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Market dynamics in response to geopolitical risk and its influence on banks stock returns

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ABSTRACT

This paper investigates the impact of geopolitical risk, company traits, and macroeconomic factors on the stock returns of Egyptian Stock Exchange-listed financial institutions. During the period 2014–2023, the research examines a panel dataset including ten Egyptian financial institutions. The study investigates the impact of geopolitical risk, liquidity risk, profitability, growth possibilities, capital adequacy, inflation, and GDP on stock returns using the Generalized Method of Moments (GMM) regression technique. The findings show a significant and favorable connection between geopolitical risk and stock returns. Positive and significant effects on stock returns also come from profitability, expansion prospects, capital adequacy, and inflation. By comparison, GDP and liquidity risk show rather strong negative correlations with stock returns. Policymakers, bank management, and investors should all benefit from the results. Understanding how geopolitics and liquidity concerns influence stock performance can guide regulatory policies, risk management techniques, and investment strategies aimed at stabilizing the financial system in unstable environments. This research contributes to the limited body of literature examining how geopolitical risk affects stock returns in Egypt, an emerging economy. It emphasizes the important role that internal bank features play in building financial resilience against external shocks.

Contribution/ Originality: This study contributes to the existing literature by employing a bank-centric perspective, examining the impact of geopolitical risk on Egyptian stock returns. It is one of the few studies that have offered detailed insights into the sensitivity of banks to geopolitical uncertainty while focusing on Egypt, and it controls for bank-specific and macroeconomic aspects.

1. INTRODUCTION

Especially in developing countries where political and security events greatly influence investor behavior, geopolitical risk has become a major consideration in financial market dynamics [1]. Crucially important in the Middle East and North Africa (MENA), Egypt has experienced major geopolitical shifts in recent years, including political instability, regional strife, security concerns, and global tensions. Particularly regarding stock market performance, these tendencies raise important questions about how such hazards are transformed into financial market outcomes [2]. Given its possible impact on Middle Eastern financial markets, investment, and economic stability, the relationship between geopolitical risk and stock markets in the Middle East is of considerable relevance. Investor attitudes can be significantly influenced by geopolitical risk which includes political tensions, military

conflicts, terrorism, and social unrest which also leads to increased market volatility [3]. Particularly Egypt, the Arab Spring upheavals starting in late 2010 and carried on into 2011 had major effects on the financial markets and economy of the affected countries. The political unrest that followed caused significant declines in stock market indices; the value of the Egyptian Stock Exchange (EGX30) dropped more than half in 2011. Moreover, ongoing geopolitical difficulties in the Middle East including the Syrian civil war and the Israeli-Palestinian conflict spatially influenced financial markets and raised anxiety for regional investors. Together with the continuing situation in South Sudan, the civil conflict in Libya starting in 2011 has impacted oil output, therefore causing more price volatility and lower investor confidence [4].

Egypt's banking system, as a central rising economy in the MENA region, is quite sensitive to local and regional geopolitical developments, which might damage investor confidence, influence capital mobility, and change risk perceptions. Developing strong investment plans and effective risk management tools depends on understanding this link, especially in situations marked by continuous political unrest and outside shocks [5]. This study enhances the existing body of knowledge on non-financial elements influencing financial market behavior, particularly in Egypt, a country that has not been extensively investigated. Moreover, the findings can guide authorities and legislators in developing strategies to strengthen market resilience and protect investors amid increasing geopolitical uncertainty. Through empirical analysis of the relationship between political events and market performance in Egypt, this paper offers valuable insights for institutional investors, financial analysts, and decision-makers.

For both domestic and international investors, legislators, and financial analysts, understanding the link between geopolitical risk and stock returns in Egypt is vital. Investor attitudes and expectations shape stock markets; these are greatly impacted by views of political stability and regional security [6]. Geopolitical risk can thereby aggravate market volatility, influence capital flows, and change portfolio allocation decisions [7]. Still, despite its significance, little empirical study using methodologies based on systematic quantitative approaches looks at this relationship in the Egyptian context. The present study aims to solve this shortfall by quantifying, experimentally, how geopolitical risk affects stock returns in Egyptian banks. By means of acknowledged geopolitical risk indices and financial market data, the study assesses the degree of influence of geopolitics on market performance. This adds to the growing body of research on political uncertainty and financial markets and offers Egypt and similar developing countries pragmatic consequences for risk management, investment strategy, and policy development.

Designed by Caldara and Iacoviello [8], the Geopolitical Risk (GPR) Index essentially measures how geopolitical events affect the financial markets and the world economy. By examining the frequency of narratives in well-known worldwide newspapers covering geopolitical concerns, the GPR Index provides a consistent and standardized measure for tracking and evaluating the influence of events over time. It comprises eight groups: The GPR Index offers insights into the different impacts of war threats, peace threats, military build-up, nuclear threats, terror threats, war initiators, war escalations, and terrorist acts on stock markets, investor sentiment, and business performance [8].

An expanding amount of research has examined this relationship, especially regarding stock market volatility and macroeconomic data. Nonetheless, considerable deficiencies persist in the examination of these risks at the sectoral level, especially concerning banking institutions. This article seeks to address this gap by delivering a focused investigation of the influence of geopolitical risk on Egyptian banks' stock returns, a domain where previous studies are lacking. A fundamental flaw in current research is the tendency to concentrate on composite stock market indices, assuming uniformity among sectors in their reactions to geopolitical disturbances. This method neglects the distinct vulnerabilities and transmission mechanisms inherent to the banking industry. Financial institutions are financial intermediaries integral to domestic and international financial systems, making them particularly vulnerable to fluctuations in investor sentiment, liquidity disruptions, credit risk perceptions, and monetary policy changes, elements that can be significantly affected by geopolitical events. However, few studies have investigated this link from the perspective of individual banking institutions or disaggregated sector data.

A further constraint is the regional concentration of current research. Much of the previous research has concentrated on developed economies, characterized by more diversified, resilient, and regulated financial systems. Although these studies are beneficial, they provide a restricted understanding of the dynamics in emerging countries, where geopolitical risks are typically more significant and institutional resilience is less robust. In these situations, even slight political uncertainty can provoke substantial market responses, capital flight, and operational disturbances. Thus, the absence of empirical studies about the responses of banks in emerging economies to such risks results in policymakers and investors possessing an inadequate comprehension of market behavior during periods of stress.

Methodologically, previous studies frequently lack rigor in modeling the causal pathways by which geopolitical risk influences financial results. Numerous analyses neglect to develop complete econometric models that consider the various elements affecting bank performance. A few models specifically incorporate bank-specific characteristics, such as size, capital adequacy, and liquidity ratios, or macroeconomic variables, like inflation, interest rates, and GDP growth. This exclusion leads to overly simplistic findings that may not be applicable in real-world decision-making or policy formulation. Moreover, several studies depend significantly on low-frequency data or obsolete geopolitical risk indicators, which do not adequately reflect the evolving nature of political uncertainty and its prompt effects on stock prices. A further identified deficiency pertains to the interpretation of results and their practical implications. Numerous research culminates in broad assertions regarding potential applications for policymakers or institutional investors, without precisely linking these conclusions to the scientific findings. In other instances, the practical consequences are excessively wide, speculative, or detached from the fundamental analysis. Furthermore, there is sometimes a lack of a specific part addressing the study's limits and suggestions for future research, which are crucial for informing academic dialogue and practical implementation.

In response to these deficiencies, the current work presents multiple contributions. Primarily, it employs a bank-centric perspective, examining the impact of geopolitical risk on Egyptian stock returns only within the banking sector, as opposed to the overall market. This method offers detailed insights that illustrate the specific vulnerability and sensitivity of banks to geopolitical uncertainty. The study focuses on an emerging market scenario, characterized by frequent and substantial geopolitical upheavals, thereby addressing a notable gap in the current literature.

The study constructs a rigorous empirical model that integrates geopolitical risk indices alongside an extensive array of control variables, encompassing both bank-specific financial metrics and pertinent macroeconomic aspects. This methodological rigor bolsters the trustworthiness of the findings and facilitates more accurate interpretations of the relationship being examined. Employing suitable estimation techniques guarantees the clear identification and statistical validity of causal linkages. The paper offers practical implications that are directly derived from the empirical findings. The study elucidates the impact of geopolitical events on bank performance, providing essential insights for bank risk managers, regulators, and institutional investors in formulating strategies for risk mitigation, portfolio modification, and stress testing. The recommendations are based on statistics, offering actionable insights instead of conjectural criticism.

The study enhances the comprehension of the relationship between political risk and financial sector performance, connecting political economy with financial econometrics. It promotes a more multidisciplinary methodology in financial research and establishes a foundation for future investigations that may examine more institutional sectors or broaden the model to international comparisons.

There are numerous explanations why one should examine how the GPR Index affects the stock market. The article's contribution: First, it allows investors to understand the risks associated with different geopolitical events and to adjust their investing strategies accordingly [9]. This can help investors effectively manage their exposure to geopolitical risks, thereby producing more consistent investment performance [1]. Second, understanding how the GPR Index affects the stock market would help legislators create targeted and effective programs to minimize the adverse effects of geopolitics [10]. Policymakers might focus on reducing the basic causes of these kinds of

geopolitical concerns, such as supporting diplomatic solutions to international conflicts or enhancing cybersecurity systems [11]. Analyzing how the GPR Index affects the stock market helps one to better grasp the link between geopolitical risk and financial market performance [12]. The results may be beneficial to academics and professionals; to create theoretical frameworks and models to clarify and predict the consequences of geopolitical threats on financial markets, thereby improving the overall understanding of this complex interaction [13].

The structure of this empirical evidence is as follows: The first section introduces the research. The literature review and theoretical framework in the second section combine existing research on geopolitical risks and financial markets and highlight the gap this study fills, notably in the GCC. The third section describes the data sources, variable selection, and econometric models used to empirically analyze geopolitical risk and stock returns. The fourth section interprets the results and compares them to existing literature. The fifth section reports the robustness of results. Section six highlights the implications. While section 7 discusses the limitations of the findings and suggests future studies. Lastly, section 8 concludes the paper.

2. LITERATURE REVIEW

2.1. Theoretical Background

2.1.1. Efficient Market Hypothesis (EMH)

According to EMH, financial markets are "informationally efficient," meaning that at any one moment, asset prices reflect all the information at hand [14]. Eugene Fama's theory holds that risk-adjusted returns cannot always surpass average market returns since market prices react immediately to new knowledge [15]. Depending on the type of information considered, past prices, all publicly available information, or all information, public and private, EMH can be weak, semi-strong, or strong. EMH clarifies the way stock market performance and geopolitical risk are handled by investors [16]. Geopolitical events, including armed conflict, diplomatic disputes, sanctions, and political instability, increase market risks and uncertainty. EMH predicts that stock prices will rapidly reflect changes in investors' expectations regarding corporate profitability, risk premiums, and economic conditions. Public knowledge, including geopolitical changes, must be quickly priced into stocks in a semi-strong form effectively [17]. Under EMH, then, aberrant gains from geopolitical events should be fleeting since logical investors act quickly. Empirically analyzing this link in Egypt, where the economy is vulnerable to regional political dynamics, can help assess if stock markets in this country react properly to geopolitical shocks [18].

2.1.2. Behavioral Finance Theory

Behavioral Finance Theory challenges reason in financial decision-making by claiming that psychological elements and cognitive biases affect investor behavior and market results [19]. The Efficient Market Hypothesis holds that investors logically and practically evaluate all available data. Behavioral finance contends that overreaction, herding, emotional reactions, and other psychological biases can all make markets inefficient [20]. Under the framework of geopolitical risk and stock returns, behavioral finance can help to explain how investors might react irrationally to wars, political unrest, terrorism, and diplomatic tensions [21]. Fear, worry, or overconfidence can cause these hazards to sometimes create market overreactions or underreactions. Under geopolitical concerns, investors may panic-sell assets, believing worst-case scenarios without fully evaluating firm or economic foundations [22]. This behavior can cause substantial stock price declines even without major economic consequences; these could be rectified if reasonable assessments predominate [23]. Behavioral finance can help to clarify Egypt's market dynamics, in which investor perception is heavily influenced by geopolitical events. According to the theory, investor psychology, as well as basic factors, can influence geopolitical events and, consequently, affect stock market volatility. Behavioral finance studies can thus examine stock return anomalies, including strong volatility or momentum following geopolitical events [24]. Policymakers, investors, and financial institutions in politically sensitive nations like Egypt must grasp these behavioral patterns if they are to enhance market stability and risk control.

2.2. Previous Studies and Hypothesis Development

2.2.1. Geopolitical Risk and Stock Return

Much research has examined how stock market performance relates to geopolitical risk. For instance, Rigobon and Sack [25] found that US financial markets react negatively to geopolitical events; but these effects fade quickly should the shocks not turn into more general conflicts. Increased trade policy uncertainty in the US, particularly during the US-China trade war, was demonstrated by Baker, et al. [1] to lower stock market values. Many studies have been conducted on European markets. In Germany, Schneider and Troeger [26] investigated how political unrest affected stock market returns and found that rising political instability is linked with declining stock market returns. Based on political opinion polls, Smales [27] found that Australian internal political unrest has a notable negative impact on UK stock market performance.

Furthermore, studies conducted by Tuncay [28] examined how political risk affected stock market returns in Turkey and found that higher political risk was associated with lower returns and increased volatility, particularly during macroeconomic uncertain periods. Analyzing the temporal effects of geopolitical risk on asset returns and volatility, Zhao [2] identified complex trends in market response. Reaching similar conclusions, Forbes et al. [6] noted equivalent empirical results for developing nations. Emphasizing the negative effects of rising geopolitical risk particularly over North Korea on stock market performance in the region, notably in South Korea, Japan, and Taiwan, Elsayed et al. [12] stressed.

Much research has examined how different geopolitical risk categories affect stock market performance. Reduced stock market returns have been linked, according to Schneider and Troeger [26], to increased political instability defined by frequent government changes, societal discontent, or political upheaval. Duyvesteyn et al. [32] nevertheless showed a negative association between general political risk levels regarding stock market performance and the likelihood of government collapse. Variables include institutional quality, economic conditions, and investor attitude help to offset the effect of political unrest on stock markets [29]. Geopolitical risk in recent years has primarily arisen from trade wars, characterized by trade barriers and punitive actions between countries [30].

While Baker, et al. [1] showed declining worldwide stock market values amid growing trade policy uncertainty, Fajgelbaum, et al. [31] found negative effects on stock market returns in both the US and China resulting from increasing trade tensions between the two countries. Global crises, including armed confrontations and wars, could significantly affect the performance of the stock market. By means of a thorough investigation of the consequences of geopolitical concerns, Ardalan and Massoudi [32] helped to understand how different geopolitical events affect world markets. This comprehensive approach has made it possible to better understand how different political events including conflicts, trade tensions, and diplomatic disputes might affect asset markets and risk premiums. Moderating elements in the intricate link between geopolitical risk and stock market performance have lately been investigated in studies emphasizing the need for institutional resilience. Wijaya et al. [37] showed that countries with flexible and adaptable institutions demonstrate improved stock market stability during geopolitical crises. Furthermore, Abakah, et al. [33] investigated the impact of investor attitude on stock market reactions to global geopolitical crises, revealing that variations in sentiment could exacerbate market swings, leading to higher price volatility.

The most recent research, such as the one conducted by Alnafrah [34], has examined the intersection of environmental risks, geopolitical risk, and ESG investing, offering important new perspectives on the impact of sustainability factors on stock market returns within the context of rising geopolitical challenges. Using dynamic panel data, Forbes et al. [6] analyzed 32 countries and regions, finding that geopolitical risk (GPR) significantly increases stock market volatility, especially in emerging economies, crude oil-exporting countries, and stable nations. This broadens previous studies by including a diverse range of countries and regions. Guo and Shi [35] investigated how investor sentiment and GPR influence the volatility of the Chinese stock market using a quantile regression technique. Their results indicated that, particularly during market extremes, GPR and investor mood had asymmetric and heterogeneous effects at the industry level, while their impact on the overall market was less significant.

Employing the cross-quantilogram method in a global context, Hao, et al. [36] explored GPR's predictive capacity regarding volatility spillovers among international markets, highlighting significant directional spillover effects driven by GPR. This approach provides a comprehensive view of how geopolitical concerns can influence economic dynamics.

Emphasizing the function of GPR as a net transmitter of shocks to the stock market, investigated Turkey within the framework of sector-specific reactions to geopolitical concerns. Structural energy sector reforms changed the role of the electrical supply sector, thereby highlighting the dynamic interaction between geopolitical concerns and specific market reactions. This work emphasizes the need to consider sectoral dynamics in understanding the broader consequences of GPR. Examining volatility connectivity in China's sectoral stock markets, Aga et al. [43] identified significant volatility interconnectivity and nonlinear causation impacts of global GPR, thereby underscoring the interdependence of sectoral markets within a large economy. Their research demonstrates how sector-specific volatilities propagate throughout the larger market under global geopolitical influence.

Furthermore, with an exponential packet-oriented multiresolution cross-causality approach, Enders et al. [44] examined the relationship between GPR and the Saudi stock market to improve understanding of market sensitivity. They found a strong connection throughout crises such as Brexit, COVID-19, and the Russian-Ukrainian conflict, thereby highlighting the fragility of the Saudi market to global events. This study presents a comprehensive picture of how specific geopolitical crises could have long-lasting and significant impacts on the regional economy. Recent research underscores the complex relationship between market dynamics, economic policy uncertainty, and geopolitical concerns. Comparatively to oil market volatility, Chen et al. [45] showed that Islamic equities indices demonstrate greater resistance to geopolitical concerns and economic policy uncertainty. The consumer goods, energy and gas, and banking sectors exhibit strong hedging capabilities against shocks related to geopolitics. Examining global equity market connectivity during the Russia-Ukraine crisis, observed increased market interconnections and structural changes resulting from the conflict, thereby impacting investment strategies. Building on previous research debates, this work formulates the following theory.

H_1: This paper expects that there is a significant impact of geopolitical risk on Egyptian stock returns.

3. METHODOLOGY

3.1. Sample Used

Every financial institution registered on the Egyptian Stock Exchange between 2014 and 2023 made up the study sample. There were eleven banks in the initially selected sample; but missing data for one institution reduced the sample to ten banks in the end. Mostly from the Refinitiv Eikon platform, which provided thorough financial and market analysis, the data for the study came from. When needed to ensure complete accuracy and completeness, additional data came from the Egyptian Stock Exchange website and the World Bank database. Furthermore, included in the dataset was the Geopolitical Risk (GPR) index developed by Caldara and Iacoviello [8] a thorough and consistent assessment of the degree of geopolitical tensions across time. This exhaustive approach for data collection aimed to raise the validity and dependability of the research findings.

Ten years, from 2014 to 2023, will be the sample period chosen for the purpose of this investigation to encompass both times of relative stability in Egypt and the wider MENA region and increasing geopolitical volatility. The duration guarantees enough variety in geopolitical risk levels, especially in the post-Arab Spring period and during world events like the COVID-19 epidemic and regional conflicts, thereby enabling a robust study of their influence on financial markets. Along with macroeconomic control factors such as inflation and GDP growth, the Geopolitical Risk Index (GPR), bank-specific indicators like return on assets (ROA), and stock returns form part of the variables considered in this study. These factors are selected based on their theoretical link to market performance under uncertainty and their relevance in previous studies. Potential endogeneity problems and the need for more consistent coefficient estimates are addressed using the Panel Generalized Method of Moments (GMM) estimation. Dynamic

panel data, where lagged dependent variables are included and unobserved heterogeneity may exist, calls for this approach. This sample period, thorough variable selection, and strong econometric techniques together improve the validity of the analysis and help to close important gaps in earlier work.

3.2. Model Development

3.2.1. Dependent Variable: Stock Return (STR)

Stock returns, which show the gain or loss an investor gains from owning a stock over a designated period, usually, the measurement is stated as the proportion of the variance in the price of the stock, consisting of, where relevant, dividends. Influenced by many elements including corporate earnings, investor mood, macroeconomic data, industry trends, and geopolitical events, stock returns indicate a company's overall performance [37]. While negative returns indicate a devaluation in the value of the stock, thus producing a loss, positive returns indicate an increase in the value of the stock, thereby benefiting the investor. Analyzing investment performance and making informed financial market decisions depend on an understanding of stock returns [38].

3.2.2. Independent Variable: Geopolitical Risk (GPR)

Developed by Caldara and Iacoviello [8] the Geopolitical Risk (GPR) index is a comprehensive and consistent assessment of the severity of geopolitical conflicts throughout history. An extensive textual analysis of numerous reports from prominent international newspapers forms the basis of the GPR index. The process involves several essential phases: utilizing textual analysis techniques, a detailed database of newspaper stories is examined to identify specific keywords associated with global events such as political tensions, armed conflicts, terrorist activities, and other disturbances. These keywords are then counted to evaluate the frequency of geopolitical topics in the media. The total number of articles published within a specific period is used to control for variations in overall news volume. The GPR index is ultimately constructed by aggregating the normalized keyword counts; higher values indicate increased geopolitical tension. Investor confidence typically declines during periods of heightened geopolitical tensions, such as elections, regional conflicts, or governmental instability, which often results in a decrease in stock prices [39]. Given the potential hazards, foreign investors can pull money back, therefore affecting market liquidity and valuations [32].

3.2.3 Control Variables: (Bank Characteristics)

3.2.3.1. Profitability (ROA)

Profitability and stock return have a relationship based on the idea that more profitable companies are more able to create value for their owners, therefore driving rising stock prices over time [34]. In this work, profitability is approximated by the return on assets. Investors find this ratio beneficial since it shows the operational effectiveness and financial stability of a company. Therefore, businesses showing strong and consistent profitability usually attract more investor interest, so raising demand and hence stock returns [40]. Moreover, profitable companies usually have more ability to reinvest in dividend distribution or expansion, both of which can increase shareholder value. Even though the strength of this link may vary depending on the sector and economic situation, empirical studies usually show a favorable link between profitability and stock returns [32].

3.2.3.2. Growth Opportunities (Market to Book Ratio)

Occasionally, one uses the link between growth prospects, usually measured by the market-to-book ratio, and stock returns as a gauge of investor expectations for the future potential of a company. A high market-to-book ratio suggests strong predicted development and profitability since the market values the firm much above its book value [41]. In theory, businesses with more room for expansion could create better stock returns by reinvested earnings into projects meant to increase value [42]. However, empirical facts could be contradictory, especially in developing

countries like Egypt, where macroeconomic uncertainty, regulatory volatility, or limited capital access could prevent businesses from reaching their expected development [12]. Therefore, even if a high market-to-book ratio shows hope, actual stock returns could vary depending on how well the company transforms its growth potential into real financial performance.

3.2.3.3. Liquidity Risk (LiqR)

Through affecting a company's capacity to resist outside shocks, liquidity risk may help attenuate the relationship between geopolitical risk and stock returns [43]. Rising geopolitical tensions cause market uncertainty, which frequently lowers investor confidence and stock price volatility, thereby minimizing stock price volatility. Companies with high liquidity risk that is, those with limited liquid assets in relation to their liabilities are more vulnerable during these times since they may find it difficult to meet operating needs or react to unanticipated financial pressures, thus causing more marked declines in stock returns [6]. On the other hand, companies with less liquidity risk that is, those with larger cash reserves or better access to capital may more successfully negotiate geopolitical uncertainty, thereby maintaining their market value and providing more stability to investors. Therefore, liquidity risk is a vital moderator that either increases or reduces the negative impact of geopolitical events on stock performance [36].

3.2.3.4. Capital Adequacy (CapAd)

Usually measured using the Tier 1 and Tier 2 risk-weighted assets ratio, capital adequacy shows the balance between financial stability and development potential. A high capital adequacy ratio indicates that a bank or financial institution has a strong capital buffer to help reduce potential losses, thereby boosting investor confidence and lowering apparent risk [44]. Especially in times of financial crisis or economic uncertainty, this can help stock returns since well-capitalized organizations are seen as stronger. Extremely high capital ratios could point to underleveraging or overly cautious risk-taking, therefore limiting profit and return potential. In markets like Egypt, where financial institutions are growing, investors could view strong capital sufficiency as evidence of sensible management; therefore, it may improve long-term stock performance.

3.2.4. Control Variables: (Macroeconomic Variables)

3.2.4.1. Gross Domestic Product (GDP)

GDP growth represents the overall expansion of an economy, which usually promotes higher firm earnings and strengthens investor confidence. Usually, facing increased demand as GDP rises, businesses find that this leads to higher revenues and profits, which can then raise stock prices and increase investor returns. On the other hand, times of slow or negative GDP growth usually point to economic recessions, which would lower consumer expenditure and company investment, thereby impacting corporate performance and, consequently, stock returns [41]. In developing countries like Egypt, stock returns are clearly correlated with GDP fluctuations since macroeconomic events immediately affect market mood and business cycles. Therefore, GDP is an essential indicator for investors evaluating the possible direction and strength of stock market performance [32].

3.2.4.2. Inflation (Inf)

Usually, businesses can offset light and predicted inflation by adjusting prices, so maintaining profitability and increasing stock values [45]. Still, high or unanticipated inflation usually reduces buying power, increases input costs, and creates uncertainty that can lower firm earnings and investor confidence, and so damage stock returns [46]. In developing countries like Egypt, inflation volatility is usually more severe, and its negative effect on real returns is more evident because of less effective monetary transmission channels and increased sensitivity to outside shocks. Investors closely monitor inflation trends since persistent inflationary pressures could negatively influence stock

market performance and reduce the actual value of investment returns [33]. An overview of the measurements of the variables is given in Table 1.

Table 1. Summary of variable measurements.

Variable	Abbreviation	Measurement	References	Source
Dependent variable				
Stock return	STR	The difference in stock prices plus dividends divided by the original prices.	Pan, et al. [47] and Saâdaoui, et al. [48]	Refinitiv
Independent variable				
Geopolitical risk	GPR	GPR index	Caldara and Iacoviello [8]	https://www.matteoiacoviello.com/gpr.htm on Jan 17, 2025
Control variables (Bank Characteristics)				
Return on assets	Prof	Net income divided by total assets	Faradila and Effendi [49]	Refinitiv
Liquidity risk	LiqR	The ratio of loans to deposits.		Refinitiv
Growth opportunities	GrOpp	Market to book ratio	Böyükaslan, et al. [39]	Refinitiv
Capital adequacy	CapAd	(Tier 1 + Tier 2) divided by weighted risk assets		Refinitiv
Control Variables (Macroeconomic variables)				
GDP	GDP	The growth in annual GDP	Faradila and Effendi [49] and Walker, et al. [50]	World Bank Open Data
Inflation	Inf	The change in annual CPI	Wang, et al. [51] and Li, et al. [52]	World Bank Open Data
Author analysis				

3.3. Model

Based on earlier research, the model that follows has been created to empirically examine the effect of geopolitical risk on Egyptian stock returns during the past 10 years. The model adjusts for macroeconomic variables (such as GDP and inflation) and for company characteristics (such as profitability, liquidity risk, growth prospects, and capital adequacy).

$$STR_{i,t} = \alpha_0 + \alpha_1 STR_{i,t-1} + \alpha_2 GPR_t + \alpha_3 Prof_{i,t} + \alpha_4 LiqR_{i,t} + \alpha_5 GrOpp_{i,t} + \alpha_6 CapAde_{i,t} + \alpha_7 GDP_t + \alpha_8 Inf_t + e$$

Where;

STR stands for stock returns and is measured by the stock return.

GPR stands for geopolitical risk and measured using the index constructed by Caldara and Iacoviello [8].

Prof stands for profitability and is measured by return on assets.

LiqR is liquidity risk and is measured by the ratio of loans to deposits.

GrOpp is growth opportunities and is measured by the market-to-book ratio.

CapAd is capital adequacy and is measured by Tier 1 + Tier 2 divided by the risk-weighted assets.

GDP is gross domestic product and is measured by the growth in GDP.

Inf is inflation and is measured by the growth in the consumer price index.

4. RESULTS AND ANALYSIS

4.1. Descriptive Statistics

The following Table 2 provides the descriptive statistics for the selected variables. Several important insights are provided by the descriptive statistics that were performed on the sample of Egyptian banks over the span of time from 2014 to 2023.

Table 2. Descriptive statistics.

	STR	GPR	Prof	LiqR	GrOpp	CapAd	GDP	Inf
Mean	0.083	0.197	0.039	0.384	1.257	0.098	0.044	0.141
St. Dev.	0.392	0.089	0.046	0.149	0.754	0.029	0.011	0.091
Kurtosis	-0.348	-0.072	7.889	-0.251	1.449	-0.913	-0.548	-0.058
Skewness	-0.415	0.977	2.963	-0.365	1.151	0.086	0.618	1.119
Minimum	-1.110	0.096	0.010	0.076	0.348	0.036	0.029	0.050
Maximum	0.650	0.394	0.201	0.679	4.099	0.158	0.066	0.339
Count	90	100	100	100	100	100	100	100

The mean stock return of the banks throughout the time frame under analysis was 8.3 percent, suggesting a modest degree of performance. With a mean value of 0.197 and a standard deviation of 0.089, the geopolitical risk index indicates that although the degree of geopolitical uncertainty has been relatively low over the years, it has changed quite dynamically. Among all the factors studied, growth prospects evaluated using the market-to-book ratio exhibited the most variation. With a standard deviation of 0.754, the different banks show varying possibilities for development. The equity-to-risk-weighted-assets ratio, with a mean value of 9.8 percent, indicates that the banking sector overall maintains a relatively good capital position. Despite the constant fluctuations in development prospects and geopolitical threats, the descriptive statistics suggest that the overall stock performance remains somewhat poor. This is supported by the relatively stable capital strength observed among Egyptian banks.

4.2. Correlation Matrix

Table 3 shows the correlation matrix, highlighting relationships between the stock returns of Egyptian banks and the study variables. Geopolitical risk and stock returns show a positive correlation, indicating that banks might provide higher returns during periods of increased geopolitical tensions, possibly due to risk premiums demanded by investors.

Table 3. Correlation matrix.

	STR	GPR	Prof	LiqR	GrOpp	CapAd	GDP	Inf
STR	1							
GPR	0.101	1						
ROA	0.070	0.048	1					
LiqR	-0.040	-0.032	-0.092	1				
GrOpp	0.100	-0.044	-0.127	0.059	1			
CapAd	0.118	-0.028	0.422	0.049	-0.081	1		
GDP	-0.202	-0.208	-0.098	0.131	0.079	-0.210	1	
Inf	0.019	0.718	-0.048	0.026	-0.035	-0.120	0.0180	1

Profitability shows a positive link with stock returns, meaning that more profitable banks usually give better returns to their owners. Stock returns show a positive relationship with growth potential, indicating that the market favors banks with stronger future prospects. Capital adequacy, which is positively correlated with stock returns, reflects investor confidence in the ability of well-capitalized banks to withstand shocks. Stock returns also show a positive correlation with inflation, presumably because banks benefit from higher interest margins during inflationary conditions. Conversely, liquidity risk has a negative association with stock returns, indicating that banks with high

liquidity risk tend to underperform in the stock market. Lastly, GDP exhibits a negative correlation with stock returns, suggesting that during periods of strong economic growth, investors may reallocate their funds to sectors outside banking, thereby reducing the market for bank stocks.

4.3. Panel GMM Regression Results

Table 4 presents the results of panel GMM (Generalized Method of Moments) regression analysis. Due to its efficiency in mitigating issues such as endogeneity, unobserved heterogeneity, and autocorrelation common challenges in panel data involving multiple banks over several years this study employed the panel GMM technique. GMM provides more consistent and objective coefficient estimates compared to traditional methods like pooled OLS or fixed effects models, especially given the changing properties of stock returns and the potential linkage of some independent variables with historical or unobserved events. The GMM approach is considered reliable and appropriate because of the modest sample size of banks and the extended time dimension. Consequently, the application of panel GMM ensures that the results are more accurate and indicative of the stable relationships among geopolitical risk, liquidity risk, and stock returns in Egyptian banks.

Table 4. Panel GMM regression results.

Dependent variable: Stock return	
Lag STR	0.068***
GPR	0.037***
Prof	0.125***
LiqR	-0.029**
GrOpp	0.096***
CapAd	0.055**
GDP	-0.052*
Inf	0.043*
Constant	0.116***
Hansen Test	0.195
AR (1)	0.274
AR (2)	0.332
Wald Chi2	896.107 (0.000)

Note: *, **, *** corresponds to 10%, 5% and 1% significance levels respectively.

The results show that at the 1 percent significance level, the Geopolitical Risk Index has a positive and statistically significant effect on the stock returns of Egyptian banks. This study indicates that rising geopolitical tensions could lead investors to perceive banks as safer assets, thereby increasing bank stock values rather than disrupting the financial industry [36]. An in-depth analysis of this outcome emphasizes the unique features of the Egyptian market, in which banks usually benefit from the risk-averse behaviors of investors in doubtful circumstances [53]. Furthermore, Egyptian banks might have strong ties to government-funded projects and initiatives, which would provide them with some stability that draws in investors even in challenging times.

Furthermore, profitability affects Egyptian bank stock returns at the 1 percent level, favorably and statistically significantly. Since strong earnings reflect financial stability, efficient management, and the ability to distribute dividends or reinvest in development prospects, more profitable banks attract investor rewards [54]. This study supports accepted financial theory by showing that higher profitability lowers apparent investment risk and raises shareholder value. Given the changing character of the financial industry in Egypt, profitability becomes a major signal of stability and operational robustness, especially during economic crises. Although profitability seems to improve stock returns, it is important to understand that outside factors such as macroeconomic changes or legislative changes could limit this link [55].

Furthermore, the results show that, for Egyptian banks at the 5 percent significance level, there is a significant inverse relationship between liquidity risk and stock returns. This implies that higher liquidity risk quantified by a high loans-to-deposits ratio results in lower stock returns [30]. This suggests that banks with high liquidity risk could find it difficult to meet short-term commitments, thereby increasing investor concerns about financial stability and consequently lowering stock prices. Liquidity is essential for maintaining investor confidence in developing countries like Egypt, where banking sectors face structural problems and market confidence may be fragile [32]. Though the inverse link is statistically significant, it is important to recognize that liquidity risk may interact with other factors, such as central bank policies or sudden capital inflows/outflows, which could minimize its effects.

Moreover, the findings show a significant and positive impact on Egyptian banks' stock returns from both growth potential and capital adequacy. The strong correlation between stock returns and development prospects suggests that investors value banks with strong future potential and are willing to pay a premium for expected earnings development and market expansion [56]. This result aligns with financial theory since it shows that companies with significant growth potential usually have higher values and improved stock performance. It is important to recognize that in Egypt's growing financial sector, political and macroeconomic events may affect development projections, and market expectations can change. Likewise, the positive effect of capital sufficiency indicates that well-capitalized banks are considered lower-risk assets, thereby boosting investor confidence and enhancing stock performance [57]. Particularly in developing nations where economic volatility may arise more regularly, strong capital buffers help banks to efficiently absorb shocks and maintain lending during demanding times. Although increased capital adequacy improves stock returns, too high levels may indicate resource underutilization, hence reducing long-term returns if not aligned with efficient asset allocation [58]. Therefore, even if the positive impacts are clear and noteworthy, investors and authorities must balance the equilibrium between wise capital management and the strategic exploitation of development prospects to maximize shareholder value [33, 59].

At last, the results show a notable beneficial impact of inflation on the stock returns of Egyptian banks, as well as a somewhat negative impact of GDP development on stock returns. The banking industry's ability to pass inflationary expenses to consumers via higher lending rates helps to clarify the apparently contradictory link between inflation and stock returns, thus safeguarding or possibly enhancing their profit margins amid rising prices [40]. In Egypt, where inflation has been consistently high, banks should benefit from the widening difference between deposit and lending rates, thereby improving profitability and, consequently, stock performance. Unchecked inflation can reduce real purchasing power, destabilize the economy, and ultimately compromise the integrity of the financial system; thus, this link might pose long-term hazards [60]. Conversely, an interesting but rare result is the negative influence of GDP growth on stock returns. In developed countries, higher GDP growth usually improves stock performance and corporate profitability. In Egypt, increased GDP development could force financial policy changes that negatively affect bank profitability or direct investments to non-banking sectors or cause regulatory limits [25]. Furthermore, phases of economic growth could lead to increased competitiveness and pressure on interest margins, thereby reducing banks' profitability and, consequently, stock returns. This study highlights the need for context-specific analysis since it shows that the link between macroeconomic indicators and the banking sector [2].

5. ROBUSTNESS OF RESULTS

Table 5 displays the outcomes of the panel GMM regression employed to evaluate the robustness of the primary findings through the application of alternative metrics for essential variables. This method guarantees the consistency and dependability of outcomes across various operational definitions. To precisely assess the influence of bank profitability on stock returns, return on equity (ROE) was employed instead of return on assets (ROA). Likewise, the change in total assets substituted the market-to-book ratio as an indicator of growth, facilitating a comprehensive evaluation of internal development. The equity-to-assets ratio was utilized in place of the conventional capital adequacy ratio, providing a straightforward yet informative view of financial stability. Furthermore, to assess

liquidity risk, the analysis employed the liquid assets to total assets ratio instead of the loans-to-deposits ratio. The outcomes from all alternate specifications validate the robustness of our initial findings, demonstrating that the primary associations discovered in the baseline model persist even with varied measurements of the variables. This enhances the confidence in the reliability and generalizability of the study's conclusions.

Table 5. Panel GMM regression results.

Dependent variable: Stock return	
Lag STR	0.057**
GPR	0.041***
Prof	0.113***
LiqR	-0.018*
GrOpp	0.072**
CapAd	0.060*
GDP	-0.044*
Inf	0.037*
Constant	0.086**
Hansen Test	0.254
AR (1)	0.185
AR (2)	0.286
Wald Chi2	745.25 (0.000)

Note: *, **, *** corresponds to 10%, 5% and 1% significance levels respectively.

6. IMPLICATIONS

The results of this study have important consequences for Egyptian politicians, bank management, and investors. The significant positive impact of inflation and geopolitical risk on stock returns implies that, while making banking sector investments, investors must carefully assess macroeconomic uncertainty. Unlike popular wisdom that says geopolitical risk is only negative, the results show Egyptian banks could take advantage of unstable times by changing their risk management and pricing strategies. As such, investors can view degrees of geopolitical turmoil as opportunities rather than as natural limitations. The need for bank management to give strong financial stability top priority is shown by the favorable effect of profitability, growth prospects, and capital sufficiency on stock returns. More likely to save investor trust and provide better returns are banks with improved profitability, strong capitalization, and favorable growth potential. Particularly in a situation marked by macroeconomic uncertainty, managers must give top priority to strategies that improve these areas. The negative effects on stock returns of GDP growth and liquidity risk highlight the need for improved liquidity management techniques. Usually, underperformance of banks displaying high liquidity risk emphasizes the need for maintaining a balanced loan-to-deposit ratio and sufficient liquidity reserves. Moreover, the erratic negative link between GDP growth and stock returns suggests that authorities should provide more favorable conditions for banks in times of economic boom, maybe by means of financial sector reforms or regulatory laxity. The study underlines that in developing nations like Egypt, traditional economic ties could not always apply, and hence a more complex knowledge of local dynamics is necessary. Future banking plans and investment choices must take these unique traits into account if they are to increase resilience and maximize performance.

7. LIMITATIONS AND FUTURE STUDIES

Although many limits should be acknowledged, this study provides important new perspectives on the relationship between geopolitical risk, firm-specific characteristics, and stock performance for Egyptian banks. The sample consists of just ten banks registered on the Egyptian Stock Exchange, thereby possibly restricting the generalizability of the results to the larger financial sector or other sectors. For a more comprehensive view, future research might expand the sample to include banks or non-bank financial institutions in other developing countries.

The analysis covers the years 2014 to 2023; consequently, it does not consider possible structural changes or regime transitions that could develop over long periods. Using a rolling-window analysis or extending the period could provide a deeper understanding.

8. CONCLUSION

This article examines the influence of geopolitical risk, corporate characteristics, and macroeconomic factors on the stock returns of financial institutions listed on the Egyptian Stock Exchange. The paper analyzes a panel dataset of ten Egyptian financial institutions from 2014 to 2023. Specifically, the research investigates the influence of geopolitical risk, liquidity risk, profitability, growth potential, capital adequacy, inflation, and GDP on stock returns through the Generalized Method of Moments (GMM) regression method. The results indicate a significant and positive association between geopolitical risk and stock returns. Profitability, expansion potential, capital adequacy, and inflation also exert positive and significant influence on stock returns. In contrast, GDP and liquidity risk exhibit significant negative associations with stock returns. Policymakers, bank executives, and investors are likely to derive significant advantages from the findings. Understanding the impact of geopolitics and liquidity issues on stock performance can inform regulatory policies, risk management measures, and investment approaches designed to stabilize the financial system in volatile environments. This study contributes to the sparse literature examining the impact of geopolitical risk on stock returns within the context of Egypt, an emerging country. It underscores the significant role internal banking features play in establishing financial resilience against external shocks.

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REFERENCES

[1] S. R. Baker, N. Bloom, S. J. Davis, K. Kost, M. Sammon, and T. Viratyosin, "The unprecedented stock market reaction to COVID-19," *The Review of Asset Pricing Studies*, vol. 10, no. 4, pp. 742-758, 2020. https://doi.org/10.1093/rapstu/raaa008

[2] J. Zhao, "Time-varying impact of geopolitical risk on natural resources prices: Evidence from the hybrid TVP-VAR model with large system," *Resources Policy*, vol. 82, p. 103467, 2023. https://doi.org/10.1016/j.resourpol.2023.103467

[3] G. Bekaert, C. R. Harvey, and C. Lundblad, "Does financial liberalization spur growth?," *Journal of Financial Economics*, vol. 77, no. 1, pp. 3-55, 2005. https://doi.org/10.1016/j.jfineco.2004.05.007

[4] R. Arezki and M. Brückner, "Rainfall, financial development, and remittances: Evidence from Sub-Saharan Africa," *Journal of International Economics*, vol. 87, no. 2, pp. 377-385, 2012. https://doi.org/10.1016/j.jinteco.2011.12.010

[5] Y. Zhang, J. He, M. He, and S. Li, "Geopolitical risk and stock market volatility: A global perspective," *Finance Research Letters*, vol. 53, p. 103620, 2023. https://doi.org/10.1016/j.frl.2022.103620

[6] K. J. Forbes and R. Rigobon, "No contagion, only interdependence: Measuring stock market comovements," *The Journal of Finance*, vol. 57, no. 5, pp. 2223-2261, 2002. https://doi.org/10.1111/0022-1082.00494

[7] A. Alesina, S. Özler, N. Roubini, and P. Swagel, "Political instability and economic growth," *Journal of Economic Growth*, vol. 1, no. 2, pp. 189-211, 1996. https://doi.org/10.1007/BF00138862

[8] D. Caldara and M. Iacoviello, "Measuring geopolitical risk," *American Economic Review*, vol. 112, no. 4, pp. 1194-1225, 2022. https://doi.org/10.1257/aer.20191823

[9] Z. Umar, A. Bossman, S.-Y. Choi, and T. Teplova, "Does geopolitical risk matter for global asset returns? Evidence from quantile-on-quantile regression," *Finance Research Letters*, vol. 48, p. 102991, 2022. http://doi.org/10.1016/j.frl.2022.102991

[10] E. Bouri, R. Gupta, A. K. Tiwari, and D. Roubaud, "Does Bitcoin hedge global uncertainty? Evidence from wavelet-based quantile-in-quantile regressions," *Finance Research Letters*, vol. 23, pp. 87-95, 2017. https://doi.org/10.1016/j.frl.2017.02.009

[11] M. A. Eissa, H. Al Refai, and G. Chortareas, "Heterogeneous impacts of geopolitical risk factors on stock markets in the Middle East: A quantile regression analysis across four emerging economies," *The Journal of Economic Asymmetries*, vol. 30, p. e00374, 2024. https://doi.org/10.1016/j.jeca.2024.e00374

[12] A. H. Elsayed and M. H. Helmi, "Volatility transmission and spillover dynamics across financial markets: The role of geopolitical risk," *Annals of Operations Research*, vol. 305, no. 1, pp. 1-22, 2021. https://doi.org/10.1007/s10479-021-04081-5

[13] F. He, B. Lucey, and Z. Wang, "Trade policy uncertainty and its impact on the stock market-evidence from China-US trade conflict," *Finance Research Letters*, vol. 40, p. 101753, 2021. https://doi.org/10.1016/j.frl.2020.101753

[14] P. A. Samuelson, "Rational theory of warrant pricing. In Henry P. McKean Jr. Selecta." Cham, Switzerland: Springer International Publishing, 1965, pp. 195-232.

[15] E. F. Fama, "Efficient capital markets: A review of theory and empirical work," *The Journal of Finance*, vol. 25, no. 2, pp. 383-417, 1970. https://doi.org/10.2307/2325486

[16] B. G. Malkiel, "Efficient market hypothesis. In Finance." London: Palgrave Macmillan UK, 1989, pp. 127-134.

[17] K. Nyakurukwa and Y. Seetharam, "Alternatives to the efficient market hypothesis: An overview," *Journal of Capital Markets Studies*, vol. 7, no. 2, pp. 111-124, 2023. https://doi.org/10.1108/JCMS-04-2023-0014

[18] A. W. Lo, "The adaptive markets hypothesis," *The Journal of Portfolio Management*, vol. 30 no. 5, pp. 15-29, 2004. https://doi.org/10.3905/jpm.2004.442611

[19] R. H. Thaler, *Advances in behavioral finance*. Princeton, NJ: Princeton University Press, 2005.

[20] S. O. Kediya, S. Dhote, D. Singh, V. Bidve, S. Pathan, and A. Suchak, "Are AI and chat bots services effects the psychology of users in banking services and financial sector," *Journal for ReAttach Therapy and Developmental Diversities*, vol. 6, no. 2, pp. 191-197, 2023.

[21] S. Khan, D. K. Singh, M. Singh, and D. F. Mena, "Automatic signature verifier using Gaussian gated recurrent unit neural network," *IET Biometrics*, vol. 2023, no. 1, p. 5087083, 2023. https://doi.org/10.1049/2023/5087083

[22] D. K. Singh, S. Ghosh, S. Khan, and M. Nimbarte, "An in-depth analysis of quantum computing frameworks: Exploring prominent platforms," *Indian Journal of Technical Education*, vol. 46, pp. 14-20, 2023.

[23] B. M. Barber and T. Odean, "The courage of misguided convictions," *Financial Analysts Journal*, vol. 55, no. 6, pp. 41-55, 1999. https://doi.org/10.2469/faj.v55.n6.2313

[24] R. Paul, A. Ponnam, R. Rubal, and D. K. Singh, "How perceived value advances loyalty progression? Evidence from Indian quick service restaurants," *Academy of Marketing Studies Journal*, vol. 27, no. S3, pp. 1–14, 2023.

[25] R. Rigobon and B. Sack, "The impact of monetary policy on asset prices," *Journal of Monetary Economics*, vol. 51, no. 8, pp. 1553-1575, 2004. https://doi.org/10.1016/j.jmoneco.2004.02.004

[26] G. Schneider and V. E. Troeger, "War and the world economy: Stock market reactions to international conflicts," *Journal of Conflict Resolution*, vol. 50, no. 5, pp. 623-645, 2006. https://doi.org/10.1177/0022002706290430

[27] L. A. Smales, "Political uncertainty and financial market uncertainty in an Australian context," *Journal of International Financial Markets, Institutions and Money*, vol. 32, pp. 415-435, 2014. https://doi.org/10.1016/j.intfin.2014.07.002

[28] M. Tuncay, "Do political risks matter in the financial markets?: Evidence from Turkey," *Eurasian Business Review*, vol. 8, no. 2, pp. 209-227, 2018. https://doi.org/10.1007/s40821-017-0077-5

[29] J. Aizenman and N. P. Marion, "Policy uncertainty, persistence and growth," *Review of International Economics*, vol. 1, no. 2, pp. 145-163, 1993. https://doi.org/10.1111/j.1467-9396.1993.tb00012.x

[30] G. Bekaert and M. Hoerova, "The VIX, the variance premium and stock market volatility," *Journal of Econometrics*, vol. 183, no. 2, pp. 181-192, 2014. https://doi.org/10.1016/j.jeconom.2014.05.008

[31] P. D. Fajgelbaum, P. K. Goldberg, P. J. Kennedy, and A. K. Khandelwal, "The return to protectionism," *The Quarterly Journal of Economics*, vol. 135, no. 1, pp. 1-55, 2020. https://doi.org/10.1093/qje/qjz036

[32] A. Ardalan and M. Massoudi, "Geopolitical events and global financial markets. In Handbook of Research on Contemporary Global Business Strategies." Hershey, Pennsylvania, United States: IGI Global, 2023, pp. 377–397.

[33] E. J. A. Abakah, M. Abdullah, I. Yousaf, A. K. Tiwari, and Y. Li, "Economic sanctions sentiment and global stock markets," *Journal of International Financial Markets, Institutions and Money*, vol. 91, p. 101910, 2024. https://doi.org/10.1016/j.intfin.2023.101910

[34] I. Alnafrah, "ESG practices mitigating geopolitical risks: Implications for sustainable environmental management," *Journal of Environmental Management*, vol. 358, p. 120923, 2024. https://doi.org/10.1016/j.jenvman.2024.120923

[35] P. Guo and J. Shi, "Geopolitical risks, investor sentiment and industry stock market volatility in China: Evidence from a quantile regression approach," *The North American Journal of Economics and Finance*, vol. 72, p. 102139, 2024. https://doi.org/10.1016/j.najef.2024.102139

[36] X. Hao, Y. Ma, and D. Pan, "Geopolitical risk and the predictability of spillovers between exchange, commodity and stock markets," *Journal of Multinational Financial Management*, vol. 73, p. 100843, 2024. https://doi.org/10.1016/j.mulfin.2024.100843

[37] C. Wijaya, P. Nurastuti, M. Musiega, and H. Kurniawati, "Determinants of stock returns: evidence from property and real estate companies in Indonesia," *Global Advances in Business Studies*, vol. 4, no. 1, pp. 49-56, 2025.

[38] R. Banerjee, T. Cavoli, R. McIver, S. Meng, and J. K. Wilson, "Predicting long-run risk factors of stock returns: Evidence from Australia," *Australian Economic Papers*, vol. 62, no. 3, pp. 377-395, 2023. https://doi.org/10.1111/1467-8454.12298

[39] A. Böyükaslan, R. Demirer, E. B. Ergüney, and S. Gursoy, "Geopolitical risks and the energy-stock market nexus: Evidence from Turkiye," *Borsa Istanbul Review*, vol. 24, no. 1, pp. 73-83, 2024. https://doi.org/10.1016/j.bir.2023.10.012

[40] S. Ahmed, R. Assaf, M. R. Rahman, and F. Tabassum, "Is geopolitical risk interconnected? Evidence from Russian-Ukraine crisis," *The Journal of Economic Asymmetries*, vol. 28, p. e00306, 2023. https://doi.org/10.1016/j.jeca.2023.e00306

[41] S. A. Basher, A. A. Haug, and P. Sadorsky, "The impact of oil shocks on the Saudi Arabian stock market," *Energy Economics*, vol. 75, pp. 354-363, 2018.

[42] K. Drakos, "Terrorism activity, investor sentiment, and stock returns," *Review of financial economics*, vol. 19, no. 3, pp. 128-135, 2010. https://doi.org/10.1016/j.rfe.2010.01.001

[43] B. S. Aga, V. F. Mogaddam, and B. Samadiyan, "Relationship between liquidity and stock returns in companies in Tehran Stock Exchange," *Applied Mathematics in Engineering, Management and Technology*, vol. 1, no. 4, pp. 278-285, 2013.

[44] W. Enders and T. Sandler, *The political economy of terrorism*. Cambridge: Cambridge University Press, 2006.

[45] A. H. Chen and S. T.F., "The effects of terrorism on global capital markets," *European Journal of Political Economy*, vol. 20, no. 2, pp. 349-366, 2004.

[46] J. Duyvesteyn, M. Martens, and P. Verwijmeren, "Political risk and expected government bond returns," *Journal of Empirical Finance*, vol. 38, pp. 498-512, 2016. https://doi.org/10.1016/j.jempfin.2016.01.016

[47] C. Pan, W. Zhang, and W. Wang, "Global geopolitical risk and volatility connectedness among China's sectoral stock markets," *Finance Research Letters*, vol. 58, p. 104487, 2023. https://doi.org/10.1016/j.frl.2023.104487

[48] F. Saâdaoui, S. B. Jabeur, and J. W. Goodell, "Geopolitical risk and the Saudi stock market: Evidence from a new wavelet packet multiresolution cross-causality," *Finance Research Letters*, vol. 53, p. 103654, 2023. https://doi.org/10.1016/j.frl.2023.103654

[49] S. Faradila and K. A. Effendi, "Analysis of financial performance and macroeconomic on firm value," *Jurnal Manajemen*, vol. 27, no. 2, pp. 276-296, 2023. https://doi.org/10.24912/jm.v27i2.1255

[50] C. C. Walker, A. Druckman, and T. Jackson, "Welfare systems without economic growth: A review of the challenges and next steps for the field," *Ecological Economics*, vol. 186, p. 107066, 2021. https://doi.org/10.1016/j.ecolecon.2021.107066

[51] X. Wang, Z. Xu, X. Wang, and M. Skare, "A review of inflation from 1906 to 2022: A comprehensive analysis of inflation studies from a global perspective," *Oeconomia Copernicana*, vol. 13, no. 3, pp. 595-631, 2022.

[52] S. Li, D. Tu, Y. Zeng, C. Gong, and D. Yuan, "Does geopolitical risk matter in crude oil and stock markets? Evidence from disaggregated data," *Energy Economics*, vol. 113, p. 106191, 2022. https://doi.org/10.1016/j.eneco.2022.106191

[53] Z. Hu and S. Borjigin, "The amplifying role of geopolitical Risks, economic policy Uncertainty, and climate risks on Energy-Stock market volatility spillover across economic cycles," *The North American Journal of Economics and Finance*, vol. 71, p. 102114, 2024. https://doi.org/10.1016/j.najef.2024.102114

[54] H. Nguyen, A. V. Pham, M. D. M. Pham, and M. H. Pham, "Business resilience: lessons from government responses to the global COVID-19 crisis," *International Business Review*, vol. 32, no. 5, p. 102166, 2023. https://doi.org/10.1016/j.ibusrev.2023.102166

[55] G. Bekaert, C. R. Harvey, and C. Lundblad, "Liquidity and expected returns: Lessons from emerging markets," *The Review of Financial Studies*, vol. 20, no. 6, pp. 1783-1831, 2007. https://doi.org/10.1093/rfs/hhm030

[56] A. Alqahtani, R. Gupta, and E. Wilson, "The resilience of Israel's stock market against geopolitical shocks," *Journal of Economics and Business*, vol. 108, p. 105926, 2020.

[57] M. Guidolin and E. La Ferrara, "Diamonds are forever, wars are not: Is conflict bad for private firms?," *American Economic Review*, vol. 97, no. 5, pp. 1978-1993, 2007. https://doi.org/10.1257/aer.97.5.1978

[58] K. M. Kisswani and M. I. Elian, "Analyzing the (a) symmetric impacts of oil price, economic policy uncertainty, and global geopolitical risk on exchange rate," *The Journal of Economic Asymmetries*, vol. 24, p. e00204, 2021. https://doi.org/10.1016/j.jeca.2021.e00204

[59] G. Bampinas and T. Panagiotidis, "How would the war and the pandemic affect the stock and cryptocurrency cross-market linkages?," *Research in International Business and Finance*, vol. 70, p. 102272, 2024. https://doi.org/10.1016/j.ribaf.2024.102272

[60] M. B. Hasan, M. K. Hassan, and A. Alhomaidi, "How do sectoral Islamic equity markets react to geopolitical risk, economic policy uncertainty, and oil price shocks?," *The Journal of Economic Asymmetries*, vol. 28, p. e00333, 2023. https://doi.org/10.1016/j.jeca.2023.e00333