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FINANCIAL STABILITY –
POST-CRISIS APPROACHES

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SUMMARY

This thesis proposes an integrated framework that can be used to quantify the main vulnerabilities and credit risk generated by non-financial companies for the Romanian banking sector. In the past three decades, the non-financial companies' sector has developed significantly, reflecting a positive evolution of the business environment and entrepreneurial activity. However, notable challenges remain, such as limitations in the migration of firms to higher category of size and a significant undercapitalization for large proportion of firms.

The credit risk assessment system proposed herein consists of three main models for estimating the probability of default (PD): a qualitative model, a quantitative model, and a combined model. The final probability of default is determined by combining the results from the quantitative and qualitative models, aiming to improve the overall predictive power by covering a broad spectrum of relevant factors for credit risk evaluation. The results indicate a consistent transition of companies towards higher rating categories in recent years, reflecting an overall reduction in the credit risk associated with non-financial companies in Romania. However, certain sectors, such as construction and real estate, remain the riskiest segments, similar to the trends observed during the global financial crisis. Microenterprises present the highest risk of default, while corporations and state-owned enterprises are characterized by a lower default risk.

In addition to the PD models, the thesis also proposes a model for estimating the likelihood of a firms' insolvency, as well as a stress testing module for the non-financial companies sector. The non-financial companies' stress-testing results, in an adverse scenario similar to the conditions from the global financial crisis, indicate a significant deterioration in the quality of banks' corporate credit portfolios. However, there is an improvement compared to the situation recorded in the 2008-2009 period.

In these circumstances, it is necessary that credit institutions manage credit risk prudently and develop new methodologies to address future challenges, such as the effects of climate change and cyber risks. For companies, it is crucial to maintain a balanced capital structure and a healthy financial position to ensure sustainable economic development and long-term financial stability.

Keywords: financial stability, credit risk, non-financial companies, microdata, logit, machine learning, insolvency

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