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When Risk Meets Confidence: How ESG and Innovation Shape Corporate Finance in Emerging Markets

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ABSTRACT

This study investigates how macroeconomic uncertainties and firm-level behavioral and innovation factors interact to shape corporate financial outcomes in emerging markets. We specifically investigate the interaction between geopolitical risk (GPR), economic policy uncertainty (EPU), research and development (R&D) intensity, and managerial overconfidence on corporate leverage and stock returns, with environmental, social, and governance (ESG) performance serving as a moderating variable. Using panel data from listed firms across Indonesia, Malaysia, and Thailand during 2014-2024, the results reveal that GPR, R&D intensity, and managerial overconfidence increase leverage, whereas GPR reduces stock returns and EPU enhances them. R&D and managerial overconfidence do not significantly affect returns, and stock returns do not mediate the relationship between risk and leverage. Moreover, ESG performance amplifies the effects of GPR and EPU on both leverage and returns. By integrating macro-financial uncertainty, managerial behavior, and sustainability dimensions, this study contributes to the literature on corporate finance under uncertainty and provides policy-relevant insights for regulators and investors in emerging markets.

Keywords: Capital Structure Decisions, Corporate Innovation, Behavioral Bias, Risk Management, Emerging Market
JEL Classifications: F36, F39, G30

1. INTRODUCTION

Over the past few decades, uncertainty has become a defining feature of global economic dynamics. International financial markets have shown heightened volatility due to the US-China trade war, Russia's invasion of Ukraine, tensions in the Middle East, and the Federal Reserve's aggressive monetary tightening. These developments highlight two dominant external factors shaping corporate financial decisions: Geopolitical risk (GPR) and economic policy uncertainty (EPU). Shifts in domestic and international policies influence capital structures, cash flow expectations, and investor risk perception (Baker et al., 2016; Caldara and Iacoviell, 2022). Understanding how GPR and EPU affect leverage and stock returns has therefore become an essential issue in modern finance.

Emerging markets such as Indonesia, Malaysia, and Thailand are highly exposed to global uncertainty. Rising geopolitical tension triggers capital outflows, increases funding costs, weakens currencies, and reduces market liquidity (Adel and Naili, 2024). Similarly, policy uncertainty in major economies disrupts trade and investment flows, underscoring the urgency to examine how these external shocks influence financial policies in Southeast Asia.

Within capital structure theory, GPR is typically linked to greater default risk, prompting firms to reduce leverage for solvency preservation (Baker et al., 2016). However, access to equity markets often shrinks under such uncertainty, leading some firms to raise debt as a survival strategy. Consequently, the GPR-leverage relationship is contingent upon the firm's strategy, industry, and domestic circumstances. Empirically, GPR surges are found to suppress investment and encourage cash hoarding (Caldara and Iacoviell, 2022). Consistent with real options theory emphasizing flexibility under uncertainty (Bolton et al., 2019). Nevertheless,

opposing results exist: Cheng et al. (2023) and Oloko et al. (2021) show that firms may increase leverage to exploit opportunities created by market volatility.

Unlike GPR, EPU primarily affects investment through a deferral mechanism (Hoque and Zaidi, 2020; Bilgili et al., 2022). Policy unpredictability taxes, tariffs, or interest rates causes firms to delay projects and tighten capital structures. EPU also makes stock returns more volatile because investors react quickly to news about the economy. However, uncertainty may encourage adaptive responses, such as financing diversification or digital transformation, resulting in long-term benefits (Taouab and Issor, 2019). According to pecking order theory, firms prefer internal financing under uncertainty (Myers and Majuf, 1984), while real options theory argues for delaying commitments. Empirical studies confirm that EPU suppresses leverage (Adil et al., 2025; Vega-Gutiérrez et al., 2024), though firms with ample cash buffers or global access to capital demonstrate resilience (Jumah et al., 2023; Lu et al., 2023).

Internally, firms rely on R&D investments to confront global risk. Under agency theory, R&D creates intangible assets difficult to collateralize, raising moral hazard and leading firms to favor equity (Jensen and Meckling, 1976). As a result, companies with high R&D intensity tend to use equity (Hall and Lerner, 2009; Brown et al., 2009). Adu-Ameyaw et al. (2022) discovered that R&D enhances leverage in technology firms, indicating positive growth, while Wu et al. (2020) highlighted the influence of government support in modifying this relationship. R&D enhances competitiveness and long-term value (Gamba, 2019; Rahim et al., 2025; Raymond and St-Pierre, 2010). Often yielding superior returns (Standert, 2020), though not always immediately (Şekeroğlu and Karaboğa, 2023; Ghazal et al., 2024).

Managerial overconfidence also affects financial policy. Overconfident managers tend to overestimate cash flows and underestimate risk, increasing debt use (Malmendier and Tate, 2005). Evidence is mixed. Hackbarth (2009) and Carvalho et al. (2024) find positive effects on leverage, while Ben-David et al. (2013) show the opposite under high uncertainty. Such bias may heighten overinvestment and risk in weakly governed emerging markets (Cueva and Iturbe-Ormaetxe, 2025; Rahim et al., 2019).

Classical finance theories remain foundational. Trade-off theory (Modigliani and Miller, 1958; Kraus and Litzenberger, 1973) emphasizes balancing tax benefits and bankruptcy costs; pecking order theory (Myers and Majluf, 1984) highlights internal funding preference; and signaling theory (Ross, 1997; Spence, 2002) views debt and returns as market signals. However, these assume full rationality, ignoring ESG considerations and behavioral biases that shape real-world finance. Stock returns often mediate macro shocks and financing decisions (Phelan, 2016; Do et al., 2022; Baker and Wurgler, 2002).

In the last few decades, ESG has become a major factor in financial stability and investor trust. Firms with strong ESG scores exhibit lower capital costs, broader access to funding, and higher resilience (Chen et al., 2023; Srivastava et al., 2022; Yoon et al., 2018; Li et al., 2021) ESG also mitigates external shocks (Abedifar et al., 2023) and strengthens risk governance amid crises such as COVID-19 and climate change (D'Arcangelo et al., 2025). Despite rich literature on GPR, EPU, R&D, overconfidence, and ESG, results remain inconsistent (Barman and Mahakud, 2025). Most research concentrates on developed economies and analyzes these factors in isolation. Limited research examines their simultaneous effects or the moderating role of ESG in emerging Southeast Asian markets.

Therefore, this study fills four gaps: (i) examining GPR and EPU effects on leverage and stock returns simultaneously, (ii) integrating external and internal factors into a single framework, (iii) testing ESG as a moderator, and (iv) providing evidence from Indonesia, Malaysia, and Thailand. Theoretically, this study unites classical, behavioral, and ESG perspectives. Empirically, it offers new insights from underexplored markets. Practically, it informs banks, investors, and regulators on how sustainability and managerial behavior interact with global risk in shaping capital structure and market performance.

2. LITERATURE REVIEW

According to the trade-off theory, firms balance the tax benefits of debt with the rising bankruptcy costs associated with higher leverage (Yaghoubi, 2024; Bagh et al., 2024). Under heightened geopolitical risk (GPR), expected bankruptcy costs increase, prompting firms to reduce debt usage (Khoo et al., 2021). GPR, defined as uncertainty from political events or international tensions, disrupts operations, cash flows, and financing costs (Baker et al., 2016). Empirical studies indicate that elevated GPR leads to lower investment and higher cash holdings (Caldara and Iacoviell, 2022). Consistent with real options theory, where firms prefer flexibility over long-term debt commitments under uncertainty (Bolton et al., 2019). Similarly, Khoo et al. (2021) show that uncertainty reduces leverage, while Zhao et al. (2023) observe that investment uncertainty grows during geopolitical tensions, heightening risk perception. Countries experiencing GPR surges encounter diminished investment and financing challenges (Hu et al., 2023).

However, not all firms react similarly. Cheng et al. (2023) argue that high geopolitical uncertainty increases demand for alternative investments and hedging. In commodity markets, GPR raises risk premiums, leading some firms to leverage debt to exploit opportunities. Oloko et al. (2021), suggest that hedging geopolitical risks can increase exposure yet yield higher returns if managed well. Dai et al. (2025) show that GPR-driven volatility in futures markets influences investor behavior, enabling firms to use debt strategically amid uncertainty.

Another macro factor that is no less important in making decisions about capital structure is economic policy uncertainty (EPU). Economic Policy Uncertainty (EPU) reflects conditions when the direction of fiscal, monetary, and government policy is difficult to predict. In such a situation, the company's managers face a major challenge in formulating a long-term funding strategy. Based on pecking order theory (Myers and Majuf, 1984), companies tend to prioritize the use of internal funding over external funding.

This phenomenon is because the use of debt in conditions full of uncertainty can increase financial rigidity and the risk of bankruptcy. Meanwhile, real options theory explains that companies will postpone long-term financing commitments, including the use of debt, to remain flexible in the face of uncertain policy changes. Thus, according to both the pecking order theory and real options, increased economic policy uncertainty should suppress the company's leverage level. A number of empirical studies support this argument. Adil et al. (2025) found that economic policy uncertainty negatively affects the leverage structure, although the presence of foreign ownership can serve as a buffer that weakens such negative impacts. Vega-Gutiérrez et al. (2024), in the European context, show that the EPU magnifies agency conflicts so that companies reduce debt to suppress potential pressure from creditors. Jumah et al. (2023) in the US market also proved that EPUs are negatively related to leverage, and companies with large cash holdings are better able to withstand the impact. Furthermore, Makololo and Seetharam, (2020) in BRICS countries found that EPU and herding behavior are negatively related to leverage. Meanwhile, Lu et al. (2023) prove that in China, EPUs are slowing down the pace of leverage adjustments, which means companies are more cautious about increasing debt when economic policy is uncertain.

In the context of developing countries such as Indonesia, Malaysia, and Thailand, the direction of government fiscal, monetary, and regulatory policies often changes rapidly and is difficult to predict. Such variability makes companies more cautious about using debt-based funding, as the cost of capital can increase along with the risk of uncertainty. Therefore, with reference to the theoretical foundations and cross-border empirical findings.

Investment in research and development (R&D) also influences funding decisions, in addition to external factors.The agency's theory says that the intensity of R&D increases information asymmetry and the risk of moral hazard. As a result, creditors will not provide debt financing (Jensen and Meckling, 1976). This opinion is supported by empirical evidence, where companies involved in research and development tend to have lower leverage (Hall and Lerner, 2009; Brown et al., 2009). However, things are different in the field of technology, where research and development can benefit creditors (Hirshleifer et al., 2018). Guo et al. (2022) also show that public policy support in China can improve access to debt for research and development-focused businesses.These differences in results suggest that institutional and regulatory contexts significantly affect R&D relationships and leverage. When R&D intensity is high in ASEAN countries, companies are more likely to lower leverage.

Managerial behavior, in addition to external factors and innovation strategies, is crucial in determining leverage.In behavioral finance, overconfidence bias is when managers ignore the cash flow outlook and underestimate risk, leading to increased debt (Malmendier and Tate, 2005; Hackbarth, 2009).This view is supported by the perspective of agency theory, because excessive confidence can exacerbate the problem of overinvestment. Nonetheless, the empirical evidence is inconsistent.According to Ben-David et al. (2013), overconfident managers refrain from using debt in market conditions full of uncertainty. Graham et al. (2013) and Ho et al. (2016) malso stated that the relationship between overconfidence and leverage is reduced in high-risk sectors. This contradiction suggests that the effects of overconfidence are contextual.In the context of ASEAN, which has an aggressive business expansion orientation, overconfidence tends to increase leverage.

The capital market is influenced by internal (R&D, overconfidence), external (GPR, EPU), and dependency variables, which are ultimately reflected in stock returns.According to signaling theory (Spence, 1973), stock returns show how well a company is doing and are important signals for investors and creditors. Stock returns can channel the impact of macro uncertainty on capital structure, according to empirical research (Chow et al., 2018; Kundu and Paul, 2022; Bali et al., 2014). However, there are different results. According to Baker and Wurgler (2002), the effect of stock returns on financing tends to be temporary, depending on market conditions.Stock returns are expected to be an important mechanism that channels the influence of internal and external factors on leverage in the context of high-volatility emerging economies.

Finally, ESG (Environmental, Social, and Governance) is considered responsible for balancing internal biases and external uncertainties. Stakeholder theory states that ESG practices increase investor legitimacy, transparency, and trust (Freeman et al., 2018). It is evident that companies with high ESG scores have greater resilience to crises (Friede et al., 2015; Walker et al., 2024). In addition, ESG can reduce the detrimental effects of EPU on leverage by reducing investors' risk perception (Liu, 2025). In addition, ESG contributes to reducing the impact of excessive confidence from managers so that it can strengthen beneficial corporate governance (He et al., 2023). However, studies indicate that ESG does not always provide direct financial incentives, especially in emerging markets (Krüger, 2015). In this context, the analysis places ESG as a barrier that reduces the negative impact of external elements and internal bias on leverage.

3. DATA AND METHODOLOGY

3.1. Data

This study uses data from firms consistently listed on the Indonesia, Malaysia, and Thailand Stock Exchanges from 2014 to 2024. The sample includes companies with complete financial reports and continuous ESG disclosures. The analysis examines the link between financial performance and ESG practices to reveal regional trends and investor behavior in Southeast Asia. Findings aim to bridge theory and practice, offering insights for enhancing transparency and accountability. Table 1 summarizes the sample distribution.

Descriptive statistics show clear differences in the fundamental characteristics of firms in Indonesia, Malaysia, and Thailand from 2014 to 2024. Indonesian firms record the lowest average DER (0.218) with moderate variation (std. dev. 0.156), reflecting conservative debt use due to a limited bond market and relatively high interest rates. Stock returns (0.071) and volatility are low, suggesting a developing but less attractive capital market for risk-

Table 1: Descriptive statistic

Variable	Obs	Mean	Standard deviation	Min	Max
Country=Indonesia					
DER	242	0.218	0.156	0.031	0.686
Stock return	242	0.071	0.029	0.016	0.196
GPRIndex	242	0.040	0.030	0.020	0.145
EPU	242	7.600	5.753	2	21
RnD	242	0.028	0.172	0	1.3
ESGScore	242	46.300	19.109	6.471	85.507
Managerial overconfidance	242	20.250	4.661	8.937	29.595
ROA	242	0.038	0.100	−0.564	0.511
Midle rate	242	4130	352.8	3495	4591
FirmAge	242	35.45	15.441	2	68.000
FirmSize	242	21.31	2.433	15.352	25.619
Country=Malaysia					
DER	374	0.401	0.223	0.086	0.991
Stock return	374	0.092	0.030	0.019	0.178
GPRIndex	374	0.047	0.028	0.020	0.110
EPU	374	8.390	4.708	1	18
RnD	374	0.044	0.237	0	1.7
ESGScore	374	53.175	20.470	8.162	89.169
Managerial overconfidance	374	29.289	1.855	20.544	33.916
ROA	374	0.084	0.102	−0.644	0.458
Midle rate	374	14288	1031	12440	16157
FirmAge	374	52.059	30.413	5	165
FirmSize	374	13.823	0.595	12.533	15.385
Country=Thailand					
DER	275	0.358	0.229	−0.380	0.896
Stock return	275	0.166	0.061	0.036	0.438
GPRIndex	275	0.112	0.071	0.026	0.200
EPU	275	11.455	4.343	5	19
RnD	275	0.000	0.000	0	0
ESGScore	275	64.074	13.825	24.814	90.581
Managerial overconfidance	274	20.364	2.374	9.899	25.247
ROA	275	0.108	1.410	−8.771	19.728
Midle rate	275	331770	15685	307867	350388
FirmAge	275	47.920	20.106	3	111
FirmSize	275	23.204	1.452	18.247	25.625

This table presents statistical descriptive data for all samples used in this study during 2014-2024. Where are the, DER: Debt to equity ratio, GPRIndex: Geopolitical risk index, EPU: Economic policy uncertainty, RnD: Research and development, ESGScore: Environmental, Social, and Governance Score, and ROA: Return on asset

seeking investors. The GPR and EPU indices remain moderate but fluctuate during elections and regional tensions. R&D intensity is low (mean 0.028), consistent with a resource-based economy, while the ESG score (46.3) shows early but growing adoption of sustainability practices.

Malaysian firms display the highest leverage (mean DER 0.401), indicating greater debt utilization supported by mature financial markets and easier funding access. Stock returns (0.092) are higher than Indonesia's, with moderate volatility. The EPU level (8.39) reflects stable policy conditions, and R&D intensity (0.044) is the highest, showing progress in innovation-led sectors. ESG performance (53.2) is stronger, driven by Bursa Malaysia's sustainability disclosure requirements. Managerial overconfidence (29.28) is also the highest, suggesting bolder decision-making tendencies.

Thai firms exhibit contrasting traits. The average DER (0.358) is moderate, but stock returns are the highest (0.166) and most volatile. Thailand records the highest GPR (0.112) and EPU (11.45), indicating significant exposure to political and economic risks. R&D reporting is minimal (mean 0), yet ESG scores are the highest (64.07), showing strong sustainability commitment. ROA averages 0.108 with large deviations, indicating performance disparity. Overall, Indonesia appears conservative, Malaysia aggressive, and Thailand dynamic but risk-prone providing a solid basis for further analysis of how geopolitical and policy risks shape leverage and returns across countries.

3.2. Methodology

The regression model proposed in this study is as follows:

$$DER = \beta0 + \beta1GPR + \beta2EPU + \beta3RnD + \beta4MO + \beta5ROA + \beta6MR + \beta7FA + \beta8FS + eit \quad (i)$$

$$Return = \beta0 + \beta1GPR + \beta2EPU + \beta3RnD + \beta4MO + \beta5ROA + \beta6MR + \beta7FA + \beta8FS + eit \quad (ii)$$

$$DER = \beta0 + \beta1Return + \beta5ROA + \beta6KR + \beta7FA + \beta8FS + eit \quad (iii)$$

$$DER = \beta0 + \beta1\ (ESG*GPR) + \beta2\ (ESG*EPU) + \beta3\ (ESG*RnD) + \beta4\ (ESG*MO) + \beta5ROA + \beta6MR + \beta7FA + \beta8FS + eit \quad (iv)$$

$$Return = \beta0 + \beta1\ (ESG*GPR) + \beta2\ (ESG*EPU) + \beta3\ (ESG*RnD) + \beta4\ (ESG*MO) + \beta5ROA + \beta6MR + \beta7FA + \beta8FS + eit \quad (v)$$

This study develops five empirical models grounded in trade-off, agency, signaling, market timing, and stakeholder theories. The first model examines the effects of geopolitical risk (GPR), economic policy uncertainty (EPU), and firm-specific factors R&D, managerial overconfidence, profitability, liquidity, firm age, and size on capital structure (Myers and Majuf, 1984; Jensen and Meckling, 1976). The second and third models examine the factors that affect stock returns and how they interact with leverage in both directions (Baker and Wurgler, 2002). The fourth and fifth models incorporate ESG as a moderating factor, emphasizing its role in mitigating risk and enhancing investor confidence (Freeman et al., 2018). This integrated framework advances understanding of how macroeconomic shocks, managerial behavior, and sustainability jointly shape financing and market outcomes in emerging economies. To test the mediation of stock returns in this study, Baron and Kenny's mediation model was used (Baron and Kenny, 1986; Zhao et al., 2010), The types of mediation testing show in Table 2.

4. RESULTS

4.1. Determinat of Capital Structure

Table 3 presents the determinants of capital structure (Debt-to-Equity Ratio, DER). Model 1 includes external factors (GPR, EPU), Model 2 internal factors (R&D intensity, managerial

Table 2: Types of mediation testing

Type	Indirect effect	Direct effect	Decription
Compelentary mediation	Significance	Significance	One way
Conpetitive mediation	Significance	Significance	Opposite
Inderect only mediation	Significance	Not significance	-
Direct only mediation	Not significance	Significance	-
Non effect non mediation	Not significance	Not significance	-

This table is a selection of the type of mediation applied by Baron and Kenny

Table 3: Determinant debt to equity ratio (DER)

Dependent variable	DER		
	(1)	(2)	(3)
GPR	0.3118	0.3289	0.3000
	(0.026)**	(0.019)**	(0.038)**
EPU	−0.0013	−0.0014	−0.0016
	(0.324)	(0.291)	(0.243)
R&D		0.0851	0.0810
		(0.065)*	(0.082)*
Overconfidence		0.0040	0.0040
		(0.059)*	(0.065)*
Stock return			−0.2912
			(0.091)*
ESG			0.0004
			(0.375)
Controls			
ROA	−0.0291	−0.0293	−0.0294
	(0.000)**	(0.000)**	(0.000)**
Midle rate	0.0000	0.0000	0.0000
	(0.012)**	(0.007)**	(0.008)**
Firm age	0.0009	0.0008	0.0008
	(0.066)*	(0.076)*	(0.114)
Firm size	−0.0124	−0.0094	−0.0098
	(0.000)**	(0.008)**	(0.006)**
Constanta	0.4958	0.3388	0.3323
	(0.000)**	(0.001)**	(0.001)**
Observations	891	891	891
R^2	0.1158	0.1279	0.1290

Standard errors in parentheses; ***, *, * indicate significance at the 1%, 5%, and 10% levels, respectively

overconfidence), and Model 3 stock returns and ESG. Geopolitical risk (GPR) consistently exhibits a positive and significant effect on leverage, suggesting that rising geopolitical uncertainty encourages firms to increase debt. The evidence supports the trade-off theory: firms employ leverage to balance the tax benefits of debt against higher bankruptcy risk (Kraus and Litzenberger, 1973; Myers and Majuf, 1984). In emerging markets, GPR emerges as a key external determinant of leverage, confirming that external shocks shape financing behavior (Chowdhury et al., 2025; Yaghoubi, 2024b).

Economic Policy Uncertainty (EPU) has a negative but insignificant effect, implying that domestic policy fluctuations do not significantly influence capital structure decisions. Unlike GPR, EPU is relatively more controllable and less disruptive for management. This result contrasts with findings from developed economies where EPU increases capital costs and limits debt (Baker et al., 2016). Firms in Indonesia, Malaysia, and Thailand appear more affected by global geopolitical tensions such as the U.S.–China trade conflict or the Russia-Ukraine war than by domestic policy shifts.

Among internal factors, R&D intensity positively and significantly affects leverage, indicating that innovation investments encourage external financing (Hall and Lerner, 2010). This finding aligns with signaling theory (Ross, 1977) where higher debt signals managerial confidence and growth prospects. In Southeast Asia, limited access to venture capital and research grants makes debt financing a primary channel for innovation, positioning DER as a driver of research-based growth.

Managerial overconfidence also exerts a significant positive influence on DER. Overconfident executives tend to overestimate future performance and thus rely more on debt to finance expansion. This result echoes behavioral finance evidence (Malmendier and Tate, 2005), highlighting that managerial biases can amplify risk exposure, particularly salient in emerging markets with limited hedging instruments. Behavioral traits therefore complement external and firm-specific fundamentals in explaining leverage behavior.

Finally, stock returns have a significant negative impact on DER, consistent with market-timing theory (Baker and Wurgler, 2002). When stock prices go up, companies prefer to issue equity instead of debt. When prices go down, they borrow money. This underscores equity market signals as key determinants of capital structure decisions in emerging markets. Empirical support appears across contexts: firms exploit equity mispricing when adjusting leverage (Huang and Ritte, 2009; De Bie and De Haan, 2007), with stronger timing behavior in less-developed financial system (Melgarejo Duran and Stephen, 2020; Alves and Francisco, 2015). Recent evidence from Malaysia, China, and Korea (Rehan et al., 2023; Gao and Tsusaka, 2023; Ju, 2024) confirms that market timing intensifies under macro uncertainty. Overall, ASEAN firms actively respond to equity fluctuations to optimize leverage, extending the relevance of market-timing behavior beyond developed economies and illustrating the importance of a contextual understanding of financing dynamics in emerging markets.

4.2. Determinant of Stock Return

Table 4 reports the determinants of stock returns. Model (4) examines external and internal factors, while Model (5) incorporates ESG performance. The findings reveal heterogeneous effects across macroeconomic, behavioral, and sustainability dimensions, underscoring the unique nature of ASEAN markets compared to developed economies. Geopolitical risk (GPR) exhibits a strong and significant negative impact on stock returns, confirming that political instability and regional tensions erode investor confidence. This evidence supports the risk–return trade-off framework (Sharpe, 1964; Yilmazkuday, 2024) and recent findings that political uncertainty elevates risk premiums in emerging markets (Nguyen and Bao 2025). The result emphasizes that ASEAN markets remain highly vulnerable to exogenous geopolitical shocks due to limited financial integration.

Conversely, Economic Policy Uncertainty (EPU) positively and significantly affects returns, contradicting conventional CAPM and

Table 4: Determinants of stock return

Dependent variable	Return saham	
	(4)	(5)
GPR	−0.5834 (0.042)**	−0.1172 (0.000)**
EPU	0.0014 (0.000)**	0.0017 (0.000)**
R&D	0.0357 (0.722)	−0.0010 (0.911)
Overconfidence	−0.0001 (0.764)	0.0005 (0.229)
ROA	0.0022 (0.152)	0.0024 (0.128)
Kurs	0.0000 (0.678)	0.0000 (0.000)**
Firm age	0.0020 (0.000)**	0.0001 (0.328)
Firm size	0.0020 (0.126)	−0.0005 (0.524)
ESG		0.0001 (0.097)*
Constant	−0.0314 (0.375)	0.0558 (0.006)**
Observations	891	891
R^2	0.0821	0.4927

Standard errors in parentheses; ***, *, * indicate significance at the 1%, 5%, and 10% levels, respectively

real options predictions (Baker et al., 2016). This anomaly reflects the speculative behavior of ASEAN investors who exploit policy volatility for short-term gains (Kang and Ratti, 2013; Hoang et al., 2022). Hence, uncertainty in these markets often creates trading opportunities rather than deterring investment.

R&D intensity shows mixed but insignificant effects, suggesting that innovation activities are not yet priced efficiently. Although theory associates R&D with growth signaling (Hall and Lerner, 2010; Barney, 1991), limited market sophistication and risk perception prevent its full valuation. Managerial overconfidence also remains insignificant, consistent with Malmendier and Tate (2005) and Jacoby et al. (2019), implying investors in less transparent environments do not systematically capture behavioral biases.

Among control variables, firm age has a positive effect, confirming the importance of reputation, while exchange rate volatility significantly influences returns in Model (5). ESG performance emerges as a positive driver at the 10% level, aligning with evidence that sustainability practices increasingly attract investors (Fatemi et al., 2018; Luo et al., 2023).

Overall, the findings deliver two key messages. First, geopolitical shocks suppress stock valuations, whereas policy uncertainty fosters speculative activity. Second, internal innovation and behavioral traits remain undervalued, revealing a persistent valuation gap in ASEAN capital markets. This study thus contributes to the growing literature on market behavior under uncertainty, offering nuanced insights into how external shocks and sustainability considerations shape returns in emerging economies.

4.3. The Mediating Role of Stock Returns

Table 5 examines the mediating role of stock returns in the relationship between external and internal factors and capital structure, using the Sobel test and the Baron and Kenny approach. The results indicate stock returns fail to mediate the effects of GPR, EPU, R&D, or managerial overconfidence on leverage because all Sobel z-values are insignificant. Although stock returns are significantly related to DER, both external and internal variables affect leverage more directly, bypassing the stock market mechanism. This finding contradicts the traditional belief that capital markets function as efficient conduits for information dissemination (Do et al., 2022).

In the ASEAN context, limited market depth and information inefficiency weaken the mediating function of stock returns. The insignificant GPR-DER mediation suggests that geopolitical shocks are directly reflected through bankruptcy risk expectations, prompting firms to adjust leverage without waiting for market signals. This aligns with trade-off theory (Kraus and Litzenberger, 1973), but contrasts with Phelan (2016), who found that equity markets internalize geopolitical risks in developed economies. Such divergence highlights the structural shallowness of ASEAN markets, where investor responses to political tensions are slower and less influential on financing structures.

Similarly, stock returns fail to mediate the EPU-DER relationship. Previous research (Gulen and Ion, 2016; Pastor and Veronesi, 2013), underscores that policy uncertainty influences financing decisions via stock prices; however, ASEAN firms seem to react through internal strategies, such as liquidity hoarding or postponing investments, rather than depending on equity market signals. Zhao and Park (2024) confirm that policy uncertainty affects stock returns in emerging economies, but it doesn't systematically influence leverage decisions. Thus, capital market transmission in ASEAN remains partial and inconsistent compared to developed markets.

The absence of mediation in the R&D-DER relationship is equally revealing. Although R&D typically signals future growth potential (Su et al., 2021; Karna et al., 2022), the findings suggest that innovation financing in ASEAN relies more on creditor relationships or policy incentives than on stock market valuation. This reinforces the notion that innovation-driven firms in emerging markets remain bank-dependent rather than market-financed.

Finally, managerial overconfidence also fails to transmit through stock prices. While Malmendier and Tate (2005) documented that optimism bias affects market expectations, ASEAN investors appear more cautious, discounting psychological traits until actual performance materializes. Overall, these results confirm that stock returns, while linked to leverage, play a limited mediating role in emerging markets. Theoretically, this underscores the need to distinguish the capital market's dual role as a financing source versus an information channel. Practically, it implies that firms in ASEAN should rely more on internal cash management and creditor negotiations than on market signals in shaping their capital structures.

4.4. The Role of ESG Moderation

Table 6 presents the moderating role of ESG, with Panel A testing DER and Panel B testing stock returns. The results show that ESG's impact in emerging markets is far from universal; it operates contextually, sometimes reinforcing rather than mitigating risks (Qureshi et al., 2025). ESG significantly amplifies the positive effect of geopolitical risk (GPR) on leverage. Firms with strong ESG credentials tend to increase debt under geopolitical uncertainty, contradicting trade-off theory predictions. In practice, these firms leverage their ESG reputation as social capital to

Table 5: SOBEL test results for mediation analysis

Independent variable	Sobel z	P-value	Aroian z	P-value	Goodman z	P-value	Mediation
GPR	1.562	0.118	1.523	0.128	1.604	0.109	Not supported
EPU	−1.644	0.100	−1.628	0.104	−1.660	0.097	Not supported
R&D	−0.030	0.976	−0.026	0.979	−0.037	0.970	Not supported
Overconfidence	−1.005	0.315	−0.907	0.364	−1.142	0.253	Not supported

Reported values are Sobel, Aroian, and Goodman mediation tests with corresponding P-values. No mediation effect is supported. Significance levels: P<0.1, *P<0.05, **P<0.01

Table 6: ESG moderation

Variable	Sig
Panel A. DER as a dependent	
GPR×ESG	0.0046 (0.035)**
EPU×ESG	−0.0000 (0.168)
R&D×ESG	0.0009 (0.186)
Overconfidence×ESG	0.000 (0.319)
Constant	0.4662 (0.000)
Observations	891
R^2	0.1227
Panel B. Stock return as a dependent	
GPR×ESG	−0.0024 (0.000)**
EPU×ESG	0.0000 (0.000)**
R&D×ESG	−0.0000 (0.841)
Overconfidence×ESG	0.0000 (0.300)
Constant	0.0784 (0.000)**
Observations	891
R^2	0.4948

Standard errors in parentheses; ***, *, * indicate significance at the 1%, 5%, and 10% levels, respectively

gain wider and cheaper access to external financing, as creditors perceive them as more resilient (Zhou, 2024; Pain et al., 2025). Thus, ESG acts not as a barrier but as a strategic enabler of leverage amid instability.

However, ESG fails to significantly moderate the effects of economic policy uncertainty (EPU), R&D, and managerial overconfidence on leverage. The insignificant ESG × EPU effect suggests that sustainability reputation cannot buffer systemic policy shocks that affect all firms equally. Likewise, ESG × R&D and ESG × overconfidence remain weak, implying that ASEAN creditors and investors have yet to fully integrate ESG-innovation or ESG-behavioral dimensions into their financing decisions (Narula et al., 2024; Sun et al., 2024).

For market outcomes, ESG plays a dual role. The ESG × GPR interaction shows a significant negative impact on stock returns; investors penalize high-ESG firms more severely when geopolitical shocks expose the limits of their sustainability claims. This reverses the classical "ESG as hedge" argument (Lee and Suh, 2022). Conversely, ESG × EPU yields a significant positive effect, suggesting that ESG strengthens market confidence in firms' adaptability to policy changes (Chen et al., 2024). Interactions involving ESG × R&D and ESG × overconfidence are insignificant, reaffirming that ESG legitimacy matters more for external shocks than for internal decisions (Liang et al., 2022; Li et al., 2023; Bagh et al., 2024a).

Overall, ESG emerges as a conditional amplifier rather than a consistent shield. It enhances access to debt under geopolitical uncertainty yet can intensify investor skepticism when expectations are unmet. For firms, the result implies that ESG should be positioned as both a trust-building and risk-sensitive instrument. For policymakers, the findings emphasize the need to shift ESG policies beyond symbolic reporting toward mechanisms that genuinely mitigate geopolitical and policy-related vulnerabilities (Narula et al., 2024; Zhou, 2024).

5. CONCLUSION, LIMITATIONS, AND IMPLICATIONS

This study provides comprehensive evidence that external and internal factors shape corporate financial policies in emerging markets through distinct channels. Geopolitical risk (GPR) tends to increase leverage while depressing stock returns, reflecting heightened bankruptcy concerns and reduced investor confidence. On the other hand, economic policy uncertainty (EPU) boosts stock returns without having a significant impact on leverage, implying that policy fluctuations could potentially serve as opportunities for short-term speculation. Internally, both R&D intensity and managerial overconfidence encourage higher leverage but are not translated into market valuations. The absence of a mediating effect of stock returns implies that firms' financing choices are primarily driven by managerial discretion and external pressures rather than by market-based information transmission.

The moderating role of Environmental, Social, and Governance (ESG) performance is found to be contextual rather than universal. ESG strengthens the positive relationship between GPR and leverage, indicating that firms with stronger sustainability profiles leverage their legitimacy to secure debt financing amid geopolitical uncertainty. However, ESG also amplifies market penalties when geopolitical risks escalate, as heightened expectations of responsible governance can backfire under adverse conditions. In contrast, ESG reinforces the positive effect of EPU on stock returns, suggesting that high-ESG firms are perceived as more adaptive to regulatory and policy changes. The absence of significant moderation in the R&D and overconfidence relationships further highlights ESG's limited role in offsetting internal behavioral or innovation-related risks. Overall, ESG operates as a contingent mechanism—enhancing financial flexibility under policy uncertainty but intensifying market sensitivity under geopolitical stress.

This study acknowledges several limitations. The analysis is restricted to three ASEAN countries, employs a limited set of variable proxies, and covers the 2014–2024 observation period. Future research could extend the model to a broader regional or temporal scope and incorporate alternative measures of behavioral and sustainability factors. Theoretically, the findings refine the

understanding of the trade-off and behavioral finance perspectives while challenging the universal applicability of signaling theory. Practically, the results emphasize the need for managers to balance leverage prudently under uncertainty, for investors to integrate non-market risks into valuation frameworks, and for regulators to promote substantive ESG integration that strengthens resilience rather than merely fulfilling disclosure requirements.

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