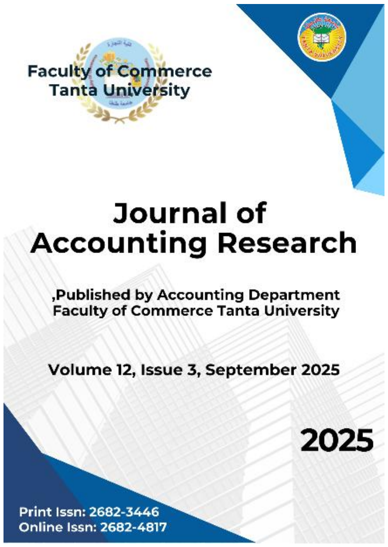

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A Proposed Accounting Index for Measuring the Impact of Geopolitical Risks and Their Implications on Corporate Governance Mechanisms in Egyptian Companies: An Exploratory Study

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A Proposed Accounting Index for Measuring the Impact of Geopolitical Risks and Their Implications on Corporate Governance Mechanisms in Egyptian Companies: An Exploratory Study

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Abstract

This research aimed to develop an accounting index to measure the effects of geopolitical risks and their implications for corporate governance. Using a positive research approach, it first analyzed prior accounting studies to derive key hypotheses. Next, it reviewed models measuring geopolitical risks—such as SWOT, PESTLE, multidimensional risk, neural network, and dynamic risk prediction models—to identify key indicators for a composite index. This index integrates political, economic, social, and environmental risk dimensions. Finally, the research predicted how these geopolitical risks impact practical accounting aspects of both internal and external corporate governance.

The research results revealed that geopolitical risks significantly impact corporate governance. Consequently, corporate managers should enhance governance by strengthening audit committee responsibilities, expanding the role of external auditors, and disclosing risks related to political, economic, social, and environmental factors.

The exploratory study findings support the theoretical hypotheses that geopolitical risks are multidimensional and should be comprehensively integrated into internal and external audit processes and disclosure functions to strengthen corporate governance mechanisms. This research extends prior accounting studies by providing practical evidence in this area.

Keywords: Geopolitical Risks, Corporate Governance Mechanisms , Accounting Index

1.Introduction

In the context of rapid political and economic changes, geopolitical risks have become a critical factor influencing financial market stability and corporate performance. These risks arise from conflicts, international tensions, and sanctions, causing significant volatility for businesses. Companies must therefore develop tools to assess their exposure and improve resilience. This research proposes an accounting index to measure the impact of geopolitical risks on firms and their effects on internal and external governance mechanisms. Through an exploratory study, it evaluates how corporate governance mitigates these risks. By combining accounting analysis with governance, the research aims to establish a framework that enhances transparency and financial sustainability amid global instability.

1.1. Research Problem

Geopolitical risks are among the most critical challenges for companies today, directly affecting financial stability and competitiveness. Originating from political conflicts, international tensions, and economic sanctions, these risks increase market uncertainty and disrupt operations. They encompass political instability, economic confrontations, military conflicts, terrorism, and major regional or global events. Research shows that geopolitical risks significantly influence investment decisions by central banks, investors, and analysts (Maatoug & Triki, 2020).

Moreover, rising geopolitical risks tend to reduce corporate innovation, especially in firms reliant on international markets, with effects lasting years after conflicts. While commercial banks may briefly benefit from financial volatility, prolonged policy uncertainty typically harms long-term profitability. Despite extensive research, a gap remains in developing an accounting index to measure the impact of geopolitical risks on corporate governance.

This study highlights the need for such an index to help companies better understand these risks and implement proactive strategies to mitigate their effects, ensuring long-term sustainability in an uncertain business environment. The main research questions are as follows:

RQ1: How can an accounting index be developed to measure the impact of geopolitical risks on financial performance and corporate governance mechanisms?

RQ2: What is the relationship between geopolitical risks and the effectiveness of internal and external governance structures?

1.2. Research Objectives

This study aims to achieve the following objectives

1. Develop a proposed accounting index to measure the impact of geopolitical risks on financial performance and corporate governance mechanisms.
2. Analyze the relationship between geopolitical risks and internal and external governance structures through exploratory study assessing corporate exposure.

1.3. Research Importance

The importance of this research lies in its contribution to both theory and practice particularly in developing accurate assessment tools that enable companies to identify, measure, and respond to geopolitical risks through informed, data-driven strategic decisions. This study is significant for several key reasons

1. Academic Significance: This study addresses a notable gap in the existing literature by proposing a comprehensive accounting model for the measurement of geopolitical risks, thereby enriching the intersection of accounting, finance, and risk management scholarship.
2. Practical Significance: By offering insights into the relationship between geopolitical risk and firm behavior, the study equips companies and investors with tools to strengthen governance mechanisms and enhance risk management strategies ultimately contributing to financial resilience and stability.
3. Regulatory Significance: This study offers valuable guidance for policymakers and regulatory bodies by clarifying how geopolitical risks influence financial reporting quality and corporate compliance with governance standards.

This study advances the literature in two main ways. First, it deepens understanding of the economic consequences of geopolitical risk (GPR). Prior research links GPR to declines in economic activity and increased recession risk (Bouoiyour *et al*., 2019; Gkillas *et al*., 2020; Clance *et al.,* 2019). At the firm level, GPR undermines bank stability and profitability (Alsagr & Almazor, 2020; Phan *et al*., 2022) and deters investment in non-financial firms (Dissanayake & Wu, 2021; Wang *et al*., 2019). It also disrupts investor sentiment, reduces stock returns (Agoraki *et al*., 2022; Salisu *et al.,* 2022), raises price volatility (Yang *et al*., 2022; Zhang *et al.,* 2023), & lowers liquidity (Fiorillo *et al.,* 2023). Building on this, the study finds that heightened GPR significantly increases the likelihood of stock price crashes.

Second, it contributes to corporate sustainability literature by highlighting the protective role of Environmental, Social, and Governance (ESG) practices. Strong ESG performance improves profitability, reduces systematic risk, and enhances firm value (Albuquerque *et al.*, 2019). ESG engagement also lowers equity costs (El Ghoul *et al*., 2011) and builds social and reputational capital that buffers external shocks (Lins *et al.,* 2017*).* Consistent with these findings, this study shows firms with higher ESG scores better withstand geopolitical risks, notably reducing the chance of stock crashes.

To our knowledge, this is the first study offering empirical insights into mitigating the financial impacts of geopolitical tensions. Emphasizing ESG especially environmental and social dimensions it provides theoretical and practical guidance for building firm and market resilience amid growing geopolitical uncertainty.

2- Theoretical Framework and Development of Research Hypotheses

2.1. Analysis of Previous Accounting Studies on Geopolitical Risks and Derivation of Research Hypotheses

This section reviews prior accounting research on geopolitical risks to develop the study’s core hypotheses. The literature is categorized into two streams

1- Accounting Studies on Geopolitical Risks: Examining the effects of geopolitical events on financial performance, disclosures, and corporate strategies, as well as their influence on investment and decision-making.

2-Accounting Studies Related to Governance Mechanisms: Exploring how corporate governance helps mitigate geopolitical risks by strengthening oversight and enhancing financial transparency.

2.1.1. Accounting Studies on Geopolitical Risks

Sanlusoy *et al*. (2016) examined the effect of political risks on the profitability of the Turkish banking sector, using return on assets (ROA) as the performance metric. Political risk was measured using ICRG components such as government stability, internal and external conflict, corruption, and law and order. The analysis also included bank-specific and macroeconomic variables. The results showed that geopolitical risks negatively affect banking profitability.

The study also revealed that public banks are more vulnerable to political risks than private banks. Similarly, *Belkhir et al. (*2019) analyzed the link between political risk and asset volatility in Islamic and conventional banks, using ICRG indicators and a dataset of over 35,000 observations across 103 countries (1999–2013). Their findings show that conventional banks are more exposed to political risks than Islamic banks.

Chi-Chuan and Chien-Chiang (2019) analyzed data from 182 Chinese banks (2000–2014) to examine how oil prices affect bank performance. Using CAMEL indicators and political risk measures, they found that rising oil prices reduce profitability in China due to its status as an oil-importing country. Higher oil prices negatively impact economic activity, loan repayment, and fee income. However, economic and political stability can mitigate these effects. In contrast, oil-exporting countries, such as those in the Gulf, benefit from higher oil prices, which enhance bank performance.

Hou *et al.* (2020) studied 18 emerging markets (1985–2018) and found that geopolitical risks, measured by the Caldara and Iacoviello (2018) GPR index, significantly reduce private sector credit—indicating a negative impact on financial development.

Alsagr & Hennen (2020) examined the effect of geopolitical risks on bank profitability in oil-dependent and non-oil-dependent emerging markets using data from 19 countries (1988–2017). They found that geopolitical risks reduce bank profitability (measured by ROA), but oil rents as a share of GDP help cushion the negative impact, indicating that oil revenues can act as a buffer against geopolitical shocks.

Demir & Danisman (2021) examined the impact of economic policy uncertainty and geopolitical risks on bank credit growth, using data from 2,439 banks across 19 countries (2010–2019). Credit growth was measured by the annual change in total, consumer, corporate, and mortgage loans. The model included bank-specific variables such as profitability, along with macroeconomic and institutional factors.

Demir & Danisman (2021) examined the impact of economic policy uncertainty and geopolitical risks on bank credit growth using data from 2,439 banks across 19 countries (2010–2019). They found that geopolitical risks reduce consumer and mortgage lending, while policy uncertainty slows overall credit growth. Foreign and publicly listed banks were more resilient to these risks.

Ren *et al.* (2023*)* investigated the relationship between geopolitical risks and corporate volatility using 2,663 observations from Chinese listed firms (2003–2019). Using a difference-in-differences (DID) model, they found that corporate governance influences volatility changes. Additionally, industry type and ownership structure play varying roles, while ownership concentration, market competition, and operational leverage significantly affect how GPR impacts volatility.

Haque *et al.* (2023) examined how geopolitical risks influence corporate tax avoidance using data from all publicly listed U.S. firms between 2005 & 2019. The study found that higher geopolitical risks are associated with increased tax avoidance, as shown by lower short- and long-term effective cash tax rates. This effect was more pronounced in financially constrained firms, with oil-related companies displaying more aggressive avoidance behavior than non-oil firms.

Fiorillo *et al.* (2023) examined the impact of geopolitical risks on stock liquidity using a global sample of listed firms. The study found that rising geopolitical risks reduce stock liquidity, driven more by perceived threats than actual escalations. The effect was stronger in less liquid markets, with financial constraints and information asymmetry helping explain the relationship.

Olalere and Mukudden-Petersen (2024) assessed the effects of geopolitical risks and economic policy uncertainty on banking stability using data from 105 BRICS banks (2009–2021). Banking stability was measured by the Z-score, with GPR and policy uncertainty captured via the Caldara & Iacoviello (2018) & Baker *et al*. (2016) indices. Controlling for bank-specific and macroeconomic variables, the study found that geopolitical risks undermine banking stability, and their interaction with policy uncertainty has a significantly adverse effect.

Fiorillo *et al.* (2024) investigated the impact of geopolitical risks (GPR) on stock price crash risk and the moderating effect of ESG factors, using a broad international sample of listed firms. The study found that higher total returns are associated with more frequent stock price crashes, with GPR effects driven mainly by geopolitical threats rather than actual events. Firms with strong ESG performance especially in environmental and social aspects showed greater resilience to the negative effects of GPR.

Ramesh & Ahira (2024) examined the impact of geopolitical risks (GPR) on corporate taxation using an international sample. GPR was measured using the Caldara and Iacoviello (2022) index, while tax avoidance was assessed through the gap between effective cash tax and statutory tax rates. Employing fixed-effects regression, the study found that firms increase tax avoidance as general tax rates rise, especially under geopolitical tension. Financial constraints were a key driver, while strong corporate and national governance helped mitigate the GPR–tax avoidance relationship.

Guo (2024) examined the impact of geopolitical risk (GPR) on the international performance of Chinese listed firms from 2008 to 2019. The study found that GDPR notably affects firms' international operations, while public ownership laws restrict internationalization by limiting legitimacy and investment freedom. Moreover, the interaction between GPR and firms' product, technological, and regional diversification produced mixed effects on performance.

NguyenHuu and Orsal (2024) examined the impact of GPR on financial stress in major emerging economies (1985–2019) using a quintile estimation approach. They found that GPR significantly increases financial instability in emerging markets, especially in the currency, banking, and debt sectors. In contrast, developed markets mainly saw negative effects in their stock markets.

2.1.2. Accounting Studies Related to Governance Mechanisms

- Weir *et al.* (2003) studied how internal and external corporate governance mechanisms affect UK firms' performance under the Cadbury Code. They found that the market for corporate control effectively substitutes governance, while internal mechanisms had weak links to performance. Top and bottom performers showed similar internal governance, raising doubts about the effectiveness of strict internal governance rules.

- Dong *et al.* (2017) studied Chinese banks (2003–2011) to evaluate how board size, composition, and function influence efficiency and risk-taking. They found board traits affect profit and cost efficiency more than loan quality. More female directors and greater board independence boost profit efficiency and reduce risk, while executive directors and CEO-chair duality harm outcomes. Liquidity decreases efficiency but raises risk. Ownership concentration, state ownership, and CEO compensation also affect efficiency. The study provides key insights for enhancing governance in Chinese banks.

- Zhang *et al.* (2021) examined risk governance and bank risk-taking in 44 Chinese listed banks (2005–2018). They found that governance improves profitability by enhancing internal risk management and external capital regulation. Capital regulation more effectively reduces risk-taking than governance alone. The influence of risk governance on risk-taking lessens in banks with higher governance scores but boosts overall performance. Additionally, government ownership diminishes governance's effect on market risk-taking and performance, implying that state backing encourages banks to take on more risk.

- Wang & Zhang (2022) examined corporate political activity disclosure using the CPA-Zicklin Index for S&P 500 firms. The study found that board independence positively influences political transparency and disclosure, while intense board monitoring negatively affects political accountability. Greater board gender diversity enhances political transparency. Moreover, higher political transparency correlates with improved operating performance, reduced equity risk, lower information asymmetry, and increased firm valuation.

- Haque *et al.* (2023) found that increased global risk prompts firms to adopt more aggressive tax avoidance. Related research highlights the effects of geopolitical risk (GPR) on banking Phan *et al.* (2022) studied banks' responses to geopolitical uncertainty, while Shabir et al. (2023) reported that GPR limits bank risk-taking and threatens financial stability. Additionally, studies link GPR to broader financial market volatility (Zaremba *et al.,* 2022; Segnon *et al.,* 2024*).*

- Fiorillo *et al.* (2024) argued that geopolitical risk (GPR) raises the probability and frequency of stock price crashes in financial markets.

2.1.3. Commentary on Previous Studies

Previous research has extensively examined the impact of geopolitical risk (GPR) on financial and economic indicators such as banking profitability, stock market performance, corporate tax behavior, and financial stability. Using varied methods and datasets, these studies offer valuable insights into the complex GPR–financial outcomes relationship. However, gaps remain: most focus on developed or major emerging economies, with limited attention to specific regional or country contexts. Additionally, while some research explores mitigating factors like oil revenues, corporate governance, and ESG, further investigation is needed into other mechanisms such as monetary policy and institutional quality.

Geopolitical risk (GPR) has received substantial scholarly focus, especially concerning its effects on financial markets, macroeconomic performance, and corporate investment. The literature broadly agrees that GPR negatively impacts economic activity.

2.1.4. Research Gap

This study differs from prior research by focusing on [specific sector] and using a novel dataset and methodology to assess geopolitical risks' impact. Unlike broader studies, it examines specific factors such as [sectoral financial stability, credit growth, investment behavior], and integrates moderating variables like [policy interventions, trade relations]. This comprehensive approach addresses existing gaps and offers valuable insights for policymakers, investors, and financial institutions.

3.Models Used in Measuring Geopolitical Risks

Geopolitical risks present major challenges to organizations in a globally connected environment, affecting strategy and resilience through political, economic, social, technological, environmental, and legal factors. This paper reviews six analytical models SWOT, PESTLE, Multi-Dimensional Risk, Impact and Probability, Dynamic Risk, and Neural Networks and evaluates their effectiveness in assessing geopolitical risks. Integrating these models with AI and big data analytics can improve predictive accuracy and strategic adaptability.

1. SWOT Model

The SWOT model helps organizations assess internal strengths and weaknesses, and external opportunities and threats, offering a structured approach to evaluate strategic position in geopolitical contexts (Gürel & Tat, 2017).

Table1. SWOT (Strengths, Weaknesses, Opportunities, Threats) model analysis

Strengths	Weaknesses	Opportunities	Threat
•Product diversification boosts competitiveness.	• Limited capital restricts growth.	• Expanding market targeting millennials.	• High competition within similar products.
•Skilled human resources support development.	•Reliance on cash payments.	•E-commerce enhances reach and sales.	• Limited reach when launching new products.
•Tech-savvy operators improve marketing.	• Low adoption of digital payment systems.	• Internet supports digital marketing and branding.	•Declining demand signals need for innovation.
• Affordable pricing attracts broad customer base.	• Rising raw material costs reduce margins.	• Digital marketing improves visibility and engagement.	• Weak engagement with millennials.
• Strong customer service builds loyalty.	•Underutilization of online channels	•Digital payments improve efficiency.	•Shift toward digital transactions requires adaptation.
• Strong financial support (where available).		• Better service and personalization increase loyalty.	• Complexity of e-commerce platforms challenges adoption.
		•E-commerce enables scalable transcations	
		• Diverse payment options attract more customers.	
		• Government support enhances sustainability.	

Source:(The Researcher)

Components of the SWOT Model

- Strengths: Internal advantages like strong finances, brand reputation, advanced technology, customer service excellence, and skilled human resources.
- Weaknesses: Internal challenges such as inefficiencies, weak market presence, or outdated systems.
- Opportunities: External conditions to capitalize on, including new markets, supportive trade policies, or tech advancements.

- Threats: External risks like political instability, regulatory shifts, or economic decline.

Application in Geopolitical Risk Assessment

The SWOT model supports assessing political and economic uncertainties, trade policies, and regulatory risks. It is often used in multinational expansions to evaluate market stability *(Hill et al., 2021).*

2. PESTLE Model

The PESTLE model offers a structured approach to analyzing macro environmental factors and is especially valuable for assessing geopolitical risks by evaluating external influences systematically (Ho, 2014).

Figure 1. Flow of PESTLE Model Analysis
Source: (Saudi,et al,2021,P.1733)

Components of the PESTLE Model

- Political: Government stability, trade laws, taxation, diplomatic ties.
- Economic: Inflation, interest rates, currency volatility, growth trends.
- Social: Demographics, cultural shifts, labor market conditions.
- Technological: Innovation, cybersecurity, infrastructure.
- Legal: Compliance, IP rights, governance regulations.
- Environmental: Climate policies, sustainability laws, resource access.

Application in Geopolitical Risk Assessment

The PESTLE model supports global strategic planning; multinationals use it to evaluate country-specific risks prior to market entry (Johnson et al., 2020).

3. Multi-Dimensional Risk Model

This model prioritizes risks by evaluating their impact, likelihood, speed, complexity, controllability, and responsiveness (Aven, 2016).

Components

- Impact: The magnitude of the risk's consequences.
- Likelihood: The probability of the risk materializing.
- Speed: The rapidity with which risks evolve.
- Complexity: The interdependencies between different risks.
- Controllability: The organization's ability to mitigate the risk.
- Responsiveness: The capacity to react effectively.

Application in Geopolitical Risk Assessment

The model helps organizations quantify geopolitical threats such as sanctions, conflicts, and political instability. Kaplan and Mikes (2016) confirm its value in enhancing financial sector resilience.

4. Impact and Probability Model

This model helps prioritize risks by assessing their likelihood and impact (Hillson & Murray-Webster, 2017).

Risk Categories

- High impact, high probability: Requires immediate action (e.g., impending economic crisis).
- High impact, low probability: Needs continuous monitoring (e.g., geopolitical conflicts in neighboring regions).
- Low impact, high probability: Requires preventive measures (e.g., minor regulatory changes).
- Low impact, low probability: Poses minimal concern.

Application in Geopolitical Risk Assessment

Used to classify risks like trade barriers, supply chain disruptions, and cybersecurity threats (Lindholm, 2021).

5. Dynamic Risk Model

This model evaluates risks in evolving environments by integrating internal and external factors to support adaptive risk management (Boin et al., 2013).

Components

- External changes: Market fluctuations, policy changes, and geopolitical shifts.
- Internal changes: Organizational restructuring, leadership transitions, and financial adjustments.
- Resulting risks: Financial, operational, and strategic risks.
- Response strategies: Rapid response mechanisms, strategic adjustments, and adaptive measures.

Application in Geopolitical Risk Assessment

This model is especially relevant in sectors facing fast-changing regulations and technological shifts. It has been applied in crisis management contexts such as Brexit and US -China trade tensions (Reinhart, 2020).

6. Neural Network Model

Artificial intelligence (AI) and artificial neural networks (ANNs) use machine learning to analyze large datasets, mimicking brain-like units that adaptively learn to recognize patterns and predict geopolitical risks accurately (Schmidt & Hofmann, 2013; Roba & Moulay, 2024).

Components

 Inputs (Xi): These are the input features received by the artificial neuron, each representing a specific attribute of the analyzed sample.

 Outputs: These are the network’s final outputs after processing inputs, representing its solution or prediction for the given problem.

Weights: Each neuron connection has a weight that reflects the significance of the input data. Neurons receive weighted inputs from the previous layer and transmit weighted outputs to the next layer.

 Summation Function: This function computes the weighted sum of all inputs to a neuron, serving as the basis for its internal state.

 Activation Function: The activation function controls a neuron's output, typically scaling it between 0 and 1. It adds non-linearity, enabling the network to learn complex patterns. Different types use thresholds to decide neuron activation.

Types of Neural Networks

- Artificial Neural Networks (ANN): General machine learning tasks.
- Recurrent Neural Networks (RNN): Time-series data analysis.
- Convolutional Neural Networks (CNN): Image and pattern recognition.

Application in Geopolitical Risk Assessment

Neural networks are widely used in risk forecasting, financial modeling, and cybersecurity. AI-driven models improve decision-making in global security and economic forecasts (Russell & Norvig, 2021).

4. Framework for Managing Geopolitical Risks

Financial institutions use established methods to manage many risks, but the financial sector lacks a standardized approach for geopolitical risks. This is due to the complexity and unpredictability of such threats, which limit traditional tools like scenario analysis. Unlike conventional risk management that estimates event likelihood and impact, managing geopolitical risk requires a proactive mindset to respond quickly and effectively to unforeseen events.

The focus shifts from exact forecasting to promoting adaptive thinking and flexible strategies, strengthening institutional resilience amid global volatility. Geopolitical risks are integrated into overall risk management, incorporating ESG principles (see Figure 1). This begins with creating a comprehensive inventory of key risk drivers to develop actionable scenarios. A risk profile matrix then categorizes critical geopolitical exposures across countries, regions, industries, and operations.

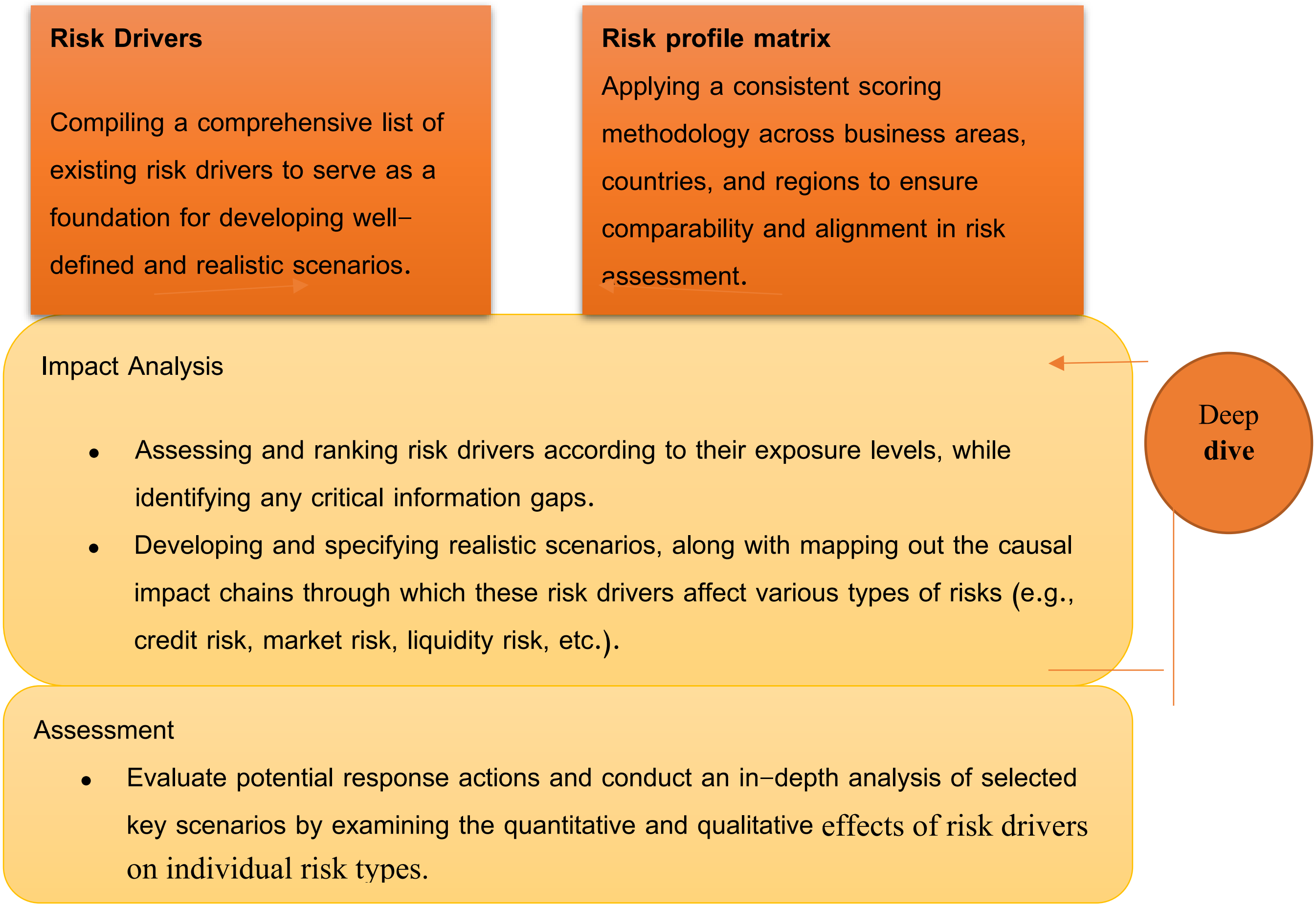

Figure 2: Framework for managing geopolitical risks
Source: KPMG International

5. An Accounting Index for Measuring Geopolitical Risks

With rising global challenges, geopolitical risks significantly affect business environments and international investments. Manifesting as political instability, trade disputes, sanctions, and policy shifts, these risks require companies to use economic and accounting indicators to evaluate their exposure and impact on corporate governance.

Geopolitical Risk Assessment Indicators

Geopolitical risks are quantified using a composite index built on six key dimensions:

1-Political Risk Index (PRG)

Assesses political stability, policy shifts, regional conflicts, and corruption using data from sources like the WGI, World Bank, and IMF.

2.Economic Risk Index (ERG)

Evaluates economic instability due to political factors—such as inflation, sanctions, and tax changes—based on reports from Moody's and Standard & Poor's.

3.Social Risk Index (SRG)

Measures social unrest, unemployment, service delivery, and public stability using UN and World Bank data.

4.Environmental Risk Index (ERG)

Assesses risks related to natural disasters, energy policy, and climate change, using data from the IPCC and other global environmental organizations.

5. Geopolitical Volatility Index (GEOVOL)

Captures the impact of geopolitical events on financial market volatility, reflecting shocks that influence global financial stability (Karagozoglu **et al.,** 2022).

6. Text-Based Geopolitical Risk Index

Uses textual analysis of news and expert reports to gauge public/media concern over geopolitical tensions, offering real-time risk insights.

Composite Index Formation

These four indicators are integrated to create a composite index that quantitatively reflects geopolitical risks through the following steps

Each sub-index is weighted based on its influence on business environments.

Factor Analysis is applied to unify them into a single index representing overall geopolitical risk.

The composite index is validated by comparing its values against actual company performance.

Role of the Composite Index in Corporate Governance

The proposed index functions as a strategic tool to support and enhance corporate governance by

- Enabling data-driven strategic decisions through quantitative assessment of geopolitical risks.

- Promoting transparency and accountability via integration of risk metrics into financial disclosures.

- Supporting the development of advanced risk management policies to reduce financial and operational exposure.

- Assisting investors and stakeholders in evaluating corporate sustainability under unstable conditions.

Overall, the index offers a precise analytical framework for assessing geopolitical risks and their business implications, thereby strengthening strategic planning and supporting long-term financial and managerial resilience.

6. The Impact of Geopolitical Risks on Internal and External Corporate Governance Mechanisms

Geopolitical risks are unexpected political events such as conflicts, sanctions, or trade policy shifts that disrupt business operations. These risks can affect supply chains, trigger market volatility, and raise operational costs. For example, trade restrictions driven by political tensions may hinder the movement of goods, challenging firms in meeting market demand.

The Role of Governance in Mitigating Geopolitical Risks

Corporate governance frameworks aim to reduce risks linked to political connections, as such firms often receive government favors, regulatory protection, and financial advantages. However, strong governance can mitigate the downsides of these ties by promoting transparency and fairness between connected and non -connected firms. Enhancing governance internally and externally requires improving accounting related governance practices at various levels, including

1. Enhancing Board of Directors' Responsibilities
2. Developing Audit Committee Functions
3. Improving Internal Audit Management
4. Strengthening the Role of External Auditors
5. Disclosing Political Connections

1. Enhancing the Board of Directors' Responsibilities

The board of directors is a central internal governance mechanism, positioned at the top of the corporate hierarchy. Despite delegating decision making to committees and executives and consulting external advisors it remains accountable to shareholders. The board oversees the appointment, removal, and compensation of senior management, with authority to reduce agency costs by reorganizing leadership as needed, ultimately safeguarding shareholder interests.

Effective corporate governance boosts financial reporting credibility by ensuring transparent board activities and selecting qualified executives. The board and its committees oversee management and provide reliable information to stakeholders, strengthening internal controls and protecting stakeholder rights. The 2016 Egyptian Corporate Governance Guide highlights the board's role, its optimal composition, and the importance of board committees in governance. The following examines the impact of the most important characteristics of the board of directors on political connections and its development

1. Board Independence

The 2016 Egyptian Corporate Governance Guide advises boards to include a mix of non-executive and at least two independent members with technical expertise. Following international best practices, board composition should avoid gender or religious bias. Independence is crucial to limit political influence, ensuring objective oversight and protecting shareholders. A majority of independent external members is recommended to balance oversight and management connection. Politically connected members have an advisory role, with decisions subject to full board approval to limit their impact.

2-Board Size

As outlined in the Egyptian Corporate Governance Guide (2016), the board should have an appropriate number of members to ensure effective functioning and committee formation. Board size is often viewed as a proxy for experience larger boards can enhance oversight by distributing responsibilities across more members. However, excessively large boards may hinder decision-making efficiency.

Accordingly, it is recommended to maintain a sufficiently large board with diverse financial and auditing expertise. Such diversity improves handling of accounting matters and may influence voting outcomes on tax-related decisions, particularly when politically connected members are involved.

3. Duality between the Chairman and CEO

The 2016 Egyptian Corporate Governance Guide advises separating the roles of Chairman and Managing Director to strengthen oversight and reduce agency costs. If not feasible, companies must justify the duality in reports and appoint an independent Vice Chairman to oversee executive performance. Separation prevents power concentration, enhances board effectiveness, and ensures executive accountability to shareholders. When both roles are combined, oversight is weakened, as information may be selectively presented to serve personal interests.

2.Developing the Audit Committee's Responsibilities

A board member on the audit committee acts both as an advisor and observer of management. The audit committee plays a crucial financial role by evaluating and strengthening internal controls and ensuring fair disclosure of financial statements, thereby boosting stakeholder confidence. If a politically connected member sits on the audit committee, their influence can significantly affect decisions related to the company's risk management.

Therefore, it is proposed that the development process for audit committees be based on the following points

1. Size of the Audit Committee

The 2016 Egyptian Corporate Governance Guide mandates that audit committees have at least three members to effectively assess auditors' judgments and question management. Larger committees often face coordination issues, reducing their effectiveness and delaying financial approvals. Politically connected members can compromise audit quality for personal gains, such as tax breaks or favorable loans. To maintain objectivity, it's recommended to exclude such members from audit committees and involve regulatory representatives like those from the Central Auditing Organization or Financial Regulatory Authority in meetings.

2. Audit Committee Independence

Audit committee effectiveness relies heavily on its independence. Greater independence reduces earnings management and financial misrepresentation, improving audit quality and timeliness, thus enhancing report accuracy. The presence of politically connected members compromises this independence, negatively affecting decisions and report reliability. Therefore, appointing an oversight member is recommended to safeguard the quality of accounting information.

3. Audit Committee Authority

Granting audit committees clear authority is essential for their effective role in reviewing internal controls, selecting external auditors, and facilitating auditor access to relevant documents. This authority must be explicitly defined in a formal charter that outlines their powers, providing a strong foundation for committees to perform their duties efficiently.

4.Financial expertise of audit committee members

Including at least one audit committee member with accounting and financial expertise positively impacts the quality of financial reports. Such expertise strengthens the board's oversight by ensuring adherence to auditing standards and reducing pressure from senior management. This enables independent auditors to conduct thorough, high quality audits, ensuring accurate and reliable accounting information.

5. Audit Committee Efforts

Capital market regulators set rules to strengthen audit committees. In Egypt, Article 7 of the Securities Listing and Delisting Rules (2002, amended 2010) and the Governance Rules Manual (2005, 2011, 2016) require at least one financially expert member and a minimum of four annual meetings to review financial statements. Meetings must allow time for in-depth discussion and may include management or internal auditors by invitation. More frequent meetings are linked to better reporting quality. Thus, increasing meeting frequency and involving a regulatory representative, such as from the Central Auditing Organization, is recommended to curb harmful practices and manage risks.

6. Rotation of Audit Committee Members

To enhance audit committee effectiveness in managing risks related to political connections, the following measures are recommended:

- Include a representative from a regulatory body (e.g., Central Auditing Organization, Financial Supervisory Authority, or Tax Authority) in committee meetings to curb adverse decisions linked to entity risks. Avoid appointing politically connected board members to preserve independence.

- Grant the audit committee clear authority to oversee internal controls, select external auditors, and facilitate auditor access to relevant documents.

- Establish a formal charter defining the committee's powers, strengthening its role and decision-making capacity.

- Ensure multiple members possess financial expertise to enhance oversight quality.

- Increase audit committee meetings to more than four annually, reflecting greater engagement.

- Conduct annual evaluations of committee members to identify necessary replacements, with rotation policies documented in the committee charter.

3. Developing the Responsibilities of the Internal Audit Department

According to the 2016 Egyptian Corporate Governance Guide, internal auditing is an independent, objective activity that adds value by improving organizational performance and achieving objectives. The Internal Audit Department is led by a full-time official who reports to the Audit Committee and is administratively accountable to the CEO. The director is appointed upon the Audit Committee's recommendation and CEO approval, with full authority and resources to perform effectively.

The department's responsibilities include evaluating internal controls, assessing procedures, and following up on audit findings from internal, external, and regulatory reports. Although many Egyptian listed entities have internal audit departments, several weaknesses limit their governance role

-Lack of sufficient organizational independence and administrative support. Incentive compensation tied to earnings may compromise auditor objectivity.

-Continued focus on traditional financial audit and compliance, without fully adopting advisory roles in risk management and governance.

-Weak coordination between internal and external auditors.

To address these issues, it is recommended to appoint a qualified internal audit manager without political ties. Enhancing independence requires improving the auditor's professional status, defining the audit scope clearly, fostering networks of contacts, and securing management support. Additionally, rotating the internal audit leadership every five years is advised to maintain independence and effectiveness.

4. Developing the responsibilities of the external auditor

The external auditor is a key governance figure whose independence enhances audit effectiveness and stakeholder confidence. Appointed by the General Assembly upon the Board and Audit Committee's recommendation, auditors must meet legal requirements for competence and experience appropriate to the entity's size and nature. Auditor tenure is limited to five years, with a minimum three-year cooling-off period before reappointment. Large companies may appoint two auditors.

Independent audits help resolve agency problems, yet audit quality remains hard to define and measure. Proxy indicators include audit firm size, Big Four affiliation, reputation, contract duration, non-audit services, litigation history, and industry experience.

According to the 2016 Egyptian Corporate Governance Guide, external auditors must obtain Audit Committee approval before providing non-audit services, such as advisory and tax planning. Tax services leverage auditors' expertise to optimize entity value.

Entities with political ties tend to hire lower-quality auditors (non-Big Four) but pay higher fees due to financial concealment and report manipulation. Big Four firms help ensure financial credibility and limit profit manipulation to protect their reputation.

Recommendations to improve audit quality amid political connections include

Appointing external auditors from the Big Four in politically connected entities.

Rotating auditors within five years to prevent overly close relationships with management and board.

5. Disclosure of Political Ties

The availability of information plays a significant role in decision-making, performance evaluation, knowledge of a company's circumstances, and assessment of its credibility with those it deals with. Therefore, transparency and disclosure of financial and non-financial matters are key pillars of corporate governance, impacting the efficiency, credibility, and balance of markets and achieving fairness and protection for investors, thus supporting the investment climate and the economy as a whole. Disclosure means following a policy of complete clarity and revealing all financial and non-financial facts and information, as well as material events about the entity that are of interest to investors, related parties, and all members of the investment community, and making them available to those parties fairly and in a timely manner so that they can make appropriate decisions based on correct and accurate information. The entity must disclose, through various means, the entity's financial information that is of interest only to shareholders, such as its annual and periodic financial statements, annual and periodic auditor's reports, as well as the board of directors' report, policies, estimated budgets, asset valuation methods, and dividend distributions. The entity must also disclose non-financial information that is of interest to shareholders and other stakeholders, including information related to the entity's objectives, vision, nature of its activity, plans, and future strategy, the composition of the board of directors, its committees, senior executives, and administrative competencies in the entity, their CVs, as well as systems for raising the competencies of employees, the remuneration and allowances received by members of the board, its committees, and senior executives during the year, and the entity's ownership structure, including major shareholders and influential shareholders, clarifying the owners. The direct and indirect beneficiaries of these shares. The entity must also disclose the most significant risks it may face and the means to address them, as well as changes in its investment policy. It must also report on its compliance with corporate governance rules to achieve the best possible long-term sustainability rates. Disclosure is made through the following tools

- Annual Report: This is the most important source of information for current and prospective investors about the entity, its activities, and its financial position.
- The Board of Directors' Report is issued annually for presentation to the General Assembly and regulatory authorities. It includes the entity's achievements, strategy, the composition of the Board of Directors and its committees, and the frequency of their meetings.
- Governance Report: This report demonstrates the extent of compliance with governance rules and the justifications for non-compliance. The report includes governance procedures, the composition of the Board of Directors and its committees, any actions taken against the entity by regulatory authorities, and the extent of compliance with disclosure rules.
- The disclosure report, a quarterly report, includes the structure of shareholders who own 5% or more of the entity's shares, changes in the entity's board of directors, and the latest board composition. Website: Includes the composition of the board of directors, its committees, and senior management, annual reports, financial statements, periodic and annual business results, and corporate governance policy. Therefore, it is proposed to mitigate the risks of political connections to the national economy through the disclosure of any political connections, whether present among board members, audit committee members, executive directors, or internal officials. Disclosure is included in all disclosure reports, whether annual or quarterly (annual report, board of directors' report, governance report, disclosure report, or the entity's website).

Geopolitical risks highlight the need to strengthen internal and external corporate governance mechanisms to ensure business continuity and stability. By integrating these mechanisms and adopting flexible strategies, companies can adapt to geopolitical challenges and maintain their performance.

7.The Role Of Corporate Governance In Geopolitical Risks

The role of corporate governance in geopolitical risks is clear to us from Figure3 as follows

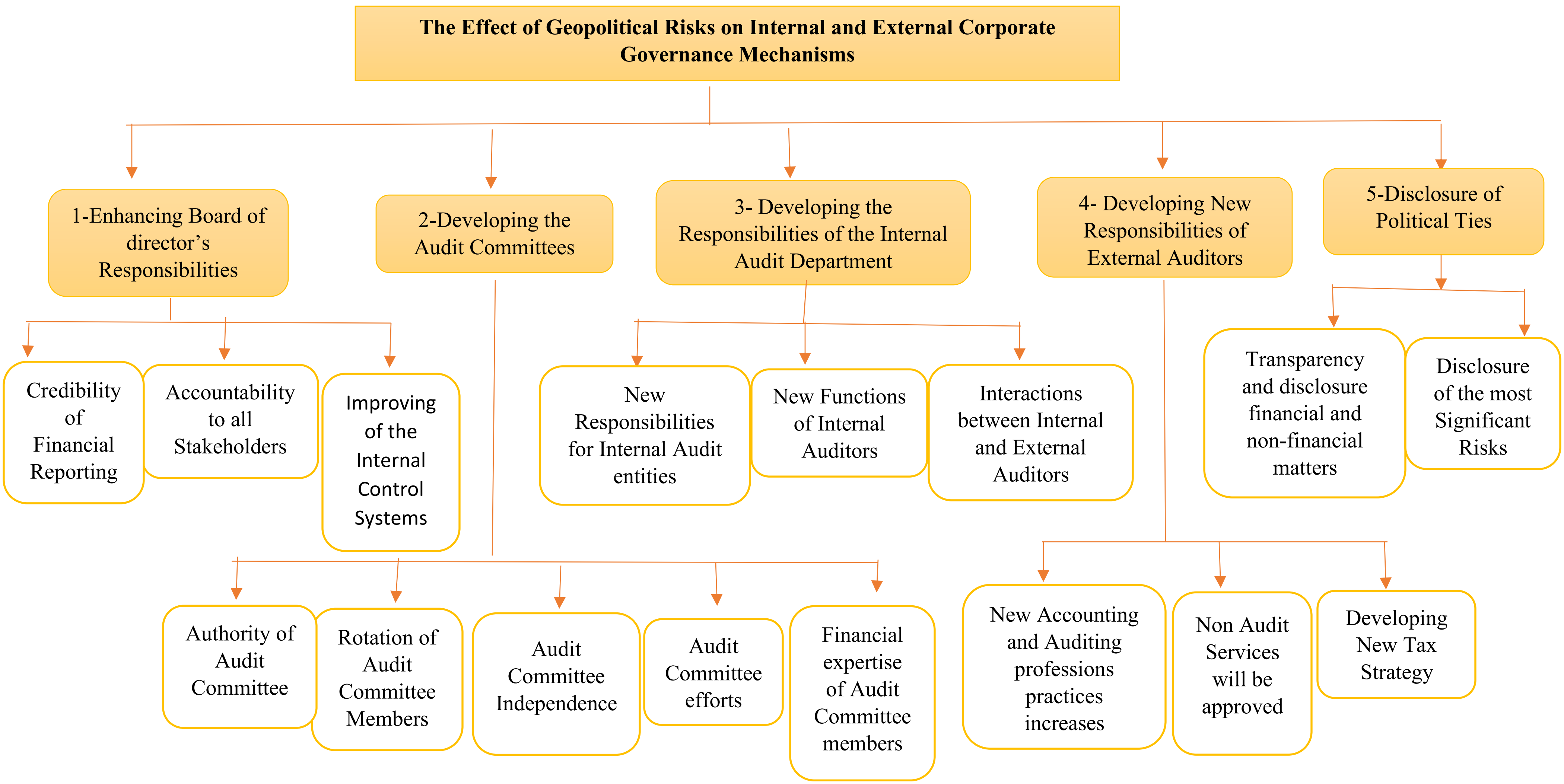

Figure3: The role of corporate governance in geopolitical risks

Source: The Researche

8.How Can Boards Face The Reflections Of Geopolitical Risks

Embedding Geopolitical Risk in Board Strategic Decision Making

Identify & Assess Risks: Boards should identify all current and potential geopolitical risks impacting strategy, business model, finances, and global operations, understanding key vulnerabilities.

Analyze Historical Patterns: Study how these risks have evolved across industries and countries to gain broader, deeper insights into their possible future developments.

Prioritize Risks: Categorize risks by likelihood and impact both financial and reputational—to focus management efforts on the most critical threats.

Develop Policies & Contingency Plans: Establish strategies to hedge, avoid, or mitigate risks, supporting management in flexible scenario planning to respond to uncertain events.

Boards must ensure their strategies are resilient against geopolitical crises, maintaining open, collaborative dialogue with relevant government bodies not for lobbying, but for shared understanding of geopolitical priorities. This collaboration helps boards stay informed about international developments and align strategies accordingly.

Ultimately, boards need to cultivate a forward-looking mindset, fully grasping the evolving global political and economic landscape. Given the growing impact of geopolitical disruptions—often exceeding technological risks boards play a crucial role in guiding their organizations to create both economic value and societal benefit, acting as bridges for global cooperation and sustainable prosperity.

9. Research Methodology

The research employed a positivist approach, using the deductive method to analyze previous studies and develop hypotheses. It then applied the inductive method to test these hypotheses practically within the Egyptian business environment through an exploratory study. This study gathered insights from directors, accountants, auditors, stakeholders, and academic users of financial statements regarding the impact of geopolitical risks on corporate governance mechanisms in Egyptian companies.

9.1. Sample Description and Data Collection

The research sample included academics (professors of accounting and auditing), company directors, and stakeholders from various sectors of companies listed on the Egyptian Stock Exchange. Data was collected via a questionnaire distributed to 150 individuals, with 50 questionnaires allocated to each group.

Table2. The number of valid cumulative Responses for each category**.**

	Frequency	Percent	Valid percent
Academics	50	34%	34
Doctors and Auditors	48	33%	67
Stock holders	47	33%	100
Total	145	100%	

Source: SPSS Statistical Analysis

Table 3. The Qualifications of the Sample

		Frequency	Percent	Valid Percent	Cumulative Percent
	Less than 5 years	5	3.5	3.5	3.5
	10 -20 years	70	48.6	48.6	52.1
Valid	5-10 years	69	47.9	47.9	100.0
	More than 20 years	1	0.7%	0.7%	4.1%
	Total	145	100.0	100.0	

Source: SPSS Statistical Analysis

Table 4. The Practical Experience of the Sample:

		Frequency	Percent	Valid Percent	Cumulative Percent
	Bachelor	2	.7	.7	.7
	Master	18	12.5	12.5	13.2
Valid	Diploma	82	56.9	56.9	70.1
	Doctorate	43	29.9	29.9	100.0
	Total	145	100.0	100.0	

Source: SPSS Statistical Analysis

The responses underwent reliability analysis using Cronbach's Alpha to assess the internal consistency and credibility of the questionnaire items and variables. This test evaluates the reliability of the sample responses, the validity of the data for statistical analysis, and the generalizability of the results to the study population. As shown in the table below, the Cronbach's Alpha was 0.935, exceeding the accepted threshold of 0.60, indicating a high level of consistency and reliability. This confirms that the collected data is dependable for further statistical analysis and hypothesis testing.

Table 5. Result of Reliability Analysis

Cronbach's Alpha	N. of items
935	334

Source: SPSS Statistical Analysis

9.2.Research Hypotheses

The study tested two hypotheses, as follows

First Hypotheses: There is agreement between the study sample groups about the need of an accounting index for measuring the Impact of Geopolitical Risks and Their Implications on Corporate Governance.

Second Hypotheses: There is agreement between the study sample groups about the effects of geopolitical risks on Internal and External Corporate Governance mechanisms.

9.3. Results of Research hypothesis tests

The research hypotheses were tested through data analysis using the Statistical package for Social Science (SPSS) to perform the necessary statistical analysis and tested confidence level equal 5%. The appropriate tests were chosen according to the nature of data collected, and the results of research hypotheses tests

9.3.1. Results of the First Hypothesis Test

Null Hypothesis (H0): There is no agreement between the study sample groups about the need of an accounting index for measuring the Impact of Geopolitical Risks and Their Implications on Corporate Governance.

Alternative Hypothesis (H1): There is agreement between the study sample groups about the need of an accounting index for measuring the Impact of Geopolitical Risks and Their Implications on Corporate Governance.

This hypothesis was tested by analyzing the answers of the samples represented by variables from X1-1 to X1-6. The Five Leckert scale was used in the first question, and the following weights have been allocated to the response of the sample members: (5) very important, (4) important, (3) neutral, (2) not important, (1) not important at all. The Y variable was measured using 15 statements covering five main dimensions of internal and external governance mechanisms. The mean value of the Y variable was 5.45, indicating a high level of awareness among respondents of the importance of integrating geopolitical risk considerations into governance. The standard deviation was 0.415, reflecting a relative convergence of responses on this variable. All correlation coefficients are statistically significant at the ($p < 0.01$) level, reflecting the existence of a strong, positive relationship between these variables and the dependent variable Y.

Table 6. Descriptive analysis of a variable Y Geopolitical Risks

	Mean	Std. Deviation	N
Y: Geopolitical Risks	5.4495	.41587	145
m1-1: Political Risk Index (PRG):	4.3057	.39772	145
M1-2: Economic Risk Index (ERG)	4.4000	.39008	145
M1-3 :Social Risk Index (SRG)	4.3241	.40625	145
M1-4 : Environmental Risk Index (ERG)	4.4092	.43345	145
M1-5: Geopolitical Volatility Index (GEOVOL)	4.3931	.41326	145
M1-6: Text-Based Geopolitical Risk Index	4.4023	.38469	145

Source: SPSS Statistical Analysis

The correlation between the dependent variable Y and the independent variables (m1-1 to m1-6) was also analyzed, where the Pearson Correlation test was conducted between the variable Y and the following independent variables

Table 7. Pearson Correlation between Risk Indexes and Governance Variable (Y)
Correlations

	Geopolitical Risks	Political Risk Index (PRG)	Economic Risk Index (ERG)	Social Risk Index (SRG)	Environmental Risk Index (ERG)	Geopolitical Volatility Index (GEOVOL)	Text-Based Geopolitical Risk Index
	1.000	.606	.540	.490	.522	.471	.461
m1-1 Political Risk Index (PRG)	.606	1.000	.355	.538	.285	.329	.355
M1-2 Economic Risk Index (ERG)	.540	.355	1.000	.277	.559	.382	.468
M1-3Social Risk Index (SRG)	.490	.538	.277	1.000	.206	.394	.315
Pearson Correlation M1-4 Environmental Risk Index (ERG)	.522	.285	.559	.206	1.000	.315	.394
M1-5 Geopolitical Volatility Index (GEOVOL)	.471	.329	.382	.394	.315	1.000	.605

M1-6 Text-Based Geopolitical Risk Index	.461	.355	.468	.315	.394	.605	1.000
Y Geopolitical Risks	.	.000	.000	.000	.000	.000	.000
Sig. (1-tailed) M1-1 Political Risk Index (PRG)	.000	.	.000	.000	.000	.000	.000
M1-2 Economic Risk Index (ERG)	.000	.000	.	.000	.000	.000	.000
M1-3Social Risk Index (SRG)	.000	.000	.000	.	.007	.000	.000
M1-4 Environmental Risk Index (ERG)	.000	.000	.000	.007	.	.000	.000
M1-5 Geopolitical Volatility Index (GEOVOL)	.000	.000	.000	.000	.000	.	.000
M1-6 Text-Based Geopolitical Risk Index	.000	.000	.000	.000	.000	.000	.

Source: SPSS Statistical Analysis

The analysis shows that the variable Y, an accounting indicator for measuring geopolitical risk, is significantly correlated with all risk indicators—political, economic, social, environmental, Geopolitical Volatility, and Text-Based Geopolitical Risk. This confirms that strengthening corporate governance requires integrating these geopolitical risk factors into decision-making and strategic planning.

Accordingly, the null hypothesis was rejected, and the alternative hypothesis accepted, indicating agreement between the two study groups on the necessity of an accounting index to measure the impact of geopolitical risks on corporate governance.

9.3.2. Results of the second Hypothesis Test

The second hypothesis examined the agreement between the study sample groups about the effects of geopolitical risks on Internal and External Corporate Governance mechanisms. This hypothesis has been formulated for statistical testing in the form of null and alternative hypothesis as follows

Null Hypothesis (H0): There is no agreement between the study sample groups about the effects of geopolitical risks on Internal and External Corporate Governance mechanisms.

Alternative Hypothesis (H1): There is agreement between the study sample groups about the effects of geopolitical risks on Internal and External Corporate Governance mechanisms.

For analysis purposes, the sample members' responses to a set of questions representing the independent variables M2-1 to M2-5 were used, covering four main themes: the role of the board of directors, the role of the audit committee, the role of internal audit, and the role of external audit. The governance variable (Y) was measured based on 15 statements representing the internal and external dimensions of governance.

The results showed that most items in the X2 variable recorded averages between 4.20 and 4.42, indicating strong agreement among participants on the importance of integrating geopolitical aspects into governance mechanisms. The highest average was for the phrase "political disclosure enhances trust" (4.42), while the lowest was for "verifying the integrity of disclosure in the face of challenges" (4.20), reflecting slight variation in participants' perceptions of these dimensions.

Table 8. Descriptive analysis of a variable Y Geopolitical Risks

	Mean	Std. Deviation	N
Y: The Impact of Geopolitical Risks on Internal and External Corporate Governance Mechanisms	5.45	0.416	145
X2-1The board of directors is keen to integrate geopolitical risk analysis into its strategic decisions to enhance corporate stability	4.31	0.620	145
X2-2The board plays an active role in strengthening transparency and reducing the influence of political ties on financial performance.	4.23	0.676	145
X2-3The board continuously monitors geopolitical risks to ensure a stable investment environment for shareholders.	4.35	0.663	145
X2-4The audit committee ensures that governance standards are enhanced to address the influence of geopolitical risks on corporate decisions.	4.30	0.592	145
X2-5The audit committee plays a central role in safeguarding the independence of financial reporting from political pressures.	4.38	0.614	145
X2-6The audit committee commits to regularly reviewing the impact of geopolitical risks on the quality of financial reports.	4.32	0.611	145
X2-7The internal audit department develops effective mechanisms to detect and assess geopolitical risks.	4.22	0.681	145
X2-8Internal audit contributes to improving the efficiency of internal control systems in dealing with geopolitical crises.	4.27	0.682	145
X2-9The internal audit department ensures the reliability of financial reports despite challenges posed by geopolitical conditions.	4.29	0.657	145
X2-10The external auditor provides unbiased reports clarifying the impact of geopolitical risks on the company's financial statements.	4.27	0.692	145
X2-11The external auditor is committed to verifying the integrity of financial disclosures under the presence of geopolitical challenges.	4.20	0.890	145
X2-12Collaboration with the external auditor enhances the company's ability to flexibly manage potential political risks.	4.32	0.665	145

X2-13The company is committed to transparent disclosure of any political affiliations in its financial reports to ensure information integrity.	4.33	0.648	145
X2-14Management ensures that all details related to political ties are included in the annual governance reports.	4.36	0.598	145
X2-15The company believes that disclosing political relationships strengthens investor confidence and promotes credibility with stakeholders	4.42	0.536	145

Source: SPSS Statistical Analysis

Table 9. The Pearson Correlation test

The Impact of Geopolitical Risks on Internal and External Corporate Governance Mechanisms	Pearson Correlation	Sig. (2-tailed)
Y	.044	.600
X2-1The board of directors is keen to integrate geopolitical risk analysis into its strategic decisions to enhance corporate stability	1	0.000
X2-2The board plays an active role in strengthening transparency and reducing the influence of political ties on financial performance.	.378**	0.000
X2-3The board continuously monitors geopolitical risks to ensure a stable investment environment for shareholders.	0.137	.101
X2-4The audit committee ensures that governance standards are enhanced to address the influence of geopolitical risks on corporate decisions.	-.046-	.581
X2-5The audit committee plays a central role in safeguarding the independence of financial reporting from political pressures.	.125	.135
X2-6The audit committee commits to regularly reviewing the impact of geopolitical risks on the quality of financial reports.	.196*	0.18
X2-7The internal audit department develops effective mechanisms to detect and assess geopolitical risks.	.254**	0.002
X2-8Internal audit contributes to improving the efficiency of internal control systems in dealing with geopolitical crises.	.146	.081
X2-9The internal audit department ensures the reliability of financial reports despite challenges posed by geopolitical conditions.	.273**	0.001
X2-10The external auditor provides unbiased reports clarifying the impact of geopolitical risks on the company’s financial statements.	.290**	0.000
X2-11The external auditor is committed to verifying the integrity of financial disclosures under the presence of geopolitical challenges.	-.064-	0.445
X2-12Collaboration with the external auditor enhances the company's ability to flexibly manage potential political risks.	.180*	0.31

X2-13The company is committed to transparent disclosure of any political affiliations in its financial reports to ensure information integrity.	.139	0.96
X2-14Management ensures that all details related to political ties are included in the annual governance reports.	.071	0.400
X2-15The company believes that disclosing political relationships strengthens investor confidence and promotes credibility with stakeholders	.146	0.081

Source: SPSS Statistical Analysis

Based on the previous results, the null hypothesis was rejected and the alternative hypothesis was accepted, which states that there is agreement between the two study groups about the

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	14.388	6	2.398	31.467	.000[b]
1	Residual	10.517	139	.076		
	Total	24.904	145			

effects of geopolitical risks on Internal and External Corporate Governance mechanisms.

Table 10. Multiple regression analysis table for the Y variable
Source: SPSS Statistical Analysis

Table 11. Coefficients of the Multiple Linear Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	Sig. F Change	Durbin-Watson
1	.760[a]	.578	.559	.27606	.578	.000	1.747

Source: SPSS Statistical Analysis

$R^2 = 0.578$ means that 57.8% of the variance in the dependent variable Y can be explained by the independent variables (m1 to m6).

Analysis of variance (ANOVA) was used to test the significance of the regression model, which included the independent variables (m1 to m6) as indicators of the impact of geopolitical risks on the dependent variable y, As shown in the table, the regression sum of squares (RSS) was 14.388, while the residual sum of squares (error) was 10.517, yielding a total of 24.904.

Accordingly, the F value was 31.467, which is high and statistically significant at the significance level (Sig. = 0.000), indicating that the model as a whole is highly statistically significant. This means that the independent variables combined significantly explain a large proportion of the variance in the dependent variable y. This confirms that the regression model has high explanatory power and can be relied upon to understand the impact of geopolitical risks on the quality and effectiveness of corporate governance.

These findings support the theoretical assumption that geopolitical risks are multidimensional and must be incorporated comprehensively within the internal, external auditing, and disclosure functions to strengthen governance mechanisms in companies.

10.Conclusion

In recent decades, geopolitical tensions have increased significantly, becoming a major source of both systematic and unsystematic risks for businesses. Although geopolitical risk (GPR) has received considerable scholarly attention especially regarding its effects on financial markets, macroeconomic performance, and corporate investment decisions—there is broad consensus in the accounting literature that GPR has a significantly adverse impact on economic activity.

This research reviews models for measuring geopolitical risk, including the SWOT model, dynamic risk model, and neural network model. A comprehensive framework for measuring and managing geopolitical risks was developed by identifying risk drivers, creating a risk profile matrix, and analyzing their impacts. An accounting index termed the Compass Index was formulated by assigning relative weights to key indicators: political risk, economic risk, social risk, environmental risk, and geopolitical volatility, using factor analysis to create a unified measure.

The study also highlights the role of corporate governance mechanisms in mitigating geopolitical risks. This includes enhancing the board of directors' responsibilities, developing audit committee functions, improving internal audit management, strengthening external auditors' roles, and increasing disclosure of political connections.

Empirical findings provide valuable insights for policymakers, corporate executives, and investors on the importance of managing geopolitical risks. Careful control of risk drivers and establishing early monitoring systems are essential for effective risk management.

11.Research Limitations and Recommendations

While this study enriches understanding of the impact of geopolitical risks, it has several limitations

The sample is limited to Egyptian publicly listed firms, excluding small and medium enterprises.

The accounting index focuses on measuring the effects of geopolitical risks on corporate governance but does not incorporate the strategic dimension, such as integrating geopolitical risk governance with company strategy and performance to help boards prioritize threats.

The proposed index includes only four dimensions; additional factors like financial and growth indicators could provide more forward-looking insights.

The study measures geopolitical risks at the country level and company-specific exposure but does not detail firms' economic activities, such as sales distribution across regions or countries. Furthermore, disclosure of geopolitical risks remains a complex issue, requiring more research on direct and indirect costs of such disclosures.

The research considers only a limited set of risk management models; future studies should explore a broader range of models and how firms actively shape their political and social environments through decisions and actions.

Recommendations

The researcher recommends applying the proposed index within the Egyptian context to enhance disclosure of the accounting impact of geopolitical risks and to mitigate their effects on the national economy. Further applied research should examine geopolitical risks' influence on company value, stock prices, and exchange rates, aligned with Egyptian and international standards. Additionally, future studies should explore how geopolitical risks affect external audit procedures, auditor reports, and key audit matters in line with relevant auditing standards.

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Appendix

Dear Respondent,

After greeting and appreciation...

The researcher is conducting a field study entitle (A Proposed Accounting Index for Measuring the Impact of Geopolitical Risks and Their Implications on Corporate Governance Mechanisms in Egyptian Companies: An Exploratory Study)

Prepared By:

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This research aims to develop an accounting index to measure the effects of geopolitical risks and their impact on the quality of financial reporting**.**

To bridge the theoretical framework with practical application, this questionnaire has been designed. It includes a set of questions that reflect the key variables explored in this study**.**

The researcher kindly requests your cooperation in answering the questions as accurately and honestly as possible. Your insights will add significant scientific value to the research. If you wish to receive the results, they will be shared with you to help you benefit from the findings.

Researcher

Personal Data

Name (Optional): ………………….

Job: ………………………………..

Qualification:

- Bachelor - Master
- Diploma - Doctorate

Experience

- Less than 5 years - 10 -20 years
- 5-10 years - More than 20 years

1. The following are An Accounting Index for Measuring Geopolitical Risks, please specify how important each Index role is from your point of view:-

An Accounting Index for Measuring Geopolitical Risks	Very important	Important	I don't know	Not important	Not important At all
(1) Political Risk Index (PRG): □ Your company committed to analyzing the impact of political changes on its financial strategies to ensure sustainable performance? □ Your company make investment decisions based on a thorough assessment of political shifts in the business environment? □ Your company continuously develop effective response plans to address potential political crises? (2) Economic Risk Index (ERG): □Your company relies on proactive economic analysis to minimize the impact of geopolitical crises on its financial stability. □ Your company takes into account economic risks arising from geopolitical tensions when developing its financial plans. □ To what extent does you think apply effective accounting procedures to reduce losses caused by economic crises linked to geopolitical fluctuations. (3) Social Risk Index (SRG): □ Does your company carefully monitors the social environment to ensure business continuity during potential geopolitical crises. □ To what extent does you think integrates social risks arising from geopolitical changes into its institutional risk assessments. □ recognize the importance of incorporating social considerations into crisis management plans to preserve the company's reputation. (4) Environmental Risk Index (ERG): □ To what extent does your company is committed to monitoring environmental risks related to geopolitical crises and integrating them into its accounting systems.					

To what extent does your company do Financial reports include clear disclosures about the environmental impact resulting from global political shifts. To what extent does your company management supports environmental sustainability policies as a way to mitigate geopolitically driven environmental risks. <u>(5) Geopolitical Volatility Index (GEOVOL):</u> Does your company monitor the volatility of global financial markets caused by geopolitical tensions when making strategic decisions? • To what extent does your company consider fluctuations in geopolitical volatility as a key factor when adjusting its investment strategies? To what extent does your company integrate data from the Geopolitical Volatility Index (GEOVOL) into its financial risk management systems? <u>(6) Text-Based Geopolitical Risk Index:</u> Does your company rely on text-based geopolitical risk analyses from news sources and expert reports to evaluate potential market threats? To what extent does your company incorporate media-based geopolitical risk indicators into its risk assessment models? Does your company monitor text-based geopolitical risk indexes to adjust its strategic and financial plans in response to geopolitical developments?					

(2) In your opinion, are there any other Index can Measuring Geopolitical

( ) Yes ( ) No

<u>If yes,</u> please mention these Index:

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……………………………………………………………………………

(3) The following are some of The Impact of Geopolitical Risks on Internal and External Corporate Governance Mechanisms, please specify the extent of your agreement with each of them from your point of view

The Impact of Geopolitical Risks on Internal and External Corporate Governance Mechanisms	Strongly Agree	Agree	I don't know	I don't Agree	I don't Agree At all
<u>(1)Enhancing Board of Directors' Responsibilities:</u> • The board of directors is keen to integrate geopolitical risk analysis into its strategic decisions to enhance corporate stability. • The board plays an active role in strengthening transparency and reducing the influence of political ties on financial performance. • The board continuously monitors geopolitical risks to ensure a stable investment environment for shareholders. <u>(2)Developing Audit Committee Functions:</u> • The audit committee ensures that governance standards are enhanced to address the influence of geopolitical risks on corporate decisions. • The audit committee plays a central role in safeguarding the independence of financial reporting from political pressures. • The audit committee commits to regularly reviewing the impact of geopolitical risks on the quality of financial reports. <u>(3) Improving Internal Audit Management:</u> • The internal audit department develops effective mechanisms to detect and assess geopolitical risks. • Internal audit contributes to improving the efficiency of internal control systems in dealing with geopolitical crises. • The internal audit department ensures the reliability of financial reports despite challenges posed by geopolitical conditions. <u>(4) Strengthening the Role of External Auditors:</u> • The external auditor provides unbiased reports clarifying the impact of geopolitical risks on the company's financial statements.					

□ The external auditor is committed to verifying the integrity of financial disclosures under the presence of geopolitical challenges. □Collaboration with the external auditor enhances the company's ability to flexibly manage potential political risks. (5) Disclosing Political Connections: □ The company is committed to transparent disclosure of any political affiliations in its financial reports to ensure information integrity. □ Management ensures that all details related to political ties are included in the annual governance reports. □ The company believes that disclosing political relationships strengthens investor confidence and promotes credibility with stakeholders.					

Thank you for cooperation with us

مستخلص البحث

هدفت الدراسة إلى تطوير مؤشر محاسبي مركب لقياس آثار المخاطر الجيوسياسية على حوكمة الشركات. اعتمدت منهجًا إيجابيًا بدأ بتحليل الدراسات المحاسبية السابقة لاستخلاص فرضيات رئيسية، ثم استعرضت نماذج قياس مثل SWOT و PESTLE والمخاطر متعددة الأبعاد والشبكات العصبية والنماذج الديناميكية، لتحديد مؤشرات المؤشر المركب، الذي يدمج الأبعاد السياسية والاقتصادية والاجتماعية والبيئية.

أظهرت النتائج أن المخاطر الجيوسياسية تؤثر بوضوح على الحوكمة الداخلية والخارجية، مما يتطلب تعزيز دور لجان المراجعة، وتوسيع مسؤوليات المراجعين الخارجيين، والإفصاح عن المخاطر المتعددة الأبعاد.

تدعم النتائج الفرضيات النظرية التي تؤكد الطبيعة المتعددة للمخاطر الجيوسياسية، وتبرز أهمية دمجها في عمليات التدقيق والإفصاح لتعزيز الحوكمة. وتُعد هذه الدراسة إضافة نوعية للدراسات المحاسبية التطبيقية في هذا المجال.

الكلمات المفتاحية: المخاطر الجيوسياسية، آليات حوكمة الشركات