CHANGES IN SYSTEMATIC RISK AND THEIR IMPACT ON THE VALUE OF CENTRAL AND EASTERN EUROPEAN PUBLIC STOCKS IN THE AFTERMATH OF THE RUSSIAN-UKRAINIAN WAR

Tivadar Zakár[1], László Pataki[1], Tibor Tatay[2]

[1]John von Neumann University, Izsáki 10, Kecskemét, Hungary
[3]Széchenyi István University, Egyetem tér 1. ,Győr, Hungary

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1 INTRODUCTION

In this study, we examine the impact of the proximity of war on the value changes of stocks traded on the Central and Eastern European stock exchanges. With empirical observation, the main focus of the study is on systematic risk, but we also analyse individual risks in order to#understand possible anomalies. We also address the impact of various influencing factors, such as gas and oil prices, inflation, regional index volatility, regional currency exchange rates, interest rates and CDS spreads, and changes in capital structure. Our hypothesis is that the proximity of war had a direct impact on value changes. An increase in geopolitical tension has a negative effect on value, while its easing has a positive effect, but we also strive to identify different patterns during the study period in order to understand the characteristics of the impact of geopolitical tensions on pricing, because during the period under study, anomalies that differ from our basic hypothesis can also be recognized.

2 MATERIAL AND METHODS

The Russian-Ukrainian war, which began in February 2022, had immediate and significant effects on the stock markets of Central and Eastern Europe (CEE). This study examines how the proximity of the conflict influenced the valuation of publicly traded companies in the region. Utilizing empirical data, the research focuses primarily on systematic risk, analysing changes in beta coefficients to assess shifts in market risk perception. Additionally, the study considers idiosyncratic risks to identify potential anomalies in stock valuations.

Key influencing factors are also analysed, including fluctuations in gas and oil prices, inflation rates, regional index volatility, currency exchange rates, interest rates, Credit Default Swap (CDS) spreads, and changes in capital structures. The hypothesis posits that the proximity to the conflict zone had a direct impact on stock valuations: heightened geopolitical tensions negatively affected stock values, while periods of de-escalation led to recoveries. However, the study also aims to identify varying patterns during the observation period to understand the nuanced effects of geopolitical tensions on stock pricing, acknowledging that certain anomalies may deviate from the initial hypothesis.

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3 RESULTS

Empirical findings indicate that on February 24, 2022, the day the conflict escalated, most CEE stock indices experienced abnormal declines around -10 %, with more pronounced declines observed in countries geographically closer to Ukraine. Subsequent analyses revealed that markets generally rebounded within 35 trading days, though some nations required over 200 days for recovery. These disparities underscore the varying degrees of economic resilience and exposure among CEE countries. Further analysis demonstrated a significant increase in systematic risk, as evidenced by rising beta coefficients among non-financial European firms, leading to higher equity costs. Companies with greater international diversification exhibited less sensitivity to regional risks. Additionally, volatility surged, with models indicating that the war-induced high volatility subsided more rapidly than during the 2008 financial crisis or the COVID-19 pandemic. The primary drivers of this shock were spikes in commodity prices, particularly natural gas and oil, and surges in the volatility index, collectively increasing both debt and equity financing costs. Structural analyses revealed that the conflict led to decreased asset values and increased asset volatility, elevating firms' proximity to default thresholds. For instance, the one-year default probability for European companies rose from 0.32% to 2.12%, a six-fold increase, prompting many firms to scale back investments, bolster cash reserves, or adopt more conservative capital structures through debt reduction.

4 CONCLUSIONS

In conclusion, the Russian-Ukrainian war significantly impacted the valuation of CEE publicly traded companies, with proximity to the conflict, energy dependence, and market risks collectively contributing to value depreciation, increased capital costs, and heightened default risks. These effects, while initially severe, demonstrated varying durations across countries, highlighting the complex interplay between geopolitical events and financial markets.

REFERENCES

[1] BOUNGOU, W., YATIÉ, A. 2022. The impact of the Ukraine–Russia war on world stock market returns. *Economics Letters*. 215, 110516. https://doi.org/10.1016/j.econlet.2022.110516
[2] PISERÀ, S., CHIARAMONTE, L., PALTRINIERI, A., PICHLER, F. 2024. Firm systematic risk after the Russia–Ukraine invasion. *Finance Research Letters*. 51, 105489. https://doi.org/10.1016/j.frl.2024.105489
[3] IZZELDIN, M., MURADOGLU, G., PAPPAS, V., PETROPOULOU, A., SIVAPRASAD, S. 2023. The impact of the Russia–Ukraine war on global financial markets. *International Review of Financial Analysis*. 87, 102598. https://doi.org/10.1016/j.irfa.2023.102598
[4] HAMZA, T., BEN HAJ HAMIDA, H., MILI, M., SAMI, M. 2024. High inflation during Russia–Ukraine war and financial market interaction: Evidence from C-Vine Copula and SETAR models. *Research in International Business and Finance*. 70, 102384. https://doi.org/10.1016/j.ribaf.2024.102384
[5] GRABOWSKI, W., JANUS, J. 2024. *Tail dependence in European stock markets amidst the war*. REM Working Paper, 0360-2024. rem.rc.iseg.ulisboa.pt/REM_WP_0360_2024.pdf
[6] Yağlı, T., Deviren, B. 2023. Impact of the Russia–Ukraine war on government bond markets. *European Physical Journal Plus*. 138(3), 291. https://doi.org/10.1140/epjp/s13360-023-03901-w

Contact information
Corresponding author's e-mail: zakar.tivadar@gmail.com