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Capital Budgeting of Multinational Corporations in Politically Risky Environments: Evidence from the Ivory Coast

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This is to certify that the doctoral dissertation by

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Abstract

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MS, Strayer University, 2003

MBA, Southeastern University, 2000

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

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Abstract

Recent studies on capital budgeting trends showed that multinational corporations (MNCs) have been refraining from investing in politically risky environments such as the Ivory Coast. Furthermore, a review of the literature revealed that political risk has not been accurately measured for capital budgeting decision making. Instead, it has been inflated upwards in the discount rate and used to estimate cash flows. Such a method of estimating political risk is flawed. The purpose of this quantitative survey-questionnaire study was to examine the moderating effect of political risk, through the discount rate and cash flows on the net present value (NPV) of MNCs investments in economies with high political risk. The capital asset pricing and capital budgeting models were used in this research. The research questions addressed the moderating effect of political risk on the discount rate controlling for cash flows on the NPV for decision-making of long-term investments. The research design was an ex-post facto design. To answer the research questions, two sets of data were collected: survey questionnaire data from 22 chief finance officers (CFOs) through a SurveyMonkey online platform on the 12 political risk constructs, and historical rate of return data of the overall market on nine publicly traded MNCs, size of the sampled MNCs, and cash flow data from December 2005 to December 2015. The results in this research revealed a positive moderation effect of political risk on the expected rate of return controlling for cash flows on the NPV of publicly traded MNCs. These findings could improve dividends paid to MNCs, capital gains paid to investors, and total spending in the economy, leading to more economic activity and positive social change.

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Dedication

To El Hadj Dalla Kamagate...

... my late father who believed that being a Muslim girl in a small conservative Islamic dominated African town should not preclude me from fulfilling my full academic potential through education and that the sky should be my limit.

To MassaOud Abdel Aziz A. Kamagate...

... my brother who believes in me and who's unconditional support grounded me through the journey.

To Ouda Kamagate...

... my sister whose trust and words of encouragements kept me going in the darkest moments of the journey.

To Sandiyah Mannah...

... my daughter who never missed an opportunity to ask: "Mum, are you finished yet? You said we were going to travel as soon as you complete the program, and you will make me discover places..."

To Madina and Mariame Kamagate...

... my sisters who tirelessly reminded me that they were proud of my undertaking.

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Finally, I am forever grateful to everyone who contributed in some way to the successful completion of this undertaking and whose names I did not mention, specifically John M. Mannah, for his advice, words of encouragement, and support all the way throughout this epic journey.

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Chapter 1: Introduction to the Study

The aim of this study was to examine multinational corporations' capital budgeting decision making in politically risky environments, as evidenced in the Ivory Coast. In this study, I examined the moderating effect of political risk on the discount rate and cash flows and their impact on the net present value (NPV) of multinational projects or investments in the Ivory Coast. Political risk as currently used in the capital budgeting models is subjectively measured and added to the discount rate of multinational firms to estimate their cash flows for decision making. The inquiry was original as I investigated the moderating effect of political risk on the discount rate and cash flows of multinational investments. The variables of interest, discount rate, and cash flows have been assessed and captured more accurately and factored into the investment valuation process to determine the NPV of the investment. This approach has not been suggested before in the literature.

This study could help multinational firms that invest in environments with irreversible investments in the presence of persistent macro and micro political risks better measure and manage such risks and encourage them to increase their foreign direct investments (FDIs). In the aggregate, these investments may bring in the needed capital investments that will contribute to more economic activities and development. This may contribute to improving the social welfare of host communities and may also reduce the poverty level in the country, leading to positive social change.

In Chapter 1 of this study, I provide a background of the study by elaborating on the lack of or low flow of FDIs because of the pervasive effect of political risk. I expand

on the failure of multinational corporations to utilize appropriate capital budgeting instruments and methods to assess, price, and manage political risk in a developing country such as the Ivory Coast. I further discuss the significance of the study to the various stakeholders: the multinational firms, consultants, and international finance practitioners that may use the study. The introduction continues with the contribution of the study to the international capital budgeting literature and to local stakeholders.

Specifically, I provide a short chronology of the study, followed by a problem statement, purpose of the study, research questions, hypotheses, theoretical framework, and nature of the study. I then address some operational definitions, assumptions, scope, limitations, and delimitations as well as discussion of the significance of the research with implications for positive social change.

Background of the Study

Multinational corporations are confronted with challenges such as political risks when they engage in long-term capital investments overseas. Political risks are due to events or actions of host governments that have a negative impact on the foreign investments of multinational corporations. Such risks have been particularly pervasive in developing countries, especially in the Ivory Coast. Political risks range from the outbreak of pandemic diseases such as Ebola and Covid-19 to fall in commodity prices, regional conflicts, civil wars, civilian uprisings, corruption, change in government policies, and sudden increase in taxes, known as creeping expropriation. Brewer (1981), Fitzpatrick (1983), Giambona et al. (2016), and Kobrin (1978), were the first researchers to identify the problem of political risk in the international finance literature through their

respective seminal papers. The authors explained that political risk was due to the interference of host governments in business operations, most notably operations of multinational firms in their localities. The expropriation of American businesses in Cuba in 1958 and in Iran, after the revolution in 1979, are some examples. More recently, Adegboye and Okorie (2023), and Koko et al. (2016), postulated that FDI flows to the West African subregion dropped by 1.87% and 10% respectively in part because of a drop in the prices of commodities, the outbreak of Ebola disease, and conflicts in the region.

Additionally, Adegboye et al. (2023) rationalized that even though it is assumed that investments flow from countries with low returns to those with high returns, this is not the case on the African continent. Because, despite the high returns on the African continent, with an average of 11% compared to 9.1% for Asia, 8.9% for Latin America and the Caribbean, and 7.1% for the global average, investments are still not flowing to the African continent. Adegboye et al. postulated that foreign direct investments (FDIs) to the Sub-Saharan African continent has dropped in recent years to 1.87% of global net FDI received between 2010-2016 when compared to East-Asia's and the Pacific, Europe and North Africa, and the Caribbean's 26.45%, 30.34%, and 17.33% respectively. Furthermore, regulations and restrictions put in place by developed economies due to the incidence of the Covid-19 pandemic have also led to the reduction of financial flows and investments into Sub-Saharan Africa, the Ivory Coast not being an exception (United Nations Conference on Trade and Development [UNCTAD], 2022).

Therefore, multinational corporations refrain from investing in politically risky environments such as the Ivory Coast (Brink, 2017; UNCTAD, 2020, 2022). The Marsh Report (2018) suggested that preparations for elections have been challenging, especially when they led to mutinies in the army, increased political risk, and uncertainty in the country. As a result of this rise in political risk and the uncertainty it is creating, the flow of FDIs to Sub-Saharan Africa is decreasing relative to flows to other parts of the world Adegboye et al. (2023), Koko et al. (2016), and UNCTAD (2020, 2022), rationalized that the global flow of FDI in 2014 was $1.2 trillion, and only $54 billion went to Sub-Saharan Africa; a paltry $47 million went to the Ivory Coast, while the rest went to Asia, Europe, North America, and South America.

However, the story of the Ivory Coast being marginalized in FDI flows has changed dramatically since the war ended and the election of a constitutionally elected government in 2010. The UNCTAD World Investment Report (2022) stated that upon resumption of civic life after the war years, elections were organized, and serious reforms were introduced. A new constitution was introduced, leading to the promulgation of a new senate. In the business area, e-governance has been introduced to administer and provide services across the board in the public sector. These reforms, according to UNCTAD (2022), have led to an improvement in the business climate in the country, and FDI flows have increased tremendously from the paltry sum of $47 million dollars in 2016 to $713 million in 2020, and $1.36 billion in 2021. The total stock of FDI flows into the Ivory Coast in 2021 was $12.8 billion (UNCTAD World Investment Report, 2022). This development in increased FDI flows has positioned the Ivory Coast as a leading

recipient of FDI flows, and the country with the strongest economy in the economic community of West African states (ECOWAS). The Ivory Coast has become a favorable destination for FDIs, even though more needs to be done on political risk, especially in the areas of governance, law enforcement, corruption, and land tenure reforms.

Among the reasons why political risk continues to have such an adverse impact on investment flows to Sub-Saharan African countries such as the Ivory Coast is that political risk is not being measured scientifically to give a precise estimate of its cost on multinational businesses for planning and investment purposes. Instead, it is measured in an ad-hoc or arbitrary manner and is incorporated into capital budgeting models to adjust discount rates and discount cash flows to make investment decisions. This results in an incorrect estimation of discount rate or cost of capital, inaccurate projected cash flows, and uncertainty in the business environment, leading to wrong NPV investment decisions, lost opportunity, lost profitability, and reduction in the value of the firm.

Previous research by Bekaert et al. (2016), the seminal papers by Graham and Harvey (2001), Holmén and Pramborg (2009), and a recent paper by Shimbar and Ebrahimi (2020), have all shown that analysis and evaluation of capital budgeting methods and trends for the past few years have revealed that in countries where political risk persists, finance managers and research practitioners who model political risk, use different methods to model it. Holmén and Pramborg assumed political risk to be a microeconomic or unsystematic risk that can be mitigated or eliminated in a well-diversified portfolio. Sharpe (1964) agreed with that assertion as well. Bekaert et al. argued that finance managers and research practitioners use a theoretically flawed

method to estimate political risk by using countries sovereign spread (a proxy of political risk) and then arbitrarily inflate the project's discount rate by this spread to estimate a project's NPV.

Shimbar and Ebrahimi (2020) use the risk-adjusted discount rate (RADR) method to measure political risk when analyzing renewable energy investments in developing countries. However, RADR assumes the use of ad hoc and heuristic capital budgeting methods to evaluate investments, leading to an erroneous estimation of the real value of renewable energy (RE) projects.

The research paper by Bakri et al. (2022) discussed the incorporation of risks in capital projects in Lebanese firms by evaluating the impact of political risk on capital budgeting decisions. Bakri et al. (2022), realizing the pervasiveness of political risk in the Lebanese business environment due to 50 years of continuous war in the region, decided to investigate the most used capital budgeting method by businesses.

Bakri et al. (2022) argued that finance managers and research practitioners in Lebanon use the payback period capital budgeting method to estimate project costs 85% of the time. More importantly, respondents to the questionnaire sent out said that food companies use the payback period method 93.8%, and construction companies use it 89.3% to plan projects. Intuitively, even though the payback period is not a scientific method with inherent disadvantages, it is still used more frequently to plan projects when compared to the net present value method that is more scientific with numerous advantages to plan projects. The findings of the research by Bakri et al. lend support to the research findings of Holmén and Pramborg (2009) which stated that business

managers doing business in countries with pervasive political risks prefer to use the payback period technique that is more pragmatic to model political risk rather than use the more robust and scientific NPV method. The thinking of research practitioners according to Holmén and Pramborg is that the NPV method is inadequate to correctly capture political risk.

As the examples above show, the methods used by the international finance literature to capture political risk for incorporation into the various capital budgeting models for decision making are conceptually and methodologically flawed because the appropriate magnitude of political risk is not being captured. This is to say that there is a lack of consistent methodological framework developed in the capital budgeting literature to measure political risk by multinational firms' managers and research practitioners. Most of the methods used to estimate cash flows and make capital budgeting decisions are subjective, arbitrary, and erroneous. This situation leads to poor cash flow estimation, inaccurate cost of capital, and wrong capital budgeting decisions for long-term investments.

This is the gap in the literature of international capital budgeting that I addressed in this study, by moving away from using arbitrary measurement of political risk. Instead, I used quantitative research methodology to measure political risk and establish its moderating influence on the interaction between the discount rate, cash flows, and NPV of FDIs in the Ivory Coast. This inquiry is original because I aimed to investigate the moderating effect of political risk on the relationship between the discount rate, cash flows, and NPV of FDIs in the Ivory Coast. This could help multinational firms that

invest in environments with irreversible investments in the presence of persistent macro and micro political risks better measure and manage such risks and encourage them to increase their FDIs.

Problem Statement

Over the past decades, the trends in the flow of FDIs have been towards an increase in such flows globally, with slight decline from $1.47 trillion in 2013 to $1.2 trillion in 2014 (UNCTAD, 2015). The trend is different in developing countries such as Sub-Saharan Africa, where despite the economic and structural reforms by policy makers and other stakeholders to attract FDIs, the flow has been decreasing. Only $54 billion and $47 million went to Sub-Saharan Africa and the Ivory Coast respectively in 2015. Adding to the argument was the research by Adegboye et al. (2023) stating that the global flow of FDIs in 2010-2016 was $1.2 trillion. Of this amount, only 1.87% went to Sub-Saharan Africa, 26.5% went to East-Asia's, the Pacific, Europe, and North Africa got 34.34% and the Caribbean's received 17.33% and a paltry $47 million went to the Ivory Coast.

According to UNCTAD (2022), FDI flows into the Ivory Coast has relatively increased to $1.36 billion in 2021, from $713 million in 2020, even though the large majority of FDIs still went to Asia, Europe, North and South America due to political risk, as expressed by a 10% drop in asset prices in some African countries (Asiedu, 2002; Baek & Qian, 2011; Koko et al., 2016; Pacific et al., 2015; Solomon & Ruiz, 2012; UNCTAD, 2022).

The gap in the literature is that although a body of research has revealed that some improvements have been made over the years in modeling economic and financial risk in

capital budgeting evaluations, political risk has not been modeled (Adegboye et al. 2023; Bakri et al., 2022; Bekaert et al., 2016; Eiteman et al., 2020; Shimbar & Ebrahimi, 2020).

This has been highlighted by capital budgeting trends in the past few years, which have shown that multinational firms have difficulty determining their cost of capital or investments in business environments with pervasive political risks (Bekaert et al., 2016; Feils & Sabac, 2000; Holmén & Pramborg, 2009).

The general problem is that multinational corporations are refraining from investing in politically risky environments, specifically in a developing country such as the Ivory Coast where they have a challenge to determine their cost of capital (Adegboye et al., 2023; Bakri et al., 2022; Bekaert et al., 2016; Koko et al., 2016; Shimbar & Ebrahimi, 2020).

The specific problem is that political risk is not measured in capital budgeting models. This is because the moderating effect of political risk through the discount rate and cash flows on projects or investments' NPV have not been considered in the models (Adegboye et al., 2023; Bekaert et al., 2016; Eiteman et al., 2004; Shimbar & Ebrahimi, 2020). The discount rate is inflated upward in the net present value model to capture political risk and estimate cash flows (Adegboye et al., 2023; Bakri et al., 2022; Bekaert et al., 2016; Feils & Sabac, 2000; Shimbar & Ebrahimi, 2020).

The discount rate has been inflated upward in the NPV model to capture political risk and estimate cash flows (Bekaert et al., 2016; Feils & Sabac, 2000; Holmén & Pramborg, 2009).

Purpose of the Study

The purpose of this quantitative research was to examine the moderating effect of political risk through the discount rate, controlling for cash flows, on NPV of projects or investments for capital budgeting decisions in a developing country such as the Ivory Coast.

To address the flaw in measurement, I used Graham and Harvey's (2001) survey-questionnaire to measure political risk by applying principal component analysis (PCA) methodology to a 5-point Likert scale survey. Because political risk is a moderating variable that passes through the discount rate or cost of capital, the capital asset pricing model (CAPM) developed by Sharpe (1964), an extension that is the multifactor model by Fama and French (1992), was used to conceptualize this problem, and the research was examined through two regressions. The first regression was the multifactor regression of Fama-French, and the independent variable was the market rate of return of the multinational firms, proxied by the West African Regional Stock Market Index (BRVM-Composite), the control variable was multinational companies' size, and the moderating independent variable was political risk proxied by corruption. The continuous dependent variable was represented by the expected rate of return on individual equity of the multinational company.

The second regression was the NPV regression and included the independent and dependent variables. The independent variables were the discount rate of the multinational firms when controlled for cash flows. Political risk was the moderating independent variable proxied by corruption. NPV was the dependent variable. I used an

ex-post facto design to collect a time series of cross-sectional data (panel data) on the realized rate of return of the equity of the multinational firms in my sample. The historical data of publicly traded multinational firms covered a 10-year period, 2005 to 2015. I analyzed the data using pooled panel data multiple regression or time series of cross-section analysis. This led me to develop two research questions.

Research Questions and Hypotheses

Research question (RQ)1: To what extent does political risk have a moderating effect on the relationship between the expected return of multinational companies' equity and the expected rate of return of the whole market when controlling for the multinational firms' size in a developing country such as the Ivory Coast?

RQ2: To what extent does political risk have a moderating effect on the relationship between the discount rate and NPV of the multinational firm when controlling for the project's cash flows in a developing country such as the Ivory Coast?

These RQs informed the following hypotheses:

$H_0$1: Political risk does not have a moderating effect on the relationship between the expected rate of return of multinational firms' equity and the expected rate of return of the whole market when controlling for multinational firms' size in a developing country such as the Ivory Coast.

H_a1: Political risk has a moderating effect on the relationship between the expected rate of return of multinational firms' equity and the expected rate of return of the whole market when controlling for multinational firms' size in a developing country such as the Ivory Coast.

$H_0$2: Political risk does not have a moderating effect on the relationship between the discount rate and NPV of the multinational firm when controlling for the projects' cash flows in a developing country such as the Ivory Coast.

H_a2: Political risk has a moderating effect on the relationship between the discount rate and NPV of the multinational firm when controlling for the projects cash flows in a developing country such as the Ivory Coast.

The two sets of hypotheses above, namely *H*1 and *H*2, were tested by running the multiple regression models (1) and (2) below that show the interaction between the independent variables of the multifactor model, namely, the market rate of return of the overall stock market, controlling for company size, political risk, the product of political risk. The rate of return of the multinational firm's equity represents the dependent variable in Equation 1. I tested *H*2 by using a multiple regression model with independent variables, namely, rate of return of the multinational firm, political risk, product of political risk and cash flows while controlling for cash flows. The net present value of the multinational firm represents the dependent variable.

$$RR_{it} = \beta_0 + \beta_1 MKT_t + \beta_2 S_{it} + \beta_3 PRi_t + \beta_4 (PR_{it} * MKT_t) + \varepsilon_{it} \qquad (1)$$

Where:

RR_{it} = Rate of return on multinational company i's stock in period t.

MKT_t = Rate of return on the overall stock market during period t.

S_{it} = Company's i size of the multinational firm during period t.

PR_{it} = Political risk in the host country i during period t.

(PR_{it} *MKT_t) = Product of political risk and rate of return of the overall market during year t.

β_0 = Intercept point of the rate of return of the multinational firm for the independent variables.

β_1 = Slope of the rate of return of the overall stock market in period t.

β_2 = Slope of the company's size i of the multinational firm in period t.

β_3 = Slope of political risk and market return in period t.

β_4 = Slop of product of political risk and the market return in period t.

ε_{it} = Regression residual

$$NPV = \beta_0 + \beta_1 CF_{it} + \beta_2 RR_{it} + \beta_3 PR_{it} + \beta_4 (CF_{it} * PR_{it}) + \varepsilon_{it} \quad (2)$$

Where:

NPV_{it} = The net present value of the multinational firm of company i during period t.

CF_{it} = Cash flows of the multinational investment of company i during period t.

RR_{it} = Rate of return of the multinational firm of company i during period t.

PR_{it} = Political risk in the host country Ivory Coast of company i during period t.

(PR_{it} * CF_{it}) = Product of political risk and cash flows of company i During period t.

β_0 = Intercept of the net present value of the multinational firm for the independent variables

β_1 = Slope of cash flow of the multinational firm i in period t.

β_2 = Intercept of the rate of return of the multinational firm for the

β_3= Slope of political risk of the multinational firm i in period t.

β_4= Slop of product of political risk, cash flows of multinational firm i during period t.

and ε_{it} = regression residual of company i in period t.

The NPV for the multinational firm was calculated by incorporating the moderating political risk and cash flow variables derived from Equations 1 and 2 as indicated in Equation 3

$$NPV = \Sigma(CF_{it}) / (1 + r_{it})^t \quad (3)$$

Regression 1 above was analyzed using panel data or repeated measures for the stock prices data of multinational firms. However, due to difficulties in collecting financial statements, cash flow, and political risk data, I did not use repeated measures or panel data to analyze them. I instead used cross-sectional analysis as a pooled ordinary least square (OLS) regression. This is one of the limitations of the study discussed in Chapters 1, 4 and 5. Panel data used to analyze stock price data is discussed in Chapter 3.

The three independent variables used in this study were measured as follows:

Political risk was measured by collecting data using survey-questionnaires of political risk variables. During the literature search phase, I found several studies that identified political risk constructs whose descriptions were suitable to use and test as political risk variables or constructs in my study.

Political risks are due to events or actions of host governments that have a negative impact on the foreign investments of multinational corporations. Such risks have

been particularly pervasive in developing countries, especially in the Ivory Coast. Brewer (1981), Fitzpatrick (1983), and Kobrin (1978), were the first researchers to identify the problem of political risk in the international finance literature due to the interference of host governments in business operations, most notably the operation of multinational firms in their localities.

Multinational corporations are refraining from investing in politically risky environments such as the Ivory Coast (Brink, 2017; UNCTAD, 2015, 2020, 2022). Preparations for the replacement of the incumbent president of the Ivory Coast by the prospective candidate for the 2010 elections as well as the incidence of several army mutinies has increased political risk and uncertainty in the country (The Marsh Report, 2018). Electoral uncertainty was used as a political risk construct and tested in my survey instrument.

Omondi and Pretorius (2022) defined political risk as the type of risk that has negative impacts on projects, investments, and contracts in general arising from political change or instability. This sentiment is supported by the research of Yang et al. (2022) which states that the dramatic change in the global political landscape in recent years has led to setbacks in investments in renewable energy to help reduce dependence on fossil foils leading to global warming and climate change. Yang et al. postulated that because fossil fuel use is causing environmental pollution, more countries are turning to using green innovative technologies to reduce their carbon footprints and sustain economic development. However, green innovative technologies are expensive and are attracted to stable low risk environments, and eschew environments that are unstable, conflict ridden,

leading to economic stagnation and increase in resource prices. A case in point according to Yang et al. is the local war between Russia and Ukraine that has created economic instability around the world with oil, gas, and food prices, that are not only affecting investments in developed countries, but developing countries in sub-Saharan Africa, such as the Ivory Coast.

Sissani and Belkacem (2014) defined political risk as country risk as it occurred in Algeria. To the authors, political risk in Algeria are events such as the Arab spring or civil unrest, expropriation of assets, and terrorism, amongst others. Similarly, several articles have defined political risk as internal conflicts, risk of war, or social unrest (Giambona et al., 2017; Kobrin, 1978; Sissani & Belkacem, 2014; Solomon & Ruiz, 2012; Sottilotta, 2013). I found internal conflicts due to political instability, risk of wars, and social unrest to be events that may erupt any time in the Ivory Coast, given the recent political climate that has culminated in civil crisis in the Ivory Coast. Internal conflicts due to political instability, risk of war, and social unrest were thus selected as political risk constructs.

Past considerations of political risk mainly focused on such events as repeated and unexpected government changes or governments instability in developing countries, shifts in government policies, economic instability, and nationalization (Brewer,1981; Fitzpatrick, 1983). However, the characterization of political risk has changed, and it has evolved into new features. In this vein, events such as nationalization and expropriation of assets are now substituted with elements such as restrictions on repatriations of assets and other forms of protectionism or capital controls, monopoly of the business

environment by French conglomerates, and the domination of French capitalist networks (Eiteman et al., 2004; The Marsh Report, 2018; Pickett, 2017). Restrictions on repatriations of assets, restrictions of entry of other multinational businesses and other forms of protectionism, capital controls, and corruption were used as political risk constructs.

FDIs are low in Sub-Saharan Africa, particularly in Nigeria, due to political risk (Koko et al., 2017; Thade & Karpady, 2023). The authors postulated that among the elements that constitute political risk in Nigeria are endemic corruption, terrorism, and kidnaping. Additionally, lack of infrastructure appears on the political risk landscape with poor macroeconomic, and social environment for investment (Koko et al., 2016; Shimbar & Ebrahimi 2020; Yang et al., 2022). Among these elements, corruption may be a source of political risk in the Ivory Coast. Thade and Karpaty, (2023) argued that corruption is a huge impediment to entry of multinational enterprises into developing countries such as the Ivory Coast. This item was used as political risk construct.

Political risks also range from the outbreak of pandemic diseases such as Ebola, COVID-19, to falls in commodity prices, changes in government policies, land ownership problems or disputes, and excessive taxation or sudden change in tax policy, known as creeping expropriation (Fitzpatrick, 1983; Koko et al., 2016; Thade & Karpaty, 2023). These events are more likely to exist in the business environment in the Ivory Coast and impact the business culture. Hence, outbreak of pandemic diseases such as Ebola and COVID-19, drop in commodity prices, land ownership problems or disputes, and excessive taxation or sudden change in tax policy were used as political risk constructs as

well. Cash flow data were collected from cash flow statements of multinational firms investing in Ivory Coast. Cost of capital or discount rate was measured by using the multifactor CAPM.

Theoretical Foundation

In this study, I used capital budgeting theories and models such as NPV and internal rate of return (IRR) as well as the theory of CAPM developed by Sharpe (1964). According to Berk and DeMarzo (2020) and Eun and Resnick (2021), capital budgeting models and theories such as CAPM provide the tools to accommodate and explain the role political risk plays in capital budgeting. The one factor CAPM was used as a theory to conceptualize the discount rate of the project, and an extension of the one-factor model, the three-factor CAPM developed by Fama and French (1992), was used to conceptualize the moderating effect of political risk and its impact on capital budgeting projects in the Ivory Coast. These theories are expanded on in Chapter 2 of this study.

Nature of the Study

This study was quantitative in nature, and I examined whether political risk had a moderating effect on the NPV of a multinational firm's decision-making process through the discount rate, controlling for cash flows (see Bekaert et al., 2016; Eiteman et al., 2023). To make sense of how a viable research problem on political risk is revealed, an online survey-questionnaire was submitted to chief finance officers (CFOs) of multinational firms operating in the Ivory Coast. Historical data were also collected from the financial statements of multinational firms investing in the Ivory Coast. The design

survey instrument has a positivist epistemological objectivist ontological orientation and deductive theoretical thinking, as postulated by Bryman (2001).

Definitions

Capital assets pricing model (CAPM): CAPM prices the expected returns investors receive for investing in an equity based on the risk-free rate and the beta risk of the stock.

Capital budgeting: Capital budgeting is referred to as long-term or capital investments that last more than a year. It helps finance managers and research practitioners analyze and evaluate investment opportunities and decide which ones to accept or reject.

Cash flows: Represent the net intake of cash that a business enterprise collects and spends at a given period. Companies aim to maintain positive net cash flows at a given period.

Company size: Company size is conceptualized by market capitalization. It is calculated by multiplying the number of outstanding common shares of a company by the market price per share of the company.

Cost of capital: The cost an investor incurs in an equity investment.

Discount rate or factor: The interest rate used to discount a stream of cash flows at given point in time.

Equity market: A secondary market where investors buy and sell the stocks of listed companies. The equity market is critical for raising funds for investment by companies.

Expected rate of return: Expected rate of return measures the return or payments to investors more than the initial investment for investing in risky assets.

Foreign direct investment: When a local company makes investments into another country to gain management control interest with 10 or more percent ownership of the business.

Foreign-owned companies: The Organization for Economic Development, International Monetary Fund (IMF), UNCTAD, and U.S. Department of Commerce, among others, identify a company as foreign-owned if at least 10% of its equity is held by a nonnational investor (OECD, 2020).

International financial market: International financial markets are financial markets that sell stocks, bonds, derivatives, and other financial products sold to individuals and institutions.

Macroeconomic risk: Economic and financial risk that affects the overall market.

Market capitalization: The total market value of the company's outstanding stock. It is calculated by multiplying the company's outstanding shares by its current market unit share price.

Microeconomic risk: Risks that affect individual units, namely, individual firms and industries within an economy.

Multifactor CAPM: An asset pricing model that determines the expected rate of return of a stock based on the traditional systematic risk and two additional risk factors, company size and book to market risk factors.

Political risk: A risk that hinders the smooth running of a business leading to loss of cash flow and profitability, due to adverse political development in a country.

Realized rate of return: The rate of return that an investor annually earns on an investment for a specific period.

Required rate of return: The minimum return that individuals or companies contemplating an investment opportunity will accept.

Risk free interest rate: The interest rate at which money can be borrowed or lent without risk over a given period.

Risk premium: The risk premium of an asset is the expected rate of return of the market minus the risk-free rate of the asset.

Standard deviation: A measure of the amount of variation or dispersion of data or stock from the expected return or mean of a distribution.

Systematic risk: The risk of the market that cannot be diversified or eliminated through portfolio diversification. It is represented by beta (β), and it shows the sensitivity of the rate of return of an individual equity to the rate of the return of the overall stock market.

Unsystematic risk: Stock's return informed by firm specific risk, not the overall risk of the market or macroeconomy.

Assumptions

The assumptions in this study were based on relevant theories, procedures, data collection techniques, and analysis that helped me reach my research objectives. The assumptions that were applied are presented below:

1. Risk-averse investors: They avoid risk and therefore require higher returns on risky investments.
2. Portfolio diversification: Portfolio diversification enables investors to use statistical tools to eliminate unsystematic risk and deal with the remaining systematic risk that will remain in the portfolio.
3. Unsystematic risk is not rewarded: The market does not reward investors for bearing unsystematic risk.
4. Efficient portfolio: Portfolios that maximize expected return for any level of risk and minimizes risk for any level of expected return.
5. If investors can borrow and lend at the risk-free rate: If investors are on the efficiency frontier and only care about risk and return, they will hold a risky portfolio, known as the tangency portfolio. Conservative investors will combine the tangency portfolio with cash to stay on the mean-variance efficient frontier, and aggressive investors will borrow from the risk-free rate to leverage their holdings of the tangency portfolio to investment in more risky investment than the tangency portfolio.
6. Investors have homogeneous expectations: Investors have the same expectation regarding inputs used to create efficient portfolios, namely, asset returns, covariance, and variance in constructing Markowitz portfolios.
7. Investors have a single holding period: Investments are limited to the universe of all publicly traded financial assets; there are no transaction costs or tax in any transaction. All the assumptions above are dropped when testing

hypotheses for the multifactor model except the risk aversion assumption (Smart et al., 2008).

The assumptions of the traditional CAPM and its extensions are as follows:

Assumption 1*:* Randomness: The future stock price is a random variable with at least two different values.

Assumption 2: Normality: Descriptive statistics such as mean, standard deviation, and confidence interval were used to describe, analyze, and present whether the research data are normally distributed (or are at least symmetric).

Assumption 3*:* Homogeneity of variances: data from multiple groups of political risk have the same variance.

Assumption 4*:* Linearity: Data have a linear relationship.

Assumption 5: Independence: Data are independent.

Scope and Delimitations

The scope of my study covered all multinational corporations doing business in the Ivory Coast, regardless of the sector in which they operate and the nationality of the companies. Companies with Ivorian nationality were excluded from the study. The study focused on a 10-years period between December 2005 and December 2015.

I enlisted 200 multinational corporations operating in the Ivory Coast as the target population for the study. From that target population, I used stratified probability random sampling to extract 40 firms that were the respondents' population. I did not consider local firms operating in the country as I was only interested in the decision-making methods of multinational firms operating in the Ivory Coast. The implication of this

approach is that the result of my study could be generalized and applied to all multinational corporations listed in the Ivory Coast as well as those contemplating future investments into the country.

In Sub-Saharan Africa in general and particularly in the Ivory Coast, the sociocultural practices significantly affect factors related to the economy and the institutions (Koko et al., 2016). This study included such elements as social and cultural factors that inherently contribute to creating political risk (see Adegboye et al., 2023; Bakri et al., 2021; Koko et al., 2016; Shimbar & Ebrahimi, 2020). However, because the Ivory Coast is a small open economy that is not well integrated into the global economy, macroeconomic variables such as money supply, economic growth, and inflation that may affect the parent companies of multinational corporations' capital budgeting decisions were excluded from this study as they do not affect the subsidiary investments abroad. Such factors were thus eliminated in this study. The exclusion of those factors is considered as a limitation of the study.

The duration of the research was from December 2005 to December 2015, during which sociopolitical events in the Ivory Coast were expected to impact the results of the study and address issues of internal validity. In this study, I also considered the contemporary political risk that affects multinational businesses today in the Ivory Coast, and the types of capital budgeting models used to measure and add it to the cost of capital. This specific focus was selected because political risk that affects multinational businesses in developing countries is no longer expropriation or nationalization of businesses, nor military dictatorships, but rather incidents such as corruption, the periodic

outbreak of pandemic diseases such as Ebola and COVID-19, civil and political unrest, government policy changes, and so on (Adegboye et al., 2023; Bakri et al., 2021; Koko et al., 2016; Shimbar & Ebrahimi, 2020). Thus, political risk discussed in this paper addresses issues of internal validity.

In this study, contrary to most of the previous studies that used capital budgeting models or noncapital budgeting models approaches such as buying insurance, payback period, and investments structuring, I modelled political risk as a standalone variable, calculated its value, and used it as a moderating independent variable that passes through discount rate and cash flows to impact the NPV. This distinctive approach informed the constructs/variables of political risk that are used in Chapter 3 and 4, making this study unique about the period, the statistical approach, and the constructs /variables defined.

As posited by Berk and DeMarzo (2020) and Eun and Resnick (2021), capital budgeting models and CAPM provided the tools to conceptualize political risk in capital budgeting modeling. Capital budgeting models and theories such as the NPV, IRR, the CAPM of Sharpe (1964) also helped to estimate and model cash flows for decision making. The scope of the CAPM, both the single-factor and multifactor CAPM, consists of all risky assets such as stocks and bond of public and nonpublic corporations, real estate, foreign exchange, gold, silver, and cash crops. However, CAPM is often tested using publicly traded equities in the stock market. Therefore, the scope of this research was confined to all publicly traded multinational corporations, that is, securities that are traded in the BRVM in the Ivory Coast. The variables of the units of analysis studied were derived from survey questionnaires, BRVM stock market data, and the financial

statements of participating multinational companies. The study examined the moderating effect of political risk through the discount rate and cash flows on NPV investments for country such as the Ivory Coast.

The research was conducted in two stages. I first examined the relationship between the independent variables, expected return of the overall market, multinational firm's size, and political risk as moderating variables. The dependent variable was the expected return of the individual multinational firms. The second regression was conducted to find the relationship between the independent variables, expected rate of return or required rate of return of the multinational firm, cash flows of the multinational firm, political risk as a moderating variable, and the dependent variable NPV of the multinational firm or project in a developing country such as the Ivory Coast.

The approach I adopted deviated from previous studies where the capital budgeting decisions of multinational corporations in politically risky environments were analyzed. In those studies, arbitrary or ad hoc estimates were assigned to political risk and incorporated into the discount rate to discount cash flows to have the NPV of the projects (see Adegboye et al., 2023; Bakri et al., 2021; Bekaert et al., 2016; Shimbar & Ebrahimi, 2020).

Limitations

A limitation of a descriptive nonexperimental survey research design is that it is a comparatively weak method; however, I used it in this study because it was the most suitable research design to answer the RQs. I used the SurveyMonkey Online Platform to

submit the survey questionnaires to research participants because it was economically suitable and helped mitigate the time and financial constraints.

A potential bias of descriptive survey research is selection bias, as participants may be limited to companies that have electronic computer and email facilities. Effort was made, however, to minimize this bias by submitting questionnaires to firms that did not have issues with email or access to electronic communication devices such as computers. Effort was also made to minimize the weaknesses of the descriptive survey research design by avoiding selection bias, compiling the survey results objectively, and analyzing the results by using descriptive statistics accordingly.

The research specifically focused on a French speaking developing West African country, the Ivory Coast. Data were only collected from a representative sample of CFOs of multinational companies doing business in the Ivory Coast or planning to expand their business into the Ivory Coast. The result could be replicated and generalized to study issues of the moderating effects of political risk on businesses in French speaking West African countries because the sociocultural issues that contribute to political risk in the Ivory Coast are like those in the other French speaking West African countries.

Beyond that, it will be a challenge to generalize the results to all West African countries, across Africa, or all developing countries. This is because the nature of political risk varies in different parts of the world, and the characteristics and management of such risks in other developing countries may be different from the ones found in this study. Therefore, the research results may not be generalized to all West African countries nor across Africa.

I used panel and repeated measures methodology to collect stock price data. However, Due to resource and time constraints, I could not use repeated measures or panel data methodology to collect political risk data. I used survey questionnaire to collect political risk data and collected financial statement data of multinational firms from the National Statistics Office of the Ivory Coast to determine the cash flows of multinational firms doing business in the Ivory Coast.

Significance of the Study

Significance to Theory

Several research practitioners and finance practitioners have reported on studies used to measure political risk and add to the discount rate to discount cash flows and estimate the NPV of projects for capital budgeting decisions. While this study followed such traditions, it is different because I investigated the moderating effect of political risk on capital budgeting investments in developing countries. Studying the problem from this angle might make it significant because it could help assess whether the low level of investments in politically risky environments such as the Ivory Coast is justified. The findings of the study are intended to help multinational firms make informed capital budgeting decisions in places where political risk is pervasive through a more accurate measurement of political risk.

Several weaknesses such as the rule of thumb methods, namely, the Payback Period method used to estimate cash flows where uncertainties such as political risk are present in the investment environment, have also been identified in the study. Improving the measurement of political risk demonstrates that political risk can serve as a

moderating variable between the discount rate, cash flows, and NPV. This could help estimate cash flows accurately and help multinational firms that invest in environments with irreversible investments in the presence of persistent macro political risk better estimate and manage such risks (Adegboye et al., 2023; Bakri et al., 2021; Koko et al., 2016; Shimbar & Ebrahimi, 2020).

Significance to Practice

In situations where micro and macro-politically risky events affect FDIs, managers of multinational firms may better capture the magnitude of the risk and could determine whether political risk is a moderating factor between the discount rate and the NPV of the investments.

The study is also significant because, according to Batra and Verma (2017), Eun and Resnick (2021) and Thede and Karpady (2023), most corporations that quantify political risk accurately may provide a more accurate estimate of total cost of capital and improve sales prospects and profitability. Potential investors could better price political risk and make informed decisions based on NPVs that include all the costs of the project. This could offer incentives to international firms that avoid investing in politically risky environments such as the Ivory Coast to reconsider their decisions.

The findings of the study may create the environment for policy makers in countries such as the Ivory Coast with pervasive political risk constructs to improve their governance and political structures to minimize the incidence of political risk. This may help more multinational companies to accurately measure their investment risks for incorporation into their capital budgeting models and reduce their costs of capital.

Policy makers may also be able to devise more appropriate policies to reduce or minimize politically risky events and reduce their impact on cash flows, cost of capital, and discount rate. An improvement in policy could also motivate FDI managers to increase their investments in the host country.

Significance to Social Change

The research could have implications for positive social change. If managers of multinational firms could better capture political risk and understand its moderating role on cash flows and the discount rate, they could obtain a more accurate cost of their investments. This could help them better manage the risks associated with their investments and run successful businesses. Multinational firms could also reward their investors with better dividends and capital gains because of high profits from better management of their businesses. This could avail more disposable income to investors in the economy and increased spending could ensue, leading to more economic activity.

Those firms would also pay more taxes to host country governments, hire more local employees, and contribute to improvement of economic activities of the country. As more people are hired, spending levels might go up in the economy, and the businesses could grow and pay more taxes. Political leaders and public sector stakeholders would then have the needed resources to build better infrastructures for public goods such as schools, hospitals, and roads for improved welfare of the citizens. Also, employing local citizens could facilitate skills transfer or skills spillover effects.

Summary and Transition

In this study, I examined the problem of the subjective measurement of political risk that is incorporated into the discount rate to estimate cash flows to determine the NPV of the project or investment for decision making by multinational corporations investing in developing countries such as the Ivory Coast. Survey data were collected from multinational companies in the Ivory Coast to ascertain the magnitude of political risk in the Ivory Coast and the capital budgeting techniques they use for investment decision making.

Multiple regression methodology was used to conceptualize this problem by showing the moderating effect of political risk through the discount rate, cash flows, and NPV on decision making of projects in places such as the Ivory Coast where such risks are pervasive.

In Chapter 2, I continue discussing the factors or constructs that make up contemporary political risk and their moderating effects on the variables of interest in this study, the rate of return of the multinational firm, the cost of capital, cash flows, and the NPV decisions to invest in projects in the Ivory Coast where such risks are pervasive. I also discuss the use of CAPM developed by Sharpe (1964) and its extensions the three-factor model developed by Fama and French (1992) to conceptualize the problem of political risk.

Chapter 2: Literature Review

The general problem of this study is that multinational corporations are refraining from investing in a politically risky environment such as the Ivory Coast where they have a challenge to determine their cost of capital (Adegboye et al., 2023; Bakri et al. 2021; (Koko et al., 2017; Pretorius, 2022; Shimbar & Ebrahimi, 2020; Thede & Karpady, 2023). The specific problem is that political risk is not measured in capital budgeting models. This is because the moderating effect of political risk through the discount rate controlling for cash flows to determine the NPV of projects or investments has not been considered in the models (Adegboye et al., 2023; Bakri et al. 2021; Bekaert et al., 2016; Eiteman et al., 2023; Shimbar & Ebrahimi, 2020). The discount rate is inflated upward in the NPV model to capture political risk and estimate cash flows (Adegboye et al., 2023; Bakri et al. 2021; Bekaert et al., 2016; Shimbar & Ebrahimi, 2020). The purpose of this quantitative survey design study was to examine the moderating effect of political risk through the discount rate and cash flows on NPV of projects or investments for capital budgeting decisions in a developing country such as the Ivory Coast.

In previous research on capital budgeting, political risk has not been considered as a moderating variable. Rather, it has been treated as a variable with direct effects on the investment projects. Adjusted present value methodology has been used by subjectively inflating the discount rate upwards to reflect the political risk in the investment environment. The result obtained is used as total cost of capital to determine the cash flows. The total cash flows for the period are deducted from the cash inflows to obtain the NPV value for capital budgeting decision making (Adegboye et al., 2023; Bakri et al.,

2021; Bekaert et al., 2016; Shimbar & Ebrahimi 2020; Thede & Karpady, 2023). This arbitrary method of measuring political risk and adding it to the cost of capital is unscientific and subjective. In my research, I moved away from using such ad hoc methods but instead adopted a scientific method of measuring political risk by collecting data using survey questionnaire in the field on contemporary political risk variables to reflect political risk and used it as a moderating variable to estimate cash flows.

Accordingly, the method I used to scientifically measure political risk, not only warranted evaluating the political risk constructs used in the NPV model to make important and critical capital budgeting decisions but also helped appropriately evaluate the two other variables in the NPV model, namely the discount rate controlling for cash flows. Sisiba and Hall (2020) examined the capital budgeting techniques and models companies use to make capital budgeting decisions in Pakistan's corporate sector. Using ordinal and binary logistic regression methodology to analyze data collected from 173 CFOs in Pakistan, the authors discovered that most of the corporations in Pakistan use the payback period technique rather than the NPV method to examine their cash flow data for decision making towards long term investments. Moreover, the authors stated that publicly listed companies were using more sophisticated techniques such as Real Option (RO) methodology and sensitivity analysis to examine projects to make capital budgeting decisions. However, according to the authors, small businesses still used payback period to make their capital budgeting decisions. This implied that the size and duration of the business inform the type of capital budgeting method used and not the strategic and scientific nature of the capital budgeting method.

This was the reason why the researchers introduced sensitivity analysis to help them better forecast the discount rate when macroeconomic variables such as interest rate, inflation, and political risk change. Sisiba and Hall (2020) showed that using heuristic and unscientific capital budgeting methods to make capital budgeting decisions for projects is flawed and thus, they used sensitivity analysis and RO methodology. Similarly, the research of Gaspars-Wieloch (2019) investigated the various ways research practitioners decide on estimating the cost of capital or discount rate in the NPV method. Knowing that the discount rate and cash flows are uncertain variables in the NPV model, they suggested using four methods for their estimation; (a) increase the discount rate arbitrarily, (b) use sensitivity analysis, (c) compare pessimistic and optimistic cash flows, and lastly, (d) use scenario planning and probability distribution to estimate cash flows. As evident by the various methods mentioned above, they all depend on using subjective probability measures to estimate cash flows and according to Gaspars-Wieloch, citing von Mises (1949), "the theory of probability can never lead to a definite statement concerning a single event – the probability of a single event cannot be presented numerically." (p.180). Consequently, Gaspars-Wieloch suggested combining methods (c) and (d), namely, scenario planning and the coefficients of optimism and pessimism to forecast rate of returns and make investment decisions.

Along the same line of reasoning about accurate forecasting, Brealey et al. (2023) argued that the managers of the Euro Tunnel project forecasted the project to cost $8.8 billion. However, the project ended up costing $17.9 billion. This is because the managers' forecast for passengers' flow was 16.8 million passengers, but they ended up

with 4 million passengers. This example shows that cash flow forecasts and factoring of a scientific estimation of the cost of capital is critical to the decision-making process in capital budgeting. This is because use of the right capital budgeting models improve the accuracy of the forecasts as well as the profitability and survival of the multinational firm. Without continuous expansion and development of a business, the prospect of survival for the business will be limited. Equally important is the use of the right required rate of return method for determining the cost of capital of a project. Hence, Brealey et al. (2023) argued that the CAPM should be used as the discount rate of a stand-alone or multinational project, and the weighted average cost of capital (WACC) should be used as a discount rate for the firm. Attention must be paid to decision making when costs of capital decisions are made. Using the wrong method will lead to misallocation of funds, wrong estimates, and investment decisions (Ross et al., 2022).

My study moved away from the subjective estimation of the factors that impact the variables and constructs of my research by collecting data through a scientific process to help companies make informed investment decisions. In this chapter, I present a literature search strategy along with the methods and tools used to gather the literature around the problem. A theoretical foundation section follows that presents the main theory that guided the study. This is followed by a map and discussion of the relationship among variables section that helps the reader understand the relationship between variables. The next section is the literature review, where the findings of different authors about the problem as well as their suggestions are discussed. The chapter summary, conclusion, and a transition into Chapter 3 are also introduced.

Literature Search Strategy

For this study, I set a threshold of 5 years for the literature search, that is, materials 5 years old were selected for review. However, various seminal papers with historical theoretical background and models exceeding the set timeframe of 5 years were used as they were relevant to the study. I also used databases such as EBSCOHost, Google Scholar, SAGE Premier, ProQuest, Thoreau Advanced Search, Business Source Complete Premier, and Academic Search Premier, where I combined narrowed search parameters and Booleans operators in different associations of the keywords of the study as follows: *political risk as a moderating variable, cash flows, cost of capital, capital assets pricing model, capital budgeting, foreign direct investment, developing countries, developed countries,* and *multinational corporations.* Additionally, I used Ulrich Periodical Database to verify that the electronic materials being used were scholarly and from peer-reviewed outlets. A non-exhaustive list of journals used included *Journal of Applied Corporate Finance*, *African Journal of Business Management*, *Financial Management, Journal of Finance, Journal of International Financial Management & Accounting, Journal of World Business, The Journal of Political Economy, Academy of Management Review, Journal of Financial Economics, Journal of economics and sustainable Development, Journal of International Business Studies, Economics, Management, and Financial Markets, Journal of Financial and Quantitative Analysis, Columbia Journal of World Business, Financial Analysts Journal*, *Econometrica,* and *Review of Economics and Statistics.*

Theoretical Foundation

The theoretical framework of this study was informed by the models and theories of capital budgeting and long-term financing, including the NPV model and the CAPM developed by Sharpe in 1964. As posited by Berk and DeMarzo (2020) and Eun and Resnick (2021), capital budgeting models and the capital asset pricing theory provide the tools to accommodate the impact of political risk in capital budgeting modeling. The one-factor CAPM was used as a theory to conceptualize the cost of capital of the project. The three-factor CAPM of Fama and French (1992), which is an extension of the one factor CAPM, was also used to conceptualize the moderating effect of political risk and its impact on the capital budgeting decision of projects in the Ivory Coast.

The Discounted and Nondiscounted Cash Flow Models

I used the discounted cash flow (DCF) model as postulated by Berk and DeMarzo (2020) to conduct the study. The DCF valuation model takes into consideration the present value of the expected future cash flows of an investment, considering the risk of the investment. Generation of the cash flows depends on the type of asset. Stocks will pay out dividend, bonds will pay out coupon or interests plus its face value, and after-tax cash will be paid out by real assets or projects. A discount rate is normally evaluated based on the time value of money, and the riskiness of the estimated cash flows, with higher rates for riskier projects and lower rates for safer projects.

I also used reputable DCF models, such as NPV used by finance theorists to make capital budgeting decisions (Bierman & Smidt, 2023). According to Bierman and Smidt (2023), the NPV of a capital project is the present value of all cash inflows, including

those of the project's terminal life, minus the present value of all cash outflows. The NPV is calculated by discounting the future expected cash flows of a project, including those at the end of the project's life, at a given discount rate, minus the present value of all cash outflows, and the rule is to accept all projects whose NPV is positive, as it adds value to the company and shareholder wealth and reject all projects with negative NPVs.

The NPV is theoretically the most salient model used by corporate finance theorists as it incorporates the time value principle in finance, the time value of money, or the opportunity cost of money. There is, however, another method, the nondiscounted rate method, which is the payback period method, and is used to determine the period required for the cumulative cash in-flows of the project to pay back the initial investment.

The payback period method of making capital budgeting decisions is inherently weak because it does not consider the time value of money, and after the payback period threshold is reached, cash inflows are not taken into consideration. Even though the weakness of not discounting future cash flows can be overcome by using discounted annual cash flows in the payback period analysis, it does not address the other weakness of not taking into consideration payments made after the payback period. However, even with this inherent weakness, the payback period method is popularly used by finance managers in making long-term investment decisions, especially in places where political risk is pervasive as postulated by Bakri et al. (2021). Realizing the pervasiveness of political risk in the Lebanese business environment due to 50 years of continuous war in the region Bakri et al. decided to investigate the most used capital budgeting method by businesses.

Bakri et al. (2021) argued that finance managers and research practitioners in Lebanon use the payback period capital budgeting method to estimate project costs 85% of the time. More importantly, respondents to the questionnaire said that food companies also used the payback period method 93.8%, and construction companies use it 89.3% to plan projects. Arguably, even though the payback period is not a scientific method with inherent disadvantages, it is still used more frequently to plan projects when compared to net present value method that is more scientific with numerous advantages to plan projects. Due to the inherent weaknesses of the payback period method enumerated above, I did not use it in this study.

In practice, according to Bierman and Smidt (2023), the DCF valuation is premised on using the WACC, provided the project and firm's risks are the same. If the project and firm's risks are dissimilar, then, theoretically, each project's WACC must be used as the discount rate for the investment (Bierman & Smidt, 2023). The WACC is a weighted average of the costs of the firm's equity and debt. To determine the WACC, investment practitioners and finance managers must use the CAPM of Sharpe (1964) to estimate the rate of return or hurdle rate required by investors to invest in the project. Even though the WACC may be an appropriate discount rate to estimate the average cost of capital for the firm, a critical assessment of its assumption is that it may not be an appropriate estimation tool for projects that are innovative.

Due to this shortcoming, research practitioners and finance managers have used their discretion to select discount rates. Such rules of thumb and heuristic methods of selecting discount rates have exposed the DCF methodology to criticism. For example,

Bekaert et al. (2016) postulated that the use of the adjusted present value to estimate cash flows in places where political risk is pervasive is flawed because the discount rate of the NPV is adjusted subjectively or arbitrarily and added to the discount rate to reflect political risk.

The other criticism against the DCF method in capital budgeting is that the method lacks flexibility in accepting or rejecting projects. This is because an assumption of the DCF method is that once the NPV is less than zero, it is automatically rejected without the managerial flexibility of putting the decision on hold to wait for new information in the future that may influence managerial decisions (Berk & Demarzo, 2020). Despite these criticisms, the DCF method remains a key method used in the literature, and I used the NPV method for decision making in this study.

I also used an extension of the CAPM, the multifactor CAPM developed by Fama and French (1992). The multifactor CAPM has five factors, two of which are capital budgeting related factors or DCFs related factors. They are the discount rate, political risk, and cash flows. The other factors are large capital stocks and small capital stocks. These factors were tested against empirical data to give a clear explanation of the factors that determine the required rate of return or cost of capital in politically risky environments such as the Ivory Coast. I specifically examined the change in political risk and its moderating effect on the cost of capital, controlling for cash flows to determine NPV for decision making in countries such as the Ivory Coast.

The CAPM Theory

The CAPM is an asset pricing theory that gives theoretical and conceptual justification to the relationship between the expected rate of return and risk in pricing risky securities. The theory was developed from the Markowitz (1952) mean-variance portfolio optimization model to close the gap that existed in the model and, as a result, the Markowitz mean-variance model became a theory known as modern portfolio theory with the introduction of the one-fund theory by Tobin (1958). CAPM provides an explanation of security pricing in a risky environment. Before the development of CAPM, there was no positive microeconomic theory to manage risk in the investment world. The model allows systematic risk or beta risk of an investment portfolio to be the only risk that rational investors price because it cannot be diversified away through portfolio diversification. It is only the unsystematic risk that can be diversified away, after which the investors' expected return will now be priced against the beta risk of the stock. Therefore, investors who incur extra risks by investing in risky stocks will be compensated with higher returns for taking the extra risk (Sharpe, 1964). According to Sharpe, only one factor causes correlation, and, therefore, in the process of setting prices through the process of demand and supply, prices would adjust until expected returns increased for securities with higher beta, beta being the coefficient with the factor. This implies that stocks expected returns increase proportionately to their beta risks, and this relationship is expressed by the security market line, which is linear and positive. For the theory to work, however, Sharpe made many simplified assumptions about how the stock

market and investors should behave before it can conceptually work as a linear model that expresses a relationship between expected rate of return and the risk of risky assets.

As the features mentioned above show, CAPM has come to represent one of the most rigorous and important advances reported in finance with intuitive appeal that is widely used in the international finance literature (Berk & DeMarzo, 2020). For example, according to Bodie et al. (2021), CAPM is used by investors as it expresses the relationship between expected return and the beta of the stock. Therefore, the expected return beta relationship becomes a critical tool used by portfolio managers and research practitioners to estimate the return of securities. Also, regulatory agencies such as regulated utility companies combine it with forecasts of market index returns as a single factor in determining the cost of capital for firms they regulate. Moreover, judges use it to determine the discount rates in evaluating claims of lost future incomes to pass judgment in tort cases. Ross et al. (2022) rationalized that it is also useful in corporations as the project's beta is used to reward the project return.

The Single-Factor CAPM Model

In the CAPM, Sharpe (1964) postulated that the rate of return of a security is a function of the risk-free rate proxied by the risk-free rate in Ivory Coast, plus the beta risk of the equity multiplied by the risk premium which includes the expected return of the general economy or stock market exemplified by the regional stock market BRVM-Composite index of Ivory Coast in this study, minus the risk-free rate of return of the equity. The equation below represents CAPM:

$$E(R_i) = R_f + \beta_i\,(E\,(R_m - R_f)) \qquad (4)$$

Based on the above description and equation, Black et al. (1972) and Fama et al. (1973), decided to put the CAPM to empirical test and validation by using monthly New York Stock Exchange (NYSE) data from 1926-1966, and 1926 – 1968. The authors' tests supported the main prediction of the CAPM that states that beta is the only explanatory variable that explains the cross-sectional variation across portfolios. A result that is consistent with the prediction of CAPM. Along similar lines, Rosenberg, and Guy (1976), and Pettengill et al. (1995), examined the claim that beta has a systematic relationship with expected returns of a security, using average realized returns as a proxy for expected return. The authors used ordinary least squares regression and found a positive relationship between the realized return and beta, a proxy for the market risk. The available evidence seems to suggest that the CAPM was found to be a robust model that predicted the systematic relationship between beta and returns of the stocks for the periods and sub-periods examined. It therefore became evident that the CAPM can stand the test of time as research practitioners, investment analysts and key stakeholders in both the investment and academic community endorsed the CAPM as a robust and effective theory that predicts risk and return behavior of investment assets.

Despite the overwhelming empirical evidence and endorsement of CAPM by the investment and academic community however, the theory has come under fierce criticism by different practitioners and researchers over the years, beginning in the 1990s. They argued that there is no beta risk rewards relationship for investors in the financial markets and that there is no positive linear and systematic relationship between beta and expected rate of return as claimed by Sharpe.

Among the authors who started the criticism due to anomalies that appeared in some stock portfolios whose average return spread was not accounted for in their betas are Fama and French (1992). Fama and French evaluated the role beta and other variables such as earnings per share (E/P), leverage, and book-to-market equity in a cross-section on average returns on NYSE, AMEX, and NASDAQ stocks. Fama and French used time series and cross-sectional regression of monthly returns on beta and firm size: equally weighted index from 1927 to 1990. The authors found that average returns are not positively related to beta, and therefore contradicted an important claim and foundation of CAPM, which states that the expected returns of stocks are explained by their proportionate relationship with their beta, and the relationship is positive.

There have however been dissenters to the Fama & French view and among them are Amihud et al. (1992) who countered the claim made by Fama and French that no significant relationship exists between the average return and systematic or beta risk of commons stocks. Amihud et al. used generalized method of moment (GLS) by pooling the time series and cross-sectional rates of return between the period of the Fama and French research 1941-1990. Amihud et al. found a significantly positive relationship between average returns and beta, even when they controlled for size and book-to-market ratio.

In this study, I used the conceptual power of regression analysis, the one-factor and three- factor CAPM, and the NPV regression to model the independent and dependent variables. The independent variables are, the rate of return of the overall market rate represented by the BRVM index of Ivory Coast, while controlling for market

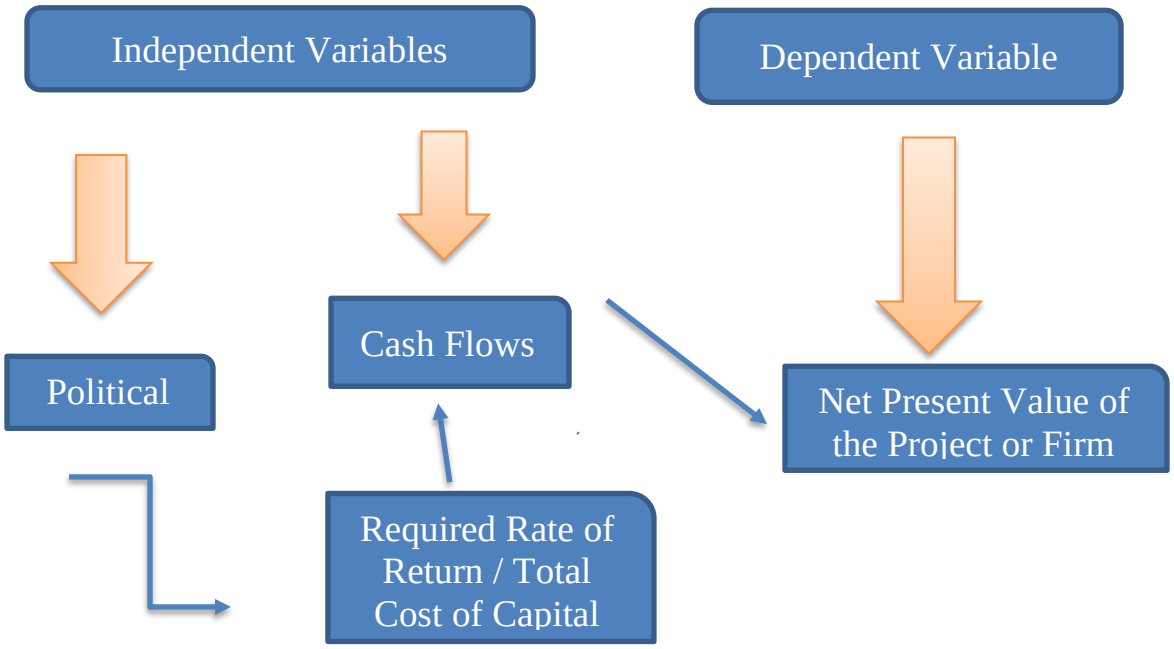
size, the required rate of return of the multinational firm, while controlling for cash flows, and political risk. The dependent variables are the expected rate of return of the multinational firm, and the NPV of the multinational firm doing business in the Ivory Coast. I used the 3-factor Fama-French CAPM to deduce the rate of return of the multinational firms in the Ivory Coast, as the dependent variable in the first regression, the overall stock market proxied by the BRVM index, company size, political risk, and the interaction of political risk as the independent variables in the first regression. I used the rate of return from the first regression to model the second regression, including political risk, controlling for cash flows and the NPV as dependent variable. The diagram below illustrates the relationships among variables.

Map of Relationship Among Variables

This visual representation seeks to facilitate the understanding of the relation among the elements of the multinational firm's net present value as defined by Holmén and Pramborg (2009), when they studied the influence of expected cash flows and the required rate of return of an investment to assist in acceptance or rejection decision-making of a potential capital budgeting or long-term investment by a multinational firm. This map, therefore, explains the relationship between cash flows, required rate of return or total cost of capital, in the presence of political risk (all independent variables), and the NPV of the firm (dependent variable).

Figure 1

Map of Relationship Among Variables



Literature Review

Required Rate of Return or Cost of Capital

According to Berk and DeMarzo (2020), the required rate of return of an investment is the market rate of return investors demand from the firm, given the expected returns and the perceived riskiness of those returns. Investors in making these decisions have other investment opportunities and therefore compare the potential investment to the next best alternative.

Companies on the other hand have multitudes of projects and potential investments options available to them to choose from. Therefore, because the firm's objective is to maximize shareholders' wealth, when making this choice, corporations use

their WACC as their cost of capital. The main component of WACC is the rate of return generated by the company and paid out to all the parties that have invested money in the company. The parties include the shareholders, the banks, and other lenders that the firm owes money. Thus, the WACC is a combination of the returns paid to shareholders as well as lenders.

For most companies, according to Berk and DeMarzo (2020), the WACC is the discount rate used to compute a project's net present value and in circumstances where the risk of the project is different from the multinational company's risk, the use of WACC is theoretically wrong and may often lead to a wrong investment decision by the firm. This is the situation of multinational firms that invest in politically risky environments such as the Ivory Coast where the discount rate of the WACC of the parent firms are significantly different from the WACC of the investments they engage in when undertaking FDIs. As an example, let's assume the WACC of a firm is composed of equity investments, and no debt involved. In such a case, the required rate of return will be determined by the CAPM developed by Sharpe (1964). In such a circumstance, research paper by Bekaert et al. (2016) and Markowitz (1952), were relevant as they play an important role in support of CAPM as a risk pricing model for equity investors. The work of these researchers takes us inside the experience firms have gained using CAPM as a discount rate. In their work, Bekaert et al. (2016) postulated that firms can use the International or World capital asset pricing model (ICAPM) to capture political risk. Similarly, Hojat and Sharifzadeh (2017) used CAPM to capture the moderating and mediating effects of monetary policy instruments on the rate of return of equity markets.

However, the ICAPM is more suitable for firms that are globally integrated into the financial markets of the world economy, as it will allow them to absorb the global risk of the international markets, thereby helping them to lower the risk of the investments' cost of capital (Bekaert et al., 2016).

Firms such as those in developing countries that are not integrated into the international economic system are however not able to use the ICAPM and their costs of capital will remain high, thereby denying them the opportunity to pull from a low cost of capital for their foreign investments (Bekaert et al., 2016).

Along similar lines, Bekaert et al. (2016) agreed with Holmén and Pramborg (2009, Adegboye et al. (2023), Shimbar and Ebrahimi (2020), Bakri et al. (2021) by arguing that even though the advantages of globalization and the increasing integration of financial markets has led to a dramatic decrease in the cost of capital for firms that are well integrated with the global markets, political, institutional, and other social risks continue to plague the capital budgeting decisions that firm managers make, because as the neoclassical economic theory dictates, traditional finance models such as CAPM should play an important role to price risk as well as returns of assets. If political risk is therefore an unsystematic risk as suggested by Holmén and Pramborg (2009), it will be diversified away and the systematic risk that will remain will be priced into CAPM, as investors will be rewarded accordingly, thereby bringing down the cost of capital for investors (Holmén & Pramborg, 2009). The value of financial assets will also increase, especially for firms that are well integrated with the global financial markets (Bekaert et al., 2016).

According to the authors (Bekaert et al., 2016; Holmén & Pramborg, 2009), continuing to use CAPM to determine the hurdle rate to evaluate the cash flow of all projects in a firm, even though they may not have the same dimension or volume, will lead to misallocation of capital, and a reduction in shareholders' wealth. The authors instead suggested the use of another model known as pure-play technique to which they will assign different weights or risks factors to the different divisions in a firm or project, thereby making it effective to evaluate the cost of capital for projects on an individual appraisal basis. This will allow for a better evaluation of risks for different projects in the firm.

Similarly, the research by Hojat & Sharifzadeh (2017) also used the traditional CAPM and its extension the three-factor CAPM to examine the moderating and mediating impact of monetary policy instruments on the rate of returns of stocks in the equity market. Hojat and Sharifzadeh used the one factor and three-factor CAPM to conceptualize the research problem to examine whether there is a significant relationship between changes in the market rate of return, monetary policy (M2), federal funds rate (FFR), and federal funds futures (FFF) rate on the rate of return of stocks in the stock market, while controlling for macroeconomic and firm specific factors. Hojat & Sharifzadeh used a quantitative longitudinal research design and panel data (time series of cross-sectional data) stock market data, NASDAQ, with sample data from Russell 1000 – 30 (large cap) companies and 60 (small cap) companies from Russell 2000 small cap indexes, between the period 2005-2015 to examine the relationship between the independent and dependent variables. After running the multiple regression analysis

using pooled data, Hojat & Sharifzadeh found that market rate of return and company size, significantly predicted the company's rates of return on equity. This result supports the assumptions of the single-factor CAPM of Sharpe (1964) and the three-factor CAPM of Fama and French (1992).

However, the research showed that only the market rate of return and the FFR has a significant relationship with the rate of return of equities. M2 does not have a significant relationship with the rate of return of equities. The result also showed that there is no significant mediation relationship between the market rate of return and the rate of return of the stock when money supply changes. That is, M2 does not have a mediating relationship with the rate of return of the stock. It is because of this failure of the multifactor CAPM to show that a significant relationship exists between the monetary policy related factors and the rate of return of equities that Hojat and Sharifzadeh used the modified pooled regression technique to test whether a moderating and mediating relationship exists between the variables of interest. The research found that a significant moderating relationship exists between M2 and the rate of return of the market and companies' rates of return on equities. However, the moderating effect of changes in M2 variables decreases when the change in M2 is low, and M2 did not have a mediating relationship with the rate of return of the market and the companies' rate of return. FFR had a significant negative moderating effect. FFF also had a significant moderation effect on the variables of interest. The research showed that the traditional factor and multifactor CAPM are vigorous models that can be used to conceptualize research problems in finance and thus the reason why I used it in this research.

Therefore, as the papers above postulate, the risk of parent companies and the projects they finance can be different, and therefore cannot use WACC as discount rate for both projects as project and parent firms located in developed economies may have a different risk factor than projects located in developing economies such as the Ivory Coast. Cash flows of projects in developed economies and developing economies can be modeled using CAPM as the discount rate because according to CAPM, a project's risk is determined by the beta of the project, and beta can only be determined for firm's financial asset, not real assets such as manufacturing companies or oil rigs.

CAPM was therefore used as discount rate to estimate the cash flows of capital budgeting projects in developing countries where political risk is persistent, because according to Holmén and Pramborg (2009), political risk is not an unsystematic risk that can be diversified away through international portfolio diversification. It is a standalone risk that must be priced separately to be included in the net present value of capital investments. The international finance literature has however not been effective at pricing or valuing political risk for inclusion into the net present value model's discount rate for estimation of cash flows for capital budgeting decision making.

Bekaert et al. (2016) agreed that measuring political risk continues to be an important challenge for investors especially for companies making cross border investments in FDIs and mergers and acquisitions (M&As) because the traditional method of measuring risks in capital budgeting theories is through both WACC and CAPM. The other measures that are used by consulting firms to measure political risk are highly subjective, and thus very difficult to use in evaluating the political risks of

companies (Bekaert et al., 2016). Another method that is commonly used to measure political risk of businesses is the adjusted discount rate (ADR) where the firm adjusts the discount rate upwards to add a percentage that represents political risk. According to Bekaert et al., this method is not effective, and will result in an increase in the cost of capital for firms and will lead to a decrease in FDIs and international capital misallocation.

Because there is no clear method to measure political risk in the international capital budgeting literature other than subjective methods such as adjusted present value, Adelphi, or circumventing it by using the payback period method with its theoretical flaw, or totally avoiding investing in environments with such risks as postulated by Holmén and Pramborg (2009); Bekaert et al. (2016), political risk was treated in this research as a standalone variable that was identified through a quantitative survey research methodology in the Ivory Coast. I then investigated whether political risk has a direct effect on multinational investments' discount rate in developing countries as portrayed in the literature.

Political risk events such as civil disturbances, military interventions, corruption, civil strife, impact the operations of businesses, with negative impacts on their sales, accounts receivables, cash flows that have deleterious effects on the profitability of these businesses. This could explain the reason why multinational companies are avoiding doing business in such places. The moderating effect of political risk through the discount rate determined by CAPM on the cash flows of multinational capital investments was thus investigated.

Cash Flows

Every project, be it pioneered or promoted by a local or international business, starts with an investment, and the investment is expected to generate income through sales over time. For sales to, however, materialize, expenses must be incurred to generate the sales. Brigham et al. (2020) rationalized that multinational businesses do forecasts to strategically plan their finances to undertake multinational investments. Forecasting according to Brigham et al. is informed by historical data as even though such data are sunk costs, businesses use them to project their future activities. The forecast figures that multinational businesses use to determine their future business prospects are sales, income, and cash flow statements. As postulated by Berk and DeMarzo (2020), the DCF methodology is used by multinational corporations to discount the aggregate present value of cash flows and deduct the cash flow estimates from inflows or initial investments to make capital budgeting decisions.

The potential cash flows **p**rojected are future occurrences and several factors affect them. Among the factors that affect projected cash flows are projected sales, income, and accounts receivable, and political risk events such as civil disturbances, military coups, corruption, government actions, and so on. Politically risky events can be micro and macro, and each form has their impact on projected sales and operating revenue of businesses which leads to adverse consequences. Chang et al. (2018), upon recognizing the opportunities that exist in the East Asian market for infrastructural development, especially with the emergence of China with huge capacity and desire to invest in infrastructural projects in East Asian countries, decided to investigate the

opportunities that exist for international contractors. However, the environment for such investments was plagued with political risk factors. For example, the authors identified about 20 risk factors. The authors used a pilot project and collected data using questionnaires from 127 respondents. Chang et al. (2018) also used a risk assessment model comprising six components using confirmatory factor analysis methodology. Furthermore, a political risk index (PRI) of five East Asian countries was assessed and their risk grade were measured with a Ward's method. The result of the study was that there were investment opportunities, but so were the presence of risks such as political risk, and it was left to international contractors to use the appropriate models and techniques to minimize such risks. The study showed that political risk can have a pervasive impact on cash flows data in infrastructural investments in developing countries.

Using a similar line of argument, McGowan and Moeller (2009), and Burtler and Joaquin (1998), showed that political risk can negatively impact the cash flows of multinational investments in places where such risks are pervasive. In their research, the authors analyzed the impact of political risk on FDIs' cash flows when factored into the cost of capital as cost of doing business. McGowan and Moeller used an expanded version of the Foreign Investment Risk Matrix (FIRM) developed by Bhalla (1983) by collecting data from the internet. They used three political risk and economic risk variables. For political risks, they used the host country government's attitude toward FDI, conflicts, and perceived corruption. For economic risk they used GMI per individuals, propensity for FDI, and inflation rate. They identified investment locations

around the globe, based on the levels of political and economic risk, to help them avoid purchasing data from outsiders such as consultants or other data providers in wake of the global increase in multinational investments to developed and emerging market economies.

McGowan and Moeller used a case study of four countries, Brazil, Russia, Poland, and United Kingdom. The researchers found that Russia was an unacceptable place for FDIs because of the presence of high levels of political and economic risks. Brazil and Poland had high uncertainties for FDIs, and the United Kingdom was an acceptable place for FDIs. Political and economic risks, as has been established, can have a negative impact on cash flows as well as profitability of businesses. Multinational companies therefore avoid doing business in places with specific political and economic risk variables and invest in places where such risks are not pervasive. Therefore, even though multinational investments are on the increase across the globe, such investments are not flowing to places such as the Ivory Coast due to the presence of political and economic risk and the potential for such risks to impact the operations and working capital of investment projects and profitability of the long-term investments.

Therefore, my study's claim that multinational corporations are avoiding investing in places such as Sub-Saharan Africa, specifically the Ivory Coast because of the pervasive nature of political risks is obvious. The potential for such risk to impact the operational activities of FDIs and indirectly impact their cash flows and profitability is high. These findings lend support to my claim that political risk has a moderating effect

on cash flows, through the discount rate and net present value of the multinational project.

Political Risk

Political risk, according to Kobrin (1978), is the probability that host countries' actions will have an adverse effect on the cash flows of multinational firms as highlighted in the literature. Previous studies by Fitzpatrick (1983) and Brewer (2001), were narrow and ambiguous in their definitions and applications of political risk, as they defined political risk as micro and macro political risk, as well as non-business risks pertaining to expropriation of assets of multinational firms.

The Study by Holmén and Pramborg (2009), defined political risk as an unsystematic risk that should be diversified away in a fully diversified portfolio of investments in developed economies. The CAPM developed by Sharpe (1964) is used to price the macroeconomic risk left in the portfolio once the unsystematic risk is eliminated by diversification of assets in the portfolio. Political risk is, however, not a microeconomic risk in developing countries that can be diversified away. Therefore, Holmén and Pramborg used several methods to price the risk, Payback period methodology (57%, 40%), NPV method (76%, 32%) and the IRR method (75%) of the time. They used a high percentage of Payback period methodology because it is less expensive to use and not too sophisticated, even though it has great weaknesses.

The research by Adams (2009), Adegboye et al. (2023), Asiedu (2002, Baek and Quian (2011), Koko et al. (2016), Pacific et al. (2015), and Solomon and Ruiz (2012), examined the nature of political risk in Sub-Saharan Africa and asserted that political risk

has had deleterious effects on businesses in Sub-Saharan Africa as it creates uncertainty in the locality of the host countries. Therefore, FDIs have reduced considerably in Sub-Saharan Africa, particularly, Nigeria and places such as the Ivory Coast.

According to Adams (2009), despite the great effort governments in West Africa continued to make in attracting FDIs, there is limited response to their efforts. For example, Nigeria has the largest economy in the Sub-region. It is an oil producing powerhouse with great potential for economic growth, as it has undertaken reforms in its financial and trade sectors to attract more FDIs. Yet, these reforms have not yielded many dividends as the flow and stock of FDIs are still comparatively few in the country due to its pervasive country and political risk as reported by UNCTAD's (2015, 2020, 2022) reports.

Koko et al. collected time series data of FDI flows into Nigeria as the dependent variable from UNCTAD, from 2000 – 2014, and political risk as the independent variable, represented by eight political risk indicators. The results of the study revealed a positive association between FDI, and kidnappings (KID) at a level of significant above the 10 percent threshold, supporting the hypothesis of the prevalence of crime in Nigeria. There was a negative relationship between FDI and disputes with neighbors (DNC), and a positive association between FDI, and investment profile (INvtP), ethnic tension (EthP) religious tension (ReIT), and corruption (CORR). The study showed that the factors that make up what constitutes political risk are pervasive factors in determining where multinational firms invest their resources, and Sub-Saharan African countries with their

weak institutions create environments that are politically risky for multinational companies to take them seriously as good investment locations.

Koko et al. (2016) agreed with Asiedu's assertions that FDI flows have dropped considerably in Sub-Saharan Africa because of inherent macroeconomic challenges mentioned by Asiedu such as political risk. Asiedu (2002) conducted research to examine why only a small portion of FDIs went to Sub-Saharan Africa over the last decades. She argued that most African countries have undergone economic reforms by opening their economies through financial and capital market liberalization efforts. They have removed import tariffs and other trade and economic bottlenecks to foreign investments. The research was also undertaken because as Asiedu suggested, foreign investment is one of the ways and means by which countries, especially those in developing countries, can attract private investments, in the wake of the reduction in foreign aid from developed countries. FDI flows to Africa as Asiedu postulated, will enhance growth, improve private sector investments, create jobs, and reduce unemployment and poverty in the region.

However, this has not been the case, as even though Asiedu suggested that FDIs have been on the increase over the decades, the increase has mostly gone to Asian countries, North and South American countries, as well as European countries. Sub Saharan Africa, even though it is the poorest continent, receives the least amount of FDIs. Asiedu postulated that there is an increase by 5,200 of FDI flows in the world in 1980 - 1989 and 1990-1998 in Europe and Central Asia, 942% in Eastern Asia and Pacific,

740% in Southern Asia, 455% in Latin America and the Caribbean, and 672% for all developing countries. However, only a paltry sum 59% went to Sub Saharan Africa.

Adegboye et al. (2023), and Pacific et al. (2015) agreed with Asiedu's (2002) research by saying that even though FDI is on the increase around the world, it only increased by a paltry 4% in Sub Saharan Africa in 2013, amounting to $57 billion (UNCTAD, 2015). Yilmazer (2010) suggested that FDI flow improves GDP growth in host countries that undertake economic reforms by adopting industrialization policies that facilitate economic growth. Accordingly, UNCTAD (2022) reports that the amount of FDI going to the Ivory Coast has increased greatly especially when compared to the war years from the paltry sum of $47 million dollars in 2016 to $713 million in 2020, and $1.36 billion in 2021. The total stock of FDI flows into the Ivory Coast in 2021 is $12.8 billion (UNCTAD World Investment Report, 2022).

Collecting panel data across 25 countries between 2004 – 2012 from the World Bank, Pacific et al. conducted their research using FDI as dependent variable, and exports, Internet Connection Technology (ICT), credit to the private sector, exchange rate, political stability, absence of violence, strength of protecting investors (SP), time required to start a business (TRST) as independent variables. They used regression analysis to run the data and the result showed that all the independent variables in the regression had a significant impact on FDI flows into Francophone African Countries.

The other area of concern to investors, research practitioners, and development experts in developing countries is the incidence of corruption being considered a form of political risk to businesses and the development trajectory of developing countries in

general, particularly Sub-Saharan African countries. The research of Cuervo-Cazurra (2015), and Abotsi (2016) brought this problem to light by investigating causes, consequences, and control measures to curb it.

Cuervo-Cazurra decided to investigate the incidence of corruption responsible for the low investment flow into developing countries. The authors realized that the problem persists despite the efforts of research practitioners to analyze corruption and its pervasive impact on international business. The author analyzed the causes, consequences, and methods of controlling corruption by using several theories, namely firm-agency theory, transaction-cost economic theory, the resource-based theory, resource-dependence theory, and neo-institutional theory. Upon completion of using all the theories to analyze the different facets of corruption, the authors settled on agency theory and resource dependency theories as good theories to explain corruption, while resource-based theories were good at explaining the consequences of corruption, and transactions cost economics theory as great at suggesting controls to combat corruption.

The authors concluded in discussing corruption that firm managers and research practitioners should go beyond the use of the traditional theories of discussing corruption, and instead use a different methodology that analyses corruption through the lens of the concept of corruption, control of corruption, and consequences of corruption. By doing this, researchers will be able to analyze corruption in the form of demand side of corruption and supply side of corruption and then analyze it at the firm, as well as country level.

The research by Quazi et al. (2014) also weighed in on the topic of corruption by proposing that there are two opposing views of corruption: the grabbing hand hypothesis and the helping hand hypothesis. The grabbing hand hypothesis posits that corruption can have a negative impact on FDIs as it impedes the flow of FDIs by increasing uncertainty in the business environment and increasing transaction costs. On the contrary, the helping hand hypothesis posits that corruption facilitates FDI flows by greasing the wheels of commerce especially in countries with weak institutions and regulatory frameworks. Quazi et al. conducted their research by collecting data from 53 countries in Africa from 1995 – 2012. The authors used the dynamic systems Generalized Method of Moments modeling framework (by Arellano-Bover/Blumdell-Bond Linear dynamic panel) to conduct the research. The authors found that corruption as measured by Transparency International Corruption Perception Index (CPI) with corruption score of 0 (highly) corrupt to a score of 10 (very clean) with a negatively significant beta coefficient, which means that corruption is less than zero and thus, corruption in the 53 African countries in the research was high, thereby supporting the helping hand hypothesis that corruption is good for business in Africa.

Along similar lines, Abotsi (2016) examined the incidence of corruption as it affects businesses that engage in overseas investments. Abotsi argued that even though some researchers think corruption has some benefits to businesses, especially countries with huge bureaucratic and regulatory problems, eventually, corruption in the long run has a deleterious effect on businesses and deters investments.

Furthermore, Abotsi used production theory of the firm, consumer behavior theory as well as game theory as a theoretical framework to explain the problem of corruption in countries with weak institutions and regulations to develop the model.

In the model, Abotsi developed a production function that illustrated the role that corruption played in attracting or distracting FDIs in developing countries, with a threshold up to which corruption can be tolerated and beyond which it becomes disadvantageous for investors to operate a business. Therefore, Abotsi concluded that corruption is a necessary evil in doing business in countries with weak institutions and legal systems. However, the assumption is that it cannot be eliminated, and thus the logical step to take is to find a way to minimize and control it. Therefore, if governments of developing countries can keep it at a bearable level, multinational firms will select their countries as a place to do business. However, once it surpasses the level of tolerance, it becomes impossible to do business in such an environment and corruption will no longer be a 'grease' that will lubricate the business machine, but a 'sand' that will clog the business machine and therefore a deterrent for investors.

Abotsi therefore, concluded that multinational corporations would relocate to developing countries that develop their systems and remove bottlenecks that will prevent them from doing business in those countries. It will therefore be prudent for government leaders and policy makers to embark on undertaking reforms, both institutional and macroeconomic reforms that will endear businesses to the country.

The evidence above supported my claim that politically risky factors as has been established have deleterious effects on the operations of multinational corporations in

developing countries such as the Ivory Coast, as such political risk prevents the proper running of businesses and variables such as sales, accounts receivables, are negatively impacted with pernicious effects on cash flows, which supported my claim in this study that political risk has a moderating effect on the net present value through the discount rate and cash flows of multinational investments in the Ivory Coast.

This hypothesis is supported by the report of Mauro et al. (2019) confirming that corruption or "graft" does not only lead to lost revenue for a country, but also have socio-economic disadvantages. According to Mauro et al., corruption in public office does not only lead to loss of state or tax revenue, overpayment for goods and services or investment projects but also distorts the activities of the state and the quality of the lives of the people because it undermines the ability of the state to promote sustainable and inclusive development. Corruption, Mauro et al. continued, will have a devastating effect on public resources because it takes such resources away from education, health care, spending on infrastructure which are the kinds of investments that improve economic performance and raise living standards for the people.

The research by Mokaya et al. (2018) also examined the effect of the relationship between political risk but as a moderating variable and bank characteristics such as credit risk, bank size, operating costs, etc. on lending rates of commercial banks in Kenya. Mokaya collected bank characteristics and lending rates data from 43 commercial banks and political risk index based on World Bank political risk rating of countries. There were twelve World Bank political risk index constructs, namely, government stability, socioeconomic volatility, investment profile, conflict, corruption, etc. After running a

multiple regression on the independent variables (political risk as a moderating variable, the composite index of bank characteristics, and the product of the composite index of bank characteristics and the moderating political risk variable). The dependent variable is the (lending rates of commercial banks), Mokaya et al. received a result showing that even though the moderating political risk index was positive, it was however insignificant which shows that political risk index as a moderating variable does not influence the relationship between commercial bank characteristics and lending rate in Kenya. That is, the index of political risk does not moderate bank characteristics and lending rates of commercial banks in Kenya.

The challenge of the research by Mokaya et al. lends credence to the fact that historical political risk index data when it is not scientifically collected, it risks producing results that are subjective. Therefore, my research deviated from utilizing subjective political risk data and collected data using scientific research methodology, by using quantitative questionnaire that produced opposite results.

Net Present Value

According to Bierman and Smidt (2007), the NPV is used by finance theorists to make capital budgeting decisions. Bierman and Smidt (2007), continued by saying that the NPV of a capital project is the present value of all cash inflows including those of the project's terminal life, minus the present value of all cash outflows. The NPV is calculated by discounting the future expected cash flows of a project, including those at the end of the project's life, at a given discount rate, minus the present value of all cash

outflows; and the rule is to accept all projects whose NPV is positive, as it adds value to the company and shareholder wealth, and reject all projects with negative NPVs.

The net present value (NPV) is theoretically the most salient model used by corporate finance theorists as it incorporates the time value of money principle in finance or the opportunity cost of money. There is however another method, the non-discounted rate method, which is the payback period method, and is used to determine the period required for the cumulative cash in-flows of the project to pay back the initial investment.

Peymanker et al. (2019), in their quest to understand how project management cash flows are maximized, decided to investigate how project managers maximize the NPV in a project, especially in the presence of cash flow uncertainty due to macroeconomic and other risk factors, such as political risks, natural disasters precipitated by the rise in temperature or precipitation due to climate change. This situation according to Peymanker et al., is exacerbated by the rare and sudden changes in cash flows of projects affected by the uncertainties mentioned above.

Peymanker et al. used integer linear programming (ILP) framework to develop two-stage stochastic programming approaches using two Bender's decomposition algorithms informed by pulse and step formulations to examine the problem accordingly. Peymanker et al., simulating several real-world scenarios to represent the uncertainty in cash flows found out that cash flows in projects plagued with uncertainties due to macroeconomic factors such as political risk usually led to bad or unprofitable outcomes. Peymanker et al. concluded that every effort must be made to minimize these risks to maximize cash flows of projects using modified NPVs for capital budgeting decisions.

Similarly, the research of Gaspars-Wieloch (2019) examined the various ways research practitioners decide on estimating the cost of capital or discount rate using the NPV method. However, Gaspars-Wieloch did not use the traditional NPV method which assumes that future cash flows are certain or deterministic as done by other researchers such as Bekaert et al. (2016), and Holmén and Pramborg (2009). Instead, Gaspars-Wieloch assumed that future discount rates and cash flows are uncertain variables in a NPV model. Gaspars-Wieloch suggested using a modified NPV consisting of four methods for their estimation; (a) increase the discount rate arbitrarily, (b) use sensitivity analysis, (c) compare pessimistic and optimistic cash flows, and lastly, (d) use scenario planning and probability distribution to estimate cash flows. Gaspars-Wieloch postulated that there is no consensus in the literature as to how probability is measured.

This is evident by the various methods of measuring probability. Gaspars-Wieloch suggested that some practitioners assume that "the sum of state probabilities should be equal to 1" (p.180). Gaspars-Wieloch also stated that "the whole sample space must be precisely defined" (p.180). Probability, according Gaspars-Wieloch, can only be assigned subjectively depending on the institution of the stakeholder making the decision. Consequently, Gaspars-Wieloch suggested combining methods (c) and (d), namely, scenario planning and the coefficients of optimism and pessimism to forecast rate of returns and cash flows to make investment decisions.

Gaspars-Wieloch used the H+B rule, NPVU, that is, cash flows that are uncertain to estimate future revenues and expenditures in a case study to estimate the NPV of projects in the study. Using this modified NPV method, Gaspars-Wieloch excluded the

initial cash flows at time 0, as shown in Table 4 (p. 191), and used a combination of two of the four methods discussed above, namely, comparing pessimistic and optimistic scenarios, to forecast rate of return and estimate expected cash flows in scenario analysis.

Using an estimated rate of return of 9%, investment I_1 in Table 4 showed a NPVU of 73.0. I_2 showed a NPVU of 62.19 and I_3 showed a NPVU of 75.58. Given the decision rules of the H+B method, the decision maker selected I_3 or project 3 as the best project to embark upon, given the state of nature he or she foresaw, a pessimistic scenario.

Applying the NPVU, with scenario analysis features, Gaspars-Wieloch, decided to use a pessimistic scenario for cash flows in the projects discussed in Table 4. Consequently, project I_3 was selected as the best project with the highest cash flow of 75.58 which is positive, the criteria for project selection in capital budgeting investments.

The two papers by Peymanker et al. and Gaspars-Wieloch that discussed NPV demonstrated that in situations where an investor or project manager wants to make a capital budgeting or long-term investment decision, and is faced with uncertain cash flow situations, he or she does not have to be constrained with using the traditional NPV model. Rather, some modifications can be made to the model, such as the H+B rule for net present value under uncertainty (NPVU) and Integer Linear programing (ILP) as it was done by Gaspars-Wieloch and Peymanker et al. in these two papers.

Summary and Conclusions

The literature surveyed for this dissertation has shown that political risk comes in several forms, namely micro and macro political risk, and other forms such as corruption. It has therefore become a factor in the international investment arena, with pernicious

effects on FDIs and their flow to developing countries such as the Ivory Coast (Abotsi, 2016; Adegboye et al., 2023; Bekaert et al., 2016; Cuervo-Cazurra, 2015; Feils & Sabac, 2000; Holmén & Pramborg, 2009; Koko et al., 2017). I also showed that the moderating effect of political risk is not well estimated and captured by the capital budgeting models used to measure it for incorporation into the models, as the discount rate that is supposed to capture political risk, the WACC of the multinational firm, may be different from that of the project or enterprise they may invest in overseas (Bierman & Smidt, 2023).

Therefore, most finance managers of multinational firms either use payback period methodology to model their cash flows and recoup their investments faster even though it has inherent weaknesses. Others use adjusted present value methods where they adjust the discount rate upward arbitrarily to represent political risk and use it to estimate the cash flows for decision making (Adegboye et al., 2023; Bekaert et al., 2016; Feils & Sabac, 2000). These methods, as this review has demonstrated, are theoretically flawed and thus the reason for this research. To fill this gap, this research is aiming to use political risk as a moderating variable that goes through the discount rate and cash flows to determine the NPV of investment projects for decision making in the Ivory Coast.

Furthermore, the literature review described capital budgeting methodology as the process by which multinational corporations engage in planning and financing international investments and use models such as NPV, IRR or WACC, and the theory of CAPM to conceptualize the discount rate to estimate cash flows for investment decision making. The review showed that traditional capital budgeting methods have not succeeded in effectively pricing political risk in the environment and in some cases

therefore, finance managers have resorted to the use of Payback method, or ad hoc and arbitrary methods to measure or price political risk to add to the discount rate to estimate cash flows for decision making. It is argued in the review that such methods are theoretically flawed and hence create controversy in the capital budgeting literature, thus the need for the study.

The aim of the study therefore was to show the lack of direct effect of political risk on the NPV of multinational investments in the Ivory Coast, but rather a moderating effect that passes through the discount rate, and cash flows to determine the NPV for investment decision making.

Chapter 3: Research Method

The purpose of this quantitative survey design study was to examine the moderating effect of political risk through the discount rate and cash flows on NPV of projects or investments for capital budgeting decisions in a developing country such as the Ivory Coast.

The incidence of political risk is not new in international finance, as Kobrin (1979) explicitly brought it to light in the 1980s. In the 1980s, political risk was mainly characterized by expropriation or nationalization of multinational firms by host countries without compensation, as it happened after 1945 in Eastern Europe, in Cuba in 1960, and in Iran in 1979 (Bekaert & Hodrick, 2009). However, political risk is no longer characterized by expropriation or nationalization in the 21st century. Rather, political risk is now characterized by revocation of contracts, unexpected increases in taxes, bans and firings of local workers, strict environmental standards, civil disobedience, and military coups, the sudden outbreak of pandemics such as Ebola, and COVID-19 (Adegboye et al. 2023, Giambona et al., 2017; Kobrin. 2012; Koko et al., 2016).

The incidence of political risk is more pervasive in developing countries, and, as a result, multinational corporations are finding it more difficult to manage political risk as it increases their cost of capital. Political risk is theoretically flawed as well. A recourse that multinational firms have resorted to in managing political risk is to either use heuristic or rule of thumb methods such as a payback period for capital budgeting purposes, arbitrary adjustment of the discount rate in the NPV model or purchasing political risk insurance; they then deduct the cost of the insurance from the cash flows or

simply avoid doing business in the places where such risk persists (Adegboye et al., 2023; Holmén & Pramborg, 2009; Koko et al., 2016). These issues informed this research. The problem of how multinational firms determine how to investigate the factors that lead to increases in their costs of capital when doing business in a developing country such as the Ivory Coast was also examined.

From a theoretical perspective, managers of multinational firms and research practitioners make capital budgeting decisions with the following variables: (a) the discount rate or cost of capital, (b) cash flows from operations, and (c) political risk, which indirectly affect the discount rate and cash flows, and therefore influence the estimated NPV. Multinational firms' managers then use NPV to make investment decisions in places where such risks persist. This research was undertaken to examine the moderating effect of political risk through the discount rate while controlling for cash flows for capital budgeting decisions-making of multinational firms doing business in the Ivory Coast.

Political risk, as discussed earlier, influences the cost of capital of multinational firms in a developing country such as the Ivory Coast. However, the impact is not direct even though political risk influences the cost of capital or the return that investors receive for investing in multinational firms; it varies depending on the market the risk is prevalent in. Markets with high political risks have high costs of capital, and low rates of returns paid to investors and those with minimum political risks have low cost of capital and high rates of returns paid to investors. The use of the CAPM in this study was therefore justified, as according to CAPM, the higher the risk of an investment, the higher

should be the return. If political risk is contributing to increasing the risk of multinational companies investing in a developing country such as the Ivory Coast, CAPM helped explain the risk and return dynamics of such an investment.

In this research, the cost of capital in the equity market was determined by CAPM. The focus was on examining the moderating effect of political risk through the discount rate and cash flows. In their research, Bekaert et al. (2016) indicated that the pricing of political risk in capital budgeting practices of firms has been investigated in several studies in the international finance literature. Most of the studies, as Bekaert et al. rationalized, have concentrated on using arbitrary methods of estimating political risk in capital budgeting models. This study deviated from these studies and instead focused on an alternative method that was used to identify and measure political risk in a politically risky environment such as the Ivory Coast, with the aim of making recommendations to reduce and manage the risk.

The theoretical foundation of this research rested on the CAPM developed by Sharpe (1964) by postulating that a linear relationship exists between the dependent variable, the expected rate of return of individual stocks in the stock market, and three independent variables, which are the factors that represent the systematic or macroeconomic risk in the stock market. The model was tested based on four hypotheses that relate to the relationship between the rates of return of publicly traded multinational companies on BRVM stock market and the risk factors exemplified in this research. The independent variables of the model included company size as a firm-specific factor, expected rate of return in the overall stock market with BRVM-composite as a proxy, and

political risk, representing the contemporary political risk variables in a developing country such as the Ivory Coast. Even though other macroeconomic variables have been known to affect the systematic risks in the financial market literature, I focused on the financial risks of multinational firms as it affects developing countries such as the Ivory Coast. With the other regression model, I examined the moderating effect of political risk through the cash flows and required rate of return on the dependent variable NPV for decision making in a developing country such as the Ivory Coast.

In Chapter 3 of the study, I present a brief description of the problem researched, the purpose of the dissertation, and the theoretical framework that addressed the RQs and the related hypotheses. Additionally, I present the research design and sources of data and justify the reasons why such a design was used. I also showed how data were analyzed with SPSS Version 28 application software, EViews Version 12, and Microsoft Excel where needed. This study was quantitative in nature, and I obtained data from primary sources, that is, online survey-questionnaires. To reach the goal of the research, the study was designed to answer the RQs and hypotheses. Chapter 3 is therefore structured to include the design of the study, the rationale for the design, the description and definition of the variables, the methodology used, the data collection procedures, the data analysis, the threats to validity, and the ethical considerations. Lastly, Chapter 3 is summarized, and a transition is made to Chapter 4.

Research Design and Rationale

A descriptive survey research design method was used in this study to collect quantitative information to address the research problem and questions. This descriptive

design allowed me to obtain and gather information on multinational corporations' capital budgeting efforts where political risk persists as well as to examine the moderating effect of political risk on the variables of capital budgeting. I used survey questionnaires to obtain primary data from the sampled population. I used survey questionnaires because they enabled me to gather information from a relatively large sample. Survey questionnaires can also adequately capture elements not easily observable, such as perceptions, and respondents' experiences and the feelings. Survey questionnaires also availed respondents with enough time to think before responding to questions. Survey questionnaires are also clear of any bias and require less time to administer (see Creswell, 2014). Cross sectional or longitudinal survey was also used for this research.

Selecting and planning the procedures to follow for the study were based on various assumptions related to the data collection techniques and analysis that helped towards reaching the research objectives. The assumptions were that political risk indirectly affected the discount rate or cost of capital, and projected cash flows in turn affected the NPV that multinational companies used to make investment decisions. The assumptions that represented the RQs were tested accordingly.

Three independent variables were used in the first model of this study, and input from the first model was used in the second model with three independent variables as well. The independent variables in the first multiple regression model were the market rate of return, company size and political risk, and the product of political risk and market return. The dependent variable was the rate of return on equity or discount rate or cost of

capital. In the second multiple regressions, the independent variables were the discount rate derived from the first model and cash flows of multinational firms. The dependent variable was NPV of the multinational firm or project. The variables as stated above were used in a multifactor model and were the representative factors that determined the rate of return or cost of capital of the multinational firm used as an incentive to encourage investments in a multinational firm or project.

This quantitative survey research study also used ex-post facto design as the stock market and cash flow data of the multinational firms were historical data. I used panel data (time series of cross sections) to examine the relationship between the independent variables. I collected time series of cross-sectional data (panel data) on the realized rate of return on the equity of a sample of publicly traded multinational companies as well as data on the overall stock market (stock markets of multinational firms investing in the Ivory Coast and BRVM-Composite Index as a proxy). Political risk variables' information from survey questionnaire, and cash flows from the financial records of multinational firms, over a 10-year period from 2005 to 2015 were also used.

Regression models that were appropriate for analyzing panel (time series of cross section) data were also used. Therefore, multiple regression analysis was used to examine the relationship among variables in the study. The findings of this study may help investors, multinational organizations, and policy makers make more informed investment, capital budgeting, and policy decisions that may be helpful to all stakeholders.

CAPM, be it the single factor or multifactor model, includes all risky assets, such as stocks and bonds of publicly and non-publicly traded corporations, real estate, foreign exchange, gold, silver, and cash crops. However, CAPM's fundamentals are based on the attributes of publicly traded companies with branches overseas in a developing country such as the Ivory Coast. Data for the variables were retrieved from the stock market database of multinational companies, cash flow statements of multinationals, risk-free interest rate represented by the 12-month treasure-bill rate on the Ivory Coast government bonds traded on the BRVM market, and survey-questionnaires data of political risk in the Ivory Coast. The study focused on the moderating effect of political risk through the discount rate, while controlling for cash flows of multinational companies in the Ivory Coast.

In this chapter, I provide specific data collection methods, data analysis method, and the lenses through which I interpret my findings in Chapter 5. The methods were selected in accordance with the nature of the research problem and the phenomenon under investigation. According to Creswell (2014), quantitative inquiry is a method by which objective theories are tested through the examination of the relationship among variables. The researcher engages in investigations by deducting from observations and theories, building in theories against bias while controlling for alternative explanations, and trying to generalize and replicate the findings.

Creswell (2014) also rationalized that the variable of the problem under examination is the dependent variable, and the variable that probably affects the outcome

and whose influence on the dependent variable needs to be determined is referred to as independent variable.

Based on the above analysis, the study's RQs gave rise to the following hypotheses:

$H_0$1: Political risk does not have a moderating effect on the relationship between the expected rate of return of the multinational firm's equity and the expected rate of return of the whole market when controlling for multinational firm's size in a developing country such as the Ivory Coast.

H_a1: Political risk has a moderating effect on the relationship between the expected rate of return of the multinational firm's equity and the expected rate of return of the whole market when controlling for multinational firm's size in a developing country such as the Ivory Coast.

$H_0$2: Political risk does not have a moderating effect on the relationship between the discount rate and the NPV of multinational firms' projects, when controlling for cash flows in a developing country such as the Ivory Coast.

H_a2: Political risk has a moderating effect on the relationship between the discount rate and the NPV of multinational firms' projects, when controlling for cash flows in a developing country such as the Ivory Coast.

The two sets of hypotheses above were evaluated by running two multiple regression models that revealed the relationship between independent variables against the dependent variables. The independent variables in multifactor factor Equation 1 were market rate of return of the overall stock market, controlling for company size, and

political risk as a moderating variable. The dependent variable was the rate of return of the multinational firm's equity. The independent variables in multifactor Equation 2 were rate of return of the multinational firm, political risk as a moderating variable, while controlling for cash flows of the multinational firm. The dependent variable in Equation 2 was NPV.

$$RR_{it} = \beta_0 + \beta_1 MKT_t + \beta_2 S_{it} + \beta_3 PR_{it} + \beta_4 (PR_{it} * MKT_t) + \varepsilon_{it} \quad (5)$$

Where:

RR_{it} = Rate of return on multinational company i's stock during year t.

MKT_t = Rate of return on the overall stock market during year t.

S_{it} = Company's i size of the multinational firm during period t.

PR_{it} = Political risk of multinational firms i during period t.

$(PR_{it}*MKT_t)$ = Product of political risk and market return for multinational company i in period t.

β_0 = Intercept point of the rate of return of the multinational firm for the independent variables.

β_1 = Slope of the rate of return of the overall stock market in period t.

β_2 = Slope of the company's size i of the multinational firm in period t.

β_3 = Slope of political risk of multinational company i in period t.

β_4 = Slop of product of political risk and the market return in period t.

ε_{it} = Regression residual

$$RR_{it} = \frac{P_{it} - P_{i(t-1)} + D_{it}}{P_{i(t-1)}} \quad (6)$$

P_{it} and $P_{i(t-1)}$ are price of company i stock in year t and (t-1), respectively,

D_{it} is the dividends paid by company i during year t.

$$NPV = \beta_0 + \beta_1 CF_{it} + \beta_2 RRi_t + \beta_3 PR_{it} + \beta_4 (CF_{it} * PR_{it}) + \varepsilon_{jt} \quad (7)$$

Where:

NPV = Net present value of the multinational firm i in period t.

CF_{it} = Cash flows of the multinational investment i in period t.

RR_{it} = Rate of return of the multinational firm i during period t.

PR_{it} = Political risk in the host country i during period t.

(PR_{it} * CF_{it}) = Product of political risk and cash flows of multinational firm i during period t.

β_0 = Intercept of the rate of return of the multinational firm for the independent variables.

β_1 = Slope of cash flow of the multinational firm i in period t.

β_2 = Slope of the rate of return of the multinational firm i in period t.

β_3 = Slop of the political risk of the multinational firm i in period t.

β_4 = Slop of product of political risk and cash flows of multinational firm i in period t

and ε_{it} = Regression residual.

NPV for the multinational firm was calculated by incorporating the moderating political risk and cash flow variables derived from Equations 5. 6, and 7 as indicated in Equation 8 below

$$NPV_{it} = \Sigma(CF_{it}) / (1 + r_{it})^t \quad (8)$$

Where:

NPV_{it} = Net present value of the firm or project i at time t.

$\Sigma(CFi_t)$ = Sum of the cash flows generated by the multinational firm or investment at time t.

r = required rate of equity returns derived from the 3-factor CAPM.

$(1 + r)^t$ is the discount rate of the firm or project at time t.

Methodology

In this research, the extended CAPM and NPV models were used to model independent variables such as the market rate of return, controlling for company size (measured by market capitalization) and comparing it with the traditional CAPM. I developed a multifactor asset pricing model consisting of one dependent variable and three independent (risk factors) that were tested against empirical data to determine a more accurate explanation of the factors that determine stocks rates of return in the equity market. Additionally, I used the dependent variable from the multifactor CAPM to estimate the NPV as shown in Equation (2), while controlling for cash flows, and

political risk as moderating variable. NPV of the multinational firm or project in a developing country such as the Ivory Coast was used as the dependent variable.

The two models were based on four hypotheses related to the relationships between rates of return on stocks of publicly traded multinational firms and the risk factors that impact them. I collected quantitative survey data and time series of cross-section (panel data) on the realized rate of return on equity of a sample of publicly traded multinational corporations and data on the overall market rate of return on equity in the BRVM stock market and cash flows of multinational firms from their financial statements over a 10-year period from 2005 to 2015. I analyzed data using multiple regression models suitable to panel (time series of cross-section) data analysis.

Multiple Regressions

A multiple regression is a statistical technique that extends bivariate regression in which the effects of two or more independent variables on the dependent variable are examined. The independent and dependent variables of a multiple regression are continuous, and some research practitioners include discrete or dichotomous variables in multiple regressions as dummy variables. Multiple regressions can also be used in experimental, observational, and survey research projects. In a multiple regression, multiple independent variables help predict a continuous dependent variable. Multiple regression analysis is most often used to predict new values for the dependent variable given the independent variable and it is used to determine how much variation in the dependent variable is explained by the independent variable.

Assumptions of Multiple Regressions

Multiple regressions are primarily characterized by two assumptions based on the study design used by the research practitioner and they are: (a) continuous dependent variables, (b) two or more independent variables which can be either continuous (i.e., an interval or ratio variable) or categorical (i.e., an ordinal or nominal variable), and my dependent and independent variables satisfied these conditions.

1. Normality: The residuals have a normal distribution with mean 0 and standard deviation σ.
2. Independence: each residual is independent of other residuals.
3. The third assumption states that the independent variable and dependent variables are linear. This means that they are characterized by a straight line. The linearity of multiple regression analysis can be tested by drawing a scatter plot between the independent and dependent variables.
4. The fourth assumption of multiple regression relates to multicollinearity, that is, the independence of observations (i.e., independence of residuals). There is no multicollinearity, as the independent variables are not highly correlated with each other.
5. The fifth assumption of multiple regression is homoscedasticity, meaning that the variance of the error term is constant.
6. Assumption six is about normality of variables. That is, the prediction of the equation is strengthened if all the variables are normally distributed.

7. Assumption seven states that there are no outliers. That is, there are no influential cases biasing the regression.

Types of Multiple Regressions

There are three types of multiple regressions, and they are as follows:

1. Simultaneous multiple regression also known as predictive regression is a regression where all the predictors in the model are entered at the same time. Since all the predictors are entered simultaneously, it means that there is overlapping variance that is shared among the predictors.
2. The second type of multiple regression is the hierarchical multiple regression model, and it allows the variables in the model to be entered based on some external criterion that is determined by the researcher based on theory. The overlapping variance in a hierarchical regression model takes place according to the order in which the predictor is entered in the model.
3. The third type of multiple regression model is the stepwise regression. In stepwise multiple regression model, the order of entry of the predictor variable is based on a statistical criterion. For example, the software SPSS can be used to determine the predictor in the equation, accordingly, based on a statistical criterion determined by the statistician or researcher.

Biases in Multiple Regressions

According to Nachmias et al. (2015), multiple regressions offer researchers the opportunity to estimate the effects or changes of more than one independent variable X on the dependent variable Y. There are however five biases that a researcher will

encounter in the process of doing research that will result in threats to the internal validity of the regression and they are: omitted variable bias, functional form or misspecification bias, errors-in-variable bias, sample selection bias, and simultaneous causality bias.

Omitted variable bias occurs when an included variable X that belongs to the regression model is correlated with an omitted variable Z. Nachmias et al. postulated that it violates the conditional mean assumption of an ordinary least square regression, and therefore the bias. If this assumption is not violated, then a researcher dealing with multiple regression is able to make statistical inferences about the causal effect of one population or research environment to another population or research environment. One method that can be used to correct for omitted variable bias is to use panel data in which each research entity (individual) is observed more than once.

The second bias in multiple regression is wrong functional form or misspecification bias. Wrong functional form or misspecification bias occurs when the regression model fails to account for the link existing between the dependent and independent variables. To correct for this bias, Trochim (2006) suggested that in the case of a continuous dependent variable, the researcher can use an appropriate non-linear specification in the X-independent variable.

In the case where the researcher is using a discrete dependent variable, the multiple regression can be extended. Probit or logit analysis can be used for binary dependent variables. The third bias or errors in variable bias is the case where the X-independent variable is measured with error, either during the data entry stage, when administering the questionnaire in data collection or making data recollection errors in

surveys. A better data collection mechanism could better correct such bias (Trochim, 2006). The fourth type of multiple regression bias is missing data also called sample selection bias. In this situation not all the research participants recruited to participate in the research do so, and if the non-participants are materially different from the participants, then the sample selected may suffer from bias known as sample selection bias. To avoid this type of bias, researchers should collect sample data in a manner that avoids sample selection.

The last category of bias in multiple regression is simultaneous causality bias, where the independent and dependent variables are jointly determined. That is, two variables on the two sides of a multiple equation influence each other at the same time, for example X causes Y, but Y also causes X. This creates a situation where the explanatory X-variables becomes correlated with the regressions error term, leading to bias. A randomized controlled experiment is one way to control simultaneous causality bias. All the biases discussed above, when present in a research project, can lead to challenges of treat to the internal validity of the regression results (Trochim, 2006).

Rationale for the Regression Method Chosen

I used quantitative cross-sectional research design via survey questionnaire to collect political risk data and combine it with longitudinal design via archival data collection of multinational companies to conduct the research, using ex-post facto research design to investigate and test the relationships amongst the variables in my two regression models. Experimental research design is the most effective research design to investigate causal factors in research because of its manipulating or control features that

manipulates the independent variable to evaluate its effect on the dependent variable, thereby minimizing threats to internal validity of the inquiry. However, the ex-post facto research methodology was used in this research as it was the best design for this study. This research design was used by other researchers who have collected archival data to conduct similar studies (Hojat & Sharifzadeh, 2017; Leedy & Ormrod, 2010).

There are two multiple regression models used in this research. The first regression investigated the relationship between the dependent variable expected return of the stocks of multinational firms and three independent variables, namely, expected return of the overall stock market, company size of multinational firms, as controlling variable, and political risk as a moderating variable. The second regression modelled NPV as dependent variable against three independent variables, cash flows as controlling variable, and discount rate of multinational firms as postulated by CAPM developed by Sharpe (1964), and political risk as a moderating variable. These variables were explained in Chapter 1 and are further defined in data analysis section in the research.

Survey questionnaires was selected to gather data about political risk in the first part of the study due to the disadvantages of using experimental research design. It is impossible to manipulate the independent variables in this research using experiments and therefore, collecting data through survey design offers several advantages over collecting data using experimental design. It is cost-effective to use survey as a lot of questions can be answered by research participants at very low costs. Additionally, questionnaires are reliable as questions can be standardized and if the questions are well structured, then reliability of the questions may improve.

Questionnaires are also versatile as they can be used by a variety of professionals. Questionnaires are also generalizable because probability sampling techniques are used to collect data (Babbie, 2016). Political risk data obtained from the questionnaires were used in explanatory research design to model the second regression because explanatory research will enable me to utilize causal-comparative research design using multiple regression and correlation analysis to assess the dependent variable informed by the independent variables is a suitable method to conduct this research. Causal-comparative research design helped me minimize the problem of internal validity which can be a problem for survey-questionnaires as single instruments used in such a design (Burkholder et al., 2016).

Panel Data Design

A panel data research design is a mixture of time series and cross-sectional research design, also known as pooled data, to investigate observations of multiple units of data, such as (countries, entities, firms, households, individuals, etc.). The units are used to supply data repeatedly from the same units at two or more points in time. Panel data design help researchers study the same units or research participants over time, thereby allowing researchers the opportunity to identify individuals or units that did not change and then examine characteristics that differentiate the two groups (Heij et al., 2004).

The general model for the regression analysis of panel data approach is as follows:

$$Y_{it} = \beta_{0i} + \beta_i X_{it} + u_{it} \quad (9)$$

Where:

Y_{it} is the outcome variable of the i-th cross-sectional unit or multinational firms. i = 1…N, t stands for the t-th time-period, t = 1, 2, 3, …T. β_{0i} is the intercept for unit 0 at time i, β_i is the coefficient of the explanatory variable X_i at time t. u_{it} is the error term. The error term has two dimensions, one for units and the other for time.

The general model expressed in Equation 9 has two features, fixed effect, and random effects (Stock & Watson, 2019). Stock and Watson postulated that individual fixed effects will be present if β_{0i} is the intercept that represents all the units in the model. It means all the individual units or multinational firms have the same intercept, and thus, the OLS panel analysis method offers a good estimate of α and β which are slope coefficients assuming the OLS assumptions are satisfied (Stock & Watson, 2019). My OLS panel data model has the same slope and intercept for all the units or multinational firms.

The pooled regression model seen below shows that:

$$Y_{it} = \beta_0 + \beta_i X_{it} + u_{it} \quad (10)$$

1. Fixed Effects (FE). Each unit i in the fixed effect model has its unique β_{0i}, each β_{0i} being a random constant. A pooled OLS regression is applied to solve the regression equation by adding N-1 dummy variable to the model, thereby taking the values of 1if i = t, and 0 of i ≠ t. It is important to note that the slope of the model is the same for all units and the only difference in the intercepts in the models is the cross-sectional units or time dimensions or both cross-sectional units and time dimensions.

The fixed effect pooled regression model can be expressed as:

a. $Y_{it} = \beta_{0i} + \beta_i X_{it} + u_{it}$ (11)

2. Random Effects (RE): A fundamental assumption in the random effect model is that the β_{0i} intercept has a fixed term, and the same assumption applies for all units. On the other hand, the random term that is different for each unit. Thus, the random effect model according to (Stock & Watson, 2015), would be:

   a. $Y_{it} = \beta_0 + (\beta_t + v_t)X_{it} + u_{it}$ (12)

   b. $Y_{it} = (\beta_0 + u_t) + (\beta_i + v_t)X_{it} + u_{it}$ (13)

3. The random effect model also have fixed intercepts, Equation 12 random slope, as variations in the model Equation 13. The random effect model is estimated by using the general least square (GLS) method (Stock & Watson, 2019).

Population

According to Bryman (2001), population refers to the universe of units from which the sample is to be selected to conduct the research and draw conclusions. A population, adds McMillan and Schumacher (1997), is a group of elements or cases, whether individuals, objects, or events, that meet specific criteria generalized by the results of the research. The target population is expected to be about two hundred (200) multinational companies doing business in the Ivory Coast. Probability random sampling was used to sample the population because this method offers researchers an opportunity to make selections by chance with on an equal basis. Such sample will fairly be representative of the population (Buckholder et al., 2014). Since some industries have

more companies than others in the population, stratified sampling was used to proportionally represent participants in the sample (Buckholder et al., 2014).

The period of the inquiry spans from 2005 to 2015. A sample population of 40 multinational companies were extracted from the 200 multinational companies that invested in the Ivory Coast for analysis. This target population of multinational companies operated in various sectors such as trade and commerce, finance, insurance and other services, agriculture, transport and auxiliary, water, transport, building & construction, finance & insurance, mineral extraction. The main sectors of activities were presented in Appendix A. The reason for choosing these companies is that they are the companies with the most updated financial records, income statements, cash flow statements, and balance sheets for the period under review. Survey questionnaires were also submitted to CFOs or the designates of these multinational companies for their insight on the type of political risks, discount rate methods or theories used, required rate of return methods and capital budgeting methods their companies use when doing business in the Ivory Coast.

The collected financial records and reports were recorded in Microsoft Excel worksheet and arranged with the sorting features of the program. The data was categorized and coded according to type of company, size of company, required rate return, and cash flows.

Sampling and Sampling Procedures

I used probability sampling design as postulated by Creswell (2014), that provided me with the generalization techniques to generalize from the sample to the

population of the study. Conforming with this sampling technique, 200 listed multinational companies with primary quotes on the stock exchange of their parent companies doing business in the Ivory Coast were identified. From this target population of multinational companies, I selected the target-sample of 40 multinational firms by using stratified random probability sampling where I separated the sample into strata, and then randomly selected sample from each stratum. I used stratified random sampling to effectively apportion weights to the different business sectors and then used simple random sampling to identify the respondents. G*Power 3.1 software was used to determine the sample size.

Historical finance data consisting of the annual financial statements of the publicly traded multinational companies whose audited financial reports conform with the laws and regulations of the host country the Ivory Coast, were used in this research. Historical data was used as input into the multiple regression model for this study.

Stratified random probability sampling methodology was used in this study employing the G*Power 3.1 software to select a sample of 40 CFOs from my target population of 200 multinational companies in the Ivory Coast. Information of the 200 multinational businesses were collected from the database of the National Institute of Statistics of the Ivory Coast, one of the official database repositories of the government. This stratification technique was used to divide the sample into several separate strata, namely, agriculture, manufacture, construction, and extractive companies; trade, distributions, retailing companies, and consumers' goods; utilities, technologies, and oil & gas companies; and finance, banking, insurance, and other service companies.

The company size was divided into large multinational firms with an investment value or capital invested of 500 million U.S. dollars and above, medium size companies between 100-500 million and small companies with an investment value of less than 100 million U.S. dollars.

I decided to use stratified sampling because stratified sampling is a technique that reduces the variance, and the population of this study will be partitioned into subgroups or sectors to facilitate an unbiased analysis. A sample of 40-companies was extracted from the population of 200 multinationals companies and was sorted by sectors (Appendix A). There is a large variety of industries represented in the sample. For ease of calculation and to reduce the number of exhibits, the companies were bundled into four broad categories. Therefore, 40 % of sample data were from agriculture, manufacturing, construction, and extractive companies, 30% from trade, distributions, retailing companies and consumers' goods, 20% from utilities, technologies, and oil & gas companies, and 10% from finance, banking, insurance, and other service companies (see Table 1). Based on this categorization, multiple regression special F- tests R^2 increase and deviation from zero values, effect analysis obtained from G*Power 3.1 as discussed below was used.

Table 1

Stratified Sample Bundled in Broad Categories

Industry	Number	Percentage
Agriculture, Manufacture, Construction & Extractive companies	16	40%
Trade, Distributions, Retailing & Consumers' goods	12	30%
Utilities, Technologies & Oil & Gas	8	20%
Finance, Banking, Insurance & Other services	4	10%
Total	40	100%

Power Analysis Used for Analyzing Sample

Often in research, a pool of at least 100 participants are used as minimum sample size for large populations (Simmons et al., 2011). This is, however, not the case in some studies as some studies use rule of thumb methods when applying sample size. For example, in using regression to run research, researchers use a method stipulating at least 10 observations for every variable used in the study (Wilcox, 2010). If there are three independent variables, then based on this rule, we should have a minimum sample size of 30 (Nardi, 2018). In this study, I used G*Power 3.1 analysis to determine my optimal sample size as explained in the next paragraph.

Power analysis as postulated by Faul et al. (2007, 2009), refers to software used to run statistical data repeatedly in different ways and variations to avoid contingencies in the analysis. In this study, I used G* power 3.1 analysis of 0.80 to determine the number of participants needed in the four groups to find a difference of 0.20. The alpha level is 0.05, and the projected power is 0.80, and 0.35 for large effect size as postulated by Cohen (1988) and Frankfort-Nachmias et al. (2015). I used G*Power 3.1 to run the

sample tests, selected F tests, and linear multiple regression, fixed model R^2, with an a priori analysis to get the minimum sample size given alpha, power, and effect size as in Table 2.

Faul et al. postulated that the G*Power software offers researchers the ability to determine the statistical power they need in their empirical research to ensure that their proposed study attain the requisite sample size and power to reject the null hypotheses, and in this case, I used the power of 0.80 which means that if I were to run the same experiment 100 times, I should be able to detect a difference of 0.20 at least 80 times.

Based on this preliminary assessment, the sample size should be 40 multinational firms that operate in the Ivory Coast, based on my calculation using G*Power 3.1.

T**able 2**

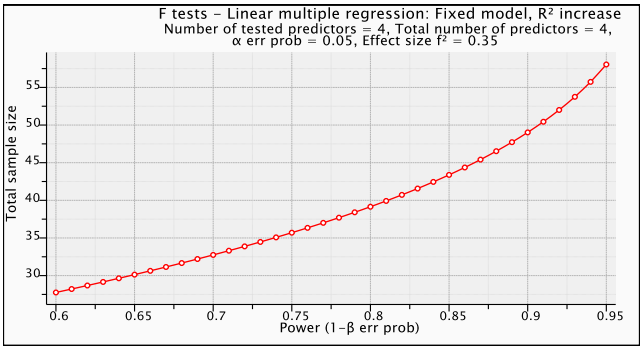
Minimum Size for Selected Powers and Effect Sizes

Effect size	Power			
	0.80	0.85	0.90	0.95
Small (0.02)	602	676	775	934
Medium (0.15)	85	95	108	129
Large (0.35)	40	44	50	59

The relationship between sample size and power can be determined by running a plot for any specific effect size and type I error. Figure 2 shows the result of the interaction between sample size and power for large effect size of 0.35 and alpha of 5%.

Figure 2

Relationship Between Power and Sample Size



According to the graph, sample size is a function of power. That is, the higher the power, the higher the sample size. The graph shows that at a power of 0.80, the minimum required sample size is 40. As power increases, sample size increases.

Justification of Effect Size, Alpha, and Power Level Chosen

Justification of the use of the G*Power analysis is informed by the importance Erdfelder et al. (1996) attach to the software. Faul et al. (2007, 2009) elaborated on the thinking that the G*Power is a great tool for use for data analysis for researchers in the social and behavioral sciences, as it provides precise and detailed statistical analysis on effect size, sample size and power analysis tests.

The strategy of using G*Power is justified because according to Creswell (2014), empirical research is a method that researchers use to decide the optimum sample size required to enable the researcher to arrive at ethical and scientifically valid results.

Additionally, Creswell postulates that the sample size of any research study depends on the level of significance, power of the study and the expected effect size of

the study. The power and expected effect size used in my research are embedded in the G*Power software. Since I used stratified random sampling to collect survey data, G*Power helped ensure that all the categories of the multinational firms I used were represented in my sample.

Procedures for Recruitment, Participation, and Data Collection (Primary Data)

A sample of 40 research participants were drawn from a population of 200 multinational companies operating in the Ivory Coast between 2005 and 2015. The participants were CFOs of the multinational firms who have conceptual knowledge of the capital budgeting models used by their firms. This method follows in the footsteps of Graham and Harvey (2001) who sent questionnaires to CFOs of Fortune 500 companies as well as 4,440 companies with managers and executives who are members of the Financial Executives Institute to collect data.

Information on demographic variables, namely, age of respondents' executives, highest level of education, tenure in current position, industry in which they operate, ownership of the company, sales revenues were collected (Graham & Harvey, 2001).

Finally, I avoided plagiarism by giving credit, acknowledging, and citing other authors whose works I used.

In this study, data collection was done through primary and secondary sources. Survey-questionnaires were used on a sample of 40 participants to collect primary data. Kember and Leung (2008) postulated that a questionnaire is a form of data collection method where predetermined questions are formulated by the researcher to be answered by research participants. The questions in a questionnaire could be formulated in two

ways. They can be done from a previous questionnaire or instrument that is already tested and proven or a new questionnaire can be developed by the researcher to perform the same task. Therefore, it is critical that the validity and reliability of a questionnaire be tested before putting to use (Kember & Leung, 2008; Mackison et al., 2009).

Archival Data

Historical accounting data on multinational firms used in this research was collected from the National Institute of Statistic of the Ivory Coast. Historical stock market data was collected from investing.com, a public asset trading website, the West African Regional Stock Market headquartered in the Ivory Coast (BRVM). Where special permission was needed, I contacted the appropriate authorities or organization to request authorization.

Instrumentation and Operationalization of Constructs

In this study I used an established survey questionnaire created by Graham and Harvey in 1999 and published in 2001. The instrument was appropriate because it had been tested by Graham and Harvey who mailed the survey to CFOs of Fortune 500 companies and faxed it to 4,440 companies whose officers are members of the Financial Executives Institute. The authors received 392 completed surveys, which represented a large variety of companies and different fields of activities. The 392 responses represented about 9% response rate, which is favorable, compared to other academic surveys (Graham & Harvey, 2001). The scope of the survey was broad, and it examined 3 different areas of finance, capital budgeting decisions, cost of capital, and capital structure. This helped the authors examine responses across areas. The three pages length

of the survey and the depth (more than 100 questions) helped me thoroughly investigate these areas of finance.

The design of the survey provided an in-depth understanding of corporate decisions-making through the analysis of CFOs responses. The design of the survey and capital budgeting questions were appropriate for my study and helped answer my RQs (Andor et al., 2015). I only used the capital budgeting questions from this established valid survey that I modified to add some questions about political risk to suit my study.

I contacted Dr. Harvey via email to request authorization to use his survey and permission was granted. Copy of permission to use the survey is shown in Appendix B.

Experts were enlisted to advise on the questions and design of the survey, making it a reliable and valid instrument. Beta tests were conducted during which the response time was closely monitored and improved based on feedback from testers. The number of questions were reduced to 15 in the final version of the survey, most with subparts, because the survey was three pages long.

The survey was administered in the U.S. to all 1998 fortune 500 CFOs and to 4,440 companies whose officers are members of the Financial Executives Institute.

Political risk according to Kobrin (1979), and Koko et al., (2016), has been characterized as expropriation risk, capital controls, war, civil unrest, macro, and micro political risk. Recent development has also seen land disputes, drop in asset prices, outbreak of diseases such as Ebola, and COVID-19, corruption, and graft characterized as political risk as rationalized by Mauro et al. (2019), and Koko et al. (2016). In this research I used these characterizations and constructs and compared them with the World

Bank and UNCTAD characterization of political risk as country risk and tested the political risk constructs prevalent in the Ivory Coast.

Data Analysis Plan

Survey questionnaires once collected was analyzed using Principal Component Analysis (PCA), a data reduction methodology to reduce the number of political risk constructs to a more amenable number. A 5-point Likert scale instrument was also used to facilitate quantitative use of output of questionnaires. Additionally, descriptive statistics was used to prepare tables and graphs as well as point statistics such as frequency distributions, mean, variance and standard deviation of the variables that were used as political risk variables to determine its moderating effect on net present value through discount rate and cash flows for acceptance or rejection decision making. Test statistics such as confidence intervals, significance tests were used to test the rigorousness of the results once data was analyzed.

I used IBM SPSS Statistics version 28 and EViews 12 software to analyze my data. Data was also inspected for anomalies such as missing data, outliers reverse coding, etc. I also checked the data file for normality, homogeneity of variance, multicollinearity, and singularity. Missing data, outliers, or reverse coding problems were corrected in SPSS before proceeding with data processing and analysis. To identify a missing data point, a frequency was run on the missing data, identified the missing data point through the maximum and minimum in the frequencies box and the output cleared the missing data point. Sometimes, missing data was due to error in entering the data, thus, I checked the original data entry sheet to solve the problem accordingly. Once the data was cleaned

and properly screened, I aggregated the data in SPSS, and analyzed it to answer my RQs by accept or reject my research hypotheses accordingly. The RQs and hypotheses were as stated below:

RQ1 – To what extent does political risk have a moderating effect on the relationship between expected rate of return of the multinational firm's equity and the expected rate of return of the whole market when controlling for the multinational firms' size in a developing country such as Ivory Coast?

RQ2 – To what extent does political risk have a moderating effect on the relationship between the discount rate, and NPV of the firm when controlling for the project's cash flows in a developing country such as Ivory Coast?

$H_0$1: Political risk does not have a moderating effect on the relationship between expected rate of the multinational firm's equity and the expected rate of return of whole market when controlling for the multinational firm's size in a developing country such as Ivory Coast.

H_a1**:** Political risk has a moderating effect on the relationship between expected rate of the multinational firm's equity and the expected rate of return of whole market when controlling for the multinational firm's size in a developing country such as Ivory Coast

$H_0$2: Political risk does not have a moderating effect on the relationship between the discount rate and NPV of multinational firms' projects, when controlling for cash flows in a developing country such as Ivory Coast.

H_a2: Political risk has a moderating effect on the relationship between the discount rate and NPV of multinational firms' projects, when controlling for cash flows in a developing country such as Ivory Coast.

I used a pooled and panel data regression analysis, a design appropriate to determine the relationship between the research variables repeatedly at a given point in time. This allowed me to investigate the RQs and test statistics to report the results. I used descriptive and inferential statistics to account for the multiple statistical tests conducted. I interpreted the survey results using multivariate tests (pair wise rank correlations), and descriptive statistics, using confidence intervals and significance tests.

Threats to Validity

External Validity

The research was externally valid because the sample of multinational companies used in the survey is a valid representation of the population studied as the sample is representative of CFOs of multinational firms in the Ivory Coast. The result could be replicated and generalized to study issues of the effects of political risk on businesses in French Speaking West African countries because the socio-cultural issues that contribute to political risk in Ivory Coast are the same as those in other French Speaking West African countries. Beyond that, the research results cannot be generalized to all West African countries nor across Africa.

Internal Validity

The research was tested for internal validity by doing a follow-up test of the questions in the survey questionnaire. The findings were cross-checked and validated by

Cronbach's alpha coefficient as postulated by Holmén and Pramborg to ensure that the research variables have a minimum α coefficient of 0.70. Once this was completed, accurate conclusions about cause-effect relationship were drawn about data because the constructs of political risk used in the research were effectively measured using the Likert scale instrument for reliability.

Construct Validity

Construct validities are divided into three types: (a) face validity that is conferred by experts in the field, (b) procedural validity, for example data collection through survey questionnaires as done by Harvey and Campbell (2001), and (c) methodological validity such as converting qualitative data collected through survey questionnaire into quantitative data using Likert scale and PCA methodology.

The validity of a research establishes the accuracy of the inferences made from the research based on the research results and the consistency of the results (Burkholder et al., 2016; Heale & Twycross, 2015). The validity of this research was determined through predictive validity and construct validity, among other criteria.

The constructs of political risk were corruption, excessive taxation and regulatory bottlenecks, capital controls, restrictions on repatriation and other forms of protectionisms, outbreak of pandemic diseases, and internal conflict due to political instability. These constructs or variables were measured by the Likert scale instrument for transferability into interval or ratio scale. Once the right measurement scale was used, construct validity was satisfied.

Ethical Procedures

The geographical area of the study being the Ivory Coast, data was collected internationally, outside of the U.S. Relevant institutional permissions, such as IRB application and approvals needed for the proposal were sought from Walden University IRB office and obtained. Walden University IRB approval number for this study is 04-29-20-0563873 and it expired on April 27, 2022. This approval was obtained before the final proposal was completed and presented to the committee. Each requirement of IRB was adhered to, throughout the study. Because data was collected in a French speaking country, questions were translated into French. All other necessary permissions were requested and obtained.

Ethical concerns related to recruitment materials and processes such as incentives to participants in the research were adequately addressed. For example, benefits for participating in the research were clearly explained to them for their participation in the study.

Prior to data collection, a clear explanation of the right of participants to withdraw from the study as they deemed fit and necessary regardless of whether they received incentives or not was provided. Participants were made aware through a memo of their option to exit the research at any time of their choosing. Effort was made to clear any concerns they may have prior or during the survey. As a result of debriefing through the memo, participants had the right to withdraw retrospectively any consent given and to require their own data be destroyed.

In circumstances where there was delay in taking the survey and answering the questionnaire by respondents, follow-up emails were sent to respondents reminding them of their commitment to participate in the study and answer the questions accordingly.

Responses from the survey questionnaire were anonymous and could only be traced by the researcher. Except for data already in the public domain, data provided by respondents remained confidential and securely stored by researcher.

Furthermore, data collected was safely locked and only accessible by the researcher. With respondents' permission, data was made anonymous and may be disseminated if needed for the study. I sought and retained the right to report my work, and ensure that participants were satisfied with the fairness, accuracy, and relevance of their responses and that those responses do not expose or embarrass those involved to the point that they veto the report or protect it with prohibitions of confidentiality (Robson, 1997). Codes will be used, and names will be stored (when necessary) separately from the data. Data will also be kept for a period of at least 5 years, as required by the university. I will also disseminate the findings of my study through mediums such as peer-reviewed professional journals, presentation at professional meetings, or poster presentations. Various regulations apply to the length of time academic researchers are required to keep data after the study is completed. In general, the length varies between 3 to 5 years. Data can be kept indefinitely if the researcher can ensure the records are secure.

Data was collected away from my work environment, in the Ivory Coast, in multinational companies. There is no conflict of interest with respondents as I did not

know any of them. The only incentive that was offered was to explain the benefits of the study to respondents and share the result of the study with them. The host government in the Ivory Coast will also be made aware of the recommendations of the study to help facilitate changes or improvements in policies to reduce political risk and thereby, improve the business environments where multinationals operate.

Summary

The research is about the effect of political risk on the equity investment of multinational companies doing business in politically risky environments while controlling for cash flows to enable them to make efficient NPV decision in the Ivory Coast. Political risk is a microeconomic risk in developed economies, and therefore can be eliminated through portfolio diversification. On the contrary, political risk is a macroeconomic risk in developing economies and it represents the sensitivity of a stock to the return of the overall stock market, represented by the BRVM index of the Ivorian stock exchange. Beta risk, which includes political risk, cannot be diversified because it encompasses the overall movement of the economy. Given that political risk was not scientifically measured in the Ivory Coast when included in the expected rate of return paid to portfolio investors, MNCs with high beta risks in their portfolios should be compensated with higher risk premiums as proposed by CAPM.

Since political risk is a macroeconomic risk that cannot be minimized through portfolio diversification in a developing country, therefore, it cannot just be arbitrarily plugged into the expected return. Political risk should on the contrary be measured scientifically as it was done in this research to help solve the problem of using heuristic

methods to measure it without a sound scientific foundation and offer investors assurance to invest in the Ivory Coast. Therefore, I used the one-factor CAPM and its extension, the three-factor CAPM developed by Fama and French (1992) and the capital budgeting model, NPV, to evaluate the variables in this research. According to Fama and French, the three-factor CAPM was developed to mitigate the weaknesses of the one-factor CAPM. The one-factor CAPM was empirically just measuring the beta risk and not the other risks such as company size as measured by their market capitalization. This problem was mitigated in this dissertation by using a multiple regression model to regress three independent variables, namely, the rate of return of the whole stock market, companies' size, and political risk represented by two variables, CPN and ETRB, both derived from the PCA methodology. The dependent variable (RR) was the expected rate of return of publicly traded MNCs trading on the BRVM index in the Ivory Coast.

A second multiple regressions was used to evaluate the NPV as a capital budgeting tool to examine the effect of political risk using the discount rate derived from the three-factor CAPM of Fama and French while controlling for cash flows of the multinational firm. The independent variables were the rate of return of the multinational firm, political risk, proxied by corruption (CPN), excessive taxation and regulatory bottlenecks (ETRB) and cash flows of the multinational firm. The dependent variable was the NPV.

Empirical tests were conducted using the two models as has been done in the literature and it did not lead to unambiguous conclusions, with respect to the expected return, beta, and company size represented by market capitalization as posited by the

three-factor CAPM. This explains why the model has been employed as a useful analytical tool in financial decision making for the last five decades.

Hence, the framework has been applied in this research to develop and test the model that addresses the above-mentioned disadvantages of the standard one-factor CAPM. Finally, the survey research design proved to be an important contributing factor to the research as the correct data to test the research hypotheses and answer the RQs were collected, runned, and analyzed to make relevant conclusions. Data collected and results of the analysis are presented in Chapter 4.

Chapter 4: Results

Introduction

The specific problem of this research was to examine the impact of political risk on the equity investments of multinational companies while controlling for cash flows for NPV decision making in the Ivory Coast. Political risk is a macroeconomic risk in a developing country such as the Ivory Coast, and it represents how sensitive the expected return of a stock is to the return on the market, proxied in this study by the BRVM index of the Ivory Coast stock market. Beta risk, which includes political risk, is a risk that cannot be avoided through diversification because it relates to the overall movement in the economy. Because political risk was not well measured in the Ivory Coast when included in the expected rate of return that investors received for their investment portfolios, companies with high beta risk portfolios should be compensated with high equity risk premiums as encapsulated by one of the assumptions of CAPM to encourage them to invest in multinational firms in the Ivory Coast.

Furthermore, when the market is down or in bad times due to a negative shock to the market return or economy, multinational investment portfolios with high beta risks will see a drop in their expected returns as predicted by CAPM. The beta risk of these companies' portfolios is high because political risk included in the returns are pervasive in the Ivory Coast, and they are not accurately captured. Measuring political risk quantitatively and scientifically as done in this research can help solve the problem of the ambiguous and heuristic measurement of this risk and can give investors some assurance to invest in the Ivory Coast.

Using the one-factor CAPM developed by Sharpe (1964) and its extension, the three-factor CAPM developed by Fama and French (1992), and the capital budgeting model, NPV, to conceptualize the variables in this research, helped to scientifically predict the risk and return behavior of the multinational firms whose investments were examined in this study robustly and effectively.

Moreover, I used NPV as a capital budgeting tool to examine the impact of political risk and the discount rate from the three-factor CAPM of Fama and French (1992), while controlling for the cash flows of multinational firms. I developed two multiple regression models to regress three independent variables in Equations 1 and 2 respectively, namely, the rate of return of the whole stock market, companies' size as measured by their market capitalization, and political risk as measured by the political risk proxied by CPN and ETRB constructs derived from the PCA output in Regression 1. The dependent variable was the expected rate of return of publicly traded multinational firms doing business in the Ivory Coast. The independent variables of Regression 2 were the rate of return of the multinational firm, political risk, proxied by CPN, ETRB, and cash flows of the multinational firm. The dependent variable was the NPV of the multinational firm. The CAPM and the capital budgeting theory of NPV were the theoretical models of this research. The RQs and the hypotheses illustrated the significance of the independent variables in predicting the dependent variables. Multiple regression was used as a statistical model for evaluating the hypotheses as shown in Equations 14 and 15.

Hypothesis 1

Hypothesis 1 is an expression of the multifactor CAPM. It contains three risk-factors, one of which is a political risk variable derived from the ordinal regression as reported in Table 5. It was evaluated against empirical data to better explain the factors that determine investors required rates of return. Specifically, I examined the relationship between change in political risk on the expected rates of returns of equities of multinational companies doing business in the Ivory Coast, rate of return of the whole equity market, while controlling for size of the sampled companies. Hypothesis 1 involved evaluating Regression Model 14.

Hypothesis 2

Hypothesis 2 is an expression of the other multifactor model that represents the NPV as the dependent variable, rate of return of the multinational firm, and political risk while controlling for cash flows as independent variables, as represented by Equation 15 below. Hypotheses 1 and 2 involved testing the two Regression Models 14 and 15 below for significance of correlation and regression coefficients.

Regression model 14

$$RR_{it} = \beta_0 + \beta_1 MKT_t + \beta_2 S_{it} + \beta_3 PR_{it} + \varepsilon_{it} \qquad (14)$$

Where:

RR_{it} = Rate of return on multinational company i's stock during year t.

MKT_t = Rate of return on the overall stock market during year t.

S_{it} = Company's i size of the multinational firm during period t.

PR_{it} = Political risk of the multinational firm i during period t.

ε_{it} = Regression residual of multinational company i period t.

β_0 = Intercept of the rate of return of the multinational firm for the independent variables

β_1 = Slope of cash flow of the multinational firm i in period t.

β_2 = Slope of the rate of return of the multinational firm i in period t.

β_3 = Slope of the political risk of the multinational firm i in period t.

Regression model 15

$$NPV_{it} = a_0 + a_1 CF_{it} + a_2 RR_{it} + a_3 PR_{it} + \varepsilon_{jt} \quad (15)$$

Where:

NPV_{it} = Net present value of the multinational firm i at time t.

CF_{it} = Cash flows of the multinational investment i at time t.

RR_{it} = Rate of return of the multinational firm i at period t.

PR_{it} = Political risk of the multinational firm i at period t

a_0 = Intercept of the rate of return of the multinational firm for the independent variables.

a_1 = Slope of cash flows of the multinational firm i at time t.

a_2 = Slope of the rate of return of the multinational firm i at time t.

a_3 = Slope of the political risk of the multinational firm i at time t.

Data Collection

Upon receiving the approval of my IRB application for data collection from the Walden University Institutional Review Board (Approval # 04-29-20-0563873), I was unable to start collecting data immediately because of extraneous circumstances that had to do with political risk in the Ivory Coast. The situation continued until my approved IRB expired on April 29, 2021. However, I applied for an extension that was immediately approved and lasted to April 27, 2022. I therefore immediately started data collection.

Survey questionnaire was submitted to finance executives of 40 multinational companies included in this research doing business in the Ivory Coast over the period 2005 to 2015. The questions were about political risk constructs that impacted their businesses' decisions and cash flows. Twenty-two respondents over the 40 invited participated in the survey and answered the questions (which represented a 55% response rate). Political risk data were collected using the 5-point Likert scale survey questionnaire through SurveyMonkey online platform (www.surveymonkey.com). Authorization to collect data on SurveyMonkey online platform is shown in Appendix D.

I also collected stock market price data for the overall stock market, the BRVM in the Ivory Coast as proxy, the stock prices of four small publicly traded multinational companies' stocks, the rate of return of three large publicly traded multinational companies, and two medium sized companies. The size of the sample companies was measured by their market capitalization and book-to-market values. Sample stock price data were collected from a public investment trading website (www.investing.com). Furthermore, I collected financial statement data from the balance sheets and annual

reports of the 22 multinational companies examined in my research from the National Institute of Statistics of the Ivory Coast (copy of authorization was submitted to Walden University IRB office).

The purpose of collecting these data was to examine the correlational relationship between the independent and dependent variables in the study. However, political risk data and financial statements data of the multinational firms were only analyzed for cross-sectional data, not panel data or repeated measures basis due to time and resource constraints during the research process. Only stock market data were analyzed on a repeated measures basis. This is one of the limitations of this research discussed in Chapter 5.

Data Analysis

Results of PCA

Principal Component Analysis methodology (PCA) a data reduction tool was to analyze survey questionnaire responses of the CFOs of multinational firms in the Ivory Coast. There were 12 questions on political risk constructs as they are manifested in the Ivory Coast. I used a 5-point Likert scale survey questionnaire, with 22 responses from the CFOs of the multinational companies operating in the Ivory Coast. The suitability of PCA was assessed prior to analysis. Inspection of the correlation matrix showed that all variables had at least one correlation coefficient greater than 0.3. The overall Kaiser-Meyer-Olkin measure was 0.76, with individual Kaiser-Meyer-Olkin measures all greater than 0.7, classifications of middling to meritorious, as postulated by Kaiser (1974).

Bartlett's test of sphericity used was statistically significant (p-value = .000 < .05), indicating that the data were likely factorizable.

PCA revealed two components that had eigenvalues greater than 1 and explained 70.8% and 14.5% of the total variance, respectively. Visual inspection of the scree plot indicated that two components should be retained (see Cattell, 1966). In addition, a two-component solution met the interpretability criterion. As a result, two components were retained.

The two-component solution explained 85.2% of the total variance. A Varimax orthogonal rotation was employed to aid interpretability. The rotated solution exhibited a simple structure (see Warner, 2020). The interpretation of the data was consistent with the personality attributes the questionnaire was designed to measure with strong loadings of corruption questions on Component 1 and ETRB on Component 2. Component loadings and communalities of the rotated solution are presented in Table 3.

Table 3

Total Variance Explained

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.481	70.677	70.677	8.481	70.677	70.677	6.424	53.531	53.531
2	1.740	14.501	85.178	1.740	14.501	85.178	3.798	31.648	85.178

Note. Extraction method: principal component analysis (PCA).

Table 4 describes the result of Likert 5-point interval scale questionnaire. As the table shows, the mean is highly impactful when it falls within the Likert scale interval of 4.20 to 5.0, 3.40 to 4.20 moderately impactful, 2.60 to 3.40 don't know, 1.80 to 2.60 little impact, and 1.00 to 1.80 no impact.

Table 4

Descriptive Statistics of Likert 5-Point Scale Questionnaire Result

Survey questions	*N*	Min	Max	Mean	Std. deviation
How does corruption impact your company's operation in Ivory Coast?	22	1	5	4.05	1.133
How does internal conflicts and civil disturbance, including outbreak of pandemics impact your company's operation in Ivory Coast?	22	1	5	4.09	1.411
How does risk of war and social unrest impact your company's operation in Ivory Coast	22	1	5	4.32	1.211
How does excessive taxation and adverse regulatory changes impact your company's operation in Ivory Coast?	22	1	5	4.05	1.090
What is the impact unfavorable sudden changes in government policy impact your company's operations in Ivory Coast?	22	1	5	3.86	1.356
Valid *N* (listwise)	22				

Note. 1 = *No impact*; 2 = *Little impact*; 3 = *Don't know*; 4 = *Moderate impact*; 5 = *High impact*.

The mean of the political risk question, "How does the risk of war and social unrest impact your company?" had a mean value of 4.32. This implies that the finance

managers of multinational companies doing business in the Ivory Coast highly agreed that on average, the risk of war and social unrest highly contributed to political risks that impacts their businesses. The second political risk question also had a mean of 4.09 and fell within the interval of moderately agree. This implies that, on average, internal conflict and civil disobedience, including outbreak of pandemics such as Ebola, COVID-19 moderately contributed to the incidence of political risk in the Ivory Coast. Similarly, the corruption question had a mean of 4.05, which fell in the moderately agree interval. It implies that, on average, the finance managers moderately agreed that corruption contributed moderately to the incidence of political risk in the Ivory Coast. Lastly, the two questions on excessive taxation and regulatory bottlenecks and unfavorable sudden changes in government policy also had a mean of 4.05, and 3.86. This implies that, on average, the finance managers agreed that the two constructs contributed moderately to the incidence of political risk in the Ivory Coast.

Multiple Regression Analysis on the Political Risk Variable

A multiple regression test was conducted with the following variables to calculate the mean of the political risk variable using the two variables derived from PCA: CPN and ETRB on political risk in the Ivory Coast. Table 5 shows the results of the ordinal regression analysis used to run the regression.

$$\text{Logit}(\dot{\widehat{Y}}) = b_0 + b_1X_1 + b_2X_2 \ldots b_kX_k \qquad (16)$$

Equation 16 is a logistic binary regression equation with the binary logistic dependent variable, the intercept b_0, and slope $b_{1,}\, b_2$ or the effect of $X_{1,}\, X_2$, categorical

logistic variables inspired by the logistic model from Stock and Watson (2015). The result of the regression is shown in Table 5.

An ordinal regression was conducted with political risk as the dependent variable and CPN and ETRB as independent variables as recommended by the PCA methodology.

Table 5 explains the result of logistic multiple regression.

Table 5

Multiple Regression Output for the Logistic Regression

Independent Variables	*B*	SE.B	Wald Chi-Square	*df*	Sig	Exp (*B*)
CPN	3.497	1.810	3.733	1	0.053	1.081
ETRB	14.687	5.862	6.276	1	0.012	1.012
(Scale) 1a						

Note. Dependent variable: PR. Independent variables: CPN and ETRB

As Table 5 showed, the two independent variables CPN and ETRB were both statistically significant with p-value of 0.053 and 0.012 respectively < 0.05. The variable in the equation showed the contribution of each independent variable, CPN and ETRB to the dependent variable political risk (PR) and it is statistically significant.

Furthermore, in Table 5 the coefficients showed an estimated or predicted change in the log odds of being the higher group or category (as opposed to a lower group or category on the dependent variable controlling for the other independent variables per unit increase in the independent variable. Our independent variables, CPN and ETRB were both positive, which means that as their values increase, there is an increased probability of falling at a higher level on the dependent variable. Therefore, because

corruption was a significant positive predictor in the model, it is predicted that for every unit increase in corruption, there is a predicted increase of 3.497 in the log odds of being at a higher level on political risk variable in Ivory Coast. The same holds for excessive taxation and regulatory bottlenecks. For every one unit increase excessive taxation and regulatory bottleneck, there is a predicted increase of 14.687 in the log odds of being at a higher level on political risk. This result indicates that the model fits in with Markowitz portfolio theory (1952) and the CAPM of Sharpe (1964) which state that a positive linear relationship exists between the risk of a portfolio and the return of the portfolio. As political risk increases in the Ivory Coast through the components of corruption and excessive taxation and regulatory bottlenecks, the constructs of political risk (CPN, ETRB) increases as well in the business environment with punitive effect on businesses.

Multiple Regression Result of Equation 1 With Fama-French 3-Factor Model

Table 6 represents the variables of Fama-French 3-factor model and the related results.

Table 6

Descriptive Statistics for the Independent and Dependent Variables of Equation 1

Stock market rate of return (BRVM stock index %)	*N*	*M*	*SD*
Stock market rate of return BRVM index (%)	46	-0.5	5.1
Large stock portfolio (%)	22	6.33	96
Small stock portfolio (%)	22	9.30	86
Change in corruption rate CPN (%)	22	3.92	1.30

The results shown in Table 6 are a demonstration that the postulates of Modern Portfolio Theory as presented by Markowitz (1952) and the CAPM developed by Sharpe (1964) worked. According to Sharpe, a positive linear relationship exists between the risk and return of a portfolio of stocks in an economy. The higher the risk, the higher the expected return should be. As Table 6 showed, the higher the realized historical returns of the portfolio as measured by the mean, the higher the risk as measured by the standard deviation. These results are also consistent with the Fama-French postulates and findings, as discussed in Chapter 2 in the literature review. According to Fama and French, small capitalizations stock portfolios have higher expected returns and higher risks compared to large capitalization portfolios, and the results in Table 6 bear this proposition out.

Pooled Regression Results

Pooled regression is the process of transforming cross-sectional and time-series data into a pool or panel data for analysis. In panel data regression, it is assumed that individual units in the regression have a constant term that is, they have the same intercept, and therefore, the ordinary least square (OLS) regression approach could be used because it provided a consistent and efficient estimate of the common alpha intercept and regression coefficients. Table 7 shows the results of the pooling approach to data analysis.

Table 7

Multiple Regression Output for the Pooled Regression for Equation 1

Pooled Regression Results	*B*	*SE B*	*b*	*P*	VIP
Constant	-0.049	0.014	0.647^{ns}	-0.003	0.038
Market rate of return (%)	-1.656	0.481	-0.632*	0.003	2.038
Company size	0.997	0.188	0.689*	0.001	1.072
CPN	2.263	0.001	0.978^{ns}	0.978	1.158
ETRB	-0.029	0.016	0.030^{ns}	1.760	0.096

*$P <= 0.05$
*** $p <= 0.001$
ns: Not significant

Note. $R^2 = 0.54$ ($p < 0.001$)

The results demonstrated that there was a significant relationship between all the independent variables put together and the dependent variable (R^2 = 54 %, p<0.05). However, market rate of return, and company size are the only variables that are statistically significant in predicting company portfolios rate of return (B = -1.656., p< 0.05, for company size B = .997, p < 0.05 for company size}. The political risk variables are not significant, corruption (CPN, B = 2.263, p = 0.978, > 0), and excessive taxation and regulatory bottlenecks (ETRB = -.029, p =1.760 > 0.05).

The result of the regression showed that market rate of return is a significant predictor of multinational portfolios rate of return, even though the market rate of return is negative, due to the inefficiency of the BRVM index in the Ivory Coast. The result, however, satisfies the assumptions of the one-factor CAPM theory of Sharpe (1964). Furthermore, the findings for company size are a significant predictor of the

multinational companies' rate of return on equity is consistent with the assumptions of Fama-French (1992) three-factor model. This is because as Table 6 showed, small companies pay more returns than large companies. This result matches with the descriptive statistics result reported in Table 6.

Table 8

Multiple Regression Output for the Pooled Regression for Equation 2

Corruption and Excessive Taxation as a moderating variable	*B*	SE B	*P*
Constant	948675	11010	0.422
Rate of return of MNC company size	0.997	0.188	0.001
Change in the rate of CPN	5264	440	0.909
Cash Flows of MNCs	-2.638	4.110	0.545
MNC_C ETRB	138377	622703	0.068

*$P <= 0.05$
Note. $R^2 = 16\%$ $p < 0.05$

The results in Table 8 showed regression result for the pooling approach to data analysis for equation 2. The result demonstrated that there was a significant relationship between all the independent variables put together and the dependent variable ($R^2 = 16$ %, $p < 0.05$). However, the rate of return of the multinational firm proxied by company size was the statistically significant variable (B = 0.997, p = 0.001, p < 0.05), cash flows was also (B =-2.638, p = 0.05, p < 0.05) statistically significant in predicting company net present value of the multinational firm. The political risk variables proxied by corruption was not significant, corruption (CPN, B = 5264, p = 0.909, > 0), and excessive taxation and regulatory bottleneck (ETRB = 13877, p =0.068 > 0.05).

The result of the regression showed that the rate of return of the multinational firm was a statistically significant predictor of the net present value of the firm, the cash flow was not a statistically significant predictor of the net present value because of the pervasive nature of political risk CPN and ETRB. The result satisfied the assumptions of the NPV technique that the cost of capital is a statistically significant positive predictor of (NPV) and cash flows are statistically significant negative predictors of the NPV.

I also found out that the political risk variable corruption (CPN) was not statistically significant when regressed against the NPV of the firm. Similarly, the excessive taxation and regulatory bottleneck (ETRB) variable in not statistically significant when regressed against the NPV of the firm. This result was not unexpected because the capital budgeting theory does not support the hypothesis. Furthermore, the VIF factor of political risk was below 10, the threshold for the presence of multicollinearity between predictor variables. One possibility responsible for the non-significance of the political risk variable was due to unobserved individual company heterogeneity of the political risk variable.

One method that can be used to treat this problem, and which is supported by theory is to treat the political risk variables (CPN, ETRB) as a moderating variable. According to CAPM, as postulated by Sharpe (1964), the market rate of return exemplifies macroeconomic risk or represents macroeconomic risk factors, and because political risk is a macroeconomic risk in a developing country such as the Ivory Coast, it is pertinently correct to include political risk as a beta or market risk proxied by the BRVM market in the Ivory Coast. Thus, the two political risk variables CPN, ETRB in

the pooled regression model will now be modified and treated as moderator variables in the regression.

As discussed in Chapter 2, moderation occurs in research when the moderating factor (M) has a significant effect on the strength and direction of the relationship between the dependent variable (Y) and the independent variable (X).

The political risk variables CPN and ETRB are therefore moderating variables (M). I used them to describe the links between the outcome variable (Y) and the predictor variable (X). I evaluated moderation through equations (17) and (18). Equation (17) is the multi-factor regression model with three factors, the market rate of return, controlling for company size, political risk and the product of political risk and the market rate of return. Equation (18) is the multifactor regression model with required rate of return, controlling for cash flows, political risk and product of political risk and cash flow as postulated by (Warner, 2020).

Political Risk as the Moderating Variable on the Market Rate of Return

The moderating model with political risk is expressed in Equation (17).

$$RR_{it} = \beta_0 + \beta_1 MKT_t + \beta_2 S_{it} + \beta_3 PR_t + \beta_4 (PR_{it} * MKT_t) + \varepsilon_{jt} \quad (17)$$

Where:

RR_{jt} = Rate of return on multinational company i's stock in period t.

MKT_t = Rate of return on the overall stock market during period t

S_{it} = Company size of the multinational firm i during period t.

PR_{it} = Political risk for company i during period t in the host country Ivory Coast

$(PR_{it} * MKT_t)$ = Product of political risk and rate of return of the overall market

during year t.

Table 9 represents the SPSS result of the moderating effect of political risk on the market rate of return. In this study the market was proxied by the BRVM of the Ivory Coast.

Table 9

The Effect of Change in Corruption on the Relationship Between Market Rate of Return and the Companies Rate of Return on Equity

Corruption and market rate of return as a moderating variable	B	SE B	Prob. (P)
Constant	-.049	.014	.003
Corruption CPN change (%)	2.26	.004	.978
Market rate of return	-1.655	-632	.002
Corruption change (%) x Market rate of return (interaction effect)	.181	.646	.002
ETRB x Market rate of return interaction effect	.060	.264	.824

Note. $R = 86.5$, $R^2 = 74.8$ ($p < 0.05$)

As the results in Table 9 showed, a statistically significant positive moderation relationship exists between market rate of return and multinational companies rate of return on equity (for the interaction effect B = 0.181, p < 0.05).

I centered the moderator variable because according to Warner (2020), not centering the beta slope of the moderator variable will lead to an inflated regression outcome when the other independent variable market rate of return is (0.00). Therefore, when I center predictors or independent variables, the beta coefficient represents the

effect of the predictor when the predictor is at its mean value. It is therefore suggested that the predictor be centered so that all the predictors are centered around the mean.

The result in Table 9 of the centered interaction term change in corruption and change in the market rate of return was positive (0.181, $p < .002$) and statistically significant. This finding indicated that there was a positive relationship between market rate of return and the rate of return of companies' equity at all levels of corruption, a construct for political risk in the Ivory Coast. Furthermore, the strength of the relationship was demonstrated by the negative return of the market return proxied by the BRVM of (-1.655, $p < .05$). This was a clear demonstration that political risk represented by the change in the level of corruption has a moderating effect on the market rate of return proxied by the BRVM index in the Ivory Coast. The relationship was stronger for investors trading in the BRVM market than those not trading there.

The result in Table 9 also showed that the other variable that represented political risk used in this research ETRB did not have a moderating effect on the change in the rate of return of the BRVM index.

Political Risk as the Moderating Variable on the NPV When Controlling for Cash Flows

The moderating model with political risk on the net present value (NPV) is expressed in Equation (18).

$$NPV_{it} = a_0 + a_1 CF_{it} + a_2 PR_{it} + a_3 (CF_{it} * PR_{it}) + \varepsilon_{it} \quad (18)$$

Where:

NPV_{it} = Net present value of the multinational firm i at time t.

CF_{it} = Cash flows of the multinational investment in period i at time t.

PR_{it} = Political risk for company i at period t in the host country Ivory Coast

(PR_{it} * CF_{it}) = Product of political risk and cash flows of MNC i at time t.

a_0 = Intercept of the rate of return of the multinational firm for the independent variables.

a_1= Slope of cash flow of the multinational firm in period i at time t.

a_2= Slope of political risk in period i at time t.

a_3= Slop of product of political risk and cash flows in period i at time t.

and ε_{it} = Regression residual in period i at time t.

Table 10 showed the results of the interaction or moderation effect of political risk CPN on the cash flows of a multinational firm in the Ivory Coast.

Table 10

The Effect of Change in Corruption CPN on the Relationship Between Cash Flows and Net Present Value of the Multinational Company

Corruption and change in cash flows as a moderating variable	B	SE B	P
Constant	-50701	70892	0.001
Corruption (CPN) Change	16580	32882	0.002
Cash Flows MNC_C	14.552	1.661	0.001
Corruption (CPN) % x Change in Cash Flows MNC_C	-5.716	0.814	0.001

Note. $R = 86.5$, $R^2 = 74.8$ ($p < 0.05$)
MNC_C represents company C

As the results in Table 10 showed, a statistically significant positive moderation relationship exists between the cash flows generated by multinational companies doing

business in the Ivory Coast. The coefficients of corruption had a statistically significant positive impact on net present value (CPN, B = 16,580, p = 0.002; Cash Flows of MNC_C = 14.552, p = 0.001, p < 0.05). For the interaction or moderation term effect (CPN*Change in Cash Flows, B = -5.716, p = 0.001, p < 0.05).

I centered the moderator variables because according to Warner (2020), not centering the beta slope of the moderator variable will lead to an inflated regression outcome when the other independent variable, change in cash flows is (0.00). Therefore, centering the predictors or independent variables, the beta coefficient will represent the effect of the predictor when the predictor is at its mean value. It is therefore suggested that the predictor be centered so that all the predictors are centered around the mean.

The result in Table 10 showed that the centered interaction term change in CPN and change in the cash flows was negative (B = -5.716, p < 0.001, p < 0.05) and statistically significant. This finding indicated that there was a statistically significant negative relationship between the cash flows of the multinational company and NPV at all levels of corruption, a construct for political risk in the Ivory Coast. Furthermore, the strength of the relationship was demonstrated by the low and negative cash flows generated by businesses during the crisis periods covered by this paper. This result showed that political risk represented by the change in the level of corruption has a moderating effect on the NPV through the cash flows of multinational businesses in the Ivory Coast.

Table 11 presented the results of the interaction of the other variable that represented political risk used in this research ETRB and showed that the variable ETRB

variable did not have a moderating effect on the change in the NPV of multinational firms in the Ivory Coast.

Table 11

The Effect of Change in ETRB on the Relationship Between Cash Flows and Net Present Value of the Multinational Company

Excessive taxation and regulatory bottle necks and cash flows as a moderating variable	B	SE B	P
Constant	-388309	103065	0.009
MNC_C Cash Flows	12.254	2.594	0.003
MNC_C ETRB	138377	622703	0.068
ETRB x Cash Flows MNC_C	-5.680	1.580	0.11

Note. $R = 93$, $R^2 = 90.04$ ($p < 0.05$).

Even though as Table 11 showed the coefficients of cash flows, ETRB were significant with positive coefficients (Cash Flows, B = 12.254, p = 0.003 p < 0.05; ETRB, B = 138377, p = 0.06, p > 0.05), the interaction or moderation terms (ETRB*Cash Flows, B = -5.680, p = 0.11, p > 0.05) was not statistically significant. This showed that even though excessive taxation and regulatory bottlenecks were key variables in the political risk construct, their role in creating political uncertainty was not as clear as does corruption as shown in Table 10.

NPV for the multinational firm was calculated by incorporating the moderating political risk and cash flow variables derived from equations (1) and (2) as indicated in equation (19) below.

$$NPV_{it} = \sum_{t=0}^{n}(CF_{it}) / (1 + r)^n \quad (19)$$

Where:

NPV_{it} = Net present value of the firm i or project at time t.

$\Sigma(CFi_t)$ = Sum of the cash flows generated by multinational firm i at time t.

r = Required rate of equity returns derived from the 3-factor CAPM.

$(1 + r)^t$ is the discount rate of the multinational firm i or projects at year t.

The result of the moderating effect of political risk on the net present value through the cash flows of the multinational firm is reported in Table 12.

Net Present Value Calculation of a Multinational Company Doing Business in Ivory Coast

Table 12 is an example of cash flow calculation for a multinational company doing business in the Ivory Coast.

Table 12

Initial Investment of a Multinational Company in the Consumers' Products Sector in the Ivory Coast 2005-2015

Elements of MNCs expenditure	Currency in X0F	Currency in USD
Equipment Purchase	29,173,061,849	48,219,937
Transport on Equipment Purchase	2,372,278,162	3,921,121
Shipment, Installation & Fixtures	2,803,528,797	4,633,932
Capital Expenditure CAPEX (Net Capital Spending)	**34,348,868,808**	**56,774,990**
Current Assets	38,709,515,363	63982670
Current Liabilities	27,563,380,579	45559307
Working Capital	**11,146,134,784**	**18,423,363**
Disposal of Intangible Assets (Inflows)	0	0
Disposal of Tangible Assets (Inflows)	14,319,460	23,669
Net Disposal Inflows	**14,319,460**	**23,669**
Initial Investment (Initial Capital Investment)	**45,480,684,132**	**75,174,685**
Cash Flow (From Cash Flow Statement)	**4,500,360,748**	**7,438,613**

Note. Example of cash flow calculation for a multinational company doing business in the Ivory Coast. The table includes the main elements of accounting used to determine cash flows.

Assumptions Notes

Life of Investment = 10 years

Discount Rate = 9.30% (Taken from Table 6: Descriptive Statistics for IV & DV of Equation 14)

Currency in US Dollar at 2005 rate. In 2005: 1 USD = 604.97 XOF rounded to 605 XOF

XOF = West African Franc

Table 13 shows the cash flows expected over the life of the investment, discounted by the discount factor for each year.

Table 13

Discounted Cash Flows Calculation

Life of investment in year t	Discount Factor	Cash Flow in USD	Discounted Cash Flow in USD
Year 1	1.0930	7,438,613	6,805,684
Year 2	1.1946	7,438,613	6,226,610
Year 3	1.3058	7,438,613	5.696,807
Year 4	1.4272	7,438,613	5,212,083
Year 5	1.5599	7,438,613	4,768,603
Year 6	17050	7,438,613	4,362,857
Year 7	1.8636	7,438,613	3,991,635
Year 8	2.0369	7,438,613	3,651,999
Year 9	2.2263	7,438,613	3,341,262
Year 10	2.4333	25,861,976	10,628,209
Discounted Cash Flows Total			54,685,749

Note. Year 10 cash flows include working capital. Discounted cash flow equals cash flow divided by discounted factor for the year.

Table 14

Net Present Value Calculation

Elements of net present value	XOF	USD
Initial Capital Spending (Initial Investment)	45,480,684,132	75,174,684
Total Discounted Cash Flows (minus)	33,084,877,912	54,685,749
Net Present Value	**12,395,806,220**	**20,488,935**

Note. Net present value equals initial capital spending or investment minus discounted cash flows.

The figures in Table 14 showed the NPV, the net future cash flows (both -in-flows and out-flows) that the company received using the discount rate (9.30%), which is the cost of capital required by investors to invest in the Ivory Coast. The discount rate as Table 6 showed is moderated by CPN, a political risk variable as shown in Table 8. The NPV was positive and therefore a viable project that was undertaken by the multinational company in Ivory Coast. As the table showed, for the most part, cash flows of the multinational firm during the period of this research were very low because of the incidence of corruption, a proxy for political risk that played a significant role in creating an unstable business, economic and political environment that led to the crisis and civil strife that lasted for a decade.

Fixed Effects (FE) Regression Results

The fixed effect model is used to account for heterogeneity in the pooled regression model by allowing different intercepts, one for each firm in the data. The model does this with the use of demeaning technique. This exercise is also done with the use of demeaning technique in the regression as shown below:

$$Y_{jt} = \beta_{0i} + \beta_1 X_{1,it} + \beta_2 X_{2,it} + \ldots\ldots\ldots\ldots + \beta_{n,it} X_k + \varepsilon_{it} \qquad (20)$$

Where:

i = 1, 2,….., k firms, with k = 9 representing the highest number of firms in this study.

t = 1, 2,….., n years, with n = 10 representing the highest number of years in this study.

Differences in intercepts capture the unique characteristics of the firms in the research. The fixed effects are used because although the intercept β_{0i} varies across firms, it is fixed as postulated by Warner. It is time invariant and therefore has no time subscript to it (β_{0i}, without any t to it). The model instead accounts for differential intercept using deviation from its time mean. Thus, to solve the problem of heterogeneity, we use the demeaning regression model as presented below:

$$Y_{it} - \bar{Y}_i = \beta_1(X_{1,it} - \bar{X}_{1,i}) + \beta_2(X_{2,it} - \bar{X}_{2,i}) + (\omega_i - \bar{\omega}_i) + (\epsilon_{it} - \bar{\epsilon}_i) \quad (21)$$

Where, $Y_{it} - \bar{Y}_i$, $(X_{1,it} - \bar{X}_{1,I,})$, $(X_{2,it} - \bar{X}_{2,i})$, $(\omega_i - \bar{\omega}_i) + (\epsilon_{it} - \bar{\epsilon}_i)$ observations of the dependent, independent and the time invariant heterogenous and idiosyncratic are mean corrected by differencing the values around their sample means, and effectively eliminate the heterogeneity in the data. Note that ω_i is not time dependent, thus, $\bar{\omega} = \omega i = 0$, therefore, $\omega_i - \bar{\omega}_I = 0$.

Therefore, by subtracting the time-mean from each variable, we effectively removed the unobserved firm dependent (heterogeneity) error term, ωi.

The fixed effect model can be expressed as in Equation 22

$$RR_{it} = \beta_0 + \beta_1 MKT_t + \beta_2 S_{it} + \beta_3 PR_{it} + \varepsilon_{it} \quad (22)$$

Where:

RR_{it} = Rate of return on multinational company i's stock at time t.

MKT_t = Rate of return on the overall stock market during year t

S_{it} = Company's size of the multinational firm i at time t.

PR_{it} = Political risk for company i at time t in the host country the Ivory Coast.

ε_{it} = Regression residual.

To run the fixed effect regression model for panel data analysis in EViews, I used the Analyze, Mixed Models, Linear, and then selected Fixed Model. The output for the Fixed Effect model is presented in Table 15.

Table 15

Fixed Effect Estimates for the Regression Model

Fixed Effect Model	B	SE B	b	t	sig
Constant	.421	.002		280.825***	<.001
Demeaned MKT return	.003	.001	.382	2.363*	.036
Demeaned SMB	.023	.004	.896	5.965*	.001
CPN	7.3	.000	.006	$.035^{ns}$	.972

Note. * $p < 0.05$

*** $p < 0.001$

ns: not significant

As the results of Table 15 showed, the regression estimates of the fixed effect model are like the regression estimates in the pooling regression method without moderation. There is a positive correlation between the multinational company's rate of return on equity and the market rate of return (B = .003), and small companies showed on average .004% higher rate of return on equity (B =.002). However, the political risk variable had positive impact on the multinational companies' rate of return on equity (B = 7.3). However, in the fixed effect model result, there were only two statistically significant independent variables for the multinational companies' rate of return on

equity, the market rate of return with B = .003, p = 0.036 and the small and medium business (SMB) rate percentage change was B = .023 and p = 0.001.

Random Effects (RE) Regression Results

"In the random effect model, it is assumed that each intercept β_{0i} contains a constant term, which is the same for all units, and a random term which is expressed for each unit" (Beck, 2001, p.56). The random effect model is expressed in equation 22:

$$RR_{it} = (\beta_0 + U_i) + \beta_1 MKT_t + \beta_2 SMBit + \beta_3 HLMit + \varepsilon_{it} \quad (23)$$

Where:

RR_{jt} = Rate of return on multinational company j's stock in period t.

MKT_t = Rate of return on the overall stock market during period t

S_{it} = Company's size (SMB_{it} & HLM_{it}) of the multinational firm i during period t.

Generally, other variants of the random effect model may be written as below:

$$Y_{it} = \beta_0 + (\beta_t + v_t)X_{it} + u_{it} \quad (24)$$

$$Y_{it} = (\beta_0 + u_t) + (\beta_i + v_t)X_{it} + u_{it} \quad (25)$$

The random effect model was analyzed using EViews version 12 software. In the EViews 12 environment, the random effect model for panel data analysis is accessed by first importing the financial market data into EViews and then selecting variables of interest, and then opened as equation. Next, select the random effect model. The output for the random effect model is presented in Table 16. The random effect regression did not include political risk variables because I was unable to collect panel data on the

political risk variables (CPN, ETRB) due to constraints of time and resources. Therefore, only pooled regression was run on the political risk variables, a limitation of the study.

Table 16

Random Effect Model Estimates for the Regression Model

Random Effect model	B	SE B	p
Constant	0.0486	0.0038	0.000
BRVM (Market rate of return)	0.00298	0.0013	0.050
SMB	1.07043	0.0430	0.00
HLM	0.74018	0.0336	0.00

Note. R = 99.9, R^2 = 99.9 ($p < 0.05$)

As the results of Table 16 showed, the regression estimates of the random effects model are almost the same as the regression estimates in the fixed effects regression model. There was a positive correlation between the multinational company's rate of return on equity and the market rate of return (B = .00298), and small companies showed on average a .33% higher rate of return on equity (B =.1.07043). However, the political risk variable CPN could not be included in the fixed effect model because I did not collect 10-years data on the political risk constructs used in the model. Ten-years data was only collected on the stock prices of multinational firms used in the study. Also, the fixed effect model results, had all the independent variables statistically significant for the multinational companies' rate of return on equity, the market rate of return with B = 0.00298, p = 0.05 and the SMB rate percentage change was B = 1.07043 and p = 0.00, the HLM rate percentage change was B = 0.74018 and p = 0.00. The coefficients of the random effects model were almost the same as the fixed effects model. It was the same with R-squared and the adjusted R-squared, 99.9 and 99.9 respectively.

The only way to determine whether there is a difference between the fixed effects model and the random effects model was to run the Hausman test. The Hausman Test was run on the regression:

$$Y_{it} - \bar{Y}_i = \beta_0(1 - \lambda) + \beta_1(X_{1,it} - \lambda\bar{X}_{1,i}) + \beta_2(X_{2,it} - \lambda\bar{X}_{2,i}) + V_t - \lambda\bar{V} \quad (26)$$

In EViews, I ran the Hausman test by going to view, fixed/random effect testing, correlated random effect – Hausman test. I also stated two hypotheses as shown below:

H_0: FE estimator is the best estimator.

H_0: Cov ($\omega_{it,}$ X_{it}) = 0 i.e; the FEM model is the correct estimator or H_0: FEM and REM estimators do not differ substantially.

H_A: REM is the best estimator

H_A: Cov ($\omega_{it,}$ X_{it}) ≠ 0.

Running the Hausman test resulted in the results shown in Table 17.

Table 17

Correlated Random Effects—Hausman Test

Test summary	Chi-Square Statistics	*df*	Prob.
Cross-section random	0.000000	3	1.0000

Table 18

Cross-Section Random Effects Test Comparisons

Variable	Fixed	Random	Var (Diff.)	Prob.
BRVM Stock Market	0.003160	0.002980	0.000000	0.0871
SMB	1.076192	1.070430	0.000011	0.0871
HLM	0.744691	0.740182	0.000007	0.0871

Table 17 showed the Hausman test results. It showed that chi-square test statistics with chi-square 0.00, degree of freedom (k-1) (4-1), 3 degrees of freedom. The p-value was 1.00 > 0.05. Therefore, I rejected the null hypothesis and accepted the alternative hypothesis. That is, the random effect model was the best model for this study as it accounts for individual heterogeneity in the model in both the slope and intercept. Table 18 also showed that the results of the difference of the models fixed effect and random effect was very small. The results in Table 18 also showed that the coefficients were not significant (BRVM, SMB, and HLM, p-value = .087, > 0.05).

The random effect model was therefore the appropriate model. According to Woodbridge (2020), because the p-value of the variables are non- statistically significant, it was better to try to revert to either the pooled OLS regression or the fixed effects model. I therefore needed to determine whether the covariance between omega and the independent variable is zero or very small (Cov ($\omega_{it,}$ X_{it}) = 0. According to Woodbridge (2020), if that covariance is not zero, then there is a relationship that should be eliminated by using the fixed effect model. That is, if Cov ($\omega_{it,}$ X_{it}) ≠ 0, it implies we should use the FE – model. If on the other hand, the (Cov ($\omega_{it,}$ X_{it}) = 0, we should use the pooled OLS model.

To determine which of these models to use I introduced the concept of the GLS parameter lambda (ƛ). According to Woodbridge (2020), lambda is estimated using the various estimates of the cross-section random error term omega (ω), as well as the idiosyncratic error term (ε). The decision is made by determining how large the variance of omega is. If lambda is zero, then there will be no variance of omega, which in turn

means that pooled OLS is the preferred model to use. On the other hand, if the variance of omega tends to become very large, lambda will approximate to 1, and therefore it might make sense to eliminate omega and go with the FE-model. To determine lambda, I used the following formula inspired by Woodbridge (2020)

$$\lambda = \left(\frac{\sigma\omega}{\sigma\omega^2 + T\sigma^2}^2\right)^{1/2} \qquad (27)$$

if $\lambda = 0$ it implies using Pooled OLS model as the most suitable option,

if $\lambda = 1$, it implies using FE model as the most suitable option.

Substituting the results of the Hausman Test into the Lambda equation, we have

$$1 - \left(\frac{0.0000972^2}{0.0000972^2 + 16*0.0000^2}\right) = \frac{0.0000972^2}{0.0000972^2} = 1$$

Therefore,

$\lambda = 1$.

Substituting the value of λ into the demeaned equation gives

$$Y_{it} - \bar{Y}_i = \beta_0(1 - 1) + \beta_1(X_{1,it} - \bar{X}_{1,i}) + \beta_2(X_{2,it} - \bar{X}_{2,i}) + V_t - \bar{V} \qquad (28)$$

$$Y_{it} - \bar{Y}_i = \beta_1(X_{1,it} - \bar{X}_{1,i}) + \beta_2(X_{2,it} - \bar{X}_{2,i}) + V_t - \bar{V}$$

Thus, with lambda = 1, the RE estimator approximates the FE model. As Tables 6 and 7 showed, the variables in the FE and RE estimators are significant with (BRVM, B = 0.00298, p = 0.05; SMB, B = 1.070430, p = 0.00; HLM, B = 0.740182. In conclusion, according to the literature, if the (Cov ($\omega_{it,}$ X_{it}) = 0, and $\sigma\omega^2 = 0$, we use pooled OLS given that there is no serial correlation.

Table 19 showed the standard deviation of the cross-section of the random effect model to be 0. The findings of the FE, RE, and POLS showed that the variables of the

models are all positively significant and satisfied the assumptions of the one-factor and three factor CAPM which states that the market rate of return is a significant predictor of multinational portfolios rate of return, albeit negative due to the inefficiency of the BRVM which is the proxy of the market rate of return in the Ivory Coast. The finding also satisfied the other assumption of the three-factor CAPM which states that small companies pay more returns than large companies. Both the FE and RE model results satisfied this assumption as the coefficient of SMB, FE = B =1.076192, RE, B = 0.744691, were more than the coefficient of HLM, FE, B = 0.744691, RE, B= 0.740182. The result in Table 4 also showed the pooled OLS regression results where small companies paid more return than large companies as postulated by the three factor Fama-French model and the regression estimate for the intercept (B) was equal to 1.046, which means that small companies (in the Ivorian context, these are large companies) had on average 2.97% higher rates of return on stocks when compared to large companies. This result matches with the descriptive statistics results reported in Table 6.

Table 19 presents standard deviation of the cross-section of the random effect model.

Table 19

Effect Specification

Effect Specification Model	S.D	Rho
Cross-section random	0.00000	0.00000
Idiosyncratic random	0.000970	1.00000

Note. S.D represents the standard deviation. Rho represents the variance of individual effects.

Verifying the Assumptions of Multiple Linear Regression

Multiple linear regression according to Warner (2020) has certain underlying assumptions as listed below. The verifications of the assumptions will be listed upon stating the assumptions.

1. Normality: The residuals have a normal distribution with mean 0 and standard deviation σ.
2. Independence: each residual is independent of other residuals.
3. Homoskedasticity: The variance of residual is constant and is independent of the predicted value.
4. No strong multicollinearity: The predictors are not highly correlated.
5. Linearity: the mathematical relationship between the outcome variable and the predictors is linear.

IBM SPSS Statistics version 28 software was used to test for the normality assumption. I plotted the histogram and normal P-P plot of the standardized residuals. The mean of residuals was zero as showed in Figure 3, and the residuals are not far from the 45-degree line on both sides. Figure 4 showed that my data analysis satisfied the condition of normality. Figures 5 and 6 also showed the histogram of the standard residual and the normal P-P plot produced in SPSS respectively.

Figure 3

Histogram of Multiple Regression Standard Residuals (Test of Normality)

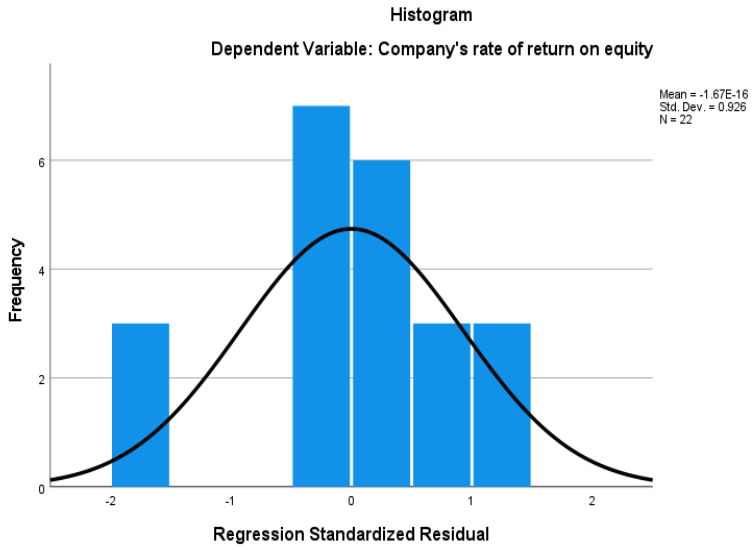


Figure 4

Normal P-P Plot of Regression Standard Residual (Test of Normality)

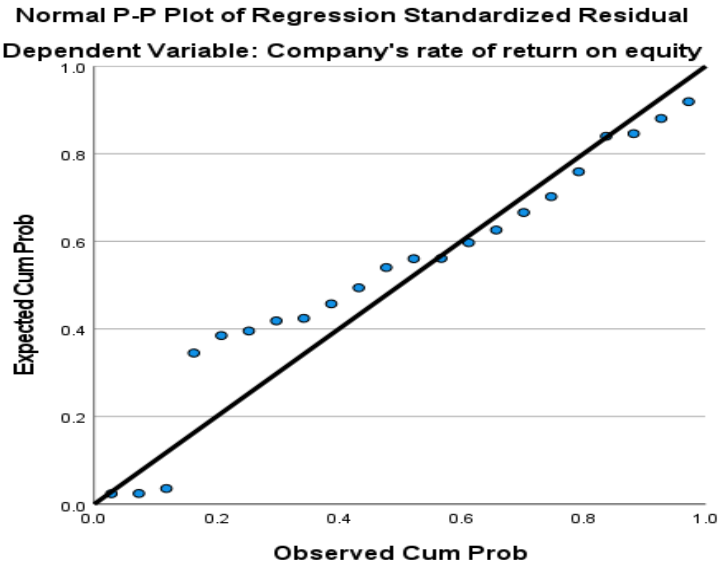


Figure 5

Plot of Company's Rate of Return on Equity Against Regression Standardized Residuals (Test of Heteroscedasticity)

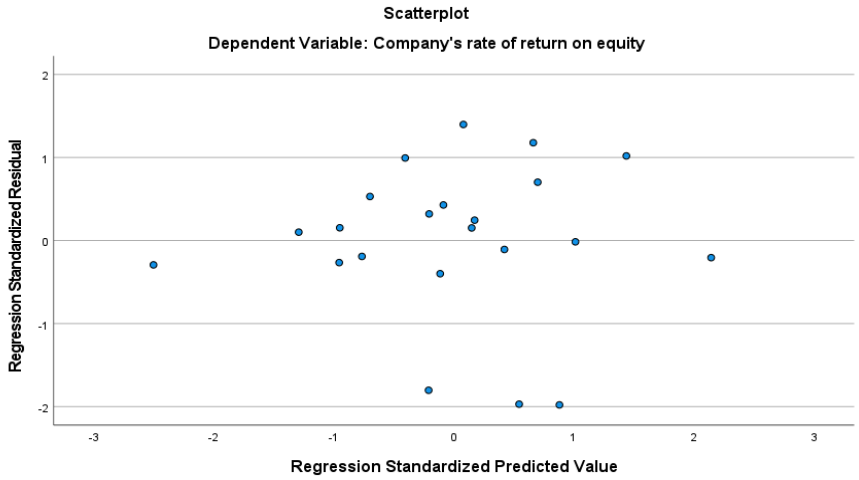
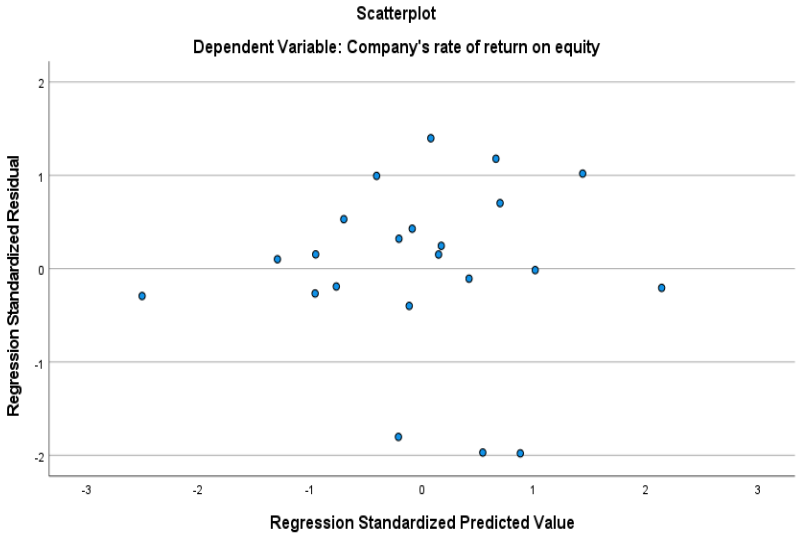


Figure 6

Regression Standardized Predicted Values Against Regression Standardized Residuals (Test of Linearity)



I conducted the test for multicollinearity by looking at the VIF numbers above 10. Since the VIF numbers in the regression are all below 10, the VIF number satisfied the assumption of multicollinearity and meets the condition that the result can be generalized accordingly because it is below 10.

I used scatter plot of the regression to test for the linearity assumption. As figure 3 showed, the scatter plot from the standardized predicted values ran against standardized residuals. The scatter plot did not show any shape of curvature. This is a clear demonstration of linearity and therefore, Figure 3 showed that the assumption of linearity is satisfied.

I conducted the Durbin-Watson test statistics (DW) to test for independence of the residuals in the regression output. The result was DW = 2.03, which demonstrates that the assumption of test of independence is met (Warner, 2020). This result also demonstrated that there is no autocorrelation in the time series data used in this research.

I also used IBM SPSS Statistics version 28 software to test for homoscedasticity. To conduct the test, I plotted the company's rate of return on equity (the dependent variable) against the regression standard residual. As Figure 3 showed, the scatter plot does not spread out. This showed that there was no evidence of homoscedasticity, which implied that the findings of this study can be generalized accordingly.

Summary

The general problem in this study was to examine the inherent reasons why multinational corporations were refraining from investing in politically risky

environments in developing countries such as the Ivory Coast. The specific problem was to examine the moderating effect of political risk through the discount rate and cash flows on NPV of projects or investments for capital budgeting decisions in a developing country such as the Ivory Coast.

This study was important as it assessed whether the low level of investments of multinational firms in politically risky environments such as the Ivory Coast had merit. The findings of the study may help multinational firms intending to invest or currently investing in developing countries such as the Ivory Coast where political risk is pervasive, work on measuring it more accurately for inclusion into their capital budgeting decision-makings.

The purpose of this study was to develop two multiple regression models in which the dependent variable of regression 1 was to calculate the expected rate of returns of a publicly trading multinational company, and the independent variables were the market rate of return, while controlling for company size, political risk, and the product of the market portfolio and political risk as the interacting or moderating variable.

The dependent variable of regression 2 was the NPV of a publicly trading multinational company doing business in the Ivory Coast. The independent variables were expected rate of return derived from the first model and political risk derived from the principal component analysis regression, while controlling for cash flows of the multinational firms doing business in the Ivory Coast, and the product of cash flow and political risk as the interaction or moderating variable.

Results of the Fama-French Three-Factor and the NPV Regression Models

The RQs and hypotheses addressed the statistical significance of the independent variables in predicting the dependent variables. The theoretical foundation of the research was the CAPM and the capital budgeting model. This quantitative survey questionnaire study was conducted with an ex-post facto design, where I used existing panel data to examine relationships between variables.

The result showed that the political risk variable was not a significant predictor of company's rate of return on equity and net present value. However, after modifying the model and including the political risk variable (CPN) as moderating variable, the moderator variable gave a different result. As a moderating variable, political risk (CPN) had a statistically significant positive moderation effect on companies' rate of return on equity through the market rate of return. Similarly, political risk variable as moderating variable had a statistically significant positive effect on the net present value of the multinational firm. This means that a positive change in political risk (CPN) had an indirect statistically significant effect on the relationship between market rate of return and companies rate of return on equity.

The second regression was analyzed to examine whether there was a moderation effect between the rate of return of the multinational firm or cost of capital as exemplified by CAPM, and the net present value, while controlling for cash flows. The result presented in Table 9 showed that there is a statistically significant negative moderating relationship between political risk exemplified by corruption (CPN) through the discount rate and cash flows on the net present value of the multinational firm in the Ivory Coast.

The findings of this research are consistent with the use of moderation models to conduct research. The findings also showed a positive relationship between risk and return, which is consistent with CAPM, and in consonance with Markowitz modern portfolio theory that exemplifies the relationship between risk and return. The results also showed that the portfolio of small capitalization stocks have higher expected returns and higher risks when compared to large capitalization stock portfolios. This result aligns with the findings of Fama-French as postulated by Hojat and Sharifzadeh (2017).

Based on the findings in Chapter 4, I discussed the financial and economic relevance of the study in Chapter 5, concluded the study, and suggested meaningful recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

In this research, I examined the methods used by multinational corporations to make capital budgeting and long-term investment decisions in politically risky countries such as the Ivory Coast. I conducted the research by assessing the moderating effect of political risk, through the discount rate and cash flows, on NPV of multinational companies operating or intending to invest in a developing country such as the Ivory Coast. The specific problem and contribution of the research to the academic literature is the examination of the lack of a scientific measurement of political risk for incorporation into capital budgeting models for decision making in a developing country such as the Ivory Coast. That is, the moderating effect of political risk through the discount rate and cash flows on projects or investments NPV was not accurately taken into consideration in capital budgeting models. The discount rate was inflated upwards in the NPV models to capture political risk and estimate cash flows. Seemingly, political risk exemplifies macroeconomic risk in developing countries, especially those with pervasive political risk such as the Ivory Coast. Therefore, it impacts the expected rate of return of the overall stock market proxied by the BRVM index in the Ivory Coast. Because the beta risk, which includes political risk, cannot be avoided through diversification, it had a pernicious and devastating consequence on businesses in the Ivory Coast, as revealed by this research.

Moreover, because political risk was not well measured in the Ivory Coast when included in the expected rate of return that investors received for their portfolio in FDIs, companies with high beta risks in their portfolios were not well compensated for the risk

they incurred as postulated by financial theory – the higher the risk, the higher the return should be (Fama-French, 1992, Sharpe, 1964). Furthermore, investors and research practitioners should first be made conscious and aware of the type, nature, and magnitude of the risks and returns they may get for their investments, and political risk as an investment risk should be clearly measured and made aware of in an investment environment. Hence, I used the principle and theory of asset pricing (CAPM) and the capital budgeting model NPV to conduct this research so that political risk, when incorporated as a moderating variable into the return of a multinational corporation in the Ivory Coast, will be clearly known before incorporation.

Based on this theoretical background and reference to past literature and my own experience with the economic, social, and political problems that have plagued the Ivory Coast, leading to crisis and war with pernicious consequences for the people and the economy, I used four independent variables as risk factors that an international investor would consider in making financial investments in the Ivory Coast. I then calculated the correlational relationship between the four independent variables and two dependent variables, expected rate of return of the equity of multinational companies, and the NPV of the multinational companies. The independent variables were the expected rate of return of the overall stock market, companies' size, cash flows of the multinational firm, and the political risk variables (CPN and ETRB).

The study was quantitative. In Equation 1, I examined the effect of the independent variables on the dependent variable, the expected rate of return of the overall stock market and political risk variables (CPN, ETBN) while controlling for the

company's size. In Equation 2, the independent variables were the expected rate of return of the equity market while controlling for cash flows of the multinational firm in the Ivory Coast and the political risk variables (CPN, ETRB). The dependent variable of Equation 1 was the expected return of the multinational equity (RR), and the dependent variable of Equation 2 was the NPV of the multinational firm doing business in the Ivory Coast.

The design of the study was ex-post facto. I collected a time series of cross-sectional data (panel data) on the realized rate of return of a sample of nine publicly traded multinational companies trading on the BRVM in the Ivory Coast. Among the 22 companies that responded to the survey, these were the nine companies trading on the BRVM that were used in the study. The nine companies were distributed by industry and bundled into groups as Table 20 in the Appendix shows. Table 20 describes the distribution by percentage of the nine MNCs that trade in the BRVM and used in the study. Three MNCs, representing 33% were from the agriculture, manufacturing, construction, and extractive companies. Two more MNCs representing 22% were selected from trade, distribution, retails, and consumers' goods sector. Also, two MNCs representing 22% were selected from the utilities, technologies, and oil & gas sector, Lastly, two other MNCs, 22% were selected from the finance, banking, insurance & other service sectors (see Table 20 in Appendix E).

Furthermore, I collected survey data from the finance executives of the multinational companies I researched, using a 5-point Likert scale survey questionnaire through SurveyMonkey online platform. It was from the responses of these finance

executives, the 22 who responded, that I developed my political risk variables: CPN and ETBN, using PCA methodology, a data reduction method.

The data I used included the market rate of return on the overall stock market proxied by the BRVM index in the Ivory Coast, and the rate of return of the small and large capitalization companies traded on the BRVM, the cash flows of the multinational firms, and the political risk variables.

My aim was to distinguish between the elements of the market economy environment that are considered microeconomic and macroeconomic variables in developed economies that can be diversified away through portfolio diversification. Political risk is a microeconomic risk in developed economies. However, in a developing country such as the Ivory Coast, political risk is a macroeconomic risk, and, in this research, I treated it as a macroeconomic variable that cannot be diversified away through portfolio diversification.

I also measured political risk in a scientific manner as it has been arbitrarily and heuristically measured for inclusion in capital budgeting models for decision-making by multinational companies doing business in the Ivory Coast, and I analyzed the effect of changes in political risk on the equity market. Additionally, I explained the impact of political risk on the capital budgeting decisions of multinational companies in a developing country such as the Ivory Coast, and I analyzed and evaluated the effect of government policies that exacerbate political risk in the Ivory Coast, with an aim to make recommendations for mitigation of such risks for positive social change.

Key Findings

The results from the descriptive analysis of data revealed the following:

1. A positive relationship exists between the expected return and risk; higher expected return comes with more risk or more risk comes with higher expected returns.
2. Small capitalization stocks have higher expected returns and higher risk than large capitalization stocks.
3. PCA produced two components that represented political risk: CPN and ETRB, explained by 78.8% and 14.5% of the total variance respectively.
4. Political risk had a moderating or indirect positive effect on the market rate of return proxied by the BRVM in the Ivory Coast.
5. A positive relationship exists between NPV and the DCFs of the multinational firm.
6. A negative significant moderating effect exists between political risk and the NPV of the multinational firm through the cash flows generated by the firm. Most of the cash flows for the period of the research were negative due to the negative impact of political risk on the operations of businesses during the crisis period.
7. Political risk had a moderating or indirect negative effect on the cash flows of the multinational firm.

The results from the pooled regressions and application of OLS showed the following:

1. There is a significant relationship between all the independent variables taken together and the dependent variable (R^2 = 54%, $p < 0.05$)
2. The independent variable company size is a statistically significant predictor of companies' rate of return.
3. The market rate of return proxied by the BRVM of the Ivory Coast is a statistically significant predictor of the companies' rate of return.
4. The other independent variables –CPN and ETRB were not statistically significant predictors of the companies' rate of return, as their *p*-values were greater than 0.05.
5. The rate of return or cost of capital of the multinational firm is a statistically significant predictor of the NPV of the firm.
6. The cash flows of the multinational firms are a statistically significant predictor of the NPV.
7. Political risk is a statistically significant negative predictor of the NPV of the multinational firm.

The results from the moderator model revealed the following:

1. Change in CPN as a proxy for political risk had a statistically significant positive effect on the relationship between the dependent variable and the independent variables. CPN had a statistically significant positive interaction or moderating effect on the market rate of return (BRVM) of multinational companies doing business in the Ivory Coast. That is, the strength of the relationship increased as the political risk variable increased. Therefore, when

corruption, the political risk variable, is included in the model, 0.181% of the variations in the overall market rate of return variable is explained by the corruption variable CPN, the proxy for political risk (B = 0.181, R^2 = 74.8%). The other political risk variable, ETRB, had a statistically insignificant moderating relationship between the market rate of return with p-value > 0.05.

2. Change in CPN as a proxy for political risk had a statistically significant positive effect on the relationship between the dependent variable and the independent variables. CPN had a statistically significant negative interaction or moderating effect on the cash flows of the multinational firm doing business in the Ivory Coast. That is, the strength of the relationship decreased as the political risk variable increased. Therefore, when corruption is included as moderator variable in the model, cash flows dropped by B = $-5.716 million, R^2 = 74.8% (see Table 9). The political risk variable ETRB had an insignificant moderating relationship between market rate of return with p-value > 0.05.

Interpretation of Findings

Risk/Return

As described in Table 6, the descriptive statistics analysis presents the relationship between risk and return. Conceptually, risk and return are at the foundation and heartbeat of finance and this research, and its findings epitomize this theory. This is because for investors to embark on investing their resources into an endeavor or business, they must

earn more than they put in. The earnings for investments are what is referred to as return. Risk is the downside of investment because there is no free lunch in finance and investments. When one makes an investment in a product or an enterprise, it may go well, or it may go poorly. The business world is plagued with uncertainties. It is because of these uncertainties that investors demand higher rewards for taking risks. Thus, there is a clear connection between risk and return, as rationalized by Markowitz (1952), extended by Sharpe (1694), and shown in this research.

As Table 6 showed, investors demanded higher return for investing in riskier assets. The table showed that the higher the realized historical return of a portfolio, the higher the risk as measured by the standard deviation. It is the foundation stone that informed the portfolio choice model of Markowitz (1952). According to Perold (2004), this transformation led to the revolutionary development of the CAPM of Sharpe (1964), Lintner (1965), and Mossin (1966).

Modern portfolio theory developed by Markowitz (1952) postulated that investors should not just invest to earn returns on their investments but should also think about risk. It is against this backdrop that Markowitz developed a framework and mathematical formulation encapsulating risk and return profiles of investors, stating that investors who only care about return and risk of their investments should consider investing in a portfolio by combining assets of different risk and return profiles. Markowitz called this framework the mean-variance framework, with a tangent portfolio containing stocks and bonds that are risky and touch the efficiency frontier. Markowitz postulated that the mean-variance efficiency frontier offers the highest return for a given risk, and the

highest risk for a given return. Markowitz theorized that there are several types of investors – moderate investors, conservative investors, and aggressive investors. Markowitz suggested that moderate investors should hold some cash in their portfolio and mix them with the risky assets consisting of stocks and bonds. Conservative investors were to hold the tangency portfolio containing the "best mix of stocks and bonds" where the straight line touches the curve or tangency portfolio (Campbell & Viceira, 2002, p. 3). Moderate investors were to combine their tangency portfolio with cash to minimize their risk on the efficiency frontier. Aggressive investors should borrow from the free rate to invest in the tangency portfolio on a risk-return or mean-variance framework.

Sharpe (1964) built on the Markowitz mean-variance framework of portfolio management and developed the theory of asset pricing known as the CAPM. The CAPM was built on the theory that every investment bear two risks. The risk of being in the market, which Sharpe called the systematic or beta risk, which he argued cannot be diversified away, and the other risk, called unsystematic risk, which, according to Sharpe, can be diversified away in a fully diversified portfolio. Consequently, Sharpe postulated that if the unsystematic risk can be diversified away, then a portfolio expected return should depend solely on its beta risk, that is, its connection to the systematic risk of the overall market. Therefore, the CAPM is a theory that helps to measure portfolio risk and the return an investor can expect to earn when taking risk for making an investment.

The Market Rate of Return

As has been discussed, CAPM exemplifies the relationship between risk, as represented by the beta, or market risk of an investment, as proxied by the BRVM of the

Ivory Coast, and the expected rate of return of multinational companies investing in the Ivory Coast. Panel data regression was used in this research. Panel data, according to Warner (2020), is a repeated observation technique done on the same units or companies. Panel data, Warner continued, is divided into three variants: pooled regression, fixed effect regression, and random effects regression. The pooled regression model was used to analyze the relationship between the independent variables (market rate of return, company size, and political risk) against the dependent variable (expected rate of return of the multinational firm). The result as shown in Table 6 is that there was a significant relationship between all the independent variables (market rate of return, and company size SMB, HML) and the dependent variable ($R^2 = 54\%$, $p < 0.05$).

This finding is reflective of the theory of the CAPM, which states that the market rate of return is a determining factor in the stock value of a company. The CAPM, as I have already discussed, postulates that the total risk of an investment in a portfolio is divided into two parts, the systematic risk and unsystematic risk. According to Sharpe (1964), when a portfolio is well-diversified, the unsystematic risk is eliminated or diversified away leaving the systematic risk in the portfolio. The systematic risk or beta risk, which is represented by the overall stock market, cannot be eliminated in the portfolio, or diversified away. Thus, the results of data analysis in this research theorized that if investors hold well diversified portfolios, then only systematic risk will affect their realized returns. Therefore, the expected return of a security can be predicted by the systematic risk, the risk-free rate, and the expected return of the overall stock market of risky assets. Hence, the CAPM expressed the market rate of return as a proxy for

systematic risk and was a critical factor in the determination of the multinational company's equity price.

However, according to both the one-factor CAPM developed by Sharpe (1964) and its extension, the three-factor CAPM developed by Fama and French (1992), the price of a stock in relation to the market rate of return depends on the sensitivity of the stock's return to variation in the market return. If the beta of the stock is high, then the price of the stock will increase when the market rate of return increases. The converse holds because the price of the stock will decrease if the market rate of return decreases. This is because the beta of the market rate of return is one or unity. Thus, the conditions that differentiates the return of one stock from the other vary. For multinational firms, the region in which they do business, financial constraints, size of the company, and the political events are some of the forces that affect the return of multinational firms.

Company Size

Another important variable in this research is company size. As Table 7 showed, company size is a significant predictor of the multinational company's rate of return ($B = 0.997$, $p < 0.05$). This result supports the work of Banz (1981), Fama and MacBeth (1973), and Fama and French (1992). Fama and French examined the size and book-to-market anomalies revealed by previous researchers and collected sample data from the NYSE, Amex, and Nasdaq stocks from 1963 to 1990. Fama and French found that small stocks outperformed large stocks by 0.63% per month. Based on these findings Fama and French confirmed that size is indeed a factor in determining expected stock returns and thus developed the three-factor model which states that there are other factors that

explains the expected rate of return of equities, not just the market rate or beta risk as proposed by the one-factor CAPM of Sharpe, Lintner, and Mossin. According to the Fama-French three-factor model, other factors such as size of the firm, proxied by market capitalization and value measured by book-equity to market-equity also contribute to explain the expected return of the multinational firm.

Research about market size has not just stopped in the United States as international evidence of size abounds in the corporate finance literature. According to van Dijk (2011), having a clear understanding of the size effects in different countries makes for better corporate finance and decision making in those countries, especially in emerging markets. van Dijk suggested that the strength of the size effect can depend on market characteristics such as the trading mechanism, the quality of investors, and the efficiency of the market in general.

The BRVM market on which this research is based is an international market located in the Ivory Coast. Even though it meets and satisfies all the requirements of compliance with international standards and adaptability of the West African Monetary Economic Union socioeconomic conditions, as stated by BRVM Stock Exchange (2023), the index however, only trades three times a week with two fixings (single price is obtained by matching bids with ask orders). Consequently, the exchange is not efficient when compared to the NASDAQ or the Amex in the United States. This explains why as shown in Table 7, even though the expected rate of return of the market is significant, it is however negative ($B = -1.656$, $p < 0.05$). This result also epitomized difficulties and

political challenges the country faced during the periods of the crisis, from 2005 to 2015, which is the period investigated in this research.

Political Risk Variables

Political risk is another important and critical variable in this research. Political risk is represented by two variables, namely, CPN, ETRB. The two variables were derived from the principal component analysis (PC A) methodology. According to Warner, principal component analysis is a data reduction technique that reduced the 12 survey questions or constructs on political risk to two. As shown in Table 4, PCA reduced the dimensionality of the 12 dataset of political risk constructs to only two variables that contained most of the information in the dataset. CPN = 70.8%, ETRB =14.5%. The two variables represented a total variance of 85.4% of political risk among the 12 constructs used in the questionnaire to ascertain political risk in the Ivory Coast.

These two political risk variables were therefore used to conduct the pooled OLS regression reported in Table 7. The result of the pooled OLS regression in Table 7 showed that the political risk variables, CPN and ETRB were not significant to have an impact on the multinational company's rate of return in Ivory Coast (CPN = 2.263, $p > 0.5$), (ERTB = -0.029, $p > 0.05$).

However, upon modifying the variables and treating them as moderator variables, the results were different (MKT, B = -1.655, $p = 0.002 < 0.05$, interaction term CPN*MKT, B = 0.181, $p = 0.002 < 0.05$). According to Cohen et al. (1983), supported by Aiken and West (1991), the change in the moderator variable CPN changes the direction or strength of the independent variable (MKT) market rate of return of the

dependent variable (RR_{it}), the rate of return of the multinational firm doing business in the Ivory Coast. That is, increase in CPN as a moderator variable showed a statistically significant negative relationship between market rate of return and the rate of return on the multinational company's equity at all levels of corruption. The strength of the relationship increases as the percentage change in corruption CPN increases (CPN * MKT, B = 0.181, p = 0.002, < 0.05). The OLS moderation result states that for every percentage change in the rate of return of the multinational firm, there is an 18 percent change in the interaction between the rate of change of corruption and the rate of return of the multinational firm through the BRVM in the Ivory Coast.

Thus, corruption has a strong influence on the direction of the market rate of return. The more corruption there is in the economy, the more negative the market rate of return becomes because corruption weakens returns in the market. Therefore, companies with high beta risks will have their returns drop significantly as the market rate drops as shown by the negative coefficient of the market rate of return (B = -1.655).

The moderation result for ETRB is not statistically significant (ETRB * MKT, B = 0.060, p = 0.824, > 0.05). However, it does not mean that there is no moderation effect. It means that the conditional effect equates the marginal effect because as Cohen et al. suggest, the conditional effect of the market rate of return on the rate of return of the multinational firm will be equal to the marginal effect of the market rate of return on the rate of return of the multinational firm. In other words, the moderation effect of ETRB is constant.

Net Present Value

Net present value NPV is another important and critical variable I used in this study. NPV is a discounted cash flow model used by finance theorists to make capital budgeting decisions (Bierman & Smidt, 2007). As Bierman and Smidt postulated, the NPV of a capital project is the present value of all cash inflows, including those of the project's terminal life, minus the present value of all cash outflows.

The figures in Table 11 showed the NPV, the net future cash flows (both -in-flows and out-flows) that the company received using the discount rate (9.30%), which is the cost of capital required by investors to invest in the Ivory Coast. The discount rate as Table 6 showed, is moderated by corruption (CPN) a political risk variable as shown in Table 8. The NPV was positive ($20,488.935) and therefore a viable project was undertaken by the multinational company in the Ivory Coast. As the table showed, for the most part, cash flows of the multinational firm during the period of this research were very low because of the incidence of corruption, a proxy for political risk that played a significant role in creating an unstable business, economic, and political environment that led to the crisis and civil strife that lasted for a decade.

Cash Flows

The other variable used in this study is cash flows of multinational firms. According to Berk and DeMarzo (2020), the discounted cash flow methodology is used by multinational corporations to discount the aggregate present value of cash flows and deduct the cash flow estimates from inflows or initial investments to make capital budgeting decisions. Seeing that the pooled regression results of political risk, cash flows

and the discount rate were not statistically significant, I used moderation to examine whether an interaction relationship exist between political risk and cash flow and NPV.

Table 10 showed the results of the interaction or moderation effect of political risk proxied by corruption (CPN) on the cash flows of a multinational firm in Ivory Coast. As the results in Table 10 showed, a significant positive moderation relationship exists between the cash flows generated by multinational companies doing business in the Ivory Coast. The coefficients of corruption have a significant positive impact on NPV (CPN, B = 16,580, p = 0.002; Cash Flows of MNC_C = 14.552, p = 0.001, $p < 0.05$). For the interaction or moderation term effect (CPN*Change in Cash Flows, B = -5.716, p = 0.001, $p < 0.05$).

This finding indicated that there is a statistically significant negative relationship between the cash flows of the multinational company and NPV at all levels of corruption, a construct for political risk in the Ivory Coast. Furthermore, the strength of the relationship was demonstrated by the low and negative cash flows generated by businesses during the crisis periods covered by this paper. This is a clear demonstration that political risk represented by the change in the level of corruption has a moderating effect on the NPV through the cash flows of multinational businesses in the Ivory Coast.

Economic Interpretation of All the Findings

1. Changes in the political risk variable proxied by corruption has a moderating effect on the market rate of return of the multinational firm. That is, political risk as a moderating variable does not have an immediate direct effect on the rate of return of the multinational firm. Its effect goes through the market rate

of return proxied by the BRVM index of Ivory Coast and then affects the rate of return of the multinational firm in Ivory Coast.

2. Changes in ETRB proxied for political risk does not have a moderating effect on the rate of return of the multinational firm because it is not statistically significant. However, its coefficient is positive and in the case of the Ivory Coast, it may have some role to play in the determination of the economic outcome of investments.

Using differential calculus to differentiate equation 6 and substituting the coefficients of the derivatives, the OLS result from Table 8 showed that the total impact of political risk, using the two variables (CPN and ETRB) and the market rate of return is as follows:

$$\frac{\partial RR_{it}}{\partial PR_{it}} = \beta_1 + \beta_4 \, CPN_{it} = 0$$

$$-1.655 + .181 = -1.513$$

Where:

∂RR_{it} = Partial differential of the rate of return of the multinational firm

∂PR_{it} = Partial differential of political risk proxied by corruption (CPN)

That is, the total impact of the moderation effect of political risk proxied by CPN on the market rate of return proxied by the BRVM is -1.513. Accordingly, for every 1 percent change in the rate of return of the multinational firm in the Ivory Coast, corruption moderated or changed the direction and contributed to the fall in the market rate of return by (- 1.513 percent). This empirical evidence is among the reasons why the BRVM is an inefficient market as it was deeply affected by political risk proxied by

corruption. Therefore, because the political risk variable corruption is pervasive in the Ivory Coast as the regression result in Table 8 showed, most of the multinational companies doing business in the Ivory Coast are affected by it, resulting in high beta risk of the companies. Thus, when the market rate dropped by negative 1.655, the rate of return of companies with high beta risk also dropped accordingly as theorized by the one-factor and three-factors CAPM by Sharpe, Fama and French respectively. This empirical evidence justifies the theory as elucidated by differential calculus of the two variables (CPN) above, and (ETRB) below.

$$\frac{\partial RR_{it}}{\partial ETRB_{it}} = \beta_1 + \beta_4 \text{ETRB}_{\text{it}} = 0$$

$$-1.655 + .060 = -1.595$$

Where:

∂RR_{it} = Partial differential of the rate of return of the multinational firm

$\partial ETRB_{it}$ = Partial differential of excessive taxation and regulatory bottlenecks, proxy for political risk.

1. With ETRB variable, for every percentage change in the rate of return of the multinational firm, excessive taxation and regulatory bottlenecks moderated the direction or contributed to the fall in the market rate of return by (-1.595) though statistically insignificantly, which says that ETRB as a moderating variable does not influence the relationship between the market rate of return and the rate of return of multinational firms in the Ivory Coast. That is, the moderation effect of excessive taxation and regulatory bottlenecks is constant and nonexistent.

Excessive taxation and regulatory bottlenecks as a variable are therefore not a significant factor in moderating the relationship between the market rate of return and the rate of return of multinational companies in the Ivory Coast. This result confirms why ETRB had such a low loading in the PCA result in Table 3 (ETRB = 14.50%,) against corruption (CPN = 70.68%).

Seemingly, the results of the political risk variables discussed confirmed the findings of Transparency International Corruption Perceptions Index (2022) that ranked Ivory Coast 106 out of 168 countries on corruption. The TICPI statistics confirmed the result presented in Table 7 that corruption is pervasive in Ivory Coast. Corruption, according to Bahoo et al. (2020), constitutes the actions of public or government officials, employees of private firms or individuals engaging in illegal activities such as taking bribes, committing fraud, financial crimes, falsification of documents, favoritism, nepotism, bribing tax officers to reduce taxes, manipulation of elections, double-dealing, defrauding investors for private or personal gain.

Corruption as the TICPI has indicated is pervasive in the public and private sectors in the Ivory Coast and is an impediment to the economy and international investments such as FDIs into the Ivory Coast. Transparency International's representative in the Ivory Coast supports the TICPI's assertion that corruption is pervasive in the Ivory Coast and rationalized that from a survey they conducted in 2020, about 40% of the Ivorian population confirms that corruption is increasing on a year-on-year basis, and it is hampering business activities and economic development in the country.

Furthermore, research by Afro Barometer (2019) stated that corruption in Ivory Coast is a national concern as confirmed by about 16% of religious leaders, 21% of traditional leaders, 34% of members of parliament, 34% of local councilors, 34% of civil servants, 35 % of people working for the presidency, 39% of tax officials, 43% of judges and magistrates, and 58% of law enforcement officers and the gendarmerie. These statistics showed that corruption is a huge problem in the country that needs to be addressed urgently and effectively. Therefore, Ohlsson (2007), citing a World Bank report agreed that corruption is deleterious to FDI investments and economic growth of a country by saying that "it has identified corruption as among the greatest obstacles to economic and social development. It undermines development by distorting the rule of law and weakening the institutional foundation on which economic growth depends" (p.3).

Several other professionals cited corruption as a major problem to investment in the country. According to Morisset (2016), corruption affected judicial proceedings, students that cheat in exams, politicians who use the law and public resources for their own private businesses, to award of contracts, customs, and tax issues. There is arbitrary inflation of taxes, especially value - added tax (VAT), exercise tax and custom duties, arbitrary charges by freight agents, etc. Report by the World Bank and the International Monetary Fund (IMF, 2016) confirmed that inflated and arbitrary charges at ports is not germane to Ivory Coast, but common across Africa. Additional tariffs paid by businesspeople ranges from (0 to 20 percent higher), and the VAT tax rate is 18 percent in the Ivory Coast (Morisset, 2016).

Corruption (CPN)

Corruption, as has been discussed, has negative and pernicious consequences on the living standards not only on the citizens, but it also creates distrust amongst citizens in a country. It has both financial and social consequences for everyone in the country.

Moreover, corruption tends to have a disproportionate effect on the most vulnerable citizens in the country as it may further limit their access to education, healthcare, and legal services as they may end up paying more in bribes targeted at them and may be less likely to report it. Also, corruption, when pervasive in a country, may end up uprooting the foundations of democracy as it happened in Ivory Coast when civil war broke out on September 19, 2002, and March 2011.

It dampened economic growth and development in the country by skewing laws and regulations, created red tapes, bureaucratic hurdles that negatively impacted investments as foreign investors especially foreign direct investors will shy away from the country and take their businesses elsewhere where conditions are more favorable. Therefore, Ohlsson (2007) quoted Adam Smith (1776) the godfather of economics, who said 230 years ago,

> Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice, in which the people do not feel themselves secure in the possession of their property; in which the faith of contracts is not supported by law; and in which the authority of the state is not supposed to be regularly employed in enforcing the payment of debt from all those who can pay. Commerce and manufactures, in short, can seldom flourish in

> any state, in which there is not a certain degree of confidence in the justice of government. (p. 862)

Moreover, as Smith (1776) said, multinational companies are attracted to invest in countries with strong institutions. They avoid moving their investments into countries with weak institutions and unreliable legal systems as they are the bedrocks of corruption. Corruption more so, reduces the incentive to work and be productive, because it is easier to earn money in a dishonest way. Profits and return on investment are low in such countries, thereby making it difficult to accumulate capital and grow businesses in such countries. Asiedu (2002) rationalized that sub-Saharan African countries have been losing out on foreign direct invest opportunities to places such as western Europe, the Americas and Asia.

Abotsi (2016) and Dreher & Gassebner (2013), rationalized about the 'grease in the wheels' hypothesis, where corruption might be beneficial to entrepreneurs and businesspeople by paying bribes to custom officers to clear merchandise, pay bribes to freight agents to avoid delays to clear merchandise leaving them stuck at ports, titles of land and motor vehicles, birth, and death certificates, cheating on exams in High schools and Colleges, getting a license to operate businesses, winning a contract from a public authority, etc.

According to Abotsi, payments or rent paid to acquire these services are in support of the 'grease the wheels' hypotheses as it makes it easy for the economy to move and avoid bureaucratic hurdles that are time consuming with high opportunity costs. Dreher and Gassebner supported Abotsi's rationale that in places such as the Ivory

Coast, it makes economic sense to pay bribes and accelerate the process of doing business rather than wait on the bureaucratic machine that takes forever to turn.

For example, according to Morisset, it takes on average more than 9 days (or 215 hours) to complete forms for all import procedures to import merchandise or goods into the Ivory Coast or start a business. The process can be expedited according to economists who favor the 'grease the wheel' thinking to pay bribes and expedite the process and continue with economic activity and grow the economy. In this sense, corruption might be beneficial to the process of doing business, including multinational businesses in the Ivory Coast. This thesis is supported by the research of Wijayanti et al. (2022). They used data from 48 developing countries on the relationship between corruption and entrepreneurship and found that corruption has a significant positive effect on entrepreneurship because when entrepreneurs pay bribes to circumvent the bureaucracy, they succeeded in acquiring their start-up licenses and went on successfully with their businesses.

However, there is a contrary school of thought on the impact of corruption in developing countries. Economists who hold the view that corruption is an impediment to businesses in developing countries especially in places such as the Ivory Coast believe in the 'sand in the wheels' hypothesis. The theory holds that above certain level of corruption, above certain threshold, the level where bribe is paid to clear goods in the ports, get a contract, or loan from a bank, titles on land and vehicles, or pay commission to the police officer for a minor infraction or a get a job, corruption plays the role of "sand in the wheels of commerce." and the economy.

Abotsi, upon examining how corruption affected businesses that engaged in overseas investments concluded that even though corruption added some benefits to businesses "especially in countries where bureaucratic regulations are cumbersome" (p. 361), eventually, corruption in the long run has a deleterious effect on businesses and therefore deters investments.

Consequently, after analyzing the pros and cons of corruption in developing countries such as the Ivory Coast, and the failure of the contemporary theories and empirical studies to address this malaise, Abotsi developed a theoretical model to "elucidate the impacts of the quality of institutions in an economy on the adoption of technology and capital productivity which will influence the decision of the investor to choose to invest in the economy" (p.361). The theory hypothesized that "above some level of corruption, referred to as Corruption Tolerable Level of Investment (CTLI), corruption plays the role of sand in the wheels of commerce". Below this level, as the author continued, "corruption plays the role of greasing the wheels of commerce" (p.361).

Abotsi used production theory of the firm, consumer behavior theory as well as game theory as a theoretical framework to explain the problem of corruption in countries with weak institutions and regulations to develop the model. The model developed a production function that illustrated the role that corruption played in attracting or dispelling FDIs in developing countries. The theory therefore developed a threshold (CTLI) where corruption in a country can be tolerated by an FDI. At this level, corruption is a grease in the wheels of businesses, as small bottlenecks will not create many

problems for a multinational business. However, once the level of corruption exceeded the CTLI level, then it became disadvantageous for the multinational corporation, as it will act as a deterrent to a successful business and at this level, corruption becomes a sand in the wheels of the business and investors will reduce their engagement in such a country with the level of corruption above the CTLI.

Incidentally, research by Rabiu et al. (2021) brought this problem to light when they discussed the damage bank fraud is doing to the commercial banking and intermediation system in Nigeria. According to Rabiu et al., bank fraud as it is happening in Nigeria is destroying the credibility of the Nigerian financial system and will deter multinational investments from coming into the country if not nipped in the bud. It is corruption at the level that has surpassed what Abotsi referred to as Corruption Tolerance Level of Investment (CTLI) and it must be stopped as it will no longer be a grease in the wheels of commerce but a sand in the wheels of banking and business as it were. Thus, when corruption becomes this extreme, it affects every sphere of society, and every effort must be brought to bear on its elimination.

Excessive Taxation and Regulatory Bottlenecks (ETRB)

The ETRB variable is the second variable recommended by the principal component analysis (PCA) technique shown in table 4 as proxy for political risk. Even though its moderation effect is insignificant, as Table 8 showed, justified by its low loading from PCA in Table 4, it still plays some role in the push and pull of multinational businesses in the Ivory Coast. This is because the Ivorian Economy is still plagued by bureaucratic bottlenecks and high regulations by policy makers. Key sectors of the

Ivorian Economy according to Maganda (2020) is monopolized by French businesses. For example, according to Maganda, entry into industries such as water, electricity, ports, infrastructure, telecommunication, energy, education, civil aviation, and the judiciary is difficult and almost impossible. Maganda added that it was due to an agreement signed by Ivorian leaders in the 1960s known as Colonial Pact Agreement (CPA) that gave France a dominant role in the life of its former colonies that has given France control over the political, commercial, military, and economic life of its African colonies and the Ivory Coast, the case study of his research.

Therefore, according to Maganda, in the era of globalization of businesses, financial and trade liberalization as structured by multinational institutions such as the IMF and the World Bank, France is finding it difficult to ease her control over the Ivorian economic, social, and political life. Thus, regulations and bureaucratic bottlenecks are excluding multinational companies such as China, the Americas, and other European countries from entering the Ivorian market to compete with French companies in key areas, namely, utilities and logistics, telecommunications, oil, finance and banking, and the coffee-cocoa market.

Furthermore, French companies, according to Pickett (2017) are more profitable in the Ivorian market because of the monopoly and monopsony position they enjoy due to regulations that impose restriction of entry by other key players in the Ivorian economy. On the contrary, the research by Ahmed (2006) rationalized that financial liberalization policies have benefitted developing countries such as Botswana, it could benefit the Ivory Coast as well if the bureaucracy and regulation could by curtailed. Therefore, as the

analysis above showed, political risk has a moderation effect on the BRVM index in the Ivory Coast which affects the rate of return paid to multinational firms doing business in the Ivory Coast as the political risk variable increases the beta risk of the multinational companies, thereby making them vulnerable to the dynamics of the business cycle.

Limitations of the Study

An ex-post facto research design with historical stock market and cash flow data was used in this research. Therefore, the results derived from the study are influenced by operational definitions of the concepts and method of measurement. The estimated risk premiums for the market in the regression analysis is a function of how they are measured. For example, the risk-free rate in Ivory Coast is a fixed number that does not change because of the dynamics of the business cycle. Moreover, the BRVM stock index of the Ivory Coast was used as proxy for the market portfolio because using other market indexes as proxies such as the S&P 500 or the NASDAQ could not have given me accurate results because the companies used in this research do not trade in these markets.

Therefore, because the empirical data used to test the hypotheses of this study are derived from common stocks of publicly traded companies in the Ivory Coast for the period December 2005 to December 2015, the conclusions of this study may not be generalized to assets other than stocks of nonpublic companies, or stocks trading in other financial markets.

Furthermore, because I could not collect panel data, that is a combination of cross-sectional and time series data on the political risk variables (CPN and ETRB),

financial statements and cash flows variable due to time and resource constraints, I collected political risk data with survey questionnaire from the finance executives of the 22 companies. However, I collected historical financial data for only 9 companies used in this research which trade on the BRVM. Financial statement data was collected from the National Statistics Bureau of the Ivory Coast. Consequently, I could not conduct fixed effects and random effect regressions using the survey questionnaire data collected from the finance executives of the 22 companies from which I got my political risk variables CPN, ETRB, as well as cash flows data to evaluate net present value of the multinational firm for decision making. Therefore, the political risk and cash flow variables were only included in the pooled regression model accordingly.

Another limitation of this research was that the number of multinationals companies finally studied was limited to 9 instead of the 40 I had proposed. I had to reduce the number of companies to 9 because over the 40 multinational company finance executives I had planned to collect survey data from only 22 responded and only 9 of those 22 that responded trade on the BRVM market index in the Ivory Coast. The rest of the companies operate in the Ivory Coast but rather trade on financial market indexes in Europe, the Americas, or Asia, geographic areas where their parent companies are located.

Additionally, most of the finance executives I surveyed were apprehensive, anxious, and reluctant to answer the survey questions on SurveyMonkey because of the sensitivity of the political risk questions such as Corruption, Excessive Taxation and

Regulations Bottlenecks, and Profitability, especially during the heightened political crisis in the country, at the time of data collection.

During this time, the country was preparing for a highly contested presidential election for a third term bid for incumbent president. It is an understatement to say that the country was at a standstill, bracing for a third civil war. The presidential election under challenging political and social circumstances, created a tense political situation in the country, although it later abated, allowing respondents to respond to the survey questions successfully.

An additional limitation of the study was that the views of the participants in the survey was not representative of the views of all multinational companies doing business in the Ivory Coast on socio-economic and political questions structured in the questionnaire.

A limitation of a descriptive non-experimental survey research design is that it is a comparatively weak method; however, I used it in this study because it is the most suitable research design to answer the RQs. I used SurveyMonkey online platform to submit the survey questionnaires to research participants because it is economically suitable and helped mitigate the time and financial constraints.

Also, a potential limitation of descriptive survey research is selection bias, as participants may be limited to companies that have electronic computer and email facilities. Effort was however made to minimize this bias by submitting questionnaires to firms that do not have issues with email or access to electronic communication devices such as computers. Effort was also made to minimize the weaknesses of the descriptive

survey research design by avoiding selection bias, compiled the survey results objectively and analyzed the results by using descriptive statistics accordingly.

Another limitation is that the study was specifically focused on a French speaking developing West African country, the Ivory Coast. Data was only collected from a representative sample of CFOs of multinational companies doing business in the Ivory Coast or planning to expand their business into the Ivory Coast. The result could be replicated and generalized to study issues of the moderating effects of political risk on businesses in French Speaking West African countries because the socio-cultural issues that contribute to political risk in Ivory Coast are similar to those in the other French Speaking West African countries.

Beyond that, it will be a challenge to generalize the research results to all West African countries, across Africa, or all developing countries. This is because the nature of political risk varies in different parts of the world and the characteristics and management of such risks in other developing countries may be different from the ones found in this study. Therefore, the research results may not be generalized to all West African countries nor across Africa.

Conclusion

In conclusion, the aim of this study was to examine the moderating effect of political risk through the discount rate, controlling for cash flows, on the NPV of projects or investments for capital budgeting decisions in a developing country such as the Ivory Coast. Survey questionnaire data about political risk constructs that impact the cost of capital and cash flows of businesses for capital budgeting decision making, was collected.

Data was collected from finance executives of 22 multinational companies doing business in the Ivory Coast for the period 2005 to 2015. I also collected stock market price data for the overall stock market, the BRVM Index as proxy, the stock prices of 4 small capitalization publicly traded multinational companies' stocks, the stock prices of 3 large capitalization publicly traded multinational companies and 2 medium sized companies. The size of the sample companies was measured by their market capitalization and book-to-market values. Sample stock price data was collected from Investing website (http://www.investing.com); political risk data was also collected using 5-point Likert scale survey questionnaire issued to finance executives of 22 multinational companies doing business in the Ivory Coast, through SurveyMonkey online platform (www.surveymonkey.com).

Furthermore, I collected financial statement data from the balance sheets and annual reports of the 9 multinational companies examined in my research from the National Institute of Statistics of the Ivory Coast (copy of authorization was submitted to Walden University IRB Office).

Based on the objective of this research, two RQs and corresponding hypotheses were developed as stated in Chapter 4. I used PCA methodology to reduce the 5-point Likert scale survey questionnaire questions, from 12 political risk questions to two quantitative political risk variables –CPN with 70.8 loadings and ETRB (14.5 loadings), as presented in Table 4.

I used Markowitz (1952) portfolio theory, the CAPM of Sharpe (1964), and Fama & French (1992). I also used the NPV discount factor model to conceptualize the RQs

and hypotheses and analyzed the data and answered the RQs as shown in Chapter 2. Equations 1 and 2 were used to answer RQs 1 and 2 shown in Chapter1. The results in Table 8 in Chapter 4 showed centered interaction term, change in CPN, a proxy for political risk and change in the market rate of return (0.181, $p < .002$) as positively statistically significant moderator of the rate of return of the multinational firm. ETRB also proxy for political risk (0.060, $p > 0.05$) was not a statistically significant moderator of the rate of return of the multinational firm through the Market Rate of Return.

This finding indicated that there was a positive moderating relationship between market rate of return and the rate of return of companies' equity at all levels of corruption, a construct for political risk in the Ivory Coast. Furthermore, the strength of the relationship was demonstrated by the negative sign of the market return proxied by the BRVM (-1.655, $p < .05$). This showed that political risk represented by the change in the level of Corruption has a moderating effect on the Market rate of return proxied by the BRVM index in the Ivory Coast. The relationship is stronger for investors trading in the BRVM market than those not trading there.

The results in Table 9 also showed that the other variable that represented political risk used in this research ETRN does not have a moderating effect on the change in the rate of return of the BRVM index ($B = 0.060$, $p = 0.824$, $p > 0.05$).

The finding that CPN a proxy for political risk in the Ivory Coast had a moderating effect on the BRVM index facilitated rejection of the null hypothesis 1 ($H_1 1$), as stated in Chapter 1 at the 5% level of statistical significance and answered RQ1 stating that a positive moderation relationship exists between political risk proxied by corruption

(CPN) and the rate of return of the multinational firm through the market rate of return in the Ivory Coast. ETRB was not included in the decision to reject hypothesis 1 as political risk variable in answering RQ1.

Similarly, the results in Table 10 showed the centered interaction term change in CPN and change in the cash flows is negative ($B = -5.716$, $p = 0.001$, $p < 0.05$) and statistically significant. This finding indicated that there is a positive statistically significant moderation relationship between the cash flows of the multinational company and corruption (CPN_i*CF_i) at all levels corruption, a construct for political risk in the Ivory Coast. Furthermore, the strength of the relationship was demonstrated by the low and negative cash flows generated by businesses during the crisis periods when corruption was at its peak covered by this paper.

This is a clear demonstration that political risk proxied by corruption (CPN) represented by the change in the level of corruption had a moderating effect on the net present value through the cash flows of multinational businesses in the Ivory Coast. This finding facilitated rejection of the null hypothesis 2 ($H_0 2$), as stated in Chapter 1 at the 5% level of significance and answered RQ2 stating that a positive moderation relationship exists between political risk and the net present value through the discount rate and cash flows of the multinational firm in the Ivory Coast.

Furthermore, the results in Table 11 also showed that the other variable that represented political risk used in this research ETRB does not have a moderating effect on the change in the net present value of multinational firms in the Ivory Coast. Even though as Table 11 showed that the coefficients of cash flows, ETRB are significant with

positive coefficients (Cash Flows, B = 12.254, p = 0.003 p < 0.05; ETRB, B = 138377, p = 0.06, p > 0.05), the interaction or moderation terms (ETRB*Cash Flows, B = -5.680, p = 0.11, p > 0.05) is not statistically significant. This showed that even though excessive taxation and regulatory bottlenecks are key variables in the political risk construct, their role in creating political uncertainty is not clear as does corruption as shown by Tables 9 and 10. Consequently, ETRB were not included in the decision to reject the null hypothesis 2 ($H_0$2) as political risk variable in answering RQ2.

Lastly, the results in Table 12, 13 and 14 showed that NPV, the net future cash flows (both in-flows and out-flows) that the company received using the discount rate (9.30%), which is the cost of capital required by investors to invest in the Ivory Coast is positive. The discount rate as Table 8 showed is moderated by CPN a political risk variable as shown in Table 8. The NPV was positive and therefore a viable project was undertaken by the multinational company in Ivory Coast.

As the table showed, for the most part, cash flows of the multinational firm during the period of this research were very low because of the incidence of corruption, a proxy for political risk that played a significant role in creating an unstable business, economic, and political environment that led to the crisis and civil strife leading to the exit of some multinational companies in the Ivory Coast.

A major concern in this paper was that the effects of political risk proxied by corruption on the decisions of households and firms might entail social costs leading to dissatisfaction of citizens and flight of multinational investments in the Ivory Coast.

It is among the reasons why one of my recommendations is for the government to embark on socio-economic and political reforms to reduce corruption and improve the business and social environment in the Ivory Coast and make way for improvement in FDI flows. As reported in chapter 1, total global flow of FDI according to (Koko et al., 2016; UNCTAD, 2015) was $1.2 trillion, and only $54 billion went to Sub-Saharan Africa, and over that amount, only a paltry $47 million went to Ivory Coast, while the rest went to Asia, Europe, North, and South America.

However, with the transformational reforms undertaken by the government in improving governance, the promulgation of a new constitution, has led to the introduction of a new senate to expedite and promote good governance. In the business area, e-governance has been introduced to administer and provide services across the board in the public sector. These reforms according to UNCTAD (2022), have led to an improvement of the business climate in the Ivory Coast and FDI flows have increased tremendously from the paltry sum of $47 million dollars in 2016 as reported by UNCTAD (2015) and Koko et al., (2017) to $713 million in 2020, and $1.36 billion in 2021.

Moreover, the total stock of FDI flows into Ivory Coast in 2021 was $12.8 billion (UNCTAD, World Investment Report, 2022). This development in increased FDI flows has positioned the Ivory Coast as a leader in receipt of FDI flows and the country with the strongest economy in the ECOWAS region and a favorable destination for FDIs, even though more needs to be done on political risk, especially in the areas of governance, law enforcement, corruption, and land tenure reforms.

These results lend credence to the hypotheses in my research that political risk proxied by corruption has a moderating effect on businesses in the Ivory Coast. I therefore recommend continued vigilance by the government in working to curb corruption and reduce the element of political risk through corruption in all spheres of life in the Ivory Coast. The research might be significant to the theory and methodology of finance as well.

Significance to Theory and Methodology

Several researchers and finance practitioners have reported on studies used to measure political risk and add to the discount rate to discount cash flow and estimate the net present value of projects for capital budgeting decisions. While this study followed such traditions, it is different because I investigated the moderating effect of political risk on capital budgeting investments in developing countries. Studying the problem from this angle might make it significant because it might help assess whether the low level of investments in politically risky environments such as the Ivory Coast is justified. The findings of the study are intended to help multinational firms make informed capital budgeting decisions in places where political risk is pervasive through a more accurate measurement of political risk.

Several weaknesses such as the rule of thumb methods, namely, the Payback Period method used to estimate cash flows where uncertainties such as political risk are present in the investment environment, have also been identified in the study. Improving the measurement of political risk demonstrated that political risk could serve as a moderating variable between the discount rate, cash flows, and NPV. This could help

estimate cash flows more accurately and help multinational firms that invest in environments with irreversible investments in the presence of persistent macro political risk, better estimate and manage the risk (Adegboye et al. 2023; Koko et al., 2016; Narula, 2006; and Sottilotta, 2013).

Significance to Practice

In situations where micro and macro-politically risky events affect FDIs, managers of the multinational firms may better capture the magnitude of the risk and could determine whether political risk is a moderating factor between the discount rate and the NPV of the investments.

The study is also significant because, according to Batra and Verma (2017), Eun and Resnick (2009), most corporations that quantify the potential risk accurately may provide a more accurate estimate of total cost and improve sales prospects and profitability. Potential investors could better price political risk and make informed decisions based on a net present value that includes all the costs of the project. This could offer incentives to international firms that avoid investing in politically risky environments such as the Ivory Coast to reconsider their decisions.

The findings of the study may also create the environment for policy makers in countries such as the Ivory Coast with pervasive political risk constructs to improve their governance and political structures to minimize the incidence of political risk. This may help more multinational companies to accurately measure their investment risks for incorporation into their capital budgeting models and reduce their costs of capital.

Policy makers may also be able to devise more appropriate policies to reduce or minimize politically risky events and reduce their impact on cash flows, cost of capital and discount rate. An improvement in policy could also motivate FDI managers to increase their investments in the host country.

Significance to Social Change

The research could also have implications for positive social change. At organizational level, if managers of multinational firms could better capture political risk and understand its moderating role on cash flows, and the discount rate, they could obtain a more accurate cost of their investments. This could help them better manage the risks associated with their investments and run successful businesses. Multinational firms could also reward their investors with better dividends and capital gains because of high profits from better management of their businesses. This could avail more disposable income to investors in the economy and increased spending could ensue, leading to more economic activity. Those firms would also pay more taxes to host country governments, hire more local employees, and contribute to improvement of economic activities of the country. At societal level, as more people are hired, spending levels might go up in the economy, and the businesses could grow, and pay more taxes. Political leaders and public sector stakeholders will have the needed resources to build better infrastructures for public goods such as schools, hospitals, and roads for improved welfare of the citizens.

Moreover, employing local citizens could facilitate skills transfer or skills spillover effects. Furthermore, with better paying jobs, citizen would also have more income to afford more healthcare for themselves and their families, send their kids to

school and keep them in school to complete their programs. They could also afford better food nutrition, clothing, and even provide more leisure to themselves and their families. Communities could be healthier and could contribute more into the national life, all leading to a positive social change.

Recommendation

To Leaders and Policy Makers

As a result of this research, I suggest that policy makers and leaders in government and the private sector continue the path of reform to improve the economic, political, social, and business environment in the Ivory Coast. As discussed in chapter 4, corruption is the primary political risk variable in this research, and it has had pernicious impact and outcome on the political, social, and economic life of the Ivory Coast. The World Bank could not have captured the sentiment better by saying that corruption is the "single greatest obstacle to economic and social development. It undermines development by distorting the rule of law and weakening the institutional foundation on which growth depends." (Ciocchini, et al., 2002, p.1). Reduction of corruption should be the focus of the government as it could lead to an improvement and lowering of the spread in the sovereign bond of the Ivory Coast.

For the BRVM Stock Market

As my research has shown, the BRVM market index of the Ivory Coast is a thin and illiquid market. Therefore, the Ivorian government should work with the management of the exchange to develop policies to create incentives for more multinational corporations to list and trade on the exchange by providing for example tax

incentives for listed companies to facilitate depth and trading activities. Those two entities should create the environment to foster public confidence, thereby improving informational efficiency with better disclosure rules, accounting standards and better contract enforceability with best practices for improvement in the market. This may help minimize the country risk premium of the Ivory Coast and lowers the perception of default on its bond by the international investment community.

As discussed in Chapter 4, I could not use all the 40 multinational companies I intended to in this research because only 9 of them traded on the BRVM market index. The remaining 31 either conducted businesses in the Ivory Coast or through their subsidiaries but do not trade on the regional stock market in the Ivory Coast. Instead, they traded on international markets in Europe, Asia, or the Americas. Creating the enabling environment through market-based incentives to trade in the BRVM market index may attract and facilitate more business enlistments, leading to improvement in economic growth.

Moreover, undertaking these reforms in the stock market would create the environment for more researchers to conduct research on the Ivory Coast regional stock market index (BRVM), thereby, exposing the exchange and Ivorian financial markets to best practices, innovation, and productivity. Leaders in the Ivory Coast and the finance community should also continue to develop and train managers in finance and economics with capabilities to manage risk in both the banking and equity markets and enhance risk control mechanisms to enable them cope with the sophisticated global financial environment.

To Finance Practitioners and Multinational Investors

I would urge finance practitioners and multinational organizational managers who want to undertake capital budgeting investments in politically pervasive environments such as Ivory Coast to work on incorporating political risk variable such as CPN, that has been scientifically measured for incorporation into discount rate to discount cash flows especially during times of heightened political risks. This is because the result of this research has shown that political risk proxied by corruption has a moderation effect on the cost of capital in developing countries more so the Ivory Coast.

For Future Research

My research revealed that measuring political risk construct such as corruption in an unambiguous and non-subjective manner is an important prerequisite for inclusion of the political risk variable to estimate the NPV of publicly traded multinational firms and make capital budgeting decision in a developing country such as the Ivory Coast.

Similar criteria is applied to the collection of historical financial statement and cash flow data for use in this research. Against this backdrop, I collected cross-sectional data on the political risk variable, corruption, and cash flow variable used in this research, due to time and resource constraints. Panel data or repeated measures data was only collected on the stock price and return data. Future researchers may wish to improve on the survey questionnaire instrument used in this study by using panel or repeated measures methodology to collect political risk variable, proxied by corruption by including a before and after the crisis incidence from 2005 to 2015.

Future researchers may also want to increase the size of companies or extend countries to the West African sub-region, especially French speaking West African countries since they have the same culture and economic system inherited from French colonialization like that of Ivory Coast. Panel data or repeated measures methodology could also be used to collect cash flow data from companies represented in the research.

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Appendix A: Main Sectors of Activities in Sample Population

1. Agriculture, fishery, forest activities
2. Trade
3. Extractive activities
4. Production & Distribution of Electricity & Gas.
5. Water Production & Distribution; Waste & Pollution Treatment
6. Construction
7. Real Estate activities
8. Manufacturing
9. Transport & Auxiliary activities
10. Lodging, Hotels & Restauration
11. Information & Communication
12. Finance & Insurance
13. Specialized scientific & technical activities.
14. Office Support Activities
15. Health & Social welfare Activities
16. Art, Sport & Recreative activities

Source: National Statistics Institute of Ivory Coast

Appendix B: Permission to use Established Survey Instrument

RE: Request for permission to use survey instrument
Campbell R. Harvey <XXX@duke.edu>
Sun 1/13/2019 2:03 PM
To: Rokya Kamagate <XXX@waldenu.edu>

Permission granted.

From: Rokya Kamagate [mailto:XXX@waldenu.edu]
Sent: Sunday, January 13, 2019 1:20 AM
To: Campbell R. Harvey <XXX@duke.edu>
Subject: Request for permission to use survey instrument

Dear Dr. Harvey,

I am a doctoral student in Finance at Walden University, currently working on my dissertation titled: Multinational corporations' capital budgeting decision making processes in politically risky environments, especially in developing countries, such as those in Sub-Saharan Africa. I am planning to use quantitative survey-questionnaire methodology to collect my primary data.

In my search for an established survey-instrument in the field, I found the 1999 questionnaires you used to survey CFOs on capital budgeting, cost of capital, and capital structure.

I would like to request your permission to use part of your survey-instrument for the data collection of my study.

Thanks for being a pioneer and leading figure in this field, as I have gained a lot from your contribution to the literature of finance, capital budgeting, and capital structure.

Sincerely,

Rokya Kamagate

Walden University

Appendix C: Permission to Use World Bank 2013 Survey Instrument

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Appendix D: Permission to Conduct Research Using SurveyMonkey Online Platform

SurveyMonkey Inc.

www. surveymonkey.com
For questions, visit our Help Center
help.survemonkey.com

Re: Permission to Conduct Research Using SurveyMonkey

To Whom It May Concern:

This letter is being produced in response to a request by a student at your institution who wishes to conduct a survey using SurveyMonkey in order to support their research. The student has indicated that they require a letter from SurveyMonkey granting them permission to do this. Please accept this letter as evidence of such permission.

Students are permitted to conduct research via the SurveyMonkey platform provided that they abide by our Terms of Use at https://www.surveymonkey.com/mp/legal/terms-of-use/ SurveyMonkey is a self-serve survey platform on which our users can, by themselves, create, deploy and analyze surveys through an online interface. We have users in many different industries who use surveys for many different purposes. One of our most common use cases is students and other types of researchers using our online tools to conduct academic research.

If you have any questions about this letter, please contact us through our Help Center at help.surveymonkey.com.

Sincerely,

SurveyMonkey Inc.

Appendix E: Companies Trading on the BRVM and Used in the Study

Table 20

Companies Trading on the BRVM and Used in the Study

Industry	Number	Percentage
Agriculture, Manufacturing, Construction & Extractive companies	3	33%
Trade, Distributions, Retails & Consumers' goods	2	22%
Utilities, Technologies, Oil & Gas	2	22%
Finance, Banking, Insurance & Other services	2	22%
Total	9	100%

Appendix F : Survey Questionnaire

Survey Questionnaires

Please complete the survey today or at your earliest convenience upon receipt. I am conducting a study on Capital Budgeting of Multinational Corporations in Politically Risky Environments such as the Ivory Coast. The result of the survey will be published in my research study and will be used as a guide for recommendations to policy makers and other stakeholders. The results may also appear in research on capital budgeting in politically risky environments. Based on my estimation, you will only need approximately 30 minutes to complete the survey. Responses will be compiled prior to use in the study. Please complete the survey today. Thank you for your time and consideration. If you wish to receive an advance copy of the results, please e-mail Rokya Kamagate (XXX@gmail.com).

Political Risk Questions

Question I: Which of these risks do you believe exist in your business environment?

Mark an X in the box that best describes your answer

1=Strongly Disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)

5 Point Likert Scale Survey

	Risk Factors	**1**	**2**	**3**	**4**	**5**
1	Corruption					
2	Excessive taxation or sudden change in tax policy					
3	Capital controls					
4	Drop in commodities prices					
5	Electoral uncertainty					
6	Internal conflicts due to political instability					
7	Risk of war					
8	Social unrest					
9	Land ownership problems or disputes					
10	Drop in asset prices					
11	Outbreak of pandemic diseases such as Ebola					

12	Restrictions on repatriations and other forms of protectionism					

Question II

Mark an X in the box that best describes your answer

1=Strongly Disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)

	Risk Factors	**1**	**2**	**3**	**4**	**5**
1	How does internal conflicts and civil disturbance, including outbreak of pandemics impact your company's operation in Ivory Coast?					
2	How does risk of war and social unrest impact your company's operation in Ivory Coast?					
3	How does lack of strong private property rights protected by the courts impact your company's operation in Ivory Coast?					
4	How does unfavourable sudden changes in government policy impact your company's operations in Ivory Coast?					
5	How does electoral uncertainty and political instability impact your company's operation in Ivory Coast?					

Corruption Questions

Mark an X in the box that best describes your answer

1=Strongly Disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)

	Risk Factors	**1**	**2**	**3**	**4**	**5**
1	How does corruption impact your company's operation in Ivory Coast?					
2	How does land ownership problems and disputes impact your company's operation in Ivory Coast?					
3	How does request for kickbacks and oppressive tactics by government officials and other businesspeople impact your company's operation in Ivory Coast?					

4	How does adverse attitude of local citizens and government towards non-French Companies impact your company's operation in Ivory Coast?					

Excessive Taxation and Regulatory Bottleneck questions

Mark an X in the box that best describes your answer

1=Strongly Disagree (SD) 2=Disagree (D) 3=Neutral (N) 4=Agree (A) 5=Strongly Agree (SA)

	Risk Factors	1	2	3	4	5
1	How does excessive taxation and adverse regulatory changes impact your company's operation in Ivory Coast?					
2	How does capital controls and restriction of profit repatriation impact your company's operation in Ivory Coast?					
3	How does the drop in commodity prices impact your company's operation in Ivory Coast?					
4	How does repudiation of contracts impact your company's operation in Ivory Coast?					
5	How does restrictions for competition against state enterprises and French Multinationals impact your company's operation in Ivory Coast?					

Instructions: Fill in one square per line

To what extent does political risk impact your business or investment decisions?

☐ Highly
☐ Moderately
☐ Small
☐ No impact

How often do you factor political risk in capital budgeting decision?

☐ Always
☐Almost Always
☐Sometimes
☐Seldom
☐Never

Which risk will prevent you from investing in a developing country?

☐ Political risk

☐ Economic risk
☐ Financial risk

Capital Budgeting Methods in Risky Environment

How often do you use the following methods to determine which projects or acquisitions to pursue when political risk exists?

☐ a) Net Present Value (NPV)
☐ b) Internal Rate of Return (IRR)
☐ c) Hurdle Rate
☐ d) Earnings multiple approach
☐ e) Adjusted Present Value (APV)
☐ f) Payback period
☐ g) Discounted payback period
☐ h) Probability index
☐ i) Accounting Rate of Return (or Book Rate of Return)
☐ j) Sensitivity analysis (e.g. “good” vs. “fair” vs. “bad”
☐ k) Value-at-Risk or other simulation analysis
☐ l) We incorporate the “real options” of a project when evaluating it
☐ m) Other_____

When valuing a project, do you adjust either the discount rate or cash flows for the following risk factors?

☐ a) risk of unexpected inflation
☐ b) interest rate risk (change in the general level of interest rates)
☐ c) term structure risk (change in long-term vs. short term interest rate)
☐ d) GDP or business cycle risk
☐ e) commodity price risk
☐ f) foreign exchange risk
☐ g) distress risk (probability of bankruptcy)
☐ h) size (small firms being riskier)
☐ i) “market-to-book” ratio (ratio of market value of firm to book value of assets)
☐ j) momentum (recent stock price performance)
☐ k) other_____

Demographics

Please fill in one square from each category that describes your company

Capital Invested (USD)

☐ < 100 million
☐ 100 – 500 million
☐ > 500 million

Foreign Sales

☐ 0%
☐ 1-24%
☐ 24-49%
☐ ≥ 50%

Industry

☐ Retail and Wholesale
☐ Mining, Construction
☐ Manufacturing
☐ Transport/Energy
☐ Communication/Media
☐ Bank/Finance/Insurance
☐ Tech (software/biotech/etc.)

Ownership

☐ Public ☐ Private

Pay Dividends
☐ Yes ☐ No

Regulated Utility
☐ Yes ☐ No

CFO Education

☐ Undergraduate
☐ MBA
☐ non-MBA
☐ Master's degree and above

Age of CFO

☐ < 40 ☐ 50-59
☐ 40-49 ☐ ≥ 60

Gender of CFO

☐ Male
☐ Female

CFO tenure (time in current job)

☐ < 4 years
☐ 4-9 years
☐ > 9 years

If all options were exercised, what percent of common stock would be owned by the top three officers?

☐ < 5%
☐ 5-10%
☐ 10-20%
☐ > 20%

Thank you for completing the survey!