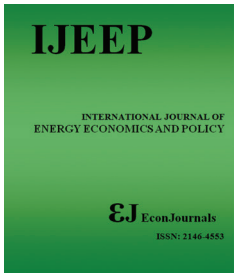

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Oil Rent, Geopolitical Risk and Banking Sector Performance

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ABSTRACT

This paper aims to assess and compare the impact of geopolitical risk (GPR) on the banking sector profitability of "oil and nonoil dependent" emerging markets. For empirical estimation, we used annual macro-level data of all the countries listed in the GPR index from the period 1998 to 2017. The results of the fixed effect model indicate a negative significant impact of GPR on banking sectors' profitability. Additionally, the results highlight the significant weakening moderation role of oil rent in the negative impact of GPR on the banking sector profitability. Multiple contributions arise from this study: Firstly, it explains and compares the impact of geopolitical risk on the banking sector profitability in non-oil-dependent. and oil-dependent economies. Secondly, our study sheds the light on the moderation effect of oil rent in the relationship between geopolitical risk and banking sector profitability. Indeed, the oil "curse or blessing" argument was neither revealed nor clarified in the relevant literature.

Keywords: Geopolitical Risk, Banking Sector Profitability, Oil Rent, Oil Dependent, Nonoil Dependent, Emerging Markets
JEL Classifications: Q4, G21, P48

1. INTRODUCTION

Macroeconomic uncertainty significantly influences firms' performance. This holds for both financial and non-financial sectors. Previous studies state that the main ingredient in the success of economies is macro certainty. Stable periods attract massive investments that spur emerging markets' economic growth and the profits of financial institutions (e.g., banks) (Belkhir et al., 2019; Gaibulloev and Sandler, 2008; Ghosh, 2016; Jude, 2010; Lee and Lee, 2019; Murdoch and Sandler, 2002). One factor that has been used to gauge economic conditions is political risk. Recently, geopolitical risk was introduced as an alternative measure of political risk. It is different from other measures of political instability and macroeconomic risks in multiple ways. Firstly, geopolitical risk is broader in nature because it covers all domestic and international events, rather than merely focusing on domestic political issues. Secondly, geopolitical risk captures occasional but menacing incidents which may remain concealed for longer time periods (Dissanayake et al., 2018; Guttentag and Herring, 1997). Thirdly, the evaluation of geopolitical risk causes stronger adverse effects than geopolitical acts themselves, probably because the latter are perceived as resolving uncertainty (Dissanayake et al., 2018). Geopolitical risk is a key element of a country's economic decisions (ECB, 2017). Its adverse effects on economic growth has been highlighted (Mansour-Ichrakieh and Zeaiter, 2019; Soybilgen et al., 2019).

The ample literature encompassing the effects of geopolitical risk on determinants of economic and financial growth (Baker et al., 2016; Bernanke, 1983; Gulen and Ion, 2016; Julio and Yook, 2012; Rodrik, 1989). Geopolitical risk is regarded as a main driver of financial markets' performance and a core investment decision making factor by traders, market managers and central banking executives (Bouri et al., 2019; Caldara and Iacoviello, 2018). Indeed, the Bank of England highlighted its importance while referring to the trinity of uncertainty, stating the adverse effects

of economic uncertainty, policy uncertainty and geopolitical risks on financial growth (Carney, 2016). Similarly, the European Central Bank in its Economic Bulletin, IMF in World Economic Report and the World Bank in the Global Economic Prospects, have regularly outlined and tracked the impacts of geopolitical risks on the economy (Caldara and Iacoviello, 2018). In a survey conducted by Gallup (2017), thousands of investors have placed worries regarding geopolitical risks above economic and political instability. Nevertheless, rigorous empirical studies have not yet been conducted to investigate the significance of geopolitical risks on the performance of the banking sector in emerging markets.

The limited scholarly attention given to the effect of geopolitical risk on the banking sector performance stems from the absence of a reliable measurement index that captures geopolitical risk as viewed by strategic planners, international financiers, and public communities. Using aggregate data, Caldara and Iacoviello (2018) demonstrated that increased levels of geopolitical risk diminish investments and profit earnings. A decomposition of this data highlights that unprotected industrial sectors experience stronger aftermaths and are more sensitive to geopolitical risk. However, how does geopolitical risk affect the banking sector? To the best of our knowledge, we do not know of any study scrutinizing the role that geopolitical risk might play on the banking sector performance. Moreover, we still lack knowledge on how the effect of geopolitical risk might differ given a country's economic nature. In this regard, oil producing countries have always been a point of attention and discussion for financial practitioners and researchers. Colgan (2014), termed oil producing countries as "petro-states" and argued that such petro-states are likely to face domestic and international political issues but their oil rents (i.e., oil generated incomes) may channel such political instability to provide sound performance. This leads us to hypotezise that the banking sector in oil-dependant economies would respond to geopolitical risk differently. Hence, there remains a need to explain how geopolitical risk (e.g., conventional and non-conventional wars, terrorist attacks, tensions within and between states) might affect the financial performance of banks (i.e., bank profitability) differently in oil dependent and non-oil dependent economies. In our analysis, we explore if oil rents moderate the effect of geopolitical risk on the banking sector performance. Specifically we test the extent to which oil rents of oil rich economies mitigate the adverse effects of geopolitical risk on banks' profitability.

Different schools of thoughts discuss the impact of oil rents on different indicators of economic growth. One group of researchers support the theory of "resource curse" and argue that resource abundant countries show lesser growth compared to those lacking this natural endowment (Gylfason et al., 1999; Rodriguez and Sachs, 1999; Sachs and Warner, 1995). They contend that resources become a curse for the economic development because such countries wholly focus and invest on resource exploration projects and do not plan for other projects which would produce other exportable products. Contrary to this, experts and scholars who believe on the theory of "resource blessing" propose that resources rich countries regularly generate huge incomes from the export of their surplus natural resources (e.g., oil rents from the export of oil) and these incomes help them in two ways. Firstly, they use these incomes to start new mega projects which bring business and employment opportunities together. Secondly, these resources work as supporting blood for their economic development during uncertain situations (Alexeev and Conrad, 2009; Ali, 2009; Brunnschweiler and Bulte, 2008; Esfahani, Mohaddes, and Pesaran, 2013; Stijns, 2005; Van der Ploeg and Poelhekke, 2009, 2010). Thus, they believe that resources, such as oil reserves, work as "resource blessings" resulting in uninterrupted economic development, as would be the case of the oil rich countries even during the times of uncertainty. The current study considers both viewpoints regarding the "resource abundance." Since, financing for the economies of emerging countries depends more on their banking system than on capital market (Creane et al., 2006; Gaies et al., 2019; Gaies et al., 2019) therefore, we intend to test the impact of geopolitical risk on the banking sector profitability taking to account the moderating role of oil rent in emerging markets.

Focusing on the time period from 1998 to 2017, the contribution of the current study is a nuanced understanding of the impact of geopolitical risks on banking sector profitability by accounting the weight of oil rent in 19 emerging countries, which constitutes a well-established available sample of oil dependent and non-oil dependent countries from the newly constructed Geopolitical Risk Index of 2018. Our study is first in sheding light on the moderation effect of oil rent in the relationship between geopolitical risk and banking sector profitability, thus adding to the oil "curse or blessing" debate.

The rest of the manuscript will be structured in the following manner. Section 2 will be devoted to the literature review and hypothesis development. In section 3 we will introduce our data and methodological framework. Section 4 will discuss empirical results and discussion. Finally, we will conclude our study in section 5.

2. BRIEF LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Geopolitical Risk and Bank Profitability

Different macro uncertainty indicators (e.g., political transition, policy uncertainty, corruption) have been used to investigate their relationship with banking sector performance. For instance, Ghosh (2016), used data from 2000 through 2012 to investigate the impact of "Arab Spring," which he used as a proxy of uncertainty, on banking sector performance in the countries of the Middle East and North Africa (MENA). Empirical findings of his study not only revealed a significant diminution in profit earnings, but also witnessed a significant surge in bank risk during the 13 year period of the study. Likewise, Şanlısoy et al. (2017) studied the impact of political riks on banks performance and reported the negative correlation of political risk and bank profitability in Turkish banks.

Recently, Ihaddaden (2020) investigated the effect of macro uncertainty on the Tunisian banking sector using the "Jasmin Revolution" as a proxy. A negative impact on the Tunisian banking system over the period 2007-2017 was observed. Furthermore, Belkhir et al. (2019) conducted a comprehensive study, covering total 35,697 of banks- year observations from listed conventional

and Islamic banks throughout 1999-2013, to identify a negative association of political risk and banking performance indicators. Similarly, Lee and Lee (2019) used an international rating system of banking sector, called, CAMEL, for the period of 2000-2014 and affirmed that political stability positively impacts on bank profitability whereas political risk is negatively associated with the profitability of Chinese banks.

Various studies in the field of finance and investment indicated that investors generally choose to defer new investments and decrease expenses of existing investments during times of higher macro uncertainty (Baker et al., 2016; Gulen and Ion, 2016; Julio and Yook, 2012; Tadeu et al., 2020). Moreover, contemporary empirical evidence shows that geopolitical risk cycles more critically impact the corporations' funding decisions related to debt financing in comparison to those related to equity financing (Lee et al., 2020).They use a panel data of listed Chinese companies for a period of 5 years ranging from 2013 to 2017 to test their study hypotheses. Hence, on account of reduced investment preference, investors choose to avoid taking any debt financing that eventually decreases the profitability of banks.

Thus, the current study examines the existence of a direct relationship between a newly developed geopolitical risk index and banking sector profitability in emerging markets by testing this hypothesis:

H_1: Geopolitical risk is negatively impacting the banking sector profitability.

2.2. Geopolitical Risk and Bank Profitability: The Moderating Role of Oil Rent

Literature has discussed two opposing views on the exact impact of natural resources on the overall economic growth of resource rich countries. Starting with the theory of "resource curse" or "paradox of plenty" (Gylfason et al., 1999; Rodriguez and Sachs, 1999; Sachs and Warner, 1995) it evolved to the more contemporary notion of "resource blessing" (Alexeev and Conrad, 2009; Brunnschweiler and Bulte, 2008; Esfahani et al., 2013; Stijns, 2005; Van der Ploeg and Poelhekke, 2009, 2010) or "pleasure of the treasure" (Ali, 2009).

Richard (1993), introduced the "resource curse" theory in his book "Sustaining Development in Mineral Economies: The Resource Curse Thesis." He argues that not only do resources fail to make favourable contributions to the economic development of many developing countries; but that indeed the economy in resources rich countries performs worse than in resource poor countries. This argument was the basis for "resource curse" studies. The "Resource curse" literature commonly argues that when an abundance of natural resources fails to bring economic and societal growth and turns out to be a liability, then natural resources are not a "blessing," but rather a "curse" (Congleton et al., 2008).

The theory of "resource blessing" contradicts the concept of "resource curse." It looks to the logic of using the treasure of resources to foster economic activity and the banking system. A state might exploit it's under the earth resources, for example oil, and use them to develop human resources through industrialization which can be used to further the state's economic growth, (Asif et al., 2020; Venables, 2016). A meta-analytic study of Havranek et al. (2016) on empirical researches of two decades, refuted the "resource curse" theory. They reported that sufficient volume of past studies have established a positive correlation between resource generated revenues (e.g., oil rents) and the economic development of the country. Findings of Havranek et al. (2016) meta-analysis demonstrated that when it comes to "resource curse," oil is less vulnerable as compared to other resources like valuable metals and diamonds. Some contemporary studies further supported the "resource blessing" theory while discussing the impact of resource wealth on economic growth (Adams et al., 2019; Alexeev and Conrad, 2009; Asif et al., 2020; Smith, 2015; Venables, 2016). Similarly, de. V. Cavalcanti et al. (2011), covered a period of 27 years from 1980 to 2006 for 53 countries from a yearly managed database of "World Bank" (i.e., World Development Indicators), and confirmed, these oil exporting states jointly represent 85% of global GDP, a 77% share of world's daily oil production and 81% of proven oil reserves worldwide. This worldwide economic share of oil exporting states supports the notion of "resource blessing" for oil rent. Additionally, oil based earnings facilitates the starting of mega projects of industrializations for petro-states (oil rich states), which eventually improves economic activity and banking sector performance.

According to previous studies, geopolitical risks lead to oil price fluctuations and a significant increase in oil prices can result from a substantial and serious geopolitical risk shock (Abdel-Latif and El-Gamal, 2019). Moreover, consumer preferences in the oil sector and the stock market strategies of investors are also influenced by geopolitical risk (Noguera-Santaella, 2016). Similarly, Mei et al. (2020) used the econometric regression model of mixed data sampling (MIDAS) to test the contextual impact of a geopolitical risk index. Their study uncovered the impact of geopolitical uncertainty on future unpredictability of oil prices and found that the GPR index is valuable for the prediction of increases in future oil prices.

Omar et al. (2017), related oil price surges with uncertainty (e.g., geopolitical risk). They discuss three factors. First, countries increase oil buying to avoid the effects of any supply cut in the future that may hinder all types of transport facilities. Second, countries which aspire to defend their independence and preserve energy needs might build up oil storage during political unrest. Third, the expected future oil purchase restrictions coming from its use as a combat weapon during international conflicts, forces countries to buy surplus oil. Likewise, Bouoiyour et al. (2019) asserted a significant and positive impact of times of uncertainty geopolitical risk on oil prices. This effect is highly anticipated, considering that geopolitical risk is troubling in oil rich countries and poses key question on their capacity to maintain long-term supply to the international market in times of increased crises or conflicts, which could have significant consequences for the evolution of oil prices (Bouoiyour et al., 2019). This surge in oil price provides an opportunity for oil dependent countries to earn more oil rent during periods of geopolitical risk that might improve government spending and eventually result in more economic and financial activities in these oil dependent countries.

Moreover, Su et al. (2019), discussed the impact of oil prices on the liquidity situation of financial institutions in a major oil dependent country, Saudi Arabia, and proved that higher oil prices are an antecedent of higher financial liquidity. While increases in oil prices yield stronger financial liquidity, reductions in oil prices can result in liquidity problems for financial institutions, and serious economic disaster for an oil dependent country like Saudi Arabia (Su et al., 2019). Hence, financial liquidity in oil dependent countries increases when oil prices rise due to geopolitical risk. Therefore, oil rent of oil dependent countries not only mitigates the bad impact of geopolitical risk on bank profitability but might help banks which operate in oil dependent countries to continue profit generation with an increasing rate.

Thus, based on the above literature and theory of "resource blessings" we make our next hypothesis:

H_2: Oil rent attenuates the negative impact of geopolitical risk on banking sector profitability.

3. DATA AND METHODOLOGICAL FRAMEWORK

3.1. Data

In our study, we performed our quantitative analysis on the population of emerging countries included in the GPR index (Caldara and Iacoviello, 2018). This newly developed index covers 19 emerging countries with different economic natures. Since our current study attempts to investigate the impact of geopolitical risk on bank profitability for oil dependent and non-oil dependent countries, a representation of oil dependent and non-oil dependent countries in the GPR index makes it a fit sample for our analysis. In our empirical analysis, due to data availability, we cover the period 1998-2017. Our merged dataset, consists of the GPR index obtained from Matteo Iacoviello database. Banking sector measures and macroeconomic indicators were collected from the St. Louis Federal Reserve Bank, which is amongst the 12 national reserve banks of the US Central Bank and provides reliable banking sector and macroeconomic data. Annual data on a country's oil rent has been collected from the World Bank database. Moreover, annual reports of the IMF were collected to supplement our data, further improving the reliability and validity of our study sample.

3.2. Variable Definitions and Measurement

In line with previous literature, we use country-level annual data on banking sector Return on Asset (ROA) as our measure of banking sector profitability. To capture geopolitical risk, we use the annual country average of geopolitical risk index (GPR) proposed by Caldara and Iacoviello (2018). This measure was constructed by Caldara and Iacoviello (2018) through an analysis of a series of newspapers that cover all global incidents since 1985 (i.e., plane hijackings, Iraq invasion). The use of this measure in recent literature provides enough support for the reliability of this index (Caldara and Iacoviello, 2018). The annual oil rent (OilR) was used to gauge an economy's reliance on its oil sector, with our oil rent variable representing the net contribution of oil proceeds to a country's GDP. Due to the skewness in the continuous variables and zero values encountered, we have transformed variables by using the inverse hyperbolic sine transformation. Table 1 illustrates the descriptions, measurements, and sources of all variables used in this study. In line with prior studies, we additionally control for macro-environmental and banking sector-specific variables, namely: Gross domestic product (GDP), inflation, exchange rate, non-performing loans, and bank deposits.

3.3. Methods

This paper aims to identify whether the banking sector performance is affected by GPR differently given a country's economics nature. More precisely, we aim to investigate whether the banking sector in oil dependant countriesis affected by GPR. To tackle this question, we aim to identify whether there is an oil rent threshold beyond which GPR is positively associated with banking sector performance.

The impact of geopolitical risk on the banking sector performance is examined by we employing a fixed-effects panel data regression model, with which heterogeneity is controled for[2]. This model

1 The full database can be found in: https://www.matteoiacoviello.com/gpr.htm. Accessed 01/11/2019

Table 1: Description, measurement, and sources of our data

Variable	Description	Measurement	Sources
Return on assets	Bank profitability	Commercial bank's net income of country (j) to yearly averaged total assets of the year (t)	FRED Database
Geopolitical risk index	Geopolitical risk	Geopolitical risk index for the country (j) of the year (t)	Caldara and Iacoviello (2018)
Oil rents	Contribution of oil to GDP	Contribution of oil to GDP for the country (j) of the year (t)	World Bank Data
Gross domestic product %	Economic growth	Annual (GDP) growth for the country (j) of the year (t)	FRED Database
Inflation	Inflation rate	Inflation rate of the country (j) of the year (t)	International monetary fund
exchange rate	Exchange rate	Exchange Rate of country (j) of the year (t)	FRED Database
Non-performing loan	Non-performing loan	Non-performing loan of commercial bank's for the country (j) of the year (t)	FRED Database
Bank deposits	Bank deposits	Bank deposits of commercial bank's for the country (j) of the year (t)	FRED Database

Source: Constructed by authors

controls for possible omission of country-specific traits which might result in incoherent and incorrect estimates due to endogenous problems (Farag and Mallin, 2017). To test Hypothesis 1, the following panel data econometric model will be employed:

$$\pi_{jt} = \alpha_i + \beta_1 GPR_{jt} + \sum_{K=1}^{K} \delta_k X_{jt}^k + \sum_{l=1}^{L} \theta_l X_{jt}^l + \varepsilon_{jt} \quad (1)$$

To address the potential moderating effect of oil rent as proposed by hypothesis 2, the following estimation will be performed:

$$\pi_{jt} = \alpha_i + \beta_1 GPR_{jt} + \beta_2 OilR_{jt} + \beta_3 GPR_{jt} \times OilR_{jt} + \sum_{k=1}^{K} \delta_k X_{jt}^k + \sum_{i=1}^{L} \theta_l X_{jt}^l + \varepsilon_{jt} \quad (2)$$

where:

π_{jt}=Profitability (*ROA*) of the banking sector of country *j* at the end of the year *t*.

GPR_{jt}=Geopolitical risk index (*GPR*) of country *j* at the end of the year *t*.

$OilR_{jt}$=Oil rent (*OilR*) of country *j* at the end of the year *t*.

X_{jt}^k =K control variables related to the banking industry characteristics of the banking sector of country *j* at the end of the year *t*.

X_{jt}^l =L control variables related to macroeconomic conditions of country *j* at the end of the year *t*.

For robustness checks and further validity of our empirical results, we split our sample given the oil rent threshold identified by equation (2). Then we repeat the estimation model presented in equation (1) for oil dependant and non-oil dependant economies separately.

4. EMPIRICAL RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 2 shows the mean, standard deviation, maximum, and minimum values for the variables of the current study. As a result, the banking sector return on asset (ROA) reaches a mean of (0.90), a astandard deviation value of (2.57), while the maximum value is (7.04), and a minimum value of (−29.11). The geopolitical risk index (*GPR*) mean value is (98.46). It touches a standard deviation of (24.78), and a maximum value touches (261.26), with a minimum value of (38.47). The annual mean value of economic growth (*GDP*) of the sample is (0.047), with a standard deviation reaching (0.17). The average maximum value of the economic growth rate is (0.34), while the minimum value is (−1.75). With regards to oil rent (*OilR*), it reaches a mean value of (4.56), a standard deviation value of (9.28), a maximum of approaching (54.26), and a minimum value of (0).

4.2. Estimation Framework

4.2.1. Multicollinearity problem tests

Before proceeding with testing our hypothesis, we perform Pearson's correlation to check for any potential causes of concern regarding multicollinearity. Pearson's correlation best defines the correlation for interval data. Table 3 provides the correlation coefficients matrix for all the study variables including the control variables. The multicollinearity values of these correlation coefficients exhibit relatively weak correlations amongst the variables as we noted 0.2840 as the highest value of a correlation coefficient, which reassures us that multicollinearity should not pose any concerns in our analysis. Multicollinearity problem can only be declared when the value of Pearson correlation coefficients amongst explanatory variables surpasses the upper limit of 0.80 (Gujarati and Porter, 2003).

4.2.2. Emperical estimation

In our analysis, we aim to test for our first and second hypotheses and in so doing identifying whether there is an oil rent threshold beyond which GPR is positively associated with banking performance. We run a fixed effect panel data regression. Table 4 reports the fixed effect panel data regression results.

Model 1 shows the results of the banking sector's profitability regressed on all control variables. As a result, Model 1 reports that all control variables (GDP, Inflation, exchange rate, non-performing loans, and bank deposits) are significantly associated with banking sector profitability. As seen in Model 1, the relationship between GDP and ROA and the exchange rate and ROA are positively significant at ($P < 0.01$), while the relationship between ROA and the other control variables such as inflation, non-performing loans, and bank deposits are negatively significant. These results are consistent with previous literature on the relationship of these macroe-economic variables and banking sector profitability (Al-Homaidi et al., 2019; AlSagr et al., 2018; Belkhaoui et al., 2020; Bhattarai, 2018; El-Chaarani, 2019; Zampara et al., 2017).

2 The model selection is performed according to the Hausman test that is set for assessment of fixed and random effects. The findings of the test do not show correlation between errors and repressors and refute the null hypothesis statement. This provides a rational of choosing fixed effect model against the alternative random effect model.

Table 2: Descriptive statistics

Variable	Mean	S.D.	Min	Max
Return on assets	0.9076828	2.5733	−29.1169	7.0444
Geopolitical risk index	98.46662	24.78173	38.47771	261.2572
Gross domestic product % (GDP)	0.0474331	0.1781574	−1.749547	0.3410681
Oil rents	4.563557	9.287083	0	54.26021
Inflation	8.844947	18.11994	−4.0094	254.948
Exchange rate	688.0457	2249.78	0.2648796	13795
Non-performing loan	6.748544	7.670117	0.484156	54.5413
Bank deposits	57.13817	57.38609	5.97223	353.393

Source: Constructed by authors

Table 3: Correlation matrix

S. No	Variable	1	2	3	4	5	6	7	8
1	Return on assets	1.0000							
2	Geopolitical risk index	−0.2309	1.0000						
3	Gross domestic product	0.2840	−0.1546	1.0000					
4	Oil rents	0.2174	−0.0056	0.0843	1.0000				
5	Inflation	−0.0982	0.0840	−0.2182	−0.0340	1.0000			
6	Exchange rate	−0.0973	−0.1544	−0.0100	−0.0536	−0.0100	1.0000		
7	Non-performing loan	−0.5326	0.2376	−0.2504	−0.1180	0.2280	0.0847	1.0000	
8	Bank Deposits	−0.0215	−0.0179	−0.0173	−0.2396	−0.1758	−0.1198	−0.1427	1.0000

Source: Constructed by authors

Table 4: Fixed effects panel estimation results

Variables	Dependent variable: Banking sector profitability (ROA)		
	Model (1)	Model (2)	Model (3)
Geopolitical risk index		−0.0112**	−0.0199***
		(0.0049)	(0.0061)
Oil rents		0.5899	−0.3871
		(0.3639)	(0.5469)
GPR × oil rents			0.0102***
			(0.0043)
Gross domestic product % (GDP)	0.0354***	0.0102***	0.0303***
	(0.0079)	(0.0081)	(0.0081)
Inflation	−0.0332***	−0.0321***	−0.0346***
	(0.0130)	(0.0129)	(0.0128)
Exchange rate	0.0011***	0.0011***	0.0011***
	(0.0002)	(0.0002)	(0.0002)
Non-performing loan	−0.1643***	−0.1555***	−0.1575***
	(0.0183)	(0.0184)	(0.0183)
Bank deposits	−0.0133**	−0.0115**	−0.0130**
	(0.0075)	(0.0075)	(0.0074)
R-squared	0.3801	0.3945	0.4046

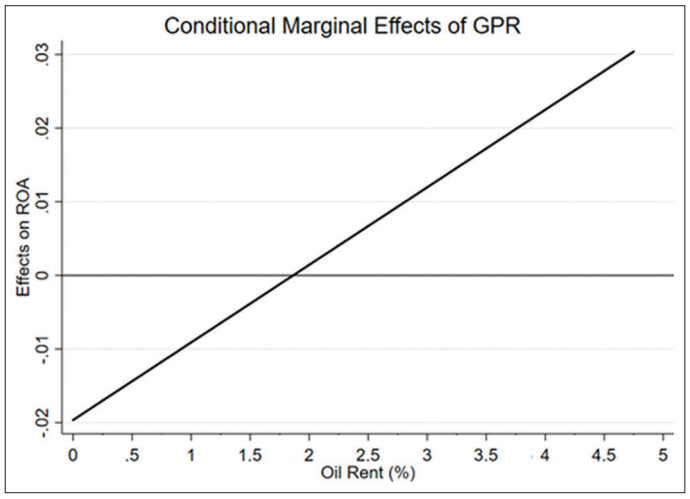
*P<0.10, **P<0.05, *** P<0.01. Source: Constructed by authors

In Model 2, we add GPR and oil rents to the control variables presented in Model 1. As proposed by hypothesis 1, we find supporting evidence that geopolitical risk is negatively impacting banking sector performance (B= −0.012, P < 0.05). This result is aligned with prior empirical findings on the negative effects of macro-level uncertainty on banking performance (Ghosh 2016; Belkhir et al., 2019; Lee and Lee 2019). Model 2 better explains a larger percentage of the variation in our dependent variable relative to Model 1 as depicted by the increase in the R-squared (increases from 38.01% to 39.45%).

In Model 3, we add an interaction term GPR × oil rents to Model 2 presented earlier. This is done to investigate the moderating role of oil rent in mitigating the adverse effects of GPR. Results show that oil rents moderate the relationship between GPR and banking sectors performance (B = 0.01, P < 0.01). The positive significant coefficient supports our argument that oil rent mitigates the adverse effect that GPR has on the banking sector performance. Given that, prior literature argued the role of natural resources "curse or blessing" in different settings implicitly on economic performance, this study shows primary evidence that oil rent as a natural resource serves as a blessing in terms of alleviating the adverse effects of geopolitical risk.

Worth mentioning is also that looking at the coefficient of the interaction term alone is not sufficient. Ai and Norton (2003) suggest the need to complement such an analysis with a plot of the marginal effects. In Figure 1, we present the marginal effects of GPR on banking sector performance given different levels of oil rent. As we can see from the plot, there is an oil rent threshold beyond which GPR is positively associated with banking sector performance. Specifically, GPR exhibits a negative association with banking sector performance for countries with oil rents below 1.86%. In contrast, for countries with higher levels of oil rents, GPR exhibits a positive relationship with banking sector

Figure 1: Marginal effects of geopolitical risk



Source: Constructed by authors

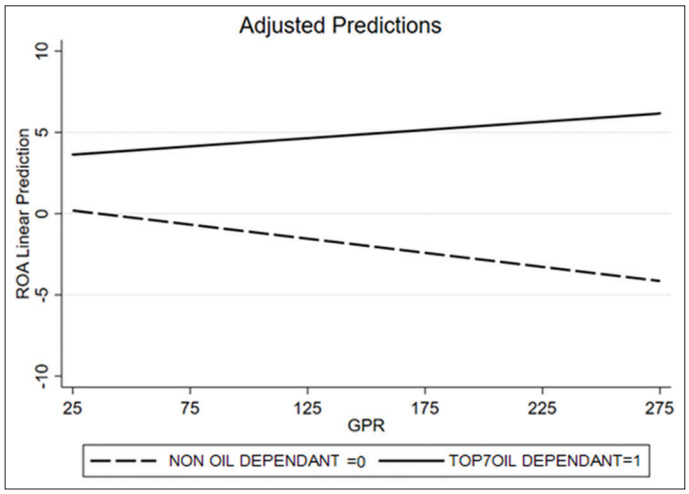
performance. Model 3 explains a higher percentage of the variation in our dependent variable as shown by the increase in the R-square value. Relevant prior studies reported rather lower *R* -square values (Al Shboul et al., 2020; Bitar et al., 2017; Effendi, 2019; Safiullah and Shamsuddin, 2018; Zins and Weill, 2017).

4.2.3. Robustness checks

After identifying the oil rent threshold in Model 3, we proceed to robustness checks to further validate our empirical results and introduce a dummy variable for countries above the specified threshold (1.86%). Oil dependant Dummy equals 1 for countries with average oil rents above the specified oil rent threshold and 0 otherwise. This is used to further test whether GPR exhibits a positive association with banking sector performance for oil dependant countries. Estimation results are presented in Table 5.

It can be noted from Model 4 that geopolitical risk (GPR) has a significantly negative impact on the banking sector's profitability (ROA) for non-oil dependant countries while exhibiting a positive association with the banking sector performance for oil dependant countries as shown by the interaction term. This is illustrated in Figure 2 below. We can observe from the plot that for non-oil dependant countries the relationship is negative as shown by the downward sloping line. In comparison, the positive association of GPR and banking performance for oil dependant countries is shown by the upward sloping line. Thus, oil rent alleviates the adverse effects of geopolitical risk on banking sector profitability for oil dependent countries. Hence, providing additional support for hypothesis 2.

Figure 2: Geopolitical risk and oil dummy interaction



Source: Constructed by authors

As a follow-up, we proceed by splitting our samples into oil and non-oil dependant countries. The distinction is made upon a holistic notion of dependency, which integrates both the straightforward participation of oil rents on total GDP, along with the observed robustness that oil rents provide to the banking sector when exposed to GPR. This rends a group of 12 countries which are identified as non-oil dependent economies, with 7 countries being included in the group of oil dependent economies. Model 5 and 6 report the results of the split sample. In Model 5 with the non oil dependent economies, we observe that geopolitical risk is negatively associated with banking sector performance ($B = -0.02$, $P < 0.01$). This is inline with prior findings and supports hypothesis 1. Contrary to prior findings, in Model 6 our analysis shows that geopolitical risk is positively associated with banking sector performance ($B = .03$, $P < 0.05$) for oil dependent economies. The remaining control factors exhibit the same relationship with banking sector performance for both oil and non-oil dependant economies. It should be noted that Model 6 reports the highest *R*-squared level, with our model being able to explain 58% of the variation in the banking sector performance for oil dependant economies.

Empirical results show that oil rent in oil dependent countries not only extenuate the negative impact of geopolitical risk on banking sector profitability but actually helps banks to generate profits. The possible reason could lay on the specific dynamics of geopolitical risk and the oil price nexus. According to a previous study, a significant increase of oil prices is likely due to a substantial and serious geopolitical risk shock (Abdel-Latif and El-Gamal, 2019).

Table 5: Fixed effects panel estimation results

Variables	Dependent variable: Banking sector profitability (ROA)		
	Model (4)	Model (5)	Model (6)
Geopolitical risk index	−0.0174***	−0.0213***	0.0315**
	(0.0055)	(0.0046)	(0.0124)
GPR × Oil dependent dummy	0.0274**		
	(0.0114)		
Gross domestic product % (GDP)	0.0333***	0.0163**	0.0475***
	(0.0079)	(0.0084)	(0.0154)
Inflation	−0.0345***	−0.0207**	−0.0461**
	(0.0128)	(0.0131)	(0.0128)
Exchange rate	0.0011***	0.0002**	0.000877***
	(0.0002)	(0.0035)	(0.0002)
Non-performing loan	−0.1615***	−0.1068***	−0.286***
	(0.0183)	(0.0182)	(0.0385)
Bank deposits	−0.0133**	−0.0064**	−0.0130**
	(0.0075)	(0.0064)	(0.0074)
R-squared	0.3801	0.2955	0.5754

*P<0.10, **P<0.05, ***P<0.01. **Source:** Constructed by authors

Moreover, oil sector's consumer preferences, investment strategies of investors and their decision making techniques are also sensitive to geopolitical risk (Noguera-Santaella, 2016). Similarly, Mei et al. (2020), used a mixed data sampling econometric regression model technique (MIDAS) developed by Ghysels et al. (2004) and Ghysels et al. (2007), for conducting a study dealing with the contextual impact of geopolitical risk index. Their study uncovered the impact of geopolitical uncertainty on future oil prices and found that GPR index worth is proven for the prediction of increase in future oil prices.

5. CONCLUSION AND POLICY IMPLICATIONS

Using an annual macro-level dataset for 19 developing economies from the period 1998-2017, the current paper investigates and compares the impact of geopolitical risk on the banking sector's profitability of oil and non-oil dependent countries. We used the return on assets as a measure of banking sector profitability and regressed it using fixed effect static and dynamic panel estimations on the geopolitical risk wheel accounting for banking sector and country macro-level control variables. The empirical findings show a significant negative impact of geopolitical risk on banking sector profitability in emerging markets, which support our first hypotheses. Furthermore, we find a significant moderation effect of oil rent in the relationship of geopolitical risk and banking sector profitability. Particularly, oil rent is weakening the negative relationship between geopolitical risk and banking sector profitability, which supports our second hypothesis. To further validate our empirical results, we split our sample and find a significant positive association between geopolitical risk and banking sector profitability in oil-dependent countries.

As for policy implications, primarily, policymakers of emerging oil dependent economies should comprehend that geopolitical risk, especially terrorism, is not easy to foresee, and a country affected by such unforeseen geopolitical shock might trigger its persistent cash flow to and from its banking system. Secondly, the potential distraction in the oil rent of oil dependent countries is expected because of such geopolitical tensions. For instance, terrorist attacks in the Saudi oil facilities triggered a significant impact on its oil revenues (i.e., oil rent) in 2019. Based on energy-related geopolitical viewpoint, the current study further recommends that legislators of oil reliant emerging countries should speed up the worldwide energy shift, improve decarbonization cycles, boost renewable energy production, and reduce their extreme oil dependence for economic development because oil related geopolitical tensions particularly have increased dramatically in recent decades. They might achieve this by investing a portion of oil generated revenues (i.e., oil rent) in nonoil renewable and sustainable energy megaprojects which may result in diversified economic dependence. Another feasible investment avenue is to launch public-private partnership (PPP) mega projects to draw massive future investments from investors of economically developed markets. Consequently, emergent economies may benefit from technological transition and possible enormous banking sector cash inflows.

Regarding the study limitations and avenues for future research. We have used macro-level indicators of banking sector performance, which is a limitation. Micro-level data could further validate our results. Modern literature has shown that Islamic banks are less exposed by macro uncertainty (Al Shboul et al., 2020; Belkhir et al., 2019). By employing micro-level data a comparison study between Islamic and conventional banks would reveal interesting results. Furthermore, we have used the whole population of the newly built geopolitical risk index for emerging economies (Caldara and Iacoviello, 2018). Expanding the sample and comparing developed to developing economies could be another outlet for future research.

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