Cuadernos de Economía (2022) Volume 45, Issue 127, Page 11-19

Asociación Cuadernos de economía

Cuadernos de economía

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The Geopolitics of International Trade in Saudi Arabia: Saudi Vision 2030

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Jel Codes:

M14; N14

Keywords:
Geopolitical risk, vision 2030, infrastructure, trade, oil, energy trade.

Abstract: Trade is vital to a country's development and growth. However, geopolitical risks have been known to disrupt international trade. Saudi Arabia's economy is based on oil trade and remittances. Thus, geopolitical risks have a significant impact on Saudi Arabia's oil trade. To reduce the country's reliance on oil, the Saudi government has proposed Vision 2030, which focuses on boosting growth and revenue from public service sectors like education, healthcare, and tourism. The current study seeks to assess the impact of geopolitical risks on trade value to support Vision 2030. The study's findings will show the value of economic revenue diversification. The study uses a regression discontinuity and fixed effects model to assess the link between geopolitical risks and oil trade. The results confirm the negative impact of geopolitics on oil trade and the model's resistance to heterogeneity. The results show that geopolitical risks hurt both exports and imports. The lag and mediation effect models reflect the geopolitical impact mechanism. The effects of geopolitics on trade were found to be heterogeneous. The study has implications for theory, policy, and management.

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https://doi.org/10.32826/cude.v1i127.601

1. Introduction

Geopolitical risk is defined by Lee et al. (2021) as the possibility of battles, terrorist attacks, and inter-state disputes disturbing international interactions' normal and peaceful flow. Geopolitics is far from a novel concept in Saudi Arabian politics (Liu et al., 2019). Attempting to forecast how others would behave in other regions of the universe has been a feature of politics for hundreds of years. Still, it has become more prevalent since the turn of the twentieth century (Liu et al., 2019).

When present politicians, nations, companies, and corporations examine the potential consequences of their policies on other elected officials, regions, associations, and corporations, they are engaging in geopolitics (Lee et al., 2021). This classification considers both the possibility of these events occurring and the possibility of existing occurrences increasing.

Geopolitical risks substantially impact the energy trade; consumption and production of fossil fuels are uneven in many nations, increasing bilateral commerce (al-Tamimi, 2017; Alsaaidi, 2020). The international energy market's complicated energy commerce is shaped by the numerous complex elements that influence the global energy market as a whole. Since the turn of the twenty-first century, multiple economic and political events have resulted in persistent swings in geopolitical risks, which have had a direct and major impact on the energy market's trade (Faudot, 2019; Habibi, 2019). This has resulted in experts and academics refocusing their attention on the influence of geopolitical concerns and energy market volatility on Saudi Arabia's overall commerce (Bradshaw et al., 2019). Political risk is widely recognised as a consideration that must be considered in the case of countries that are economically and socially dependent on the energy market. In recent years, rising economies have dominated the global energy industry (Czornik, 2020; Faudot, 2019).

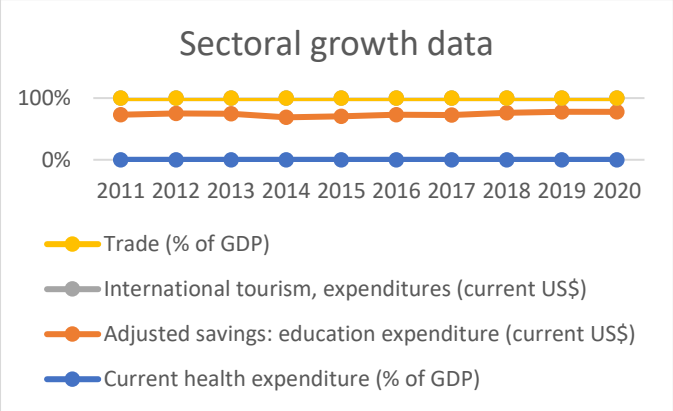

Figure 1: Sectoral growth data, Saudi Arabia (2011-2021)

Source: Worldbank.org (WDI)

Figure 1 illustrates Saudi Arabia's current position in terms of trade as a percentage of total GDP, tourism expenditure, education expenditure, and health expenditure as a percentage of GDP. Significant growth is anticipated in these investments and their outcomes due to Vision 2030 and its increased trade (Habibi, 2019; Jawadi et al., 2019). Thus, this research aims to assess the impact of geopolitical risks on overall business in Saudi Arabia, both imports and exports. Additionally, the general role of oil prices and the 2030 vision are considered when analysing the country's overall trade impact.

Additionally, because Saudi Arabia is heavily reliant on oil trade, geopolitical risk has become a primary focus for experts and researchers. As a result, fluctuations in oil prices, the international energy market, and energy demand have become primary factors of focus for experts and researchers (Jaziri et al., 2019). Economic diversification has been a top priority in Saudi Arabia's policy, owing to the importance to the country's economy (Jaziri et al., 2020). However, given the significance of this factor, the need for Saudi Arabia to diversify its economy has become more critical. This will diversify the country's economy from solely relying on government spending and oil revenues (Jaziri et al., 2020; Leahy, 2021).

In Saudi Arabia, the public sector, which includes the state-controlled oil sector, directly accounts for two-thirds of the country's GDP, while the private sector is heavily reliant on government contracts (Salameh, 2016; Waheed et al., 2020) However, in 2015, the problem of economic diversification became more acute due to the ascension of the new Saudi leadership and the sobering of the country's economic data (Salameh, 2016; Waheed et al., 2020). As a result, Vision 2030 is focused on establishing specific targets and objectives for enhancing the country's competitiveness and diversifying its economy (Czornik, 2020).

Priorities outlined in previous policies and visions included a focus on the development of alternative revenue sources for the government, such as income from the sovereign wealth fund, fees, and taxes, as well as reductions in public spending and an increased role for the private sector to boost employment and GDP growth in Saudi Arabia (Czornik, 2020). However, Vision 2030 places a premium on accelerating GDP growth due to increased trade and diversification, resulting in multiple revenue streams for the government (Faudot, 2019). Previously, it was observed that diversification visions and plans have a long history of being diluted or implemented in part; however, oil prices and geopolitical risks have consistently impacted previous strategies and techniques (Habibi, 2019).

The study makes three contributions. The first is a theoretical contribution, focusing heavily on the geopolitical risks associated with Saudi Arabian trade (Czornik, 2020; Faudot, 2019). While prior studies have mostly focused on oil or energy prices when examining Saudi Arabian trade, the new analysis is unique. It also analyses geopolitical concerns and the Vision 2030. By analysing Vision 2030, it is possible to conclude that the vision will substantially impact Saudi Arabia's trade and economic growth. However, past research has not examined the vision about Saudi Arabia's trade or geopolitical dangers (Habibi, 2019; Jawadi et al., 2019). Additionally, the paper asserts that geopolitical risks can be mitigated by diversification and implementation of vision 2030 policies. These elements can directly benefit the country's trade (Jaziri et al., 2020; Leahy, 2021).

This section discusses the study's introduction, emphasising the research background, problem statement, reasons and rationale, research aims, research questions, and the study's importance. The next sections will address the literature review, research methodology, data analysis interpretation, discussion and conclusion.

2. Literature Review

2.1 Geopolitical Risk

International trade is critical for any nation's development. International trade helps countries develop economically. It enables the government to benefit economically by exporting its natural resources, manufactured goods, and services. Increased production of goods contributes significantly to the country's international trade growth (Wiedmann et al., 2018). Numerous economists have proposed that international trade and economic development are inextricably linked. The market is the primary requirement for increased production in this case. If the market expands, the country's production will grow

as well. Thus, production and exchange are inextricably linked. Both affect the other in one way or another (Salameh, 2016).

Geopolitics is defined as the state authority's practice of manipulating and competing for its territory (Pollins, 1989). Currently, geopolitics is believed to be dominated by power struggles, various political parties, and rebellious groups (Nicolle et al., 2019). Thus, geopolitics encompasses various events their varied causes and consequences, ranging from global warming to great trade collapse and terrorism to nuclear tensions (Caldara et al., 2018).

Geopolitical risks are defined as those associated with terrorism, tensions, and wars among various states, all of which have a significant impact on countries' international relations (Caldara et al., 2018). Geopolitical risks are widely regarded as important factors influencing the investment decisions of business investors, bankers, the press, and the financial sector (Nicolle et al., 2019). Thus, geopolitical risks have a significant impact on the business cycle and financial markets and international trade (Caldara et al., 2018). These events are global in scope and are inextricably linked, which means they have a significant impact on the economies of all countries and, indirectly, on their economic relationships (Nicolle et al., 2019). Terrorist attacks and wars may also significantly contribute to economic contraction by lowering future values relative to the present. Few studies examine and explain how geopolitical risks affect developing countries (He et al., 2018).

2.2 Geopolitical Risk in Saudi Arabia

Geopolitical risks are not only introducing new threats, they are also amplifying existing ones. These risks significantly impact international trade, increasing the prices of products for private agents conducting international business (Nicolle et al., 2019). As a result, it is concluded that geopolitical risks directly impact international trade (Glick et al., 2010). At the moment, researchers are focusing their attention on the effect of geopolitical risks on the economy and international trade, owing to the rapid increase in political conflicts, regional and global wars, and terrorist attack (Blattman et al., 2010). A series of events occurring in the country and neighboring countries due to political and domestic conflicts significantly impact the economy, international trade, and corporate investment decisions. Numerous investors, banks, financial journalists, and business investigators have prioritised geopolitical risk when making investment decisions (Alqahtani et al., 2020).

Additionally, geopolitical risks have been reported to affect international trade indirectly. As there is a direct increase in the costs of establishing and conducting business and transactions, this ultimately decreases investment. In this case, geopolitical risks indirectly affect firms' export and import (Balcilar et al., 2018). Geopolitical risk, according to research, may also affect international trade by influencing the exchange rate, financial and economic policies. Given that the exchange rate is determined by expectations (Engel et al., 2014), geopolitical risks affect economic and financial policy expectations, significantly affecting the exchange rate and thus affecting international trade (Mueller et al., 2017). According to reports, according to research conducted to mitigate the detrimental effects of regional conflict on commerce, regional conflicts significantly impact a country's trade even if the trading partners are not directly involved in the conflict. The impact lasts for three years in the case of interstate disputes and five years in the case of international disputes (Jauch et al., 2013).

(Pham et al., 2017) conducted research and concluded that terrorism in bordering countries has a significant impact on trade and can have a five-year effect. Even terrorist attacks that resulted in no single death resulted in a significant decline in trade. Geopolitical risks impair international trade, industrialization, and employment indefinitely (Caldara et al., 2018). According to research, the GDP of both exporter and importer countries is significantly related to the trade flow, and geopolitical risks harm global trade (Balcilar et al., 2018). Arif et al. (2018) conducted a comparative analysis of Brazil and Russia and concluded that both countries' stock markets are extremely sensitive to geopolitical risks and are significantly impacted by them.

Various previous studies have attempted to ascertain the effects of various geopolitical risks on the financial markets. For instance, the impact of terrorism on the financial markets was assessed, and a negative correlation between major markets and terrorist attacks was discovered (Drakos, 2010). (Arif et al., 2018). Geopolitical risks exert a significant influence on domestic credit through various mechanisms. To begin, companies can postpone investment during periods of geopolitical conflict, such as war, political conflict, terrorism, and other tensions. Second, during geopolitical risk, consumers may lose trust in the government and its economic policies, causing them to postpone purchasing real estate, automobiles, and other assets. Thirdly, a higher level of rebel or geopolitical risks may harm citizens' democracy and freedom, resulting in the loss of country capital, eventually resulting in losing the country's domestic credit (Zhou et al., 2020).

Saudi Arabia's economy is based on oil; it has significant petroleum reserves and is a major exporter of crude oil and petroleum products. Additionally, it plays a critical role in OPEC. Saudi Arabia's petroleum sector contributes significantly to the government's revenue and exports. Saudi Arabia's total world trade increased more than fivefold faster than the US trade, from 991975 million US dollars in 2001 to 5391093 million US dollars in 2013. This indicates that Saudi trade increased from 0.8% to 1.5% in the same year. Thus, it has been demonstrated unequivocally that Saudi trade is always more significant than other countries. Saudi Arabia's imports are always less than its exports, resulting in a positive trade balance (Salameh, 2016).

Saudi Arabia is the world's largest oil producer and exporter. It has the largest oil reservoirs globally, accounting for 15% of total global reserves. Saudi Arabia's economy is heavily reliant on the oil industry. Oil prices have fluctuated significantly over the last few years, having a significant impact on the economy (Nurunnabi, 2017). Saudi Arabia's government is heavily reliant on the country's oil industry. During the 1970s and 1980s, approximately 95% of the state's budget was supported by oil revenue. This share was then reduced to approximately 75% during the 1990s. Then Saudi Arabia lacked sound financial policies that would have allowed it to maximise oil revenue payouts over time while minimising profit volatility (He et al., 2018).

2.3 Trade in Saudi Arabia

By the end of 2014, the global oil market had seen a steep decline in oil prices. In April 2014, the cost of an oil barrel was $114; by the end of the year, it had fallen to $50. This resulted in the collapse of Saudi Arabia's economy. By 2015, Saudi Arabia had the largest shortfall in the G20, accounting for 15% of its GDP. Not only that, by 2016, this shortfall had grown to 17.3 percent of Saudi Arabia's gross domestic product. As a result of these deficits, the national debt increased to 13% of GDP in 2016. In 2016, Saudi officials indicated that economic challenges represented a significant opportunity to accelerate the transformation of Saudi Arabia's financial structure, despite the impending crisis in the coming years. In April, the deputy crown prince Muhammad bin Salman unveiled a reform agenda dubbed Vision 2030. (Moshashai et al., 2020). Saudi Arabia Vision 2030 is a massive transformational plan centred on three pillars: an energetic society, a thriving economy, and a

motivated nation. A flourishing economy is only possible if the educational system is aligned with market demands. This is only possible if the vision recognises that the 21st century's long-term economic development will be knowledge-based (Alzahrani et al., 2017). The reforms were then drafted in all of the imperial court's offices. The reforms in Vision 2030 are expected to bring about significant changes in Saudi society and economy, by empowering citizens to form the majority of the kingdom's workforce, increasing the government's revenue, and decoupling oil prices and the budget. Vision 2030's primary objectives are to increase non-oil exports to 50% of government revenue and increase the private sector's share of the economy from 40% to 50%. (Moshashai et al., 2020).

At the moment, researchers are focusing their attention on the effect of geopolitical risks on the economy and international trade, owing to the rapid increase in political conflicts, regional and international wars, and terrorist attacks (Blattman et al., 2010). A series of events occurring in the country and neighboring countries due to political and domestic conflicts have a significant impact on the economy, international trade, and corporate investment decisions. Numerous investors, banks, financial journalists, and business investigators have prioritised geopolitical risk when making investment decisions (Alqahtani et al., 2020).Additionally, geopolitical risks, particularly the Saudi-Qatar political conflict, significantly impact the Gulf Cooperation Council (GCC) market's efficacy (Selmi et al., 2020). Recent research examined the impact of geopolitical risks on oil prices. It was established that a dramatic increase in the geopolitical risks index is directly related to the unexpected rise in oil prices (Selmi et al., 2020).

Geopolitical risks are growing in the Gulf Cooperation Council (GCC) region, particularly in Saudi Arabia and worldwide. There are numerous conflicts, wars, assaults, and the threat of war that significantly impact the production of oil and petroleum products and their export to other countries. On September 14, 2019, drones and missiles attacked Aramco's oil plant, causing significant damage to the facility. This devastating attack resulted in a 50% reduction in oil production. The very next day following the attack, oil prices increased by 20% in the early hours of trading (Alqahtani et al., 2020). According to research, the Gulf Cooperation Council (GCC) stock market is largely influenced by three factors: international, regional, and domestic conflicts and news, political conflicts, and market sentiments (Mohalhal, 2015).

A study was conducted to determine if there is a link between geopolitical conflicts and the rise in oil prices. This research examined 32 geopolitical conflicts, ranging from the American civil war to the most recent Arab conflict over oil prices. Geopolitical risks were found to impact oil prices (Noguera-Santaella, 2016) significantly. Another study examined the impact of global conflicts and tensions on the oil and stock market markets. It was concluded that geopolitical conflicts significantly impacted the oil market (Antonakakis et al., 2017). The majority of research indicates that geopolitical risks play a significant role in the movement of stock markets and volatility (Selmi et al., 2020).

3. Method

3.1 Model Specification

Geopolitical events exacerbate geopolitical risks; in the case of Saudi Arabia, consumption and energy production are also imbalanced, resulting in a difference between energy exports and imports. Another researcher examines the effects of geopolitical risks on Saudi Arabia's overall international trade, taking control variables such as GDP, currency rate, inflation, trade openness, interest rate, and governmental effectiveness. The paper used a fixed effect regression model with lag explanatory variables to examine the effect of the geopolitical risk index on Saudi Arabia's overall trade, or exports and imports. Compared to ordinary least squares estimation, the fixed-effect model of the individual and time can simultaneously control the impact of regional fixed factors that do not change with macroeconomic variables over time and do not change with the region in terms of the regression results. The equations below illustrate the regression model.

$$\text{Ln IMP}_t = \beta_0 + \beta_1 \text{*Ln GPR}_t + \beta_2 \text{*Ln GPR}_{i(t-1)} + \beta_3 \text{*Ln GPR}_{i(t-2)} + \beta_4 \text{*Ln GPR}_{i(t-3)} + \beta_5 X_{it} + \eta_t + \pi_i + \varepsilon_{it} \quad (1)$$

$$\text{Ln EXP}_t = \beta_0 + \beta_1 \text{*Ln GPR}_t + \beta_2 \text{*Ln GPR}_{i(t-1)} + \beta_3 \text{*Ln GPR}_{i(t-2)} + \beta_4 \text{*Ln GPR}_{i(t-3)} + \beta_5 X_{it} + \eta_t + \pi_i + \varepsilon_{it} \quad (1)$$

In the equation above, subscript """"""i"" """represents the individual country, t represents the time or the associated year. Whereas Ln IMP represents the dependent variable, imports and EXP represents the exports of Saudi Arabia, Ln GPR represents the independent variable or the explanatory variable geopolitical risk. The explanatory factor geopolitical risk has been considered in different lags to account for the effect of the time lags, and is considered in context of (t-1)/ (t-2)/ (t-3), in the regression model. In the above model, X represents covariates or the control variables that can influence the association between the dependent and the independent factors. The present study considers GDP, governmental effectiveness, forex rate, interest rate and inflation as the control factors. In the present study, monthly GDP of Saudi Arabia is approved with the frequency conversion of quarterly gross domestic product, without alteration in the time trend. In the above equation, the term """"""η_t"" """represents the time fixed effect, ε_{it} is defining the error term and π_i represents the individual fixed effect.

3.2 Variables and Data

For this study, monthly data for Saudi Arabia were collected from January 2000 to December 2020, with the majority of the data beginning in January 2001 due to a lack of data. Caldara et al. (2018) present a GPR index for quantifying geopolitical risks based on an analysis of newspaper articles for Saudi Arabia over a specified period. It then provides monthly data beginning in January 1985 and ending in February 2021 and two distinct decomposition indicators, namely GPA and GPT. The International Trade Centre provided data on oil exports and imports. Saudi Arabia's monthly GDP is calculated using a frequency conversion of the country's quarterly gross domestic product obtained from the World Bank's website. The Wind and EPU databases are used to obtain exchange rates and current interest rates. Additionally, logarithmic treatment is used in this paper, and SPSS 24.0, EViews 11, and Stata version 16 are used for analysis and processing.

3.3 Empirical Outcomes

The paper examined the effect of geopolitical risks on Saudi Arabia's oil exports and imports using a fixed effect regression model with lag variables, emphasizing the coefficient significance and size of the explanatory variable LnGPR. Additionally, the study employs the fixed effect PPML test to validate the empirical results. The results of parameter estimation are summarised in Table 2.

The table above summarises the descriptive statistical findings for the variables examined. As can be seen, the mean value for the GPR remains 252 for the sample, while the mean value for exports and imports is 216. Geopolitical risk has a standard deviation of 29.24 and a skewness of 0.8, while standard deviation of 1.34 and ln export has a standard deviation of 0.54. The sample's mean GDP is 234. The standard deviations are small, indicating that the sample has a low degree of dispersion.

Additionally, the data is normal, as indicated by the skewness and kurtosis measures. These previous studies (Baur et al., 2018) demonstrate that they used the same regression methods and obtained similar results. It is critical to determine whether our findings correlate with the GPR's pre-designed geopolitical risk phrases.

Following the table above, the impact of the geopolitical risk index on the exports and imports of Saudi Arabia is significant and negative. The impact of geopolitical risks on oil exports is significant in the context of Saudi Arabia in comparison with the imports. Moreover, FE-PPML models are also verifying the conclusions drawn above. According to the table above, the direction and magnitude of geopolitical threats' influence on oil trading volumes are largely consistent with prior outcomes, which may be considered robust. The ln import value for geopolitical risk is -0.128, while the ln export value for geopolitical risk is -0.184. Individual controls over ln imports and exports are significant.

3.4 Robustness Test

The paper considers the outbreak of the financial crisis as a major dummy variable represented by Et, before September 2008, Et = 0. After this, it is Et = 1. the model generated is presented as follows.

$$LnTRADE_{it} = \lambda_0 + \lambda_1 * LnGPR_{it} + \lambda_2 * Et + \lambda_3 * X_{it} + \eta_t + \pi_i + \varepsilon_{it} \quad \textbf{(3)}$$

Table 1. Descriptive Statistics

Item	GPR	Ln Import	Ln Export	Ln GDP
N	252	216	216	234
Mean	102.90	17.22	23.38	10.58
Std	29.24	1.34	0.54	0.49
Skewness	0.8	0.9	0.3	0.8
Kurtosis	1.2	2.2	1.25	1.4

Table 2. The Impact of GPR on Oil Imports and Exports

		LnImport			LnExport	
	1	2	3	4	5	6
LnGPR	−0.146 * (−1.70)	−0.069 ** (−2.19)	−0.004 *** (−2.57)	−0.036 (−0.37)	−0.092 ** (−2.52)	−0.004 *** (−2.71)
LnGPR _lag1	−0.085 (−0.92)	−0.019 (−0.60)	−0.001 (−0.74)	−0.015 (−0.14)	−0.048 (−1.23)	−0.002 (−1.40)
LnGPR_lag2	−0.081 (−0.88)	−0.024 (−0.74)	−0.001 (−0.87)	−0.029 (−0.28)	−0.060 (−1.54)	−0.003 * (−1.73)
LnGPR_lag3	−0.129 (−1.50)	−0.027 (−0.91)	−0.002 (−1.09)	−0.070 (−0.71)	−0.109 *** (−2.99)	−0.005 *** (−3.28)
LnGDP	1.056	1.272	0.062	0.821	0.949	0.045
Interest rate	−0.016	0.002	−0.000	−0.020	−0.018	−0.000
GE	−0.023	0.001	−0.000	−0.040	−0.014	−0.000
FX rate	0	−0.000	0	0	−0.000	−0.001
INF	−0.017	0.003	−0.000	−0.000	−0.008	−0.000
Cons	11.332	7.693	2.353	12.671	12.226	2.594
Time control	No	Yes	Yes	No	Yes	No
Individual control	No	Yes	Yes	No	Yes	No
N	4009	4009	4009	4009	4009	4009
F	353.22	934.54		184.81	451.31	
R-squared	0.3819	0.3184	0.0299(Pseudo)	0.2443	0.1438	0.0309(Pseudo)

Table 3. The Impact of GPR on Oil Imports and Exports with Et

	Ln Import	Ln Export
Ln GPR	−0.128 *** (−5.16)	−0.184 *** (−6.06)
Dummy variable	Yes	Yes
Control variable	Yes	Yes
Time control	Yes	Yes
Individual control	Yes	Yes

Notes: *, **, *** stand for significant levels of 10%, 5%, and 1%, respectively, and the values in brackets are T-values.

Time Lag Analysis

With the help of the study of import volume as an instance, the mediating impact model is presented as follows:

$$Ln\ Import_{it} = \lambda 0 + \lambda 1 * Ln\ GPRit + \lambda 2 * Xit + \varepsilon it \quad (3)$$

$$Ln\ Pct = \alpha 0 + \alpha 1 * Ln\ GPRit + \alpha 2 * Xit + \varepsilon it \quad (4)$$

$$Ln\ Import_{it} = \gamma 0 + \gamma 1 * Ln\ GPRit + \gamma 2 * LnPct + \gamma 3 * Xit + \varepsilon it \quad (5)$$

Based on these models, the results of the Time lag effect and regression are presented in the table below.

Table 4. The Impact of GPR on Oil Imports and Exports with Bootstrap

	LnImport	LnExport
LnGPR	−0.103 *** (−4.20)	−0.176 *** (−6.39)
Control variable	Yes	Yes
Time control	Yes	Yes
Individual control	Yes	Yes

Notes: *, **, *** stand for significant levels of 10%, 5%, and 1%, respectively, and the values in brackets are Z-values.

Additionally, table 4 summarises the results of the bootstrap approach for resampling with replacement to obtain adequate and progressive estimators. According to the table, the magnitude and direction of the effects of geopolitical risk on Saudi Arabia's oil trading volumes are consistent with previous findings, which is solid. Additionally, the study focuses on grouping regression tests. The study examines group progression using the GPR index, and the results are summarised in Table 5. According to the results in Table 5, the direction and magnitude of the effect of geopolitical risk on oil trade are highly consistent with previous findings.

Table 5. The Impact of GPR on oil Imports and Exports with Regression by Group

Quantile of GPR	0-10%	10-25%	25-50%	50-75%	75-90%	90-100%
Ln import	0.048**	−0.332	−0.926	0.060	−0.15	−0.045
Ln export	0.035**	−0.122	−0.876	0.000	−0.12	−0.044
Ln GPR	0.083	0.241	−0.607 *	−0.587 *	−0.528	0.082
Control variables	Yes					
Time control	Yes					
Individual control	Yes					

Notes: *, **, *** stand for significant levels of 10%, 5%, and 1%, respectively

Table 6. The Time Lag Effect of GPR on Oil Imports and Exports

	Ln Import	Ln Export
	(1)	(2)
Ln GPR _lag1	−0.051 ** (−2.06)	−0.124 *** (−4.00)
LnGPR _lag2	−0.048 * (−1.91)	−0.127 *** (−4.11)
LnGPR _lag3	−0.044 * (−1.77)	−0.139 *** (−4.47)
LnGPR _lag4	−0.047 * (−1.88)	−0.137 *** (−4.44)
LnGPR _lag5	−0.054 ** (−2.15)	−0.140 *** (−4.53)
LnGPR _lag6	−0.065 *** (−2.62)	−0.125 *** (−4.03)
LnGPR _lag7	−0.066 *** (−2.64)	−0.102 *** (−3.31)
LnGPR _lag8	−0.096 *** (−3.85)	−0.107 *** (−3.47)
LnGPR _lag9	−0.104 *** (−4.17)	−0.106 *** (−3.44)
LnGPR _lag10	−0.066 *** (−2.67)	−0.099 *** (−3.21)
LnGPR _lag11	−0.069 *** (−2.77)	−0.100 *** (−3.23)
LnGPR _lag12	−0.055 ** (−2.19)	−0.076 ** (−2.44)
LnGPR _lag13	−0.038(−1.50)	−0.060 ** (−2.28)
LnGPR _lag14	−0.017 (−0.69)	−0.023 (−1.17)
LnGPR _lag15	−0.007 (−0.27)	−0.011 (−0.58)
Control variable	Yes	Yes
Time control	Yes	Yes
Individual control	Yes	Yes

Notes: *, **, *** stand for significant levels of 10%, 5%, and 1%, respectively, and the values in brackets are T-values.

In accordance with table 7 above, there is a direct impact of the geopolitical risk on the imports of Saudi Arabia. Moreover, it can also be observed that the impact of the geopolitical risk is significant and negative on the overall imports. These results can also be observed to be consistent with the benchmark regression results. In conclusion, it can be observed that the geopolitical risks suppress imports for Saudi Arabia due to the fluctuations in the oil prices as well. Moreover, focusing on the exports of Saudi Arabia as well, it can be observed that there are adverse impacts of the geopolitical risks on the exports. Furthermore, Sobel test is applied for verification of the robustness of the mediating impact. Table 8 represents the suppression of the geopolitical risks on the imports of Saudi Arabia, under the influence of the prices of the crude oil. Whereas, as a result of focusing on table 9 below, it can be observed that the geopolitical risks have a significant impact on the imports of Saudi Arabia due to the enhancement of the oil prices. Furthermore, it can also be observed that the test represents that demand and supply of the oil markets in the case of Saudi Arabia are elastic.

Table 7. Test Results of The Impact Mechanism of GPR on Oil Imports and Exports

	LnPc (1)	LnImport (2)	LnImport (3)	LnExport (4)	LnExport (5)
LnGPR	−0.423 ***	−0.617 ***	−0.455 ***	−0.494 ***	−0.279 **
LnPc	–	–	0.341 ***	–	0.453 ***
Control variable	Yes	Yes	Yes	Yes	Yes
N	4009	4009	4009	4009	4009
R-squared	0.1618	0.3691	0.3777	0.2158	0.2285

Notes: *, **, *** stand for significant levels of 10%, 5%, and 1%, respectively

Table 8. Test Results of the Impact Mechanism of GPR on Oil Imports and Exports

	LnPco (1)	LnImport (2)	LnImport (3)	LnExport (4)	LnExport (5)
Ln GPR	−0.425 ***	−0.617 ***	−0.429 ***	−0.494 ***	−0.220 *
Ln Pco	—	—	0.393 ***	—	0.572 ***
Control Variable	Yes	Yes	Yes	Yes	Yes
N	4009	4009	4009	4009	4009
R-squared	0.1320	0.3691	0.3809	0.2158	0.2368

Notes: *, **, *** stand for significant levels of 10%, 5% and 1% respectively.

Table 9. Test Results of the Impact Mechanism of GPR on Oil Imports and Exports

	LnPng (1)	LnImport (2)	LnImport (3)	LnExport (4)	LnExport (5)
LnGPR	0.104 **	−0.617 ***	−0.524 **	−0.494 ***	−0.321 ***
LnPng	-	-	−0.120 ***	-	−0.066 ***
Control variable	Yes	Yes	Yes	Yes	Yes
N	4009	4009	4009	4009	4009
R-squared	0.0295	0.3691	0.3936	0.2158	0.2173

Notes: *, **, *** stand for significant levels of 10%, 5%, and 1%, respectively.

Table 10. Test Results of The Impact of GPR on Oil Importing and Exporting

	Energy-Importing		Energy-Exporting	
LnGPR	−0.096 *** (−4.13)	−0.261 *** (−5.85)	−0.021 (−0.43)	−0.115 *** (−3.91)
Control variable	Yes		Yes	
Time control	Yes		Yes	
Individual control	Yes		Yes	
N	2280	2280	1729	1729
F	1449.70	526.34	565.53	593.27
R-squared	0.5419	0.4466	0.0472	0.3902

Total sample for energy importing was 2280, and the value for geopolitical risk is -0.096. The value for energy-exporting is -0.021 with the sample size of 1729. The f value for importing is 1449.70, while the value of f for exporting is 565.53. the r-square is 0.5419 for importing and r-square for exporting is 0.0472.

4. Discussion and Conclusion

4.1 Discussion

The objectives of this study were to ascertain the impact that geopolitical risk has on global trade in the context of Saudi Arabia while also taking into account Vision 2030. Additionally, the study examined the effects of gross domestic product, currency exchange rates, trade openness, inflation, governmental effectiveness, and interest rates on the relationship between geopolitical risks and global trade. According to the findings, geopolitical risks have a significant overall impact on Saudi Arabia's international trade, but the impact has been determined to be negative. This means that as geopolitical risks increase, Saudi Arabia's overall international trade declines, resulting in adverse consequences (Akhmat et al., 2014; Anser et al., 2021).According to numerous previous studies, geopolitical risk is considered the number one global corporate risk; consequently, most studies have suggested that this risk harms businesses, organisational performance, and industrial outcomes (Demir et al., 2020; Khayat, 2017). As a result of these adverse effects, it is clear that geopolitical risks negatively impact overall trade and be significantly negative in the case of Saudi Arabia. The complex relationship between geopolitical risks and geopolitical drivers can provide significant insight into the impact of geopolitical risks on a country's overall trade (Ranjan et al., 2011; Rasoulinezhad et al., 2020). Successful organisations and nations are those that have a thorough understanding of geopolitical drivers, thereby reducing the likelihood of geopolitical risks occurring and resulting in minimal adverse effects on overall trade (Ranjan et al., 2011; Rasoulinezhad et al., 2020).

According to the study's findings, the effects of gross domestic product and currency exchange rates on overall international trade are significant in the context of Saudi Arabia. The impact is significant because increasing gross domestic product contributes to meeting significant demand, resulting in an increased volume of trade (Sayari et al., 2017). On the other hand, the forex rate significantly impacts currency rates, thereby affecting international trade (Sehleanu, 2016). Additionally, the study discovered that inflation significantly impacts overall international trade. This impact was discovered because inflation is defined as the rate of increase in prices over a specified period, and it is a well-known fact that changes or increases in prices have a direct effect on demand and supply, thereby affecting overall international trade as well (Sun et al., 2021).

The researcher discovered that trade openness has a significant impact on overall international trade in Saudi Arabia. This impact is significant because trade openness reflects a country's economic orientation in international trade. The degree of imports and exports is also highly dependent on trade openness (Zhou et al., 2020). This clearly states that trade openness has a sizable impact on global trade in the context of Saudi Arabia. Additionally, the study's findings indicate that interest rates significantly impact overall international trade, as they are directly related to imports and exports. As a result, they can significantly impact supply and demand, thereby affecting overall international trade (Zhou et al., 2020). According to the study's findings, the overall impact of governmental effectiveness on overall international trade is significant. Governmental effectiveness results in significant policies, rules, and regulations, resulting in increased ease of trade and business. Thus, governmental policies can either significantly slow down or enhance substantially trade (Anser et al., 2021; Demir et al., 2020). However, the overall impact of the government's role and effectiveness on general international trade is significant in Saudi Arabia.

4.2 Conclusion

The researcher examined the impact of geopolitical risks on global trade in general, as well as the impact of control variables such as GDP, currency exchange rate, inflation, trade openness, interest rate, and government effectiveness. While it is difficult to avoid geopolitical risk completely, three prudent measures can significantly mitigate it: Supply chains are being expanded, and critical assets are being dispersed. The difficulties that geopolitical threats would exacerbate. In the next two decades, competition for global influence is expected to reach a new high, surpassing the Cold War. The recommended policy for geopolitical risk is that many corporate boards of directors have already considered geopolitical concerns. However, the conversations frequently revolve around a single investment, project, or entry or exit from a market. As a result, they overlook the broader strategic context, the full range of risk scenarios and their associated consequences, and critical decision points.

The researchers considered these variables in great detail in the context of Saudi Arabia and the impact of Vision 2030. According to the findings, geopolitical risks have a significant and negative impact on overall international trade in Saudi Arabia. However, the control variables GDP, currency exchange rate, inflation, trade openness, governmental effectiveness, and interest rate were found to significantly affect the relationship between geopolitical risks and overall international trade.

4.3 The study's Implications

This study has far-reaching implications, not just for Saudi Arabia, but for any country's overall international trade. Geopolitical risks are global factors that can affect any country's business, industries, and general trade, posing challenges in geopolitical drivers. Thus, the study's generalizability and acceptability are extremely broad. Additionally, the study significantly contributes to theoretical significance by analysing the effects of GDP forex rate, inflation, trade openness, interest rate, and governmental effectiveness, while also considering the vision 2030 in the context of the relationship between geopolitical risks and overall international trade. The study indicates that governments can implement policies that will reduce geopolitical drivers, thereby reducing geopolitical risks.

4.4 Restrictions and Recommendations for Future Research

Along with the implications of this study, there are some limitations. The first limitation is that it is limited to geopolitical risks; however, numerous other types of risks can significantly impact Saudi Arabia's international trade. Economic, financial, and compliance risks all have a significant impact on international trade, and future researchers are encouraged to take these risks into account. The study's sample size is limited, and future researchers are encouraged to

expand the sample size to increase the study's acceptability and generalizability.

Acknowledgement

This work was supported through the Annual Funding track by the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia grant No: AN000662.

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