ESTIMATED IMPACT OF UKRAINE WAR ON EXCHANGE RATE RISK OF MULTINATIONAL ENTERPRISES OPERATING IN EMERGING MARKETS

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ABSTRACT

Multinational enterprises (MNE) operating in emerging countries are exposed to various types of risk. Exchange rate risk is an important and anticipated part of MNE's total risk exposure, with a variety of tools available to mitigate that risk. In this study, we focus on transaction exposure of cash flows in eight distinctive emerging market currencies and employ the Modified Value-at-Risk (MVaR) model to estimate the maximum one-period loss during a twelve-month period spanning pre- and during the Ukraine war periods. The predicted losses by MVaR are then compared to the ex-post results, to identify any differences in the pre-and during the Ukraine war periods and to determine the need for adjustments in hedging strategies by MNEs during similar global crises. The motive of this research is to understand the limitations of hedging and what can MNEs do to mitigate transaction exposure risk. The results provide insights into whether MNEs should hedge their currency risk or not. The Ukraine war did impact all firms globally, so this study is relevant and pertinent as firms plan theirs during the war growth.

***Keywords**: Exchange rate, transaction risk, value-at-risk, emerging markets, hedging, optimal portfolio*

1. INTRODUCTION

Multinational Enterprises (MNEs) are business organizations that operate in multiple countries. MNEs engagement in the international arena exposes them to additional types of risk in comparison to domestic corporations. An important risk factor facing MNEs is the exchange rate risk. The exchange rate risk may be particularly significant for MNEs operating primarily in emerging markets.

Since the majority of MNEs operate in multiple emerging countries, their currency risk exposure will be subject to the transaction exposure of their currency portfolio (cash inflows as well as outflows in different currencies). The volatility and co-movements of these currencies are known to be unstable over time. With the tremendous growth in the foreign exchange transaction volume over the last four decades and the growing volatility of foreign exchange rates in the floating exchange rate era, proper management of currency exchange rate risk is an extremely important part of MNEs overall risk management strategy.

Table 1 illustrates the growth of the foreign exchange market over the last four decades, indicating the growth in the average daily global foreign exchange transaction volume was from \$0.14 trillion in 1985 to \$7.5 trillion in 2022. With free trade blocs and pacts between various countries across the world, the just-in-time integration of supply chains across all industries, and daily forex trading volumes will continue to increase. Globalization the and free movement of goods will spur even more foreign exchange risk management for MNEs.

In order to manage their exchange rate risk, MNEs attempt to quantify the exchange rate risks they face and implement hedging techniques using a variety of financial market tools to minimize these risks. A widely used method to quantify the transaction risk associated with flexible exchange rates is the traditional "value-at-risk" (VaR) approach. The VaR approach computes a specific dollar value on the downside risk (i.e., the maximum likely loss) an MNE will face over a specific time period at a particular