

Article

Evaluating the Impact of Geopolitical Risk on the Financial Distress of Indian Hospitality Firms

Vandana Gupta 

Finance & Accounting, FORE School of Management, New Delhi 110016, India; vandana.gupta@fsm.ac.in

Abstract: The study investigates the effect of geopolitical risk (GPR) on the financial distress of tourism & hospitality firms in India. Using two-step GMM, this study evaluates the impact of GPR, GPR Threat, GPR Action and GPR India on financial distress using Altman score for emerging markets as proxy for financial distress. Further, robustness is checked using Żmijewski score and financial distress ratio as proxies for financial distress. The study is extended by examining the impact of GPR specifically on firm life cycle (age) and firm size and on private and public firms. Our empirical investigation demonstrates that all measures of geopolitical risk increase the chances of financial distress of hospitality firms and our findings are robust to alternative measures of financial distress. By considering GPR as an alternate measure of uncertainty in the hospitality industry, this study contributes to the emerging literature on the factors influencing financial distress of hospitality firms. The study also identifies three accounting measures for proxies of financial distress. Policymakers, regulators and management can pre-empt the impact of uncertain external factors by formulating suitable plans and measures as also for post recovery measures to safeguard firms against bankruptcy. Firms can plan their financing decisions and cash management proactively to reduce financial risk.

Keywords: financial distress; geopolitical risk; tourism; GMM; firm age; size; GPR threat; GPR action



Citation: Gupta, Vandana. 2024. Evaluating the Impact of Geopolitical Risk on the Financial Distress of Indian Hospitality Firms. *Journal of Risk and Financial Management* 17: 535. <https://doi.org/10.3390/jrfm17120535>

Academic Editors: Abuelnasr Elsayed Sobaih, Mahmood A. Khan and Ibrahim A. Elshaer

Received: 4 October 2024

Revised: 14 November 2024

Accepted: 18 November 2024

Published: 25 November 2024



Copyright: © 2024 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Credit risk assumes significance with the crucial role it plays in different facets of finance. Managing credit risk is significant because it affects financial stability, investment decisions, cost of capital, the broader economy, regulatory compliance, and risk management practices. The result of prolonged credit risk that leads to insolvency is bankruptcy. As defined by [Milašinović et al. \(2019\)](#), “Bankruptcy is a state of insolvency in which an organization is unable to pay back a creditor the amount of debt, which will occur when the debt exceeds the value of the property”. Factors impacting bankruptcy can vary across sectors and over time.

The tourism and hospitality sector has been an area of interest to regulators, researchers and practitioners across the globe for its contribution to economic growth and its distinguishing features in ownership, management and capital intensity ([Guillet and Mattila 2010](#)). The industry has demonstrated its significance by bolstering a number of important economic factors, including improved infrastructure, increased GDP growth ([Lee and Chang 2008](#)), increase in the balance of payments by influx of foreign currency incomes and the creation of domestic jobs ([Dogru et al. 2020](#); [Lee et al. 2021](#)). The tourism sector’s contribution to the global GDP at 7.6% in 2022 was a substantial increase of 22% over the previous year. In 2022, the amount spent by both domestic and foreign tourists increased significantly, by 20.4% and 81.9%, respectively. These figures support the tourist-led growth hypothesis (TLGH) put forth by ([Balaguer and Cantavella-Jordá 2002](#)), which asserts that an increase in foreign tourism leads to economic growth.

With its significant contribution to the GDP, it becomes imperative to identify the risk factors affecting tourism business and develop appropriate mitigation strategies. As the tourism industry has become more vulnerable during the COVID19 pandemic, the role

of organizational slack in dealing with external shocks has become even more important (Zheng et al. 2022). The sector remains highly vulnerable to a number of factors, including uncertain economic policies (García-Gómez et al. 2022), economic & tourism growth (Chen 2010) unfavorable macroeconomic conditions, and political conflicts on a national and international level (Hailemariam and Ivanovski 2021; Lee et al. 2021). Since the tourism industry entails both inbound and outbound travelers, any geopolitical tension directly act as a deterrent to the growth of this industry. According to (Balli et al. 2019) geopolitical risks within and between states have a significant impact on the socioeconomic environment and frequently result in a decline in the amount of tourists visiting affected areas. GPR as defined by Caldara and Iacoviello (2022) is “The risk associated with wars, terrorist acts, and tensions between states that affect the normal and peaceful course of international relations”. Some of the recent occurrences of geopolitical tensions include the Russia-Ukraine war, Israel-Palestine conflict and now with Iran, US-North Korea tensions, and geopolitical issues of China & USA, India & Taiwan, India-Canada and India-Maldives.

Hospitality businesses usually have large fixed costs because of huge capex. Further due to the seasonal nature of the industry, operating cash flows tend to vary across time periods (Jang et al. 2008). In times of geopolitical uncertainty, both inbound and outbound tourists decline, creating pressure on revenues, which coupled with high fixed costs is detrimental to profitability. A period of sluggish revenue in the hospitality sector necessitates the need for additional funding significantly in order for these firms to operate and pay for fixed costs (Nicolau 2005). Moreover, investors’ access to financial markets as a source of finance is limited and made worse in order to weather this crisis. These perils lead to a decline in the operating income of these firms, as well as a financial market freeze and a lack of access to bank financing. These justifications lend credence to the *deterrence theory*, which holds that overall activity slows down under higher GPR regimes. Empirical studies have indicated that adverse geopolitical events force banks to reduce loan amounts and increase interest rates, hence increasing the cost of debt for firms and escalating the requirement for external funding (Francis et al. 2014; Nguyen and Thuy 2023; Ashraf and Shen 2019). Companies are unable to secure loans from external markets because to the large cost differential that results from GPR between external and internal funding. In times of high geopolitical risks, firms with high leverage, low earnings and inadequate cash reserves are more adversely impacted (Acharya and Steffen 2020; Ramelli and Wagner 2020). Thus, this study contends that GPR negatively affects lenders by raising the cost of external financing and decreasing market liquidity. Failure to meet these requirements leads to financial distress and eventually leads to failure of these firms.

The impact of GPR on the Indian business environment and thereby on corporates is an area to explore due to several reasons. India is an integral emerging market as is evident by India’s nominal GDP (gross domestic product) as of 2022 at 3.5% of the global average. Furthermore, by 2029, India’s GDP is expected to increase, placing it among the top three GDP contributors in the world. Indian business travel market attained a size of US\$ 35.60 billion in 2022, which is expected to soar up to US\$ 59.50 billion by 2028¹. The predicted CAGR of 8.71% during 2023–2028 in the business travel and accommodation segment could transpire as a catalyst for the growth of the Indian hospitality sector.² According to a study by KPMG, CEOs in India see geopolitical and political uncertainties as the biggest threat to business growth. 55% of Indian CEOs think that in the next three years, geopolitical concerns may have an effect on their company’s growth and would be the greatest impediment to corporate expansion. The ongoing Israel-Hamas conflict has the potential to impact the Indian economy indirectly³. On the demand side war can impact crude oil prices, increase fuel prices leading to inflationary pressures and Indian exporters to Israel may have to pay higher shipping and insurance costs⁴. Geopolitical events can lead to market volatility, alter investment strategies, and reshape economic outlooks. While the *World Bank Group Global Economic Prospects (2023)*⁵ places India as the country with the fastest growing economy among the seven largest emerging market and developing economies; increasing geopolitical uncertainties can lead

to reduced stock returns, a drop in actual activity, and a shift in capital flows away from emerging economies. Emerging market and developing economies are more vulnerable to FDI relocation than advanced economies, in part because they rely more on flows from more geopolitically distant countries⁶. FDI inflows take a dive by rising commodity prices and rising geopolitical tensions discouraging investment. Liquidity crunch also restricts the ability to deploy substantial amounts of resources. Therefore, despite their desire to increase their investments in India, foreign investors are also limited by the market's liquidity restrictions.

While accounting models have been used in prior studies to study their impact on bankruptcy prediction, it remains unexplored in the context of Indian tourism firms. Further, while the impact of external risks as COVID as also the impact of economic policy uncertainties (Soni et al. 2023) on Indian tourism firms has been analyzed, the impact of geopolitical risk in the context of Indian tourism firms has not been explored. Against this backdrop, this paper analyses the impact of GPR events on financial distress of hospitality firms in India. The study's contributions include the following. To begin with, the study adds credence to the body of evidence demonstrating that GPR can impact financial distress leading to firm failure in the travel and hospitality sector. Additionally, by showing the significant influence that GPR, GPR Threat, and GPR Action, together with their lagged values have on the Indian tourism and hospitality sector, this research adds to the corpus of knowledge previously accessible on GPR. While prior studies have focused on Altman z-score as proxy for insolvency and bankruptcy, this study applies more than one accounting-based models to define financial distress and eventual firm failure. This study also looks at the impact of GPR on public and private limited tourism and hospitality firms in order to pinpoint the precise impact of GPR on these two kinds of businesses' performance.

2. Review of Literature

2.1. Bankruptcy Prediction Models

Evaluating company performance is essential to increasing business activity and improving the quality of business decisions. The successful implementation of a profit-oriented organization's plan depends on effective performance measurement. Recent years have seen growing awareness in the concept of financial sustainability (Srebro et al. 2021) opined that liquidity, long-term returns, growth potential, and the capacity to endure financial distress are all considered aspects of financial sustainability. When the warning signals of financial distress are ignored, it leads to bankruptcy. Many models have been created for the purpose of forecasting the likelihood of bankruptcy, and some of these can be used in addition to financial statement analysis to identify financial statement fraud and forecast bankruptcy that may result from financial fraud. The Altman Z-score model (Altman 1968) is the most widely utilized. Forecasting models of financial distress are particularly important for the business decision-making of different stakeholders in organizations, such as creditors, shareholders, and auditors. These models are modified to better fit their nation's economy in order to more accurately forecast bankruptcy. The need for adjustment results from variations in various marketplaces, economies, and national laws. Although Altman's original ratios was the foundation for subsequent investigations, the model adaption necessitates the use of different ratios. In addition to accounting models, market models and machine-learning models are also used for bankruptcy prediction. Some recent works using Altman z-score include those by (Ramaratnam and Jayaraman 2010) and (Panigrahi 2019). (Milašinović et al. 2019) analysed bankruptcy of hotel companies in Serbia using Altman z-score.

2.2. Financial Distress in Hospitality Sector

With the vulnerability of this sector to macro-crisis, an early detection of distress and bankruptcy has assumed significance (Zhai et al. 2015) In this context, (Fahlenbrach et al. 2021) argued that it is vital to identify insolvencies as soon as feasible so that interventions can be initiated because bankruptcies increase net societal costs. Additionally, this can

lower the related indirect and direct insolvency expenses (Almeida and Philippon 2007), which could result in losses for creditors and investors. The restaurant and hotel industries are capital intensive and additionally, prior research has demonstrated that visitors are susceptible to a condition of ambiguity (Demir et al. 2019a; Singh and Singh 2019; Tiwari et al. 2019). As a result, during periods of high uncertainty, the performance of businesses in the hotel and restaurant sectors may suffer significantly (Madanoglu and Ozdemir 2019; Ozdemir et al. 2021). Thus it is imperative that early bankruptcy and insolvency detection actually signals the beginning of a very late crisis period. Identifying early and less severe stages of a crisis is therefore preferable from the standpoint of business management (Situm 2023).

There is a plethora of research studies on the financial distress in hospitality firms. Some of these include using survival analysis for hotels in Spain (Gemar et al. 2019; Hua et al. 2013) assert that higher profitability lowers the probability of insolvency. This argument was extended by Amoa-Gyarteng (2021) and (Habib and Kayani 2022) who emphasised on the significance of liquidity and working capital in mitigating financial distress. The scale and age of the tourism business have an impact on the possibility of a crisis and insolvency (Abidin et al. 2021; Belda and Cabrer-Borrás 2021). Prior research works also advocate that financial statement analysis data, such as the debt (Park and Hancer 2012) profitability (Zhai et al. 2015), and liquidity utilizing the Altman model (Diakomihalis 2012) are extremely important in determining distress. Any adverse event internationally has a direct impact on the inbound tourists to a country. (Chien and Law 2003) advocated that apt strategies need to be adopted by businesses to endure and diversify in managing distress. (Ritchie and Jiang 2021) extensively document the current research on risk, crisis and disaster management in this industry. (Kim and Gu 2006) demonstrate that businesses in the hotel industry that have insufficient operating cash flow are more susceptible to bankruptcy. According to Park and Hancer (2012) these businesses struggle to meet their short- and long-term loan obligations due to their reduced liquidity.

2.3. Literature Review on Geopolitical Risks

GPR is unique in contrast to other types of uncertainty (Rao et al. 2023) in that they include a series of activities that are hard to predict. Companies cannot predict the fluctuations in the economy that come with an increasing GPR, meaning that doing business at these periods is much riskier (Kelly et al. 2016). In essence, GPR is a kind of intermittent political risk that gives less information about the likelihood of repetition, making it difficult for companies to predict future events. Thus, it is demonstrated that GPR affects a company's financial concerns. Moreover, a high level of political unpredictability discourages businesses from investing (Le and Tran 2021). According to (Lee and Wang 2021), Chinese manufacturing companies raise their cash reserves during periods of rising GPR to lessen their reliance on outside funding. In addition, Demir et al. (2019b) show that GPR has a detrimental impact on companies' cash holdings.

2.4. GPR and Tourism Hospitality Sector

The factors influencing the decision-making of tourism and hospitality firms differ from other sectors due to their unique characteristics. As evidence, less tourists travel to other countries during GPR periods (Hailemariam and Ivanovski 2021). Risk perception influences tourists' choice of trip destination, consequently the demand for tourism is relatively stronger in places with lower GPR (Slevitch and Sharma 2008). (Yang et al. 2020) researched how the COVID pandemic impacted the take-home orders on restaurant demands of US firms. (Derco 2022) ascertained how the COVID-19 epidemic affected certain financial metrics of tour companies that were active in Slovakia's tourism industry. Similar study by Zheng et al. (2022) tested the premise that multiple news shocks, conditional heteroscedastic volatility models, and the news impact curve may all be used to predict the volatility of the Malaysian tourism sector. (Yiu 2023) examines how shopping tourism affects rents and retail sales, utilizing the COVID-19 pandemic as a kind of quasi-experiment

in Hong Kong. The results point to a strong correlation between visitor arrivals and retail sales and rental income. (Kolodiziev et al. 2024) established a resilient benchmarking system for small hotels in Ukraine, designed to enable their survival and expansion during global shocks and local crises. The taxonomy analysis, which was mostly influenced by the hotels' locations, showed notable variations in managerial styles and operational effectiveness.

Geopolitical conflicts have their repercussions on tourism demand by creating uncertainties and so strategies to mitigate these risks need to be implemented so that the influence on foreign visitor arrivals, tourist imports, and other indicators of tourism development are not impacted that acutely. (Balcilar et al. 2018) provide more evidence in favour of this theory, arguing that geopolitical risk is a major determinant impacting financial markets, business cycles, and economic trends. Liu and Pratt (2017) in their study show that, in the short term, terrorism affects tourism. Furthermore, in order to thrive in the sector, these businesses rely heavily on local tourists in addition to funding requirements to sustain demand from both domestic and foreign visitors. However, given the considerable increase in unfavorable geopolitical events that result in greater financial constraints, it may not be possible for these businesses to acquire funding as they struggle to access external finance (Lee and Wang 2021).

While there is extant literature on hospitality and tourism sector related to financial distress as also geo political risks, there is paucity of research specifically examining the impact of geopolitical risk on the financial distress of Indian tourism firms.

3. Material and Method

3.1. Data

The financial data of this study have been extracted from the CMIE Prowess IQ database. The study identifies 359 Indian firms belonging to the tourism & hospitality sector initially with complete annual data for the required firm-level variables spanning over the year FY2011–2022. Therefore, the duration of the analysis is 12 years making it a total of 4308 firm-year observations. To finalize our sample, we drop firm-year observations with missing values and after removing 412 missing observations, our firm-year observations are 3896. The data comprises of 7 subsectors as classified by Prowess CMIE (Table 1) based on industry and product/service categories. While the initial findings are based on the classification given in Table 1, we examined if by clubbing the classifications, results differ. The re-classification his presented in Table 2. Further, the variables in the dataset are winsorized at the one and ninety-nine percentile of their statistical distribution to remove the potential outliers in the study, in keeping with the research conducted by (Adra et al. 2023).

Table 1. Sample by subsectors.

Subsector	Private Ltd.	Public Ltd.	Unlimited Liabilities	Total
Hotels, resorts & restaurants	1620	1791	5	3416
Travel agencies & tour operators	156	102	0	258
Lodges, guest houses & service apartments	24	24	0	48
Tourism	0	84	0	84
Restaurants, bars & canteen	33	33	0	66
Hotels & resorts	0	12	0	12
Luxury/Premium hotels	12	0	0	12
Grand Total	1845	2046	5	3896

Source: CMIE Prowess Database.

Table 2. Sub-classification re-defined.

Subsector	Private Ltd.	Public Ltd.	Total
Hotels, resorts & restaurants	1670	1920	3590
Travel agencies & tour operators	156	102	258
Lodges, guest houses & service apartments	24	24	48
Grand Total	1850	2046	3896

3.2. System GMM

The Hausman test was used in this study to determine if the fixed effects or random effects method should be used for coefficient estimation in a panel data model. This was in line with (Gujarati 2009) that the pooled OLS estimation method is likely to produce a biased and inconsistent estimation due to bias in the omitted variable for unobservable firm- and time-specific heterogeneities. Due to the significant difference in coefficient estimations between the fixed effects and random effects methods (p -value < 0.05), the fixed effects technique was deemed to be appropriate for the analysis. Further, to address any potential endogeneity, the study adopts a dynamic panel data model i.e., two-step System Generalized Method of Moments (SGMM) as argued by (Wooldridge 2002). The SGMM was developed by (Arellano and Bond 1991). The study further utilizes Sargan test to check for over-identifying restrictions and if not found valid then uses robust standard errors instead of standard errors. Finally, to deal with the issue of autocorrelation of residual terms $\mu_{i,t}$, the Arellano-Bond test is used.

3.3. Accounting Models as Proxies for Financial Distress

This study has used the Altman Emerging Market score (EMS) as the proxy for financial distress (López-Gutiérrez et al. 2015) and for robustness check, two proxies, namely Financial Distress Ratio and Zmijewski Score are taken (Table 3).

In 2005, Altman created a modified version of the original z-score model for non-manufacturing firms. The “safe zone” is defined as values over 2.6, indicating a very low likelihood of bankruptcy. Furthermore, a “gray zone” score is between 1.1 and 2.6 and the “distress zone” is represented by values less than 1.10, which suggests that bankruptcy is likely to occur soon.

Table 3. Details of variables under the study.

Variable Type	Acronym	Description	Variable Measurement
	AE	Altman Ratio (for emerging market)	$3.25 + (6.5 \times \text{Working capital/Total assets}) + (3.26 \times \text{Retained earnings/Total assets}) + (6.72 \times \text{Earnings before interest \& taxes/Total assets}) + (1.05 \times \text{Book value of equity/Book value of total liability})$
	FDR	Financial Distress Ratio of EBITDA & Interest	Earnings before interest, tax, depreciation & amortization/Interest cost
	ZMS	Zmijewski Score	$-4.336 - (4.513 \times \text{Net income/Total assets}) + (5.679 \times \text{Total liabilities/Total assets}) - (0.004 \times \text{Current assets/Current liabilities})$
	ANMFVPT	Altman Ratio (for non-manufacturing private limited firms)	$(6.5 \times \text{Working capital/Total assets}) + (3.26 \times \text{Retained earnings/Total assets}) + (6.72 \times \text{Earnings before interest \& taxes/Total assets}) + (1.05 \times \text{Book value of equity/Book value of total liability})$
	ANMF PUB	Altman Ratio (for non-manufacturing public limited firms)	$(1.2 \times \text{Working capital/Total assets}) + (1.4 \times \text{Retained earnings/Total assets}) + (3.3 \times \text{Earnings before interest \& taxes/Total assets}) + (0.6 \times \text{Market capitalization/Book value of total liability}) + (0.999 \times \text{Sales/Total assets})$
	GPR	Geopolitical risk	Natural logarithm of a 12-month average of the GPR index
	GPRT	Geopolitical threat	Natural logarithm of a 12-month average of the GPRT index
	GPRA	Geopolitical act	Natural logarithm of a 12-month average of the GPRA index
	GPRIND	Geopolitical risk for India	Natural logarithm of $(100 \times (12\text{-month average of the GPR index for India}))$
	FS	Firm size	Natural logarithm of assets
	FA	Firm age	Year of analysis—the year of incorporation
	LEV	Leverage	Long term borrowings/Total assets
	LIQ	Liquidity	Net cash flow/Total assets
	CRISIS	COVID-19 crisis period	Value is 0, if year of analysis is either 2021 or 2022; otherwise, 1

Table 3. Cont.

Variable Type	Acronym	Description	Variable Measurement
Variable Symbol	Variable name		Computation
AE	Altman Ratio (for emerging market)		$3.25 + (6.5 \times \text{Working capital/Total assets}) + (3.26 \times \text{Retained earnings/Total assets}) + (6.72 \times \text{Earnings before interest \& taxes/Total assets}) + (1.05 \times \text{Book value of equity/Book value of total liability})$
FDR	Financial Distress Ratio of EBITDA & Interest		Earnings before interest, tax, depreciation & amortization/Interest cost
ZMS	Zmijewski Score		$-4.336 - (4.513 \times \text{Net income/Total assets}) + (5.679 \times \text{Total liabilities/Total assets}) - (0.004 \times \text{Current assets/Current liabilities})$
ANMFPVT	Altman Ratio (for non-manufacturing private limited firms)		$(6.5 \times \text{Working capital/Total assets}) + (3.26 \times \text{Retained earnings/Total assets}) + (6.72 \times \text{Earnings before interest \& taxes/Total assets}) + (1.05 \times \text{Book value of equity/Book value of total liability})$
ANMFPUB	Altman Ratio (for non-manufacturing public limited firms)		$(1.2 \times \text{Working capital/Total assets}) + (1.4 \times \text{Retained earnings/Total assets}) + (3.3 \times \text{Earnings before interest \& taxes/Total assets}) + (0.6 \times \text{Market capitalization/Book value of total liability}) + (0.999 \times \text{Sales/Total assets})$
GPR	Geopolitical risk		Natural logarithm of a 12-month average of the GPR index
GPRT	Geopolitical threat		Natural logarithm of a 12-month average of the GPRT index
GPRA	Geopolitical act		Natural logarithm of a 12-month average of the GPRA index
GPRIND	Geopolitical risk for India		Natural logarithm of $(100 \times (12\text{-month average of the GPR index for India}))$
FS	Size		Natural logarithm of assets
FA	Age		From the year of incorporation
LEV	Leverage		Long term borrowings/Total assets
LIQ	Liquidity		Net cash flow/Total assets

Financial Distress Ration (FDR) is a metric for measuring financial distress and states that a firm is in financial distress if its EBITDA (earnings before interest, taxes, depreciation, and amortization) for a given year is less than its finance costs (Pindado et al. 2008). We have specifically adopted this criterion for identifying financially distressed companies. (Zmijewski 1984) Score is a model which is used to predict bankruptcy of a company in 2 years. The business is doing well if the X-Score is below the cut-off point. When the cut-off score is zero, the company is in financial distress because the X-Score is over that point.

3.4. Geopolitical Risk (Global), Index GPRT (Threat) Index, GPR (Action) and GPR (India) as Independent Variable

The GPR index created by Caldara and Iacoviello (2022) is used in this investigation. The index is calculated by counting the number of articles (as a proportion of total news items) in each newspaper for each month that discuss geopolitical developments that are negative. Since the GPR index is provided on a monthly basis, we take into account the yearly average of the monthly natural logarithmic. By averaging the monthly GPR index⁷ data in India, we are able to create an annual GPR index. Caldara and Iacoviello's study from 2022 asserts that "the search is organized in eight categories: military buildups (Category 3), escalation of war (Category 7), beginning of war (Category 6), peace threats (Category 2), war threats (Category 1), nuclear threats (Category 4), terror threats (Category 5) and terror acts (Category 8)." The two sub-indices that follow were created using these categories as a basis. The GPRT (Threat) index, the first sub-index, takes into account the previously stated categories 1 through 5, while the GPRA (Action) index, the second sub-index, takes into account the previously mentioned categories 6 through 8.

Thus based on the above proxies of financial distress, we develop our hypothesis

H₁. GPR increases financial distress of firms in the hospitality and tourism industry.

3.5. Control Variables Used for the Analysis

Prior research has established variables as firm age, firm size, leverage, and liquidity to be significant predictors of firm performance, (Altaf and Ahmad 2019; Jabbouri and Almustafa 2020; Killins 2020). We select and measure the firm-level controls in adherence with the extant literature. Specifically, we control for all firm characteristics which are likely to impact financial distress, namely firm size, age, liquidity and leverage (Table 3).

3.6. Empirical Models

To empirically examine the hypotheses of this study, Equations (1)–(5) are developed for the baseline model. Taking inferences from the prior literature, it is found that variables such as GDP growth rate, firm age, firm size, leverage, liquidity, are expected to be important predictors of firm performance (Mitra et al. 2023). Here *AE* is Altman Ratio (for emerging markets), *GPR* represents geopolitical risk, *GPRT* is geopolitical threat, *GPRA* stands for geopolitical act, *GRPIND* is geopolitical risk for India, *FS* represents firm size, *FA* refers to firm age, *LEV* is leverage, *LIQ* denote liquidity. θ_i denote firm-specific effects, γ_t refers the time-specific effects, and $\mu_{i,t}$ represents idiosyncratic error. The subscripts *i* and *t* in the equations represent firm and time respectively. The study employed a dynamic panel data model, specifically the two step generalized method of moments (GMM) estimation to address the endogeneity problem. We use robust standard errors rather than standard errors because it discovered that over-identifying constraints are invalid according to the Sargan test. This methodology was applied for estimating Equations (1)–(21). The dynamic panel approach has been widely used in the past examining linkages between firms' investment and macro-environment (Demir et al. 2019a); (Altaf 2022) and (Demir et al. 2020).

$$AE_{i,t} = \beta_0 + \beta_1 AE_{i,t-1} + \beta_2 GPR_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (1)$$

$$AE_{i,t} = \beta_0 + \beta_1 AE_{i,t-1} + \beta_2 GPRT_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (2)$$

$$AE_{i,t} = \beta_0 + \beta_1 AE_{i,t-1} + \beta_2 GPRA_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (3)$$

$$AE_{i,t} = \beta_0 + \beta_1 AE_{i,t-1} + \beta_2 GPRIND_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (4)$$

$$AE_{i,t} = \beta_0 + \beta_1 AE_{i,t-1} + \beta_2 GPR_{t-1} + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (5)$$

3.7. Robustness Tests

Equations from (6)–(9) are for robustness tests using proxies for financial distress as Financial Distress Ratio (FDR) for EBITDA and Interest while Equations (10)–(13) represent for Zmijewski Score (ZMS). Equations (7) and (11) test GPRT while Equations (8) and (12) test for GPRA. Equations (9) and (13) are tested for GPR India.

$$FDR_{i,t} = \beta_0 + \beta_1 FDR_{i,t-1} + \beta_2 GPR_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (6)$$

$$FDR_{i,t} = \beta_0 + \beta_1 FDR_{i,t-1} + \beta_2 GPRT_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (7)$$

$$FDR_{i,t} = \beta_0 + \beta_1 FDR_{i,t-1} + \beta_2 GPRA_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (8)$$

$$FDR_{i,t} = \beta_0 + \beta_1 FDR_{i,t-1} + \beta_2 GPRIND_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (9)$$

$$ZMS_{i,t} = \beta_0 + \beta_1 ZMS_{i,t-1} + \beta_2 GPR_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (10)$$

$$ZMS_{i,t} = \beta_0 + \beta_1 ZMS_{i,t-1} + \beta_2 GPRT_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (11)$$

$$ZMS_{i,t} = \beta_0 + \beta_1 ZMS_{i,t-1} + \beta_2 GPRA_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (12)$$

$$ZMS_{i,t} = \beta_0 + \beta_1 ZMS_{i,t-1} + \beta_2 GPRIND_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (13)$$

3.8. Age and Size of Firms

To tackle challenges faced by firms during geopolitical crisis, firms require funds to maintain their operations. However, it might not be possible for these firms to secure funds

because they face difficulty to access external finance owing to the significant increase in adverse geopolitical events leading to increased financial constraints (Francis et al. 2014; Lee and Wang 2021). Thus in the event of a rising GPR, firms rely more on their internal funds and use their cash holdings as a buffer for meeting their operating expenses (Demir et al. 2019b). Additionally, a decrease in capital investment is observed in the tourism and hospitality sectors as a result of elevated GPR (Gozgor et al. 2022). The need for external funding is low for mature firms possibly due to their low growth prospects. Mallingu et al. (2020) argue that foreign investors prefer to invest in those companies that have reached their development stage rather than start-ups or companies in the growth phase. Based on this, our second hypothesis is

H₂. *GPR has a greater effect on younger businesses than it does on larger, more established businesses in the sector.*

3.9. Private Firm and Public Firms

It is seen that public limited companies and private limited companies portray some major differences and different traits (Capron and Shen 2007). The major difference between the public and private sector is that public sector companies have more formal decision-making procedures and therefore, are more risk averse, less flexible, and have more stringent rules than private-sector companies. The second difference between the public and private sector is that public sector companies have relatively less autonomy than their private counterparts. Finally, public limited firms are presumed to be less motivated by monetary rewards when compared to private limited firms. Consequently, firm performance varies upon the type of firm. Further, flow of information in public sector firms is relatively higher than in private sector firms. Besides, acquiring a privately held firm is a lucrative option to increase shareholder value (Draper and Paudyal 2006) since it generates a greater value-creating potential through the exploitation of private information. While private and public firms vary in their transparency and disclosure norms and governance, the impact of the risks may vary across firms within the sector. Public firms have easier access to funds while in case of private firms, there is more reliance on infusion by promoters. Considering the major difference between private and public firms, we argue that the effect of GPR may vary across the public and private limited firms and we propose the following hypothesis

H₃. *The effect of geopolitical risk on the performance of tourism & hospitality firms varies depending upon the type of firm (private limited and public limited).*

Equations (14)–(21) test geopolitical risk for private and public firms separately. ANMFPVT refers to Altman Ratio (for non-manufacturing private limited firms), and ANMFPUB refers to Altman ratio (for non-manufacturing public limited firms). PRIVATE represents a dummy variable for private limited firms, PUBLIC signifies a dummy variable for public limited firms.

$$ANMFPVT_{i,t} = \beta_0 + \beta_1 ANMFPVT_{i,t-1} + \beta_2 GPR_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (14)$$

$$ANMFPVT_{i,t} = \beta_0 + \beta_1 ANMFPVT_{i,t-1} + \beta_2 GPRT_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (15)$$

$$ANMFPVT_{i,t} = \beta_0 + \beta_1 ANMFPVT_{i,t-1} + \beta_2 GPRA_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (16)$$

$$ANMFPVT_{i,t} = \beta_0 + \beta_1 ANMFPVT_{i,t-1} + \beta_2 GPRIND_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (17)$$

$$ANMFPUB_{i,t} = \beta_0 + \beta_1 ANMFPUB_{i,t-1} + \beta_2 GPR_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (18)$$

$$ANMFPUB_{i,t} = \beta_0 + \beta_1 ANMFPUB_{i,t-1} + \beta_2 GPRT_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (19)$$

$$ANMFPUB_{i,t} = \beta_0 + \beta_1 ANMFPUB_{i,t-1} + \beta_2 GPRA_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (20)$$

$$ANMFPUB_{i,t} = \beta_0 + \beta_1 ANMFPUB_{i,t-1} + \beta_2 GPRIND_t + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (21)$$

$$AE_{i,t} = \beta_0 + \beta_1 AE_{i,t-1} + \beta_2 GPR_t + \beta_3 FS_{i,t} + \beta_4 LEV_{i,t} + \beta_5 LIQ_{i,t} + \theta_i + \gamma_t + \mu_{i,t} \quad (22)$$

4. Results

4.1. Summary Statistics

Table 4 displays the descriptive statistics of all variables. The average value of the financial distress proxy (Altman EMS) shows an average of 3.11, which is towards solvency though the minimum value is negative which clearly indicates financial distress and towards insolvency of firms. All the proxies of financial distress depict minimum and maximum values which are clearly indicative of sample firms being representative of solvent as also firms likely to become insolvent. The percentage of average cash held by Indian hospitality companies is 5%, meaning that on average, these companies have cash equivalent to 5% of their total assets, suggesting that they are rather liquid. The chosen companies have total debt that represents, on average, 30% of their total assets (Leverage). The mean value of GPR global is 4.55 with a maximum of 4.80 while the mean of the GPR (India) is 2.83 with a maximum value of 3.19. The mean (standard deviation) of GPRT, GPRA is 4.63 (5.07) and 4.39 (4.74) respectively. Firms are typically of varied size and age and show large dispersion as reflected in the standard deviation.

Table 4. Summary statistics.

Variable	Mean	Median	Std. Dev.	Min	Max
<i>ZZMS</i>	1.40	1.33	0.56	−2.82	5.63
<i>FFDR</i>	0.67	0	0.47	0.00	1.00
<i>AE</i>	3.11	3.59	3.87	−25.90	11.98
<i>GPR</i>	4.55	4.58	0.14	4.28	4.80
<i>GPRT</i>	4.63	4.62	0.20	4.35	5.07
<i>GPRA</i>	4.39	4.42	0.25	3.80	4.74
	2.83	2.73	0.19	2.57	3.19
<i>FS</i>	6.77	6.73	1.71	−0.69	12.57
<i>FA</i>	23.47	21	14.95	1	120
<i>LEV</i>	0.30	0.21	0.35	0.00	7.31
<i>LIQ</i>	0.05	0.04	0.18	−4.27	2.31

4.2. Baseline Results

Table 5 reflects Equations (1)–(5), evaluating the impact of GPRG, GPRT, GPRA, GPRI and lagged value of GPR over financial distress of firms as proxied by the EMS score. The results show a statistically significant and positive correlation for the whole sample, indicating that the chance of financial trouble and bankruptcy is positively correlated with GPR.

We followed (Demir et al. 2019a) in taking current and lagged values to see if past shocks have a persistent impact on the financial distress of firms. Subsequent investigation shows that a lag of year is not a condition statistically significant; in other words, the impact of uncertainty diminishes. While international GPR captures global geopolitical uncertainties, the GPR threat proxies for global war-like situations. Geopolitical risk in terms of threat and action also reveal a positive coefficient and have a high bearing on the capacity of firms to survive. In addition, GPR-India is also statistically significant thereby denoting that events in the Indian context can impact firms as much as global events, since the nature of industry entails that both inbound and outbound tourists get impacted adversely by a geopolitical event. Thus, our first hypothesis is confirmed.

Table 6 displays the results of 5 sub sectors (namely, Hotels, resorts & restaurants, Tourism, Restaurants, bars & canteen, Hotels & resorts and Luxury/Premium hotels) clubbed together. The results indicate that GPR, GPRT, GPRA and GPRI influence AE positively at 1% level of significance each. However, 1-year lag value of GPR show a negative and significant relationship with AE at 10% level of significance.

Table 5. GPR, GPRT, GPRA, GPRIND & GPR Lag and Altman Ratio (for emerging markets).

	(Equation (1))	(Equation (2))	(Equation (3))	(Equation (4))	(Equation (5))
$AE_{i,t-1}$	0.78 *** (10.15)	0.75 *** (10)	0.78 *** (9.83)	0.77 *** (10.4)	0.75 *** (9.67)
GPR_t	1.46 *** (7.58)				
GPR_{t-1}		−0.39 (−1.57)			
$GPRT_t$			1.22 *** (6.72)		
$GPRA_t$				0.83 *** (6.3)	
$GPRIND_t$					0.97 *** (4.16)
$FS_{i,t}$	0.74 *** (2.6)	0.89 *** (2.88)	0.78 *** (2.82)	0.76 *** (2.62)	1.00 *** (3.72)
$FA_{i,t}$	−0.06 *** (−3.1)	−0.06 ** (−2.47)	−0.11 *** (−4.8)	−0.01 (−0.42)	−0.09 *** (−3.63)
$LEV_{i,t}$	0.36 (0.67)	0.54 (0.95)	0.43 (0.8)	0.39 (0.73)	0.39 (0.71)
$LIQ_{i,t}$	0.58 (1.05)	0.37 (0.5)	0.5 (0.83)	0.57 (0.92)	0.26 (0.37)
AR1	0.00	0.00	0.00	0.00	0.00
AR2	0.32	0.44	0.32	0.43	0.35

Note: (i) *, ** and *** represent significance levels at 1%, 5% and 10% respectively. (ii) Parentheses are used to report the z-statistics.

Table 6. GPR, GPR Lag, GPRT, GPRA & GPRIND and Altman Ratio (for emerging markets) for 5 sub sectors clubbed together (Hotels, resorts & restaurants, Tourism, Restaurants, bars & canteen, Hotels & resorts and Luxury/Premium hotels) (Sub sample).

$AE_{i,t-1}$	0.84 *** (11.23)	0.80 *** (11.01)	0.82 *** (10.77)	0.83 *** (11.39)	0.78 *** (10.44)
GPR_t	1.53 *** (7.45)				
GPR_{t-1}		−0.48 * (−1.89)			
$GPRT_t$			1.28 *** (6.79)		
$GPRA_t$				0.86 *** (6.03)	
$GPRIND_t$					0.98 *** (3.85)
$FS_{i,t}$	1.05 *** (3.4)	1.12 *** (3.46)	1.00 *** (3.31)	1.16 *** (3.57)	1.35 *** (4.23)
$FA_{i,t}$	−0.07 *** (−3.22)	−0.06 ** (−2.47)	−0.11 *** (−4.62)	−0.02 (−0.64)	−0.1 *** (−3.54)
$LEV_{i,t}$	0.57 (1.09)	0.65 (1.17)	0.52 (0.99)	0.64 (1.19)	0.47 (0.87)
$LIQ_{i,t}$	0.33 (0.5)	0.43 (0.5)	0.38 (0.53)	0.34 (0.46)	0.19 (0.23)
AR1	0.00	0.00	0.00	0.00	0.00
AR2	0.12	0.17	0.13	0.16	0.12

Note: (i) *, ** and *** represent significance levels at 1%, 5% and 10% respectively. (ii) The z-statistics are reported in parentheses.

We create alternate measures of financial distress proxy by using the FDR (Table 7) representing Equations (6)–(9) and Zmijewski Score (Table 8) reflecting Equations (10)–(13) to see the impact of GPR on financial distress with alternate measures identifying the inherent default risk. The results are indicative of an impact of all GPR events on financial distress of firms as shown in a positive coefficient which is statistically significant at 1%.

Table 7. Robustness test using Financial Distress Ratio.

	(Equation (6))	(Equation (7))	(Equation (8))	(Equation (9))
$FDR_{i,t-1}$	0.23 *** (5.01)	0.22 *** (4.74)	0.22 *** (4.72)	0.2 *** (4.23)
GPR_t	0.44 *** (8.2)			
$GPRT_t$		0.41 *** (7.5)		
$GPRA_t$			0.22 *** (6.87)	
$GPRIND_t$				0.22 *** (3.92)
$FS_{i,t}$	0.09 * (1.87)	0.1 * (1.85)	0.12 *** (2.79)	0.13 *** (2.68)
$FA_{i,t}$	−0.02 *** (−4.28)	−0.03 *** (−6.57)	−0.01 (−1.23)	−0.02 *** (−5.46)
$LEV_{i,t}$	0.03 (0.32)	0.01 (0.15)	0.05 (0.56)	0.01 (0.13)
$LIQ_{i,t}$	0.32 * (1.86)	0.33 * (1.79)	0.31 * (1.82)	0.3 * (1.78)
AR1	0.00	0.00	0.00	0.00
AR2	0.72	0.86	0.99	0.66

Note: (i) *, ** and *** represent significance levels at 1%, 5% and 10% respectively.

Table 8. Robustness test using Zmijewski Score.

	(Equation (10))	(Equation (11))	(Equation (12))	(Equation (13))
$ZMS_{i,t-1}$	0.33 *** (5.67)	0.31 *** (5.52)	0.32 *** (4.94)	0.31 *** (4.88)
GPR_t	−0.38 *** (−8.28)			
$GPRT_t$		−0.34 *** (−8.13)		
$GPRA_t$			−0.18 *** (−5.7)	
$GPRIND_t$				−0.27 *** (−4.37)
$FS_{i,t}$	−0.31 *** (−4.12)	−0.33 *** (−4.07)	−0.32 *** (−3.88)	−0.34 *** (−3.89)
$FA_{i,t}$	0.02 *** (3.95)	0.03 *** (5.65)	0.01 * (1.79)	0.03 *** (4.52)
$LEV_{i,t}$	0.24 *** (2.73)	0.27 *** (3.26)	0.22 ** (2.18)	0.33 *** (3.04)
$LIQ_{i,t}$	−0.62 *** (−2.88)	−0.67 *** (−3.01)	−0.51 ** (−2.4)	−0.44 ** (−2.38)
AR1	0.00	0.00	0.00	0.00
AR2	0.38	0.41	0.52	0.45

Note: (i) *, ** and *** represent significance levels at 1%, 5% and 10% respectively.

Our robustness tests corroborate our findings from the baseline model that geopolitical events as represented by global risks, threats, action and Indian-specific events tend to increase financial distress in firms which can eventually lead to insolvency and bankruptcy.

An analysis is also conducted by splitting the sample into crisis period and non-crisis period, based on interaction effect and by controlling for crisis period. Though the results are not reported in tabular form, it is observed that for interaction effect, geopolitical risk (GPR), GPR Threat, GPR Act and GPR India significantly affects the Altman Ratio for emerging markets (AE) positively at 1% level of significance each. The findings after controlling the COVID-19 crisis period employing the sub sample approach show that GPR and GPRI (at 10% level of significance each) establish a positive and significant relationship with financial distress while GPRT and GPRA have no significant effect on Altman EMS and thereby financial distress.

4.3. Sub-Sample Analysis: Findings on Impact of Risks on Types of Firms: Private and Public in the Sector

We extend our analysis further to see the impact of these risks by segregating the sample into public and private firms separately. Private firms have limited ownership and are unlisted. We use the Altman score for private firms (Altman 1983) and the Altman original model for public firms (Altman 1968). The results are shown in Table 9 for private firms, reflecting Equations (14)–(17) and Table 10 for public firms reflecting Equations (18)–(21). The findings show that all GPR events have a significant impact on the survival of private firms as seen in the positive coefficient, and the statistical significance of all four variables.

Table 9. GPR, GPRT, GPRA & GPRIND and Altman Ratio (for non-manufacturers) for private limited firms.

	(Equation (14))	(Equation (15))	(Equation (16))	(Equation (17))
$ANMFPVT_{i,t-1}$	0.66 *** (34.61)	0.68 *** (35.98)	0.63 *** (32.6)	0.65 *** (35.44)
GPR_t	1.66 *** (10.6)			
$GPRT_t$		1.31 *** (9.94)		
$GPRA_t$			1.15 *** (10.52)	
$GPRIND_t$				1.21 *** (6.7)
$FS_{i,t}$	0.97 *** (7.87)	0.96 *** (7.74)	0.97 *** (7.32)	1.03 *** (7.85)
$FA_{i,t}$	−0.12 *** (−9.43)	−0.15 *** (−11.28)	−0.06 *** (−4.17)	−0.12 *** (−8.4)
$LEV_{i,t}$	0.46 *** (3.18)	0.46 *** (3.2)	0.39 ** (2.42)	0.35 ** (2.21)
$LIQ_{i,t}$	0.28 (1.11)	0.35 (1.48)	0.36 (1.39)	0.54 ** (2.28)
Sargan p -value	0.22	0.21	0.15	0.15
AR1	0.00	0.00	0.00	0.00
AR2	0.56	0.57	0.67	0.65

Note: (i) *, ** and *** represent significance levels at 1%, 5% and 10% respectively.

Table 10. GPR, GPRT, GPRA & GPRIND and Altman Ratio (for non-manufacturers) for public limited firms.

	(Equation (18))	(Equation (19))	(Equation (20))	(Equation (21))
$ANMFPUB_{i,t-1}$	0.83 *** (490.08)	0.81 *** (166.11)	0.76 *** (151.85)	0.76 *** (147.5)
GPR_t	1.33 *** (90.39)			
$GPRT_t$		0.61 *** (21.24)		
$GPRA_t$			1.14 *** (80.32)	
$GPRIND_t$				0.23 *** (15.73)
$FS_{i,t}$	0.08 *** (7.96)	0.05 *** (2.87)	0.29 *** (20.18)	0.13 *** (14.43)
$FA_{i,t}$	0.01 *** (8.73)	0.003 (1.59)	0.04 *** (35.16)	0.01 *** (7.25)
$LEV_{i,t}$	−0.05 (−1.24)	0.19 *** (4.41)	−0.35 *** (−6.65)	0.04 (0.83)
$LIQ_{i,t}$	0.6 *** (8.95)	1.1 *** (17.64)	0.2 *** (3.83)	1.41 *** (33.94)
Sargan p -value	0.91	0.86	0.88	0.84
AR1	0.00	0.00	0.00	0.02
AR2	0.54	0.49	0.52	0.44

Note: (i) *, ** and *** represent significance levels at 1%, 5% and 10% respectively.

The results hold true for public firms as well thereby negating our hypothesis that the effect is more pronounced for private firms. Tourism industry and thus hospitality firms get severely impacted whenever there is any sign of geopolitical risk, which leads to decline in travellers, both business and leisure tourists thereby impacting all firms.

4.4. Sub-Sample Analysis: Results from Impact on Age of Firms

Our results on firm age reveal that stage of life cycle is irrelevant for this sector (Table 11). Beyond a certain size, enterprises are inefficiently managed leading to scale inefficiencies and a higher risk of financial trouble (Yazdanfar and Öhman 2020). The chances of a slowdown in business and in turn investments, impacts larger firms to a greater degree which can lead to funding constraints. Moreover, with limited access to financial markets, this has a greater impact on financially constrained enterprises, which are young, due to the rising cost of external borrowing during uncertain times. Research by Abidin et al. (2021) and Belda and Cabrer-Borrás (2021) shows that older hospitality businesses are more likely to survive and are less likely to file for bankruptcy. Older companies have more experience and expertise than younger companies so that they can better use their resources (and also their knowledge) to gain a competitive advantage. Thus, while our second hypothesis is confirmed for younger firms; our findings are novel in the Indian context for large firms.

Table 11. GPR and Altman Ratio (for emerging markets) for young and mature firms.

	(Equation (22)) Young Firms	(Equation (22)) Mature Firms
$AE_{i,t-1}$	0.77 *** (9.66)	0.84 *** (9.13)
GPR_t	1.26 *** (3.67)	1.62 *** (5.58)
$FS_{i,t}$	0.15 (0.6)	0.71 ** (2.00)
$LEV_{i,t}$	1.27 * (1.69)	−0.68 (−0.92)
$LIQ_{i,t}$	−0.55 (−0.67)	1.34 * (1.83)
AR1	0.00	0.00
AR2	0.94	0.1

Note: (i) *, ** and *** represent significance levels at 1%, 5% and 10% respectively.

5. Discussion and Implications

The empirical findings confirm that geopolitical risk has a significant impact of firms' financial performance and a continued fall in demand for tourists coupled with high leverage (both operating and financial) increases the chances of financial distress and thereby bankruptcy. The accounting models used as proxy for financial distress confirm our hypothesis. Forecasting bankruptcy before it manifests itself is crucial. Furthermore, a potent instrument that can ensure the survival of businesses that are about to fail is the ability to forecast corporate difficulty and bankruptcy. As a result, Altman's Z-score models offer highly valuable tools for all stakeholders.

Our findings reveal that age of a firm has no bearing on this sector in defining the degree of financial distress due to geopolitical crisis. We rationalise that irrespective of young or mature firms, access to external finance, and constraint on liquidity is felt by all firms with the adverse impact on tourism by GPR. Moreover, the impact is equally significant for both private and public firms, negating our hypothesis. We rationalise this in that during times of heightened GPR, demand will be sluggish and firms will struggle to cover their fixed costs. Moreover, while listed firms may have greater access to financial markets, external financing will be difficult for all thereby putting pressure on their bottom-line.

(Zheng and Lin 2021) emphasize that the impact of political risk is largely a firm specific phenomenon that impacts their performance and may lead to business failure. Further, organisational slack exacerbates impact of external shock and plays a crucial role in firms' policies and decision making to pre-empt business failures. Tourism firms are vulnerable to risk relating to banking and financial policies, as the tourism industry is one of the biggest borrowers of capital and must take precautions against influential political events. In order to reduce the likelihood of business failure, tourism companies should concentrate on necessary and vital activities since absorbed slack is linked to committed or limited resources that can be redeployed. For long-term business planning, companies with higher levels of absorbed slack should focus on resource utilization.

The findings of this study have ramifications for managers, policymakers and other stakeholders as well. Tourism sector is significantly impacted by any geopolitical event with its repercussions felt by both inbound and outbound travellers. From a policy standpoint, foreign visitors are seen as rational consumers who choose their travel locations by balancing the costs (the dangers involved with the experience) and the benefits (the satisfaction they will get from the trip). The cost and associated hazards rise in tandem with an increase in geopolitical concerns. Travellers' decisions to stay away from dangerous destinations result in large financial losses for both the travel industry and the nation that supplies the travel, in line with the tourist-led growth hypothesis (TLGH). Therefore, we believe that prior to a crisis, governments, organizations, and policymakers should set up crisis management plans to propose global or destination-specific policy objectives for the development of the tourist sector.

Our empirical results are useful for Indian policymakers to create suitable rules that address geopolitical risk and promote economic growth. In order to address potential short-term liquidity imbalances, governments ought to support the hotel industry's adoption of balanced cash levels. Easing of taxation policies, providing sops to the sector, concessional land are some steps that can be taken by the government. When these businesses experience liquidity issues, public authorities should open up lending channels for them, particularly in unstable turbulent environments.

Additionally, we demonstrate the necessity of sound cash management during times of political stability because, in an unstable political environment, hospitality businesses will need to draw on their cash reserves. Since firms in emerging economies typically rely more on internally generated funds and external funding is more expensive, this issue is especially pertinent to them. Moreover, fixed costs are high in this sector, thus management needs to take proactive steps on cost efficiencies and plan their capex in accordance with anticipated demand and potential conflicts, wars and other events. Building resources and reducing unsystematic risk seem to be associated with a growth-oriented strategic approach. Over-indebtedness should be prevented and the level of debt should be managed within reasonable bounds. This would align with the theory of resources.

6. Conclusions

This paper evaluates the impact of geopolitical events on the financial distress of hospitality firms. The hospitality and tourism sector contributes to employment generation, GDP growth and thereby economy growth of the country. Since this industry is vulnerable to these events and can thus impact the growth of a nation adversely, proactive steps are essential to mitigate these risks to the extent possible. The proxy for financial distress is taken as Altman EMS, Żmijewski score and the financial distress ratio. Our findings confirm that age (mature/young) or type (private/public) of firms are all impacted by GPR to a significant degree. Following a robust business model will help hospitality firms to be less susceptible to geo-political uncertainties and its consequent impact on their financials. This research study advances our understanding of the business features of hospitality enterprises, which are particularly vulnerable to geopolitical concerns.

Limitations of the Study and Scope for Future Research

The scope of this study is limited to Indian hospitality and tourism firms. A cross-country analysis would add further value to the research to see the degree to which geopolitical events impact firms differently. The data is available from FY 2011 thereby restricting the sample size. Further, the study is limited in the dependent variable defining bankruptcy using three accounting models. Accounting models are backward looking and based on financial statements are subject to ‘creative accounting practices’. Thus other indicators of bankruptcy as credit default swaps, among others can be used. Also, future studies can be based on application of machine learning tools. Start-ups that have produced little to no revenue and do not directly address the cash flow problem are unlikely to employ the Altman Z-score. A cross-country analysis would add further value to the research to see the degree to which geopolitical events impact firms differently.

Future research can focus on macro variables and other factors that can impact financial distress. In addition, ownership pattern, promoters’ shares pledged and qualitative variables can also be examined for their impact.

Funding: This research received no external funding.

Data Availability Statement: Dataset available on request from the author.

Acknowledgments: The infrastructural support provided by FORE School of Management, New Delhi, India in completing this paper is gratefully acknowledged.

Conflicts of Interest: The author declares that there is no conflict of interest.

Notes

- ¹ The Times of India, “India to become 3rd largest economy by 2029: SBI report”, September 2022. The full report is available at: <https://timesofindia.indiatimes.com/business/india-business/india-to-become-3rd-largest-economy-by-2029-sbi-report/articleshow/93971469.cms>, accessed 11 March 2023, 20:43 Hours, IST.
- ² Imarc Insightful Insights, “India Business Travel Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023–2028”, 2022, The full report is available at: <https://www.imarcgroup.com/india-business-travel-market/toc>, accessed 12 March 2023, 12:22 Hours, IST.
- ³ https://www.business-standard.com/article/economy-policy/geopolitical-tensions-biggest-risk-to-india-s-growth-outlook-j-ayanth-varma-122082400321_1.html, accessed 13 March 2023, 20.00 Hours IST.
- ⁴ Global markets in Flux: The Geopolitical impact on India. <https://www.linkedin.com/pulse/global-markets-flux-geopolitical-impact-india-hussain-hilal>, accessed 13 March 2023.
- ⁵ World Bank Group Global Economic Prospects (2023).
- ⁶ Geopolitical Challenges, Economic Uncertainty Hinder Govt’s Efforts to Boost FDI Inflows in India, <https://thewire.in/economy/geopolitical-challenges-economic-uncertainty-hinder-govts-efforts-to-boost-fdi-inflows-in-india> (accessed 13 March 2023).
- ⁷ Eleven national and international newspapers’ electronic archives’ automated text-search results are reflected in the GPR index. In order to determine the index, (Caldara and Iacoviello 2022) tally the number of pieces about geopolitical risk that appear in each newspaper for each month (as a percentage of all news stories).

References

- Abidin, Zainol J., N. A. H. Abdullah, and K. L.-H. Khaw. 2021. Bankruptcy prediction: SMEs in the hospitality industry. *International Journal of Banking and Finance* 16: 51–80.
- Acharya, Engle, and S. Steffen. 2020. The risk of being a fallen angel and the corporate cash for cash in the midst of COVID. *The Review of Corporate Finance Studies* 9: 430–71. [CrossRef]
- Adra, Samer, Yang Gao, Jin Huang, and Jiayi Yuan. 2023. Geopolitical risk and corporate payout policy. *International Review of Financial Analysis* 87: 102613. [CrossRef]
- Almeida, H., and T. Philippon. 2007. The risk-adjusted cost of financial distress. *The Journal of Finance* 62: 2557–86. [CrossRef]
- Altaf, N. 2022. Economic policy uncertainty and corporate investment: Evidence from Indian hospitality firms. *Journal of Policy Research in Tourism, Leisure and Events* 16: 1–14. [CrossRef]
- Altaf, N., and F. Ahmad. 2019. Working capital financing, firm performance and financial constraints: Empirical evidence from India. *International Journal of Managerial Finance* 15: 464–77. [CrossRef]
- Altman, Edward I. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance* 23: 589–609. [CrossRef]

- Altman, Edward I. 1983. *Corporate Financial Distress: A Complete Guide to Predicting, Avoiding, and Dealing with Bankruptcy*. Hoboken: John Wiley & Sons.
- Amoa-Gyarteng, K. 2021. Corporate financial distress: The impact of profitability, liquidity, asset productivity, activity, and solvency. *Journal of Accounting, Business and Management* 28: 104–15. [\[CrossRef\]](#)
- Arellano, Manuel, and Stephen Bond. 1991. Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *The Review of Economic Studies* 58: 277. [\[CrossRef\]](#)
- Ashraf, Badar Nadeem, and Yinjie Shen. 2019. Economic policy uncertainty and banks' loan pricing. *Journal of Financial Stability* 44: 100695. [\[CrossRef\]](#)
- Balaguer, Jacint, and Manuel Cantavella-Jordá. 2002. Tourism as a long-run economic growth factor: The Spanish case. *Applied Economics* 34: 877–84. [\[CrossRef\]](#)
- Balcilar, Mehmet, Bonato Matteo, Demirer Riza, and Gupta Rangan. 2018. Geopolitical risks and stock market dynamics of the BRICS. *Economic Systems* 42: 295–306. [\[CrossRef\]](#)
- Balli, F., G. S. Uddin, and S. J. H. Shahzad. 2019. Geopolitical risk and tourism demand in emerging economies. *Tourism Economics* 25: 997–1005. [\[CrossRef\]](#)
- Belda, P. Rico, and B. Cabrer-Borrás. 2021. Size and survival of the hospitality industry: The case of Spain. *Tourism Economics* 27: 933–51. [\[CrossRef\]](#)
- Caldara, Dario, and Matteo Iacoviello. 2022. Measuring Geopolitical Risk. *American Economic Review* 112: 1194–225. [\[CrossRef\]](#)
- Capron, L., and Jung-Chin Shen. 2007. Acquisitions of private vs. public firms: Private information, target selection, and acquirer returns. *Strategic Management Journal* 28: 891–911. [\[CrossRef\]](#)
- Chen, M.-H. 2010. The economy, tourism growth and corporate performance in the Taiwanese hotel industry. *Tourism Management* 31: 665–75. [\[CrossRef\]](#)
- Chien, G. C., and R. Law. 2003. The impact of the severe acute respiratory syndrome on hotels: A case study of Hong Kong. *International Journal of Hospitality Management* 22: 327–32. [\[CrossRef\]](#)
- Demir, Ender, Giray Gozgor, and Sudharshan Reddy Paramati. 2019a. Do geopolitical risks matter for inbound tourism? *Eurasian Business Review* 9: 183–91. [\[CrossRef\]](#)
- Demir, Ender, Giray Gozgor, and S. R. Paramati. 2020. To what extent economic uncertainty effects tourism investments? Evidence from OECD and non-OECD economies. *Tourism Management Perspectives* 36: 100758. [\[CrossRef\]](#)
- Demir, Ender, J. M. Díez-Esteban, and C. D. García-Gómez. 2019b. The impact of geopolitical risks on cash holdings of hospitality companies: Evidence from emerging countries. *Journal of Hospitality and Tourism Management* 39: 166–74. [\[CrossRef\]](#)
- Derco, Jan. 2022. The impacts of the COVID-19 pandemic on the Tour Operator market—The case of Slovakia. *Journal of Risk and Financial Management* 15: 446. [\[CrossRef\]](#)
- Diakomihalis, M. 2012. The accuracy of Altman's models in predicting hotel bankruptcy. *International Journal of Accounting and Financial Reporting* 2: 96–113. [\[CrossRef\]](#)
- Dogru, T., S. McGinley, and W. G. Kim. 2020. The effect of hotel investments on employment in the tourism, leisure and hospitality industries. *International Journal of Contemporary Hospitality Management* 32: 1941–65. [\[CrossRef\]](#)
- Draper, Paul, and Krishna Paudyal. 2006. Acquisitions: Private versus Public. *European Financial Management* 12: 57–80. [\[CrossRef\]](#)
- Fahlenbrach, Rüdiger, Kevin Rageth, and René M. Stulz. 2021. How valuable is financial flexibility when revenue stops? Evidence from the COVID-19 crisis. *The Review of Financial Studies* 34: 5474–521. [\[CrossRef\]](#)
- Francis, Bill, Iftekhar Hasan, and Yun Zhu. 2014. Political uncertainty and bank loan contracting. *Journal of Empirical Finance* 29: 281–86. [\[CrossRef\]](#)
- García-Gómez, C. D., Ender Demir, M.-H. Chen, and J. M. Díez-Esteban. 2022. Understanding the effects of economic policy uncertainty on US tourism firms' performance. *Tourism Economics* 28: 1174–92. [\[CrossRef\]](#)
- Gemar, G., I. P. Soler, and V. F. Guzman-Parra. 2019. Predicting bankruptcy in resort hotels: A survival analysis. *International Journal of Contemporary Hospitality Management* 31: 1546–66. [\[CrossRef\]](#)
- Gozgor, Giray, M. Chi, Keung Lau, Yan Zeng, C. Yan, and Z. Lin. 2022. The Impact of Geopolitical Risks on Tourism Supply in Developing Economies: The Moderating Role of Social Globalization. *Journal of Travel Research* 61: 872–86. [\[CrossRef\]](#)
- Guillet, B. D., and A. S. Mattila. 2010. A descriptive examination of corporate governance in the hospitality industry. *International Journal of Hospitality Management* 29: 677–84. [\[CrossRef\]](#)
- Gujarati, Damodar. N. 2009. *Basic Econometrics*. New York: Tata McGraw-Hill Education.
- Habib, Ahmed Mohamed, and Umar N. Kayani. 2022. Does the efficiency of working capital management affect a firm's financial distress? Evidence from UAE. *Corporate Governance: The International Journal of Business in Society* 22: 1567–86. [\[CrossRef\]](#)
- Hailemariam, Abebe, and Kris Ivanovski. 2021. The impact of geopolitical risk on tourism. *Current Issues in Tourism* 24: 3134–40. [\[CrossRef\]](#)
- Hua, Nan, Qu Xiao, and Elizabeth Yost. 2013. An empirical framework of financial characteristics and outperformance in troubled economic times: Evidence from the restaurant industry. *International Journal of Contemporary Hospitality Management* 25: 945–64. [\[CrossRef\]](#)
- Jabbouri, Imad, and H. Almustafa. 2020. Corporate cash holdings, firm performance and national governance: Evidence from emerging markets. *International Journal of Managerial Finance* 17: 783–801. [\[CrossRef\]](#)

- Jang, SooCheeong, Chung Hung Tang, and Ming Hsiang Chen. 2008. Financing behaviours of hotel companies. *International Journal of Hospitality Management* 27: 478–87. [\[CrossRef\]](#)
- Kelly, Bryan, Lúbos Pástor, and Pietro Veronesi. 2016. The Price of Political Uncertainty: Theory and Evidence from the Option Market. *The Journal of Finance* 71: 2417–80. [\[CrossRef\]](#)
- Killins, Robert N. 2020. Firm-specific, industry-specific and macroeconomic factors of life insurers' profitability: Evidence from Canada. *The North American Journal of Economics and Finance* 51: 101068. [\[CrossRef\]](#)
- Kim, Hyungoon, and Zheng Gu. 2006. Predicting restaurant bankruptcy: A logit model in comparison with a discriminant model. *Journal of Hospitality & Tourism Research* 30: 474–93.
- Kolodiziev, Oleh, Oleksandr Dorokhov, Valeriia Shcherbak, Liudmyla Dorokhova, Altan Ismailov, and Ronnie Figueiredo. 2024. Resilience Benchmarking: How Small Hotels Can Ensure Their Survival and Growth during Global Disruptions. *Journal of Risk and Financial Management* 17: 281. [\[CrossRef\]](#)
- Le, Anh-Tuan, and Thao Phuong Tran. 2021. Does geopolitical risk matter for corporate investment? Evidence from emerging countries in Asia. *Journal of Multinational Financial Management* 62: 100703. [\[CrossRef\]](#)
- Lee, Chien Chiang, and C. P. Chang. 2008. Tourism development and economic growth: A closer look at panels. *Tourism Management* 29: 180–92. [\[CrossRef\]](#)
- Lee, Chien-Chiang, and C.-Wei Wang. 2021. Firms' cash reserve, financial constraint, and geopolitical risk. *Pacific-Basin Finance Journal* 65: 101480. [\[CrossRef\]](#)
- Lee, C.-C., G. Olasehinde-Williams, and S. S. Akadiri. 2021. Geopolitical risk and tourism: Evidence from dynamic heterogeneous panel models. *International Journal of Tourism Research* 23: 26–38. [\[CrossRef\]](#)
- Liu, Anyu, and Stephen Pratt. 2017. Tourism's vulnerability and resilience to terrorism. *Tourism Management* 60: 404–17. [\[CrossRef\]](#)
- López-Gutiérrez, C., S. Sanfilippo-Azofra, and B. Torre-Olmo. 2015. Investment decisions of companies in financial distress. *BRQ Business Research Quarterly* 18: 174–87. [\[CrossRef\]](#)
- Madanoglu, Melih, and Ozgur Ozdemir. 2019. Economic policy uncertainty and hotel operating performance. *Tourism Management* 71: 443–52. [\[CrossRef\]](#)
- Mallinguh, Edmund, Christopher Wasike, and Zeman Zoltan. 2020. The Business Sector, Firm Age, and Performance: The Mediating Role of Foreign Ownership and Financial Leverage. *International Journal of Financial Studies* 8: 79. [\[CrossRef\]](#)
- Milašinović, Marko, Snezana Knezevic, and Aleksandra Mitrovic. 2019. Bankruptcy forecasting of hotel companies in the Republic of Serbia using Altman's Z-score model. *Menadžment u Hotelijerstvu i Turizmu* 7: 87–95. [\[CrossRef\]](#)
- Mitra, Gaurav, Vandana Gupta, and Gaurav Gupta. 2023. Impact of macroeconomic factors on firm performance: Empirical evidence from India. *Investment Management and Financial Innovations* 20: 1–12. [\[CrossRef\]](#)
- Nguyen, Thanh Cong, and T. H. Thuy. 2023. Geopolitical risk and the cost of bank loans. *Finance Research Letters* 54: 103812. [\[CrossRef\]](#)
- Nicolau, Juan L. 2005. Leveraging profit from the fixed-variable cost ratio: The case of new hotels in Spain. *Tourism Management* 26: 105–11. [\[CrossRef\]](#)
- Ozdemir, Ozgur, Tarik Dogru, Murat Kizildag, Makarand Mody, and Courtney Suess. 2021. Quantifying the economic impact of COVID-19 on the US hotel industry: Examination of hotel segments and operational structures. *Tourism Management Perspectives* 39: 100864. [\[CrossRef\]](#)
- Panigrahi, Ashok. 2019. Validity of Altman's "Z" score model in predicting financial distress of pharmaceutical companies. *NMIMS Journal of Economics and Public Policy* 4: 65–73.
- Park, Soo Seon, and Murat Hancer. 2012. A comparative study of logit and artificial neural networks in predicting bankruptcy in the hospitality industry. *Tourism Economics* 18: 311–38. [\[CrossRef\]](#)
- Pindado, Julio, Luis Rodrigues, and Chabela De la Torre. 2008. Estimating financial distress likelihood. *Journal of Business Research* 61: 995–1003. [\[CrossRef\]](#)
- Ramaratnam, M. S., and R. Jayaraman. 2010. A study on measuring the financial soundness of select firms with special reference to Indian steel industry—An empirical view with Z score. *Asian Journal of Management Research*, 724–35.
- Ramelli, S., and A. F. Wagner. 2020. Feverish Stock Price Reactions to COVID-19. *Review of Corporate Finance Studies* 9: 622–55. [\[CrossRef\]](#)
- Rao, S., S. Koirala, S. Aldhawayn, and S. Corbet. 2023. Geopolitical risk and M&A: The role of national governance institutions. *Economics Letters* 225: 111062.
- Ritchie, Brent W., and Yawei Jiang. 2021. Risk, crisis and disaster management in hospitality and tourism: A comparative review. *International Journal of Contemporary Hospitality Management* 33: 3465–93. [\[CrossRef\]](#)
- Singh, Rashmi, and Janmejay Singh. 2019. Destination attributes to measure tourist revisit intention: A scale development. *Global Business Review* 20: 549–72. [\[CrossRef\]](#)
- Situm, Mario. 2023. Financial distress in the Austrian tourism industry: Hotels and restaurants analysis. *European Journal of Tourism Research* 34: 3411. [\[CrossRef\]](#)
- Slevitch, Lisa, and Amit Sharma. 2008. Management of Perceived Risk in the Context of Destination Choice. *International Journal of Hospitality & Tourism Administration* 9: 85–103.
- Soni, Tarun Kumar, Amrinder Singh, and Vikrant Kaushal. 2023. Capital investments and firm characteristics: The moderating role of economic policy uncertainty in the hospitality sector. *International Journal of Hospitality Management* 114: 103562. [\[CrossRef\]](#)

- Srebro, Bosiljk, Bojan Mavrenski, Vesna Bogojević Arsić, Snežana Knežević, Marko Milašinović, and Jovan Travica. 2021. Bankruptcy Risk Prediction in Ensuring the Sustainable Operation of Agriculture Companies. *Sustainability* 13: 7712. [CrossRef]
- Tiwari, Aviral K., Debojyoti Das, and Anupam Dutta. 2019. Geopolitical risk, economic policy uncertainty and tourist arrivals: Evidence from a developing country. *Tourism Management* 75: 323–7. [CrossRef]
- Wooldridge, Jeffrey M. 2002. *Econometric Analysis of Cross Section and Panel Data*. Cambridge: MIT Press.
- World Bank Group Global Economic Prospects. 2023. Available online: <https://www.worldbank.org/en/publication/global-economic-prospects> (accessed on 20 March 2023).
- Yang, Yang, Hongbo Liu, and Xiang Chen. 2020. COVID-19 and restaurant demand: Early effects of the pandemic and stay-at-home orders. *International Journal of Contemporary Hospitality Management* 32: 3809–34. [CrossRef]
- Yazdanfar, Darush, and Peter Öhman. 2020. Financial distress determinants among SMEs: Empirical evidence from Sweden. *Journal of Economic Studies* 47: 547–60. [CrossRef]
- Yiu, Chung Yim. 2023. The impacts of shopping tourism on retail sales and rents: Lessons from the COVID-19 quasi-experiment of Hong Kong. *Journal of Risk and Financial Management* 16: 301. [CrossRef]
- Zhai, S. S., J. G. Choi, and F. Kwansa. 2015. A financial ratio-based predicting model for hotel business failure. *Global Business & Finance Review* 20: 71–86.
- Zheng, Cheng, Zezeng Li, and Jialin (Snow) Wu. 2022. Tourism Firms' Vulnerability to Risk: The Role of Organizational Slack in Performance and Failure. *Journal of Travel Research* 61: 990–1005. [CrossRef]
- Zheng, Qiang, and Danming Lin. 2021. Top management team stability and corporate social responsibility: The moderating effects of performance aspiration gap and organisational slack. *Sustainability* 13: 13972. [CrossRef]
- Zmijewski, M. E. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* 22: 59–82. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.