions of bankruptcy-prediction models; (iii) account explicitly for the currency composition and maturity profile of debt; and (iv) strengthen disclosure of debt structure in financial reporting. These measures support the early identification of debt-capital risks and more resilient financing decisions.

6. Conclusion

Debt capital is indispensable to the financing of joint-stock companies, yet it is an inherent source of financial risk. Its risks — financial-leverage, insolvency, liquidity, interest-rate, and refinancing risk — can be identified through a combination of capital-structure and coverage ratios, the degree of financial leverage, and bankruptcy-prediction models such as the Altman Z-score. For JSCs in emerging markets, and in Uzbekistan in particular, the systematic and context-adjusted application of these indicators provides a sound basis for the early detection of debt-capital risks and for more prudent capital-structure management.

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