# Geopolitical Risk and Firm Value:

# Evidence from Emerging Markets

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Sasin Pringpong

Sakkakom Maneenop

Anutchanat Jaroenjitrkam

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# What is Geopolitics ?

Geopolitics is “the study of how geography and economics influence politics and the relations between countries, focusing on political power linked to geographic space such as territorial waters, land in correlation with diplomatic history”

(Overland, 2019).

รัฐศาสตร์การเมืองว่าด้วยความสัมพันธ์ระหว่างประเทศที่เกี่ยวข้องกันระหว่างอำนาจทางการเมือง ทรัพยากรทางเศรษฐกิจ และดินแดนเชิงภูมิศาสตร์ ไม่ว่าจะเป็นเขตแดนประเทศ เส้นแบ่งเขตทางน่านน้ำ ที่อาจมีประวัติศาสตร์การเมืองมาอย่างยาวนาน

**Geopolitical risk (GPR)** is the risk stemmed from dispute or conflict in Geopolitics

# The impact of GPR


Source: The Guardian newspaper

- ❑ The 2023 Israel-Hamas war
- ❑ The war between Ukraine and Russia
- ❑ Trade War between US and China
- ❑ Tension in the Korean Peninsula
- ❑ Autonomy of Taiwan and Hong Kong from China

In our most recent times, Geopolitics has played a major part in our world, whether they are international politics, economics, financial markets, energy prices, or even our daily lives.

# The Problem Statement and Research Motivation

- GPR has become a primary threat and challenge faced by corporates (PWC, 2019)
- Extensive literature addressed impact of GPR on the economy (Bloom, 2009), domestic credits, (Zhou, Gozgor, Huang, & Lau, 2020), firm's capital structure (Kotcharin & Maneenop, 2020), corporate investments, amongst others.
- Aggregate political risk affect stock market returns in emerging markets more profoundly than in developed counterparts. (Erb, Harvey, & Viskanta, 1996; Bilson, Brailsford, & Hooper, 2002).
- Limited studies on the impact of GPR on firm value, more over, existing studies on political risks and firm value primarily focus on domestic politics, without much attention given to the impact of GPR, particularly in the emerging market economies where GPR has most impact.

# The Significance of Research

**Academic contributions**: Fill the gap in the academic literature by addressing;

- If GPR affect firm value, if so → which component of GPR have the most effect.
- The differences of impact before & after the 9/11 event.
- The heterogeneity of impact amongst emerging market economies
- The underlying mechanism, does GPR affect firm value through
  - firm's overall liquidity management, i.e. cash holding ?
  - firm's capital structure ?
  - corporate investment ?

**Practical implications:** The findings can be used to formulate government policy and suggest corporate action and to facilitate firm value in emerging market countries at times of heighten GPR.

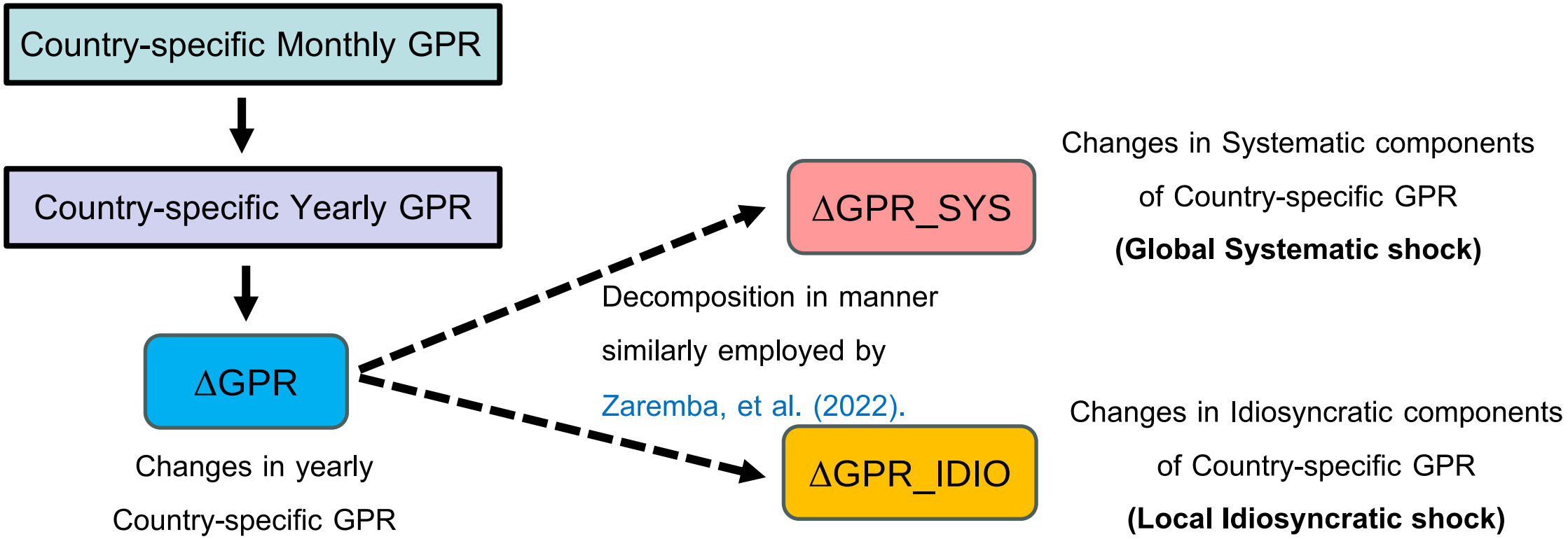
# Sample Selection and Firm value measure

- Sample consists of firms from 14 emerging countries classified by MSCI (with country GPR data availability) between 1985 and 2019, from Refinitiv Datastream.
- Dependent variable used to measure firm value is **Tobin's Q**.
- To ensure the results are robust, we introduce several variables intended to control for the firm's specific characteristics and other macroeconomic shocks and uncertainty.
- Following prior literature on political risk and firm value, we exclude any observations from financial industry sectors.
- Continuous variables are winsorized at 1st and 99th percentiles.
- The final baseline sample of 8,317 firms with 54,436 firm-year observations.

# GPR measure

- We use novel measure of **GPR** index developed by Caldara and Iacoviello, 2022.

  The index is based on **frequency of text-search algorithm from 11 leading English-newspapers** from US, UK, and Canada, related to war threat, terrorism, military-related political tensions, nuclear, and etc. They are constructed for 14 emerging market countries from 1985 – 2019.



# Baseline Model

To test the baseline hypothesis of GPR and firm value relation, I use the following regression model;

$$Tobin's\ q_{i,t} = \alpha_0 + \delta_i + \gamma_t + \beta_1 \Delta GPR_{k,t-1} + \boldsymbol{\beta_2 X_{i,t-1}} + \boldsymbol{\beta_3 Z_{k,t-1}} + \varepsilon_{i,t}$$

- $\Delta$ **GPR** are the changes in GPR and it's 2 components, which is the main variable of interest.
- X and Z are vectors of firm-specific and macroeconomic controls, respectively.
- We control for firm fixed effect $\delta_i$ and year fixed effect $\gamma_t$
- We also employ robust t- statistics.

- Negative and significant $\beta_1$ indicates the <u>adverse</u> impact of $\Delta$ **GPR** on **Firm value**

## Sub-sample analysis

- Pre vs Post 9/11: Period between 1985 - 2000 and Period between 2002 – 2019
- Low vs High GPR: Bottom 3 deciles of GPR and Top 3 deciles of GPR
- By selected emerging market countries: China, India, Malaysia, Korea and Thailand

# Summary of Findings: Baseline Model

| Variable | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| ΔGPR | −0.3585*** | | | |
| | (-19.367) | | | |
| ΔGPR_SYS | | −0.0942 | | 0.0701 |
| | | (-1.507) | | (1.139) |
| ΔGPR_IDIO | | | −0.1510*** | −0.1518*** |
| | | | (−23.408) | (−23.506) |
| SIZE | 0.2417*** | 0.2414*** | 0.2429*** | 0.2431*** |
| | (18.603) | (18.547) | (18.700) | (18.723) |
| CASH | 0.3639*** | 0.3470*** | 0.3767*** | 0.3773*** |
| | (3.264) | (3.104) | (3.385) | (3.391) |
| LEV | −0.4116*** | −0.4116*** | −0.4099*** | −0.4099*** |
| | (-6.831) | (-6.813) | (-6.806) | (-6.806) |
| SG | −0.0029 | −0.0045 | −0.0026 | −0.0025 |
| | (-0.245) | (-0.382) | (-0.222) | (-0.211) |
| PPE | 0.1526** | 0.1614** | 0.1525** | 0.1526** |
| | (2.370) | (2.498) | (2.370) | (2.373) |
| CAPEX | −0.1076 | −0.1003 | −0.0938 | −0.0948 |
| | (-1.016) | (-0.943) | (-0.887) | (-0.897) |
| DOI | −0.0835* | −0.0761* | −0.0828* | −0.0826* |
| | (-1.837) | (-1.665) | (-1.822) | (-1.819) |
| GDP | 0.0404*** | 0.0402*** | 0.0385*** | 0.0386*** |
| | (16.271) | (16.088) | (15.613) | (15.690) |
| CPI | 0.0087*** | 0.0100*** | 0.0099*** | 0.0099*** |
| | (4.944) | (5.681) | (5.625) | (5.615) |
| IR | 0.0266*** | 0.0279*** | 0.0249*** | 0.0249*** |
| | (13.910) | (14.428) | (13.327) | (13.328) |
| FX | 0.0003 | −0.0011 | −0.0002 | −0.0002 |
| | (0.430) | (-1.574) | (-0.290) | (-0.277) |
| MKT | −0.0000 | 0.0000 | −0.0001 | −0.0001 |
| | (-0.098) | (0.337) | (-0.927) | (-0.888) |
| Constant | −1.5776*** | −1.6482*** | −1.5966*** | −1.6056*** |
| | (-6.773) | (-7.224) | (-6.818) | (-6.852) |
| Observations | 54,436 | 54,436 | 54,436 | 54,436 |
| Firm FE | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES |
| Adj.R-squared | 0.146 | 0.140 | 0.148 | 0.148 |

- **Strong and significance adverse effect of GPR on firm value**, even after controlling for firm and macroeconomic effects
- The **country-specific idiosyncratic components is the main driver** of this negative effect.
- 1 S.D. increase in Δ GPR lead to 3.96% decrease in Tobin's Q.

# Summary of Findings: Sub-Sample Analysis

## Before VS After September 11th 2001

| Variable | (1) Before 9/11 (<=2000) | (2) After 9/11 (>=2002) | (3) Before 9/11 (<=2000) | (4) After 9/11 (>=2002) |
|---|---|---|---|---|
| ΔGPR | −0.2071* | −0.3472*** | | |
| | (-1.868) | (-18.335) | | |
| ΔGPR_SYS | | | −1.5619*** | 0.2194** |
| | | | (-3.856) | (2.329) |
| ΔGPR_IDIO | | | 0.0924 | −0.1619*** |
| | | | (1.386) | (-24.269) |
| Constant | 2.1573*** | −1.4359*** | 2.2621*** | −1.4589*** |
| | (4.743) | (-7.317) | (5.175) | (-7.372) |
| Observations | 2,637 | 49,333 | 2,637 | 49,333 |
| Firm FE | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES |
| Adj.R-squared | 0.155 | 0.154 | 0.165 | 0.158 |

## Low GPR VS High GPR

| Variable | (1) Low GPR | (2) High GPR | (3) Low GPR | (4) High GPR |
|---|---|---|---|---|
| ΔGPR | −0.3880*** | −0.3713*** | | |
| | (-9.290) | (-11.240) | | |
| ΔGPR_SYS | | | −0.2873*** | 0.7254*** |
| | | | (-3.007) | (5.382) |
| ΔGPR_IDIO | | | −0.0960*** | −0.2184*** |
| | | | (-8.192) | (-17.879) |
| Constant | −2.1864*** | −1.7505*** | −2.1519*** | −1.7388*** |
| | (-7.266) | (-6.215) | (-7.666) | (-6.215) |
| Observations | 23,041 | 26,597 | 23,041 | 26,597 |
| Firm FE | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES |
| Adj.R-squared | 0.203 | 0.197 | 0.202 | 0.205 |

- 9/11 has fundamentally shaped how GPR affect firm value, **the country-specific idiosyncratic component is the primary driver of the adverse impact**, as opposed to global factor previously.
- Both components are responsible for the significant adverse effects regardless of whether low or high GPR periods.

# Summary of Findings: Selected Emerging market countries

| Variable | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| | China | | India | | Malaysia | | Korea | | Thailand | |
| ΔGPR | −0.5509*** | | 0.1696 | | 0.0211 | | −0.0769*** | | −0.0129 | |
| | (-5.842) | | (1.408) | | (0.468) | | (-3.953) | | (-0.311) | |
| ΔGPR_SYS | | 3.1661*** | | −0.4103*** | | 0.1356*** | | 0.4229** | | −0.1533* |
| | | (11.559) | | (-3.484) | | (2.969) | | (2.497) | | (-1.657) |
| ΔGPR_IDIO | | −0.4412*** | | 0.1417*** | | −0.0909*** | | −0.0541*** | | −0.0684*** |
| | | (-18.748) | | (4.429) | | (-4.348) | | (-4.573) | | (-3.905) |
| SIZE | 0.1542*** | 0.0096 | 0.2686*** | 0.2693*** | 0.1757*** | 0.1795*** | 0.1809*** | 0.1839*** | 0.2073*** | 0.2018*** |
| | (4.736) | (0.289) | (9.951) | (10.073) | (6.860) | (7.082) | (6.055) | (6.075) | (7.421) | (7.164) |
| CASH | 0.1687 | 0.3748** | 1.7451*** | 1.7367*** | 0.0306 | 0.0392 | 0.2710 | 0.2544 | 0.4586 | 0.4717 |
| | (0.915) | (2.052) | (3.698) | (3.676) | (0.144) | (0.185) | (1.226) | (1.150) | (1.461) | (1.499) |
| LEV | −1.3953*** | −1.4108*** | −0.2256 | −0.2289 | 0.0732 | 0.0752 | −0.3065** | −0.3111** | −0.3107** | −0.3205** |
| | (-8.232) | (-8.430) | (-1.502) | (-1.521) | (0.850) | (0.875) | (-2.090) | (-2.119) | (-2.125) | (-2.205) |
| SG | −0.0035 | 0.0051 | 0.0942*** | 0.0896*** | −0.0059 | −0.0073 | 0.0049 | 0.0036 | −0.0251 | −0.0276 |
| | (-0.113) | (0.168) | (3.587) | (3.448) | (-0.355) | (-0.437) | (0.166) | (0.124) | (-0.627) | (-0.692) |
| PPE | 0.8083*** | 0.5448** | 0.3592** | 0.3561** | −0.0711 | −0.0777 | 0.1065 | 0.1023 | −0.2510* | −0.2258* |
| | (3.416) | (2.334) | (2.048) | (2.034) | (-0.849) | (-0.930) | (0.837) | (0.801) | (-1.875) | (-1.696) |
| CAPEX | −1.9091*** | −1.4965*** | 0.1195 | 0.0546 | 0.1521 | 0.1311 | 0.0016 | 0.0106 | 0.6312** | 0.5605* |
| | (-5.287) | (-4.215) | (0.747) | (0.342) | (0.769) | (0.664) | (0.006) | (0.039) | (2.115) | (1.869) |
| DOI | −0.1609 | −0.1366 | −0.0921 | −0.0995 | −0.0850 | −0.0806 | −0.1199 | −0.1178 | −0.3298*** | −0.3291*** |
| | (-1.213) | (-1.061) | (-0.674) | (-0.727) | (-1.362) | (-1.295) | (-1.240) | (-1.218) | (-3.307) | (-3.319) |
| Constant | −0.7775 | 1.2531*** | −2.1660*** | −2.4232*** | −0.9166*** | −1.0020*** | −0.9499** | −1.0233*** | −0.7122** | −0.6306* |
| | (-1.573) | (2.621) | (-5.850) | (-6.502) | (-3.281) | (-3.638) | (-2.557) | (-2.675) | (-2.086) | (-1.828) |
| Observations | 12,771 | 12,771 | 9,774 | 9,774 | 8,436 | 8,436 | 6,427 | 6,427 | 4,814 | 4,811 |
| Macroeconomic control | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Firm FE | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Year FE | NO | NO | NO | NO | NO | NO | NO | NO | NO | NO |
| Adj.R-squared | 0.242 | 0.277 | 0.193 | 0.196 | 0.0753 | 0.0780 | 0.0439 | 0.0447 | 0.121 | 0.124 |

- The results generally confirmed that, **Firm value in most selected emerging countries are most significantly impacted with adverse effects primarily from the increases in the idiosyncratic component** of GPR, expect for India, which appear to respond more to the Systematic component.

# Underlying mechanism: Firm's financial activities

To test the underlying mechanism: explore how firm's financial activities are affected.

$$Financial\ activities_{i,t} = \alpha_0 + \delta_i + \gamma_t + \beta_1 \Delta GPR_{k,t-1} + \boldsymbol{\beta_2 X_{i\ t-1}} + \boldsymbol{\beta_3 Z_{k\ t-1}} + \varepsilon_{i,t}$$

We replace the firm value with the following financial activities variables;

- Cash holdings (CASH),
- Financial leverage / capital structure (LEV), and
- Capital expenditure (CAPEX)

as the dependent variable to examine how GPR affects financial activities of the relevant emerging markets firms.

# Summary of Findings: Firm's financial activities

| Variable | (1) CASH | (2) CASH | (3) LEV | (4) LEV | (5) CAPEX | (6) CAPEX |
|---|---|---|---|---|---|---|
| ΔGPR | 0.0101*** | | 0.0020 | | −0.0004 | |
| | (6.530) | | (0.822) | | (-0.432) | |
| ΔGPR_SYS | | −0.0092* | | 0.0004 | | 0.0051 |
| | | (-1.672) | | (0.028) | | (1.212) |
| ΔGPR_IDIO | | 0.0039*** | | 0.0022*** | | 0.0002 |
| | | (7.406) | | (2.677) | | (0.494) |
| SIZE | −0.0010 | −0.0011* | −0.1238*** | −0.1241*** | 0.0304*** | 0.0304*** |
| | (-1.616) | (-1.705) | (-9.223) | (-9.250) | (7.203) | (7.200) |
| CASH | | | −0.0156*** | −0.0156*** | 0.0064*** | 0.0064*** |
| | | | (-9.597) | (-9.606) | (13.727) | (13.738) |
| LEV | −0.0348*** | −0.0349*** | | | −0.0402*** | −0.0402*** |
| | (-8.459) | (-8.472) | | | (-13.727) | (-13.730) |
| SG | 0.0011* | 0.0011* | 0.0020 | 0.0019 | 0.0030*** | 0.0030*** |
| | (1.676) | (1.650) | (1.407) | (1.396) | (5.217) | (5.226) |
| PPE | −0.0437*** | −0.0437*** | 0.0755*** | 0.0755*** | 0.0018 | 0.0018 |
| | (-10.382) | (-10.393) | (6.489) | (6.495) | (0.509) | (0.517) |
| CAPEX | −0.0124** | −0.0127** | 0.1497*** | 0.1495*** | | |
| | (-1.964) | (-1.999) | (8.892) | (8.887) | | |
| DOI | 0.0113*** | 0.0112*** | 0.0176** | 0.0177** | −0.0002 | −0.0001 |
| | (3.457) | (3.439) | (2.083) | (2.089) | (-0.072) | (-0.059) |
| GDP | 0.0007*** | 0.0008*** | −0.0011*** | −0.0010** | 0.0004*** | 0.0004*** |
| | (3.277) | (3.446) | (-2.588) | (-2.537) | (2.590) | (2.647) |
| CPI | 0.0005*** | 0.0005*** | −0.0014*** | −0.0014*** | 0.0002 | 0.0002 |
| | (3.882) | (3.669) | (-4.151) | (-4.175) | (1.512) | (1.521) |
| IR | −0.0005*** | −0.0004*** | −0.0010*** | −0.0009*** | 0.0001 | 0.0001 |
| | (-3.740) | (-3.435) | (-3.456) | (-3.315) | (1.377) | (1.438) |
| FX | −0.0000 | 0.0000 | 0.0004*** | 0.0004*** | 0.0001* | 0.0001* |
| | (-0.295) | (0.034) | (4.283) | (4.276) | (1.746) | (1.693) |
| MKT | 0.0000*** | 0.0001*** | −0.0000 | 0.0000 | 0.0000*** | 0.0000*** |
| | (4.858) | (4.991) | (-0.091) | (0.004) | (4.382) | (4.441) |
| Constant | 0.0552*** | 0.0571*** | 0.4417*** | 0.4412*** | 0.0176 | 0.0168 |
| | (4.632) | (4.778) | (12.283) | (12.268) | (1.263) | (1.198) |
| Observations | 54,436 | 54,436 | 54,436 | 54,436 | 54,436 | 54,436 |
| Year FE | YES | YES | YES | YES | YES | YES |
| Firm FE | YES | YES | YES | YES | YES | YES |
| Adj.R-squared | 0.0316 | 0.0318 | 0.0635 | 0.0636 | 0.0705 | 0.0705 |

- Firms **increase cash-holdings** and use **higher financial leverage** in response to heighten country-specific idiosyncratic GPR, amid the higher uncertainty in future cash flow.
- **No significant impact on firms' investment decision** from either changes in GPR components .

# Conclusion

- **Statistically significant negative association between GPR and firm value.**
  The adverse effect of GPR on firm value is more pronounced in a higher uncertainty environment.

- **The primary driver is the country-specific idiosyncratic GPR** rather than global systematic GPR especially in the aftermath of September 11th 2001.

- **Firms reduce internal uncertainty by holding more cash from higher debt** in response to the higher external uncertainty at times of heightened GPR, due to the volatility of the expected future cash flow, higher financing costs, and overall state of the economy.

# Key Take away

- **Aware of detrimental effect borne from GPR, particularly it's idiosyncratic component**

**Corporate managements, Shareholders**

- **U**nderstand the impact on cashflow and liquidity uncertainty.
- **P**repare mitigative corporate actions accordingly.

**Policymaker**

- **M**aintain stable Geopolitics and low GPR.
- **P**rovide financial assistance at critical times of overall liquidity shortage.

**Investors**

- **U**nderstand how each country response to different components of GPR, as one is more sensitive to local idiosyncratic shocks, while others are to global's.

**Academic Researcher**

- This heterogeneous effects from GPR might also be worth exploring further.

Thank you

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