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Geopolitical Risk (GPR) and its Predictability: A Systematic Literature Review

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Abstract
In this article we examined the predictability of geopolitical risk index (GPR) introduced by Caldara and Iacoviello (2018) on both the returns and volatility across different financial markets and asset classes. The main objective of this study is to produce a systematic literature review and compile studies that examined the effectiveness of GPR index in predicting stocks, commodities, and currency market. We employed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology for this systematic literature review. The study was conducted in the month of September 2022. A total of 25 out of 37 research articles were analysed in detail to establish a better understanding on the predictability of GPR index on financial markets and its instruments. The outcomes of this study are expected to shed lights on how investors and other market players including policymakers utilize the GPR index in order add value to their investments and at the same time successfully mitigate risks.
Keywords: Geopolitical Risk, Predictability, Uncertainty, Financial Market, PRISMA

Introduction

Given its significant implication for investment strategies, risk management, and formulation of financial and monetary policies, financial market forecasting has long been a major concern in the literature of finance (Apergis et al., 2018). In recent years, it has become more and more common on employing news-based uncertainty indexes to estimate or forecast the returns and/or volatility across various financial market instruments. Additionally, news-based uncertainty indexes are commonly used to measure and track how financial market across the globe respond to and behave in the presence of uncertainty. To date there are a huge number of news-based uncertainty indexes readily available in the public domain. However, in this study we will solely focus on the predictability of Geopolitical Risk (GPR)

index introduced by Caldara and Iacoviello (2018) on a variety of financial market and asset classes.

The GPR index is a recently developed metric to gauge a country's cross-border geopolitical tension. The developer of this index adopted the same methodology pioneered by Baker, Bloom, and Davis (2016) to construct the GPR index. It was built in such a manner that it automatically extracts specific terms from the digitized archives of 11 prestigious newspapers published in the US, UK, and Canada. The specific terms are grouped into six different categories, (1) geopolitical threats, (2) nuclear threats, (3) war threats, (4) terrorist threats, (5) war acts, and (6) terrorist acts. To determine the value of the index, the frequency of articles that are pertinent to geopolitical risk is counted for each month starting from 1985 to present. The results are then normalized to 100 for the 2000-2009 decade. The Figure 1 below plots the benchmark GPR index from 1985 to 2017.

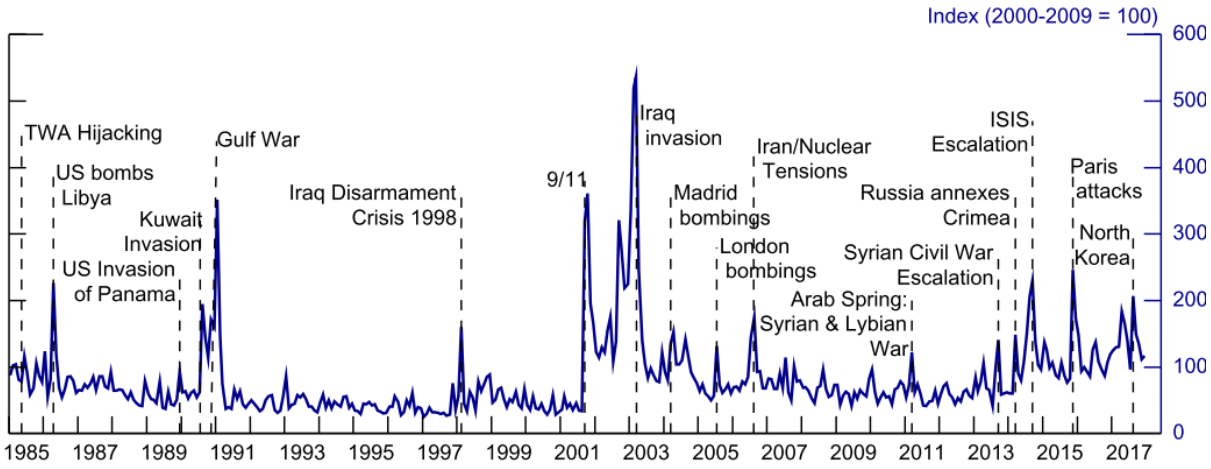

Figure 1. Geopolitical Risk (GPR) benchmark index by Caldara & Iacovielo (2018)

The relationship between GPR and financial market instruments has been studied in detail in earlier literature. Previous studies have clearly demonstrated that GPR significantly influenced stock market (Chiang, 2021; Kyriazis, 2020; Balcilar et al., 2018; Bouri et al., 2018; Bouras et al., 2018), commodity market (Gu et al., 2021; Chiang, 2021; Kyriazis, 2020; Cunado et al., 2019; Baur & Smales, 2018), cryptocurrency market (Kyriazis, 2020; Aysan et al., 2019), and foreign exchange market (Hui, 2021).

Within the stock market domain, the study of Chiang (2021), examined the impact of GPR on stock-gold return by using the dynamic conditional correlation. The empirical results suggest that both the stock-gold returns and gold return are positively related to GPR. Kyriazis (2020) found that, GPR positively influence the volatility of stock market. In an earlier study, Balcilar et al (2018) while examining the effects of GPR on both the volatility and return of BRICS stock markets, found out that, via non-parametric causality-in-quantiles test, the effects of GPR on BRICS market was heterogenous. GPR affects the Russian market the most, whilst the Indian market tend to be more resilient. While investigating the impact of GPR on Islamic stocks, Bouri et al (2018) documented that the GPR affected the volatility of Islamic stock rather than its return.

Within the commodity market domain, the study of Gu et al (2021), examined the effects of GPR on oil market. The study revealed that the shocks generated by GPR has a time-varying impact on the oil market. The study of Kyriazis (2020), which examined the influence of GPR on oil prices found out that the GPR index has negative influence over the returns and

volatility of oil prices. An earlier study by Baur and Smales (2018) found out that gold reacts to GPR in a positive manner. The study of Cunado et al (2019) analysed the impact of GPR on oil return. By employing the TVP-SVAR model, the results revealed that GPR has a significant negative impact on oil returns.

Within the foreign exchange market domain, the study of Hui (2021) analysed the long-run relationship of GPR with four ASEAN countries exchange rate namely Malaysian Ringgit, Indonesian Rupiah, Thailand Bhat, and Philippines Peso. By employing the ARDL methodology, the results indicated that GPR is a significant long-run factor for these exchange rates. Within the cryptocurrency market domain, the study of Aysan et al (2019) analysed the effects of GPR on Bitcoin volatility and returns. By employing the Quantile-on-Quantile estimation approach, the authors found out that the effects of GPR on Bitcoin return and volatility are positive at the higher quantile.

The main axis of investigation in this paper is the predictability of GPR on financial market instruments such as stocks, commodity, and foreign exchange. Hence, this article offers a thorough analysis of the GPR's predictability. For investors regardless of retail or institutional investors, portfolio managers, academic researchers, and policymakers, the study's findings might have significant implications with regard to risk management and application of appropriate investing methodologies to reduce risk on one hand and to maximize profit on the other.

The rest of this paper is organised as follow. First, this study's research methodology and systematic literature review (SLR) are presented. The findings are then discussed and finally we lay out the conclusions suggesting avenues for future research.

Methodology

The systematic literature review (SLR) approach was selected for this research. Researchers can identify patterns and gaps in the scientific literature by employing the SLR methodologies (Langorio et al., 2016). In addition, Friday et al (2018) asserts that by using SLR, researchers might synthesise and compile earlier research, establish fresh perspective, extrapolate study results, and explore new research directions. In this study, we used a method called PRISMA to carry out a thorough SLR. Articles from renowned databases, including Science Direct, Scopus, Taylor & Francis, and several others were chosen for the SLR using this method. In addition, the eligibility and exclusion criteria were established, and the identification, screening, and eligibility steps of the review process were then completed, along with the data abstraction and analysis.

PRISMA

A framework for our SLR was provided by the PRISMA Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). PRISMA is a widely used method that is commonly applied in the social sciences and is a crucial instrument for consistently and properly summarizing the findings (Moher et al., 2009). The creator of PRISMA stated that the main features of PRISMA technique include (1) formulating precise research questions in order to conduct systematic research, (2) establishing the standards for inclusion and exclusion, and (3) analysing sizeable databases of scholarly literature in a set amount of time.

Research Question

The literature search was guided by the following research question: Can the GPR index predict the returns and volatility of financial market instruments such as stocks, commodities,

and foreign exchange? Examining pertinent studies that study the predictability of the GPR index on returns and market volatility is the main objective of this research. PRISMA is used to investigate recent studies and provide an answer to the aforementioned research question (see Figure 2).

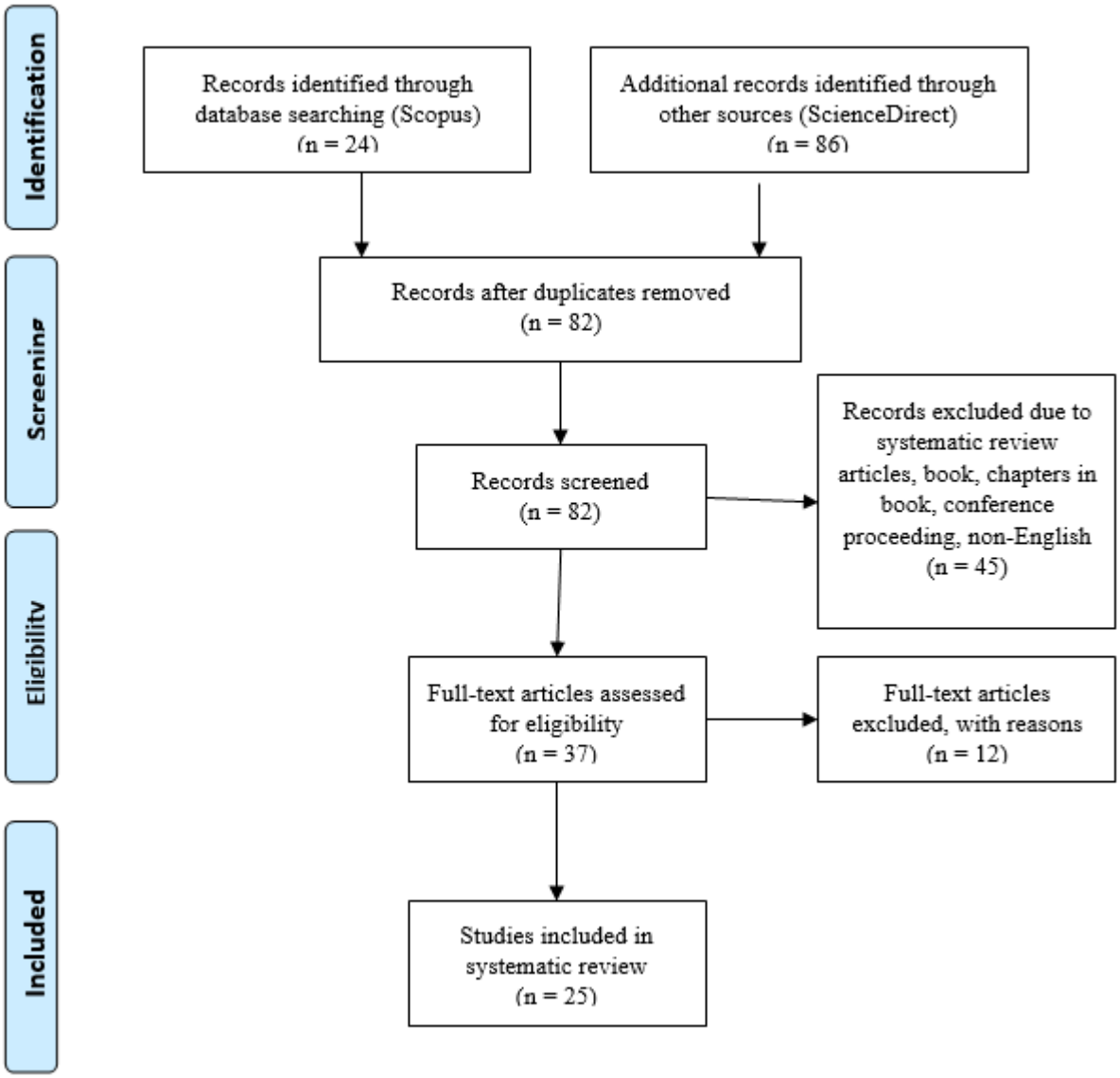

Figure 2. The flow diagram of the study adopted by The PRISMA Group (Moher et al., 2009)

Inclusion and Exclusion Criteria

A number of standards for inclusion and exclusion were established. In this SLR, only journal articles that recorded empirical evidence were included. We excluded books, book chapters, book series, conference proceedings, editorials, notes, review articles, working paper, and thesis. Besides that, we only examined articles that were published in English in order to avoid problem regarding translation. In terms of duration, as shown in Table 1, a 3-year window (2020-2022), which coincides to the GPR index's availability was selected.

Table 1
The inclusion and exclusion criteria

Criterion	Inclusion	Exclusion
Literature type	Journal (research articles)	Journals (systematic review), books, chapters, conference proceedings, editorials, notes, working paper, thesis
Language	English	Non-English
Timeframe	2020-2022	< 2020

Sources of Data

Studies on Finance and Economics were incorporated into this analysis from Scopus and ScienceDirect, two significant databases. However, it should be kept in mind that no databases, not even Scopus or ScienceDirect is exhaustive. Additional databases should be used by authors during their search processes to maximise the possibility that they may uncover significant articles (Younger, 2010). In our study, we manually searched a number of well-known databases namely Emerald, Springer, and Taylor and Francis. Scopus is one of the largest abstracts and citation databases of peer-reviewed publications covering a variety of subjects including economics, finance, and econometrics, with more than 24,600 journals from over 5,000 publishers worldwide. The ScienceDirect database, on the other hand, is a sizeable one with over 1.4 million open access papers that covers a wide variety of subjects similar to Scopus.

Systematic Review Searching Process

Four steps made up the systematic review process, which was conducted in September 2022. Finding the right keywords to be utilized in the search process was the first step. Keywords including “GPR”, “geopolitical risk”, “predict”, “predictability”, “forecast”, and “financial market” were utilized in the search process, as shown in Table 2. A total of 28 duplicate articles were eliminated after we thoroughly examined all the pertinent articles that we obtained through the searching process.

Table 2
Keywords used for the systematic review process

Database	Keyword used
Scopus	TITLE-ABS-KEY (“GPR” OR “geopolitical risk”) AND (“predict” OR “predictability” OR “forecast”) AND (“financial market”)
ScienceDirect	(“GPR” OR “geopolitical risk”) AND (“predict” OR “predictability” OR “forecast”) AND (“financial market”)

An extensive screening procedure was required at the second step. From the 82 articles that were qualified for examination at this point, 45 in total had to be removed. We evaluated all 37 remaining articles in the third step. A comprehensive evaluation resulted in the removal of a total of 12 articles. Due to their lack of attention to the predictability of GPR on financial markets, those articles were left out. 25 empirical quantitative publications were collected as

a result of the evaluation final step, and the papers underwent further analysis. As shown in Table 3, 8 out of 25 articles were about stock markets, 15 were about commodities markets, and 2 were about foreign exchange markets.

Table 3
Area of Study

Area	No. of papers	(%)
Stock Market	8	32
Commodity Market	15	60
Foreign Exchange Market	2	8
Total	25	100

Journals

By entering pre-determined keywords, we were able to get journals from the scientific journal databases namely ScienceDirect and Scopus that deal with the subject of our interest. The searched keywords that we used are displayed in Table 2. Finding the journal that publish articles pertaining to our topic is the first stage in this process. As shown in Table 4, in total we have identified 16 different journals that address the topic of our interest. The journal with the most articles published was *International Review of Financial Analysis*, which had four papers (16%). *Finance Research Letters* had three papers (12%), *Economic Analysis and Policy, Energy, Energy Economics, and International Review of Economics and Finance* had two papers each (8%). Only one paper (4%) was published in each of the other 10 journals.

Table 4
List of journals examined

No.	Name of Journal	No. of papers	(%) of papers
1	Applied Economics	1	4
2	Economic Analysis and Policy	2	8
3	Energy	2	8
4	Energy Economics	2	8
5	Environmental Science and Pollution Research	1	4
6	Finance Research Letters	3	12
7	Frontiers in Environmental Science	1	4
8	International Journal of Finance and Economics	1	4
9	International Journal of Forecasting	1	4
10	International Review of Economics and Finance	2	8
11	International Review of Financial Analysis	4	16
12	Journal of Financial Stability	1	4
13	Journal of Forecasting	1	4
14	Resources Policy	1	4
15	Sustainability	1	4
16	The North American Journal of Economic and Finance	1	4

Predicting Ability of GPR Index on Stock Market

We managed to identify eight articles pertinent to stock markets. Three out of the eight papers focused on the US stock markets in particular the S&P500 index. Nonejad (2022),

examined the predictability of GPR-historical index on the return and volatility of S&P500. By using the multivariate predictive regression, the author concluded that the GPR-historical index does not improve the out-of-sample forecast. However, the study of Ma et al (2022), by using the Mean Combination Model (MCM), finds that the GPR-historical index, especially the one that captures threat, consistently forecast the stock return of S&P500. Another publication of Nonejad (2022), which compared the predictability of GPR against several other uncertainty indices finds that the GPR index fails to improve the accuracy of out-of-sample.

There were all together three papers that focused on emerging market stocks. Salisu et al (2022) examined the stock market volatility of 11 major emerging economies. By employing the GARCH-MIDAS approach, it was evident that both the global and domestic GPRs improvise the out-of-sample predictability of the stock market volatility. The study of Hasan et al (2020) examined the predictability of GPR on the returns and volatility of 13 emerging economies tourism stock index. By employing the non-parametric causality-in-quantiles (CiQ) and cross-quantilogram (CQ) test, the results indicated that the global GPR index being a better predictor compared to the domestic GPR index. On the other hand, the study of Zaremba et al (2022), found that the change in the previous month domestic GPR index can strongly predict the future stock returns of the emerging markets.

There was one paper that examined the stock markets in the Middle East. The study of Alqahtani et al (2020) examined the predictability of global GPR on the stock market of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE. The results of the study indicated that the global GPR have strong predictive power on the stock market of Kuwait and Oman. We also managed to identify one paper that analyses multiple stock indices. The study of Yang and Yang (2021) examined the predictability of GPR on S&P500, DJIA, DAX30, CAC40, FTSE100, Nikkei 225, SHCOMP, SZSE. By using the MIDAS approach, the authors concluded that the GPR index helps to provide more accurate stock predictions.

Predicting Ability of GPR Index on Commodity Market

As for commodity markets, we managed to identify a total of 15 papers through our literature search guided by the PRISMA methodology. 12 out of 15 articles focused solely on the energy components. Qian et al (2022) examined the predictability of GPR on West Texas Intermediate (WTI), the global benchmark for crude oil. By using the Markov-regime switching model, the authors found that the GPR index has powerful ability to forecast oil volatility. Similarly, the study of Gupta and Pierdzioch (2022) by using the machine learning technique known as the Random Forest technique demonstrated that GPR contains useful information to predict the volatility of WTI. A handful of studies including Mei et al (2020); Liang et al (2021); Yi et al (2021); Liu et al (2021); Wang et al (2021); Zhang et al (2022), by using various methodologies including MIDAS, GARCH-MIDAS, and Markov-Switching GARCH Model, all concluded that GPR has great ability to forecast the return and volatility of the energy market components including crude oil and natural gas.

However, an earlier study by Li et al (2020) suggests that GPR has much less predicting ability on WTI volatility when compared to other uncertainty indices and later Li et al (2022) suggest that GPR performs better in the long-term forecast horizon. Liang et al (2020) compared the GPR predicting ability against a set of uncertainty indices and found that GEPU and EMV tends to be a better predictor of oil price volatility compared to GPR. Similarly, the study of Dutta et al (2021), by using the quantile regression method found that EMV is better than GPR in predicting oil volatility.

Three out of 15 studies in the commodity market domain focused on precious metal component. The study of Yilanci and Kilci (2021) analysed the predictability of GPR on the returns of gold, palladium, platinum, rhodium, and silver. By employing several methodologies including Bootstrap causality test, LASSO, and MIDAS-RV, the authors found that GPR was able to predict the prices of precious metal. Similarly, an earlier study of Gkillas et al (2020), analysed the volatility of gold futures and found that GPR has the ability to predict the volatility on a longer horizon. Asai et al (2020) also made a similar finding. The authors found that GPR improvise the forecast of gold volatility.

Predicting Ability of GPR Index on Foreign Exchange Market

We only managed to identify two articles pertaining to foreign exchange market through our literature search. The first paper by Ikye et al (2022) examined the predictability of GPR index on the returns of 17 emerging market countries exchange rates. By employing the Feasible Generalised Least Square (FGLS) method, the authors find that, (1) the in-sample test suggest that the GPR was able to predict the returns of 10 out of 17 currencies. However, the out-of-sample test suggest that the GPR index was able to predict the returns of 15 out of 17 currencies. (2) The authors concluded that, GPR contains useful information that can be used to improvise forecast accuracy. Salisu et al (2022) examined the predictability of global and domestic GPR on the volatility of the exchange rates of Brazil, Russia, India, China, and South Africa (BRICS). By using the GARCH-MIDAS-X approach, the authors find that, GPR is a relevant predictor of BRICS exchange rate volatility.

Table 5
Summary of articles

Reference	Model	Country/Sector	Variable	Frequency	Period	Aspect	Focus on	Findings
Stock Market								
Salisu et al (2022)	GARCH-MIDAS	Emerging Market	Global GPR, Domestic GPR, and Stock price of 11 major emerging economies	Monthly	1997.1 – 2020.5	Volatility	Predictability	Both global and domestic GPR offer improved out-of-sample predictability of stock market volatility in emerging economies. GPR-Act is better predictor than GPR-Threat

Yang & Yang (2021)	MIDAS	US, UK, Europe, China, & Japan	GPR, S&P 500, DJIA, DAX30, CAC 40, FTSE 100, Nikkei 225, SHCOMP, and SZSE	Monthly, Quarterly, & Weekly	2000.1 – 2019.12	Return	Predictability	Mixed-frequency GPR helps to provide more accurate stock return predictions.
Hasan et al (2020)	Non-parametric causality-in-quantiles (CiQ) and cross-quantilogram (CQ) test	Emerging Market	Domestic and global GPR and 13 emerging economies tourism stock index	Monthly	1986.2 – 2019.7	Return and Volatility	Predictability	Global GPR has more pronounced predictive power compared to domestic GPR index Tourism index of South Korea and Columbia was not able to be predicted.
Alqahtani et al (2020)	FGLS estimator	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE	Global GPR, Saudi GPR, Brent oil spot price, and GCC stocks	Monthly	2007.2 – 2019.12	Return	Predictability	Weak evidence of in-sample predictability Out-of-sample results indicate that global GPR have strong predictive power on Kuwait and Oman
Nonejad (2022)	Multivariate Predictive Regression	US	S&P 500, GPR-History, and other macroeconomic variables	Monthly	1926.12 – 2020.12	Return Volatility	Predictability	The out-of-sample forecast is not improved when GPR-

								History index is employed as a regressor.
Ma et al (2022)	Mean Combination Model (MN)	US	S&P 500, GPR-HT, and GPR-HA	Monthly	1927.1 – 2021.12	Return	Predictability	GPR-HT can consistently forecast stock return GPR-HT index performs significantly better during expansionary period
Nonejad (2022)	Predictive Regression	US	S&P 500, GPR, MPU, EPU, and EMV	Monthly	1985.1 – 2020.12	Return	Predictability	GPR fail to improve the accuracy of out-of-sample point predictions EMV tends to be a better predictor
Zaremba et al (2022)	Cross-sectional Predictive Regression	Emerging Markets	Country-specific GPR and control variables	Monthly	1990.1 – 2020.8	Return	Predictability	Last month's change in GPR is a powerful predictor of future returns in the cross-section of emerging market.
Commodity Market								
Qian et al (2022)	Markov-regime switching model	Energy	WTI and GPR	Monthly	1986.1 – 2018.5	Volatility	Predictability	Out-of-sample results indicates that the GPR index

								the ability to predict oil price volatility GPR has more powerful ability for forecasting oil price volatility during recession GPR is effective in long-term forecast horizon
Zhang et al (2022)	Predictive regression and moving average strategy	Energy	WTI and GPR	Monthly	1986.2 – 2020.12	Returns	Predictability	GPR trends can significantly predict oil prices both in- and out-of-sample
Mei et al (2020)	MIDAS	Energy	GPR, GPR-Acts, GPR-threats, and crude oil futures	Daily, Weekly, & Monthly	2007.1.1 – 2016.7.15	Volatility	Predictability	GPR index is helpful to forecast short-term oil futures volatility GPR-Act is a better predictor for long horizon
Wang et al (2021)	Markov-switching GARCH model	Energy	WTI crude oil spot price and GPR	Daily	1986.1.1 – 2019.5.31	Volatility	Predictability	GPR has strong power to enhance the forecasting performance of crude oil volatility

Dutta et al (2021)	Quantile Regression	Energy	Crude Oil, EMV, VIX, OVX, WTI, EPU, and GPR	Monthly	1990.1 – 2019.12	Volatility	Predictability	Robustness analysis indicates that the EMV-tracker are a better predictor compared to GPR and EPU
Yilanci & Kilci (2021)	Bootstrap causality test	Precious Metal	GPR, GEPU, gold, palladium, platinum, rhodium, and silver	Monthly	1995.1 – 2020.8	Return	Predictability	GPR able to predict the prices of precious metal at certain period
Liang et al (2021)	GARCH-MIDAS	Energy	US EPU, Global EPU, GPR, MPU, EMV and US Natural Gas Futures	Daily	1997.7.3 – 2019.3.7	Volatility	Predictability	Out-of-sample prediction results indicate that GPR and EMV indices contain more useful information for natural gas futures volatility
Yi et al (2021)	GARCH-MIDAS	Energy	GPR, GPR Act, Global EPU, UK EPU, Japan EPU, IDEMV and INE Crude Oil Price	Daily	2018.3.27 – 2020.6.24	Volatility	Predictability	GPR, GPR Act, GEPU, UK EPU, and Japan EPU has useful information to predict crude oil price volatility
Gupta & Pierdzioch (2022)	AR model, Lasso, and Random Forest technique	Energy	GPR, EPU, EMV, and WTI	Monthly	1985.1 – 2021.8	Volatility	Predictability	The machine learning technique show that GPR, EPU,

								and EMV are useful for predicting realized variance and realized volatility
Li et al (2020)	GARCH-MIDAS	Energy	GPR, US EPU, GEPU, MPU, EMV, and WTI	Daily and Monthly	1997.1.2 – 2017.7.31	Volatility	Predictability	Compared to the other uncertainty indices, GPR has a much less predicting ability on crude oil market volatility
Liu et al (2021)	GARCH-MIDAS	Energy	GPR, GPR-Act, GPR-Threat, WTI, heating oil, and natural gas	Daily	1986.1.3 – 2018.12.28	Volatility	Predictability	GPR generates significant out-of-sample forecast GPR-Threat is better than GPR-Act in terms of predictability
Li et al (2022)	MIDAS-LASSO, MS-MIDAS-LASSO, MIDAS-RV	Energy	GPR, USEPU, TPU, MPU, EMV, IDEMV, EEREMV, PMEMV, FSI, GEPU, GPT, GPA, WUSI, WPUI, WTUI, and WTI	Monthly	1997.7 – 2021.5	Volatility	Predictability	GPR performs better in long-term crude oil volatility PMEMV performs better in short-term FSI is better predictor during

								period of crisis
Liang et al (2020)	Standard Predictive Regression, Elastic Net, and LASSO	Energy	WTI, Brent, GEPU, GPR, MPU, EPU, and EMV	Monthly	1997.1 – 2017.7	Volatility	Predictability	GPR has the predictive ability on oil price volatility during high volatility however GEPU and EMV tends to be a better predictor
Gkillas et al (2020)	QR-HAR-RV	Precious Metal	Gold futures, GPR, GPR-Act, GPR-Threat, and EPU	Daily, Weekly, and Monthly	1997.12.3 – 2017.5.30	Volatility	Predictability	The components of GPR have predictive power for realized volatility mainly at the longer forecasting horizon
Asai et al (2020)	Quadratic Covariation, Integrated co-volatility, and Conditional Wishart model	Energy and Precious Metal	WTI, Gold, and GPR	Daily, Weekly, and Monthly	2009.9.27 – 2017.5.25	Volatility	Predictability	GPR improves forecasts of the volatility of crude oil
Foreign Exchange Market								
Iyke et al (2022)	Feasible Generalized Least Square (FGLS)	Exchange rates	17 emerging market countries exchange rates,and GPR	Monthly	1994.1. – 2019.6	Returns	Predictability	In-sample test predict 10 out of 17 currencies Out-of-sample test predicts 15 out of

								17 currencies GPR is economically useful and can improve the forecast accuracy of exchange rate returns.
Salisu et al (2022)	GARCH-MIDAS-X	Exchange rates	Exchange rates of Brazil, Russia, India, China, and South Africa (BRICS), GPR-History, GPR-Threat, GPR-Act, country specific GPR, WTI	Daily	1862.1.1 – 2020.8.31	Volatility	Predictability	Short range data implies that BRICS exchange rates are more vulnerable to global GPR compared to country specific GPR GPR is relevant economically in the prediction of BRICS exchange rate volatility

Discussion

We sought to systematically analyse current literatures on the predicting ability of the GPR index established by Caldara and Iacoviello (2018) on the returns and volatility of financial markets such as stock markets, commodities markets, and foreign exchange markets in this study. In the context of stock market, five research papers concluded that GPR has strong predicting ability, whilst one paper partially agreed that GPR only predicts the return and volatility of certain stock markets. There were two studies which concluded that GPR does not perform well as a predicting variable when compared to other uncertainty indices.

In the context of commodity markets, there were all together 11 papers which agreed that GPR index has a strong predicting ability on both the energy component as well as the precious metal component. A total of two studies found out that, when GPR's predictability

were to be compared against other uncertainty indices, GPR tends to be less accurate. There were two papers as well which partially agreed that GPR is a good predictor. These two studies suggested that GPR only performs better in the long-term forecast horizon.
In the context of foreign exchange market, we analysed two papers. The first paper suggested that GPR as a relevant predictor for exchange rate volatility, whilst the second paper suggested that GPR being a strong predictor only for certain exchange rates.

Conclusion

In this study, we adopted the PRISMA systematic literature review technique to assess current studies completed from 2020 to 2022 that investigated the predicting power of the GPR index on financial markets. According to our findings, more than 90 percent of the studies reviewed concluded that GPR has strong predictability on the return and volatility of financial markets. The study's findings may be useful to both retail and institutional investors, portfolio managers, risk managers, and policymakers since they demonstrate how the measure of geopolitical risk (GPR) may be used to forecast the financial markets, adding value to portfolios, and limiting the risk associated with geopolitics that could impair investments. There are various potential future studies directions. Future research should examine into the predictive power of GPR on the stock market in terms of market value (i.e., small, mid, and large-cap) as well as various stock market sectors (information technology, communication services, healthcare, utilities etc.) Current commodity market studies have mostly concentrated on the energy and precious metal component, consequently future research should investigate other commodity market components (agriculture, industrial metal etc.) Besides that, future studies should also consider looking into other uncertainty indices i.e., EMV, VIX, and MPU.

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