Geopolitical Risks (GPRs) and Foreign Direct Investments: A Business Risk Approach

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Abstract

This research seeks to investigate the effect of Geopolitical Risks on Foreign Direct Investment. Data are from all sixteen countries in West Africa. This research uses the Generalized linear model to examine the effect of geopolitical risk on Foreign Direct Investment. The findings reveal that although geopolitical risk(s) have an impact on Foreign Direct Investment, however, not all the components of Geopolitical risk(s) have the same relationship with Foreign Direct investments. The implication for this is that investors need to have sufficient information on Geopolitical Risk(s) to do a risk assessment and see whether the Geopolitical Risk(s) is within their risk appetite and risk culture. This research adds to the literature of decision theory, which states that the client must have sufficient knowledge about issues and topics of interest before making a decision.

***Index terms*—** geopolitical risk. foreign direct investment. politics. geography. macroeconomics. risk management.

1 Introduction

eopolitical Risk (GPR) poses a serious concern for investors all over the world. In Nigeria, religious and political instability caused a massive loss in oil and gas industry (Inyang 2018). Investments in Africa and much of the Middle East were affected by the Arab spring for a long time 1 . "Brexit 2

2 Malmgren 2015

In June 2016 are few examples of geopolitical repercussions on investment. These incidents are indicators that maximum consideration should be given to GPR when making investment decisions. The causes of GPR are, political instability, terrorism, conflict between countries or state that can disrupt business activities and international relation (, Caldara and Iacoviello 2018), these risks are becoming significant as most important researches have identified them as essential determinants of investment decision (Carney 2016 Foreign direct investment (FDI) is an investment in a business by an investor from another country for which the foreign investor has control (10% or more voting stock) over the company purchased ??OECD, 1998). FDI is the inflow of investment by an investor into a specific country with a view of having a controlling interest in the firm. ??Jeffrey & Spaulding, 2005). Generally, FDI improves employment, productivity, and economic growth. It plays a role in development, foreign exchange, investment, and tax revenue gaps in developing countries ??Smith, 1997; ??uazi, 2007).The in flows of FDI can contribute to Africa's development efforts of employment generation and growth, having a stake in the global economy, the transfer of modern technologies, improving efficiency, and increasing the skills of local Labor ??Dupasquier & Osakwe, 2003; ??nyanwu, 2003).Because of these advantages, African countries are striving to avoid any risk that might discourage foreign direct investment.

Countries in West Africa have experienced numerous of political instabilities over the years, some countries in this region are the most corrupt in the world, their economy is not booming, natural hazard affects some of these countries, and FDI inflows to West Africa are not stable. The above mentioned are the motivations for researching on west Africa.

Generally, this paper investigates whether geopolitical risks (GPRs) have an impact on FDI taking the following research objectives into cognizance: to ascertain risks associated with geopolitics; to assess if all the components of GPR(s) affect FDI the same level. In trying to fulfill these objectives, it is necessary to look at geopolitics from a business risk approach. Business risk involves looking at a business or investment as a whole and identifying events and circumstances that may affect such business from achieving its G objectives(IIA 2009). Knowing GPR is not just about forecasting market and price instability events, but it is more helpful at scanning the business environment to help strengthen investing strategy when faced with geopolitical events. (Malmgren 2015).For this research, three risk-associated variables (geography, politics, and macroeconomics) determine GPR.

This paper contributes to the literature on the rational model of decision theory, which states that the client firstly must be aware of the problem before deciding an investment decision. This paper is among the few that measures GPR with three variables (Geography, macroeconomics, and politics), and finally, this research treats GPR as a business risk.

The organization of this paper is as follows; Section two talks of the literature review. Section three is for data and methodology. The result and discussion are in four. Finally, five talks of the conclusion and implications of the research.

3 II.

4 Literature Review a) Theoretical Framework

Risk management relies on the concept rooted from decision theory (Vaughan 1997) , which means that, the theory of decision with specific emphasis on normative and rationalistic models for decision making, connect risk management and investment . Steele and Stefánsson (2015) stated that decision theory focuses on the proof (reasoning) of an agent's choice. The normative and rationalistic model explained the ideas and logic of how decisions are made, taking into cognizance the decision maker's awareness of the issue or problem, putting forward expected outcomes, carefully creating strategies to weigh alternative means, and deciding what alternative is reasonably accepted (Simon 1960). Risks and uncertainties are the fundamental challenges facing decision-makers. Therefore, risk management attempts to tackle the unpredictability that hinders the achievement of objectives.(Commission 2004).

5 b) Conceptualization

i. Understanding Risk Appetite and Risk culture, and the Nature of Risk Management Collier and Agyei-Ampomah (2006), Stated to understand the nature of risk management, it is useful to know the risk appetite and risk culture of the organization. Risk appetite is the volume or amount of risk an organization is willing to take in pursuit of value. While the shared attitudes, values, and practices that define how an organization view risk in its daily activities is what is called the risk culture. **??**u, Roebuck et al. (2002), explained that the conditions and forces within an organization's internal environment, industry forces, and macro-environmental forces are the factors that give rise to business risk. Millichamp (2002), explained that external factors stem from outside the entity and include: change in legislation; interest rates change; change in the exchange rate; perception or attitude of the public; untested technology; natural threats (such as floods); bad-debt; judicial matters; environmental issues. He continued that any of these factors could adversely affect an organization, which in turn have an impact on its financial statement. Moeller (2007), explained that risk management is a process that starts from the identification of risks to how to respond to these risks. According to Curtis and Carey (2012), risk management involves the following stages: having an in-depth knowledge on the universe of risks that constitute to the organization's risk profile; attaching values to them(risks) using a define set of criteria including both qualitative and quantitative techniques; assessing and managing their interactions by viewing risk as a holistic approach; determining risk management priorities by comparing the level of risk against the organization's target risk levels and tolerance thresholds; and deciding on how to respond to risks.

6 ii. Geopolitics, Geopolitical Risk and Investment

In her book-,Geopolitics for Investor Malmgren (2015), explained that geopolitics is more than just foreign policy but an inclusive subject also dealing with vulnerability to events that are not in the scope of a country's control.

Earliest definition of geopolitics was about the interactions of geography with power and the role in international affairs of state (Kjellén 1911),since then the concept had included subject like international economics, and political integration (Agnew and Corbridge 1989), modern approach of the topic geopolitics concentrate on political discourse among international players stemming from all factors that determine the political and economic importance of a country's geographic location. **??**Victor, Jaffe, et al. 2006) Geopolitics is a non-quantifiable risk, but dismissing it because of its non-quantifiable nature can cause a lot of damages for investors (Malmgren 2015).As a result of this, identifying GPR is becoming an important issue for investors. When uncertainty is too high, it can cause depression in investment, i.e., firms may prefer to wait for the uncertainty to resolve. **??**

7 iii. Components of Geopolitics: Geography, Politics, and Macroeconomic

Generally, geography is the study of the World and its features. Dictionary (2006)says, "Geopolitics is the study of how geography and economics have an influence on politics and the relations between nations and a study of the influence of such factors as geography, economics, and demography on the politics and especially the foreign policy of a state." Malmgren (2015), explained that geopolitics include the effort of countries to project power beyond their territories to fulfill or achieve their national interest-,and because of this pursuit, geopolitics ties geography and politics. In a nutshell, geopolitics had always been closely tied to the act of mapping the world. Flint (2006), stated that geopolitics is part of human geography. Human geography involves understanding what makes places unique and how such places connect and interact (Knox and Marston 2001). Furthermore geographers not only study places but the features of such places, e.g., weather patterns, physical settings, etc. (Flint 2006) The causes of GPR are political instability, terrorism, a conflict between countries or states that can disrupt business activities and international relations(Malmgren 2015, Caldara and Iacoviello 2018).Political instability and violence can damage investment, reduce the productiveness of the overall market, which in turn can affect profitability or survival of investment. Therefore, foreign investors tend to worry about political risk when deciding as to what foreign markets to expand into (Baek and Qian 2011). MIGA, 2011 identified three types of political risks that discourage foreign investment: first, nationalization or expropriation of foreign assets; second, irregularities in policies and regulations in FDI-related policies; and third, war and political violence, including terrorist activities.

Geopolitics is complex subject that also includes macroeconomic variables, e.g., interest rates, inflation levels, and trade barriers all affect investment decisions. For instance, any sign of price destabilizations in the global economy usually leads to a geopolitical event (Malmgren 2015).Furthermore, improving growth rates and consistent macroeconomic policies can enhance the attraction of a particular market. (Busse and Hefeker 2007)

8 c) Foreign Direct Investment

A well-known conceptualization and theoretical framework for FDI determinants is called the "OLI" framework. The framework" involves grouping microand macro-level factors that ascertain why and where multinational companies (MNCs) invest abroad. It outlines that firms invest abroad to seek for three types of advantages: Ownership (O), Location (L), and Internalization (I) advantages. the ownership aspect allows a firm to compete with other firms in the markets they operate regardless of the disadvantages of being foreign. Location advantages are those that makes the chosen foreign country a more suitable business environment for FDI. These advantages can be in the form of labor advantages, natural resources, government regulations, transport costs, macroeconomic stability, and cultural factors. Exploiting an imperfection in external markets can be referred to as Internalization advantages. A typical scenario is the Caldara and Iacoviello (2018), constructed the geopolitics risk (GPR) index by counting the number of times leading newspapers publish articles that discuss the geopolitical events and risks They created a monthly index starting from 1985 by doing automated textsearches of the electronic archives of eleven (11) newspapers. They concluded that Geopolitical risks cause a decrease in real activity and stock returns.

Kyereboah-Coleman and Agyire-Tettey (2008) used Ghana as a case study on the volatility of the real exchange rate. The result shows that the volatility of the real exchange rate has a negative influence on FDI inflow.

Hailu (2010) did an empirical analysis of the demand-side determinants of the inflow of FDI to African nations- . The result shows that natural resources, labor quality, trade openness, market accession, and infrastructure condition positively and significantly affect FDI inflows.

Soumyananda (2010) investigated the factors that determine FDI in Nigeria. By using the cointegration technique, the result concludes that natural resources, trade intensity, macroeconomic risk factors like inflation, and exchange rates are significant determinants of FDI flow to Nigeria.

Obida & Abu (2010) investigated the determinants of FDI in Nigeria by employing the error correction technique to analyze the relationship between market size, deregulation, political instability, exchange rate depreciation and foreign direct investment. The results reveal that the market size of the host country, deregulation, political instability, and exchange rate depreciation are the main determinants of foreign direct investment in Nigeria.

9 a) Sample and Variables

This study used a total of sixteen countries spanning from the year 2011 to 2017 to show the link between GPR and FDI. The data focuses on countries in West Africa. West African countries use in this research are Benin, Burkina Faso, Cape Verde, The Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Mauritania, the Niger, Nigeria, Senegal, Sierra Leone, and Togo.

This study uses four variables. One dependent variable is Foreign Direct Investment (FDI), and the other three independent variables are Geographical Risk (GR), Political risk (PR), and Macroeconomic Risk (MR).

10 Independent Variables Dependent Variable b) Research Model

This research uses the General least square model to effectively overcome the weaknesses of ordinary least squares to guarantee that there is an efficiency of the model parameters, unbiased standard errors, valid t statistics, and p-values, and to account for the presence of autocorrelation. Generalized Least Squares (GLS) omits the problem of heteroskedastic or auto-correlation observation. The simple form of the model is;Y = X? + ? c) Data

The Institute for Environment and Human Security. United Nations University 3 , provides Information on geographical risks. Every year (since 2011),the institution has provided a world risk index in its publication titled World Risk Report. The World Risk Index indicates the probability that a country or region will be affected by a disaster. The five components of the world risk index are exposure to natural hazards such as earthquakes, storms, floods, droughts, and sea-level rise; vulnerability of people and society to natural disaster; susceptibility, i.e., the extent societies able to cope with severe and immediate disasters; coping capacities as a function of governance disaster preparedness and early warning, medical services, social and economic security; and adaptive capacities to future natural events and climate change.

Information on political risks are from the world governance indictor provided by World Bank. 4 IV.

11 Result and Discussion

The Worldwide Governance Indicators consist of six broad dimensions of governance: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.

Information on Macroeconomics risks is from the World Bank and the international monetary fund (IMF). Information from the work bank includes; Foreign direct investment inflows, inflation, Merchandised trade, and employment. Exchange rate data is from the International Monetary Fund exchange rate archives. See table **??** for the definition of variables and measurement. a) General least Square Regression result 4 For world Governance indicator, this study uses the percentile rank. The Percentile rank among all countries (ranges from 0 (lowest) to 100 (highest) rank). This means, the lower the percentile ranks, the higher the risk and the higher the percentile rank the lower the risk.

12 GEOPOLITICAL RISK

? GEOGRAPHICAL RISK

13 Data and Methodology

The Ordinary least square (OLS) was first used as the research model, however, the observations show Heteroskedasticity and Correlation. Therefore, the research model had to change from that of the ordinary least square to the General least square(GLS)-.The Generalized Least Squares (GLS) is a technique for estimating the unknown parameters in a linear regression model when there is some amount of correlation (Alexander Aitken 1934)

By using the GLS model, all variables of Geopolitics have a significant impact on Foreign Direct investment.

Exposures to natural hazards and Susceptibility risk have a significant impact of 0.039 and 0.008 on FDI, respectively. Exposure index has a negative relationship with FDI, which means: when the risk of exposure to the natural hazards is high, then the foreign direct investment will decrease. However, this is not the case of susceptibility risk: which is the likelihood of suffering harm in the event of a natural hazard process. The result shows that susceptibility risk has a positive effect on FDI, meaning when susceptibility risk increases, FDI also increases. An interpretation of this can be that in the case where a natural disaster causes suffering, investor sees it as a business opportunity.

Macro-economic variables; Merchandised trade, employment, exchange rate, inflation have a significant impact on FD1, respectively. Merchandised trade (trade) has an effect of 0.021 on FDI, and also a positive relationship with FDI. This means when trade openness for good increases, FDI also increases.

Employment (emp) has a significant impact of 0.001 on FDI, but with a negative relationship. Meaning, when a country's employment-population increases, then FDI decreases. Exchange Rate (exl) has a significant impact of 0.025 on FDI with a negative relationship on FDI. Finally, Inflation-GDP deflator (inf) has an impact of 0.065 on FDI with a positive relationship. Take a scenario where higher inflations mean the value of a local currency is deflating, this will lead to more investment is the foreign currency (US dollars) as it is considered stronger.

Political indicators like Voice and Accountability (VAA), Political Stability and Absence of Violence (PSNV), Government Effectiveness (GoE), Regulation Quality (Reg Q), and Control of Corruption (COC) respectively have a significant effect on FDI.VAA has a significant impact of 0.019, with a negative relationship with FDI. Both PSNV and GoE have a significant effect of 0.024 and 0.033 respectively. Also, both have a positive relationship with FDI. Meaning when there are political stability and non-violence, then FDI will increase, and where there is Government Effectiveness, FDI will also increase. COC also has a significant effect of 0.084 on FDI with a positive relationship; means in the case of less corruption, FD Iincrease. Finally, strict regulations tend to cause a decline in FDI. It (Reg Q) has a significant impact on FDI. V.

14 Conclusion and Implications

GPR(s) in West Africa are an important determinant for foreign investment since it has a significant impact on the flow of foreign direct investment in West Africa. However, not all components of GPR affect the inflows of foreign direct investment in the same way.

15 The implications of these findings are in two folds

Firstly foreign investors must-have information on GPR before making an investment decisions because such risks have the potential to affect business operation.Foreign investors also need to know how GPRs affect different regions by so doing they can assess whether GPR(s) fits within their risk appetite and risk-culture.This also means, foreign firms need to have a department or consultant for the identification and assessment of GPR(s)

Secondly, government or country governancesystem needs to take into cognizance the GPR(s) that can cause a reduction in the flow of FDI.components such as natural disasters,exchange rate regulation quality have a negative relationship with FDI,therefore the government needs to adjust or improve such issues or create policies that can address them [1] [2]

Figure 1:

The World Risk index has five components of risk with the following scale;
Susceptibility: 9.61-16.55 very low risk, 16.56-22.06 low risk, 22.07-31.87 medium risk,31.98-48.06 high risk,48.07-67.63 very high risk.
Lack of adaptive capacities risk: 27.45-36.39 very low risk, 36.40-44.70 low risk, 44.71-49.40 medium risk, 49.41-57.27 high risk, 57.28-74.26 very high.
Lack of coping capacities risk:35.75-55.45 very low,55.46-68.89 low risk,68

Figure 2: 3

.1 Appendix

.2 VARIABLE

Proxy/measurement Definitions

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