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Sciences

**ESTIMATING RISK PREMIA FOR CORPORATE GOVERNANCE RISK IN THE
KENYAN EQUITY MARKET**

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Table of Contents

DECLARATION	ii
ACKNOWLEDGEMENT	iii
Abstract.....	v
LIST OF ABBREVIATIONS	vi
1. INTRODUCTION	1
1.1. Background to the study	1
1.2. Motivation for the study.....	3
1.3. Statement of the problem	3
1.4. Research objective	4
1.5. Research Hypothesis	4
1.6. Justification of the Study.....	5
2. LITERATURE REVIEW	6
2.1. The modern corporation: ownership, control and shareholder rights	6
2.2. Corporate governance in the late 20th and 21st centuries.....	8
2.3. Corporate governance and company valuation and performance	8
2.4. Causal Relationship between Corporate Governance and Firm Performance and Valuation 11	
2.5. The Risk Premium for Corporate Governance.....	11
2.6. Similar Studies in Kenya.....	12
2.7. Conclusion: Relationship between Research Objectives and Literature.....	12
3. METHODOLOGY	14
3.1. Research Design.....	14
3.2. Population and Sampling	14
3.3. Data Types and Sources.....	15
3.4. Data Analysis.....	15
3.4.1. Construction of the Corporate Governance Index.....	15
3.4.2. Model Specification and Corporate Governance Risk Premium determination	16
4. RESULTS	18
4.1. Corporate Governance Index	18
4.2. Fama Macbeth Regressions	20
4.2.1. First Pass Regressions.....	20
4.2.2. Second Pass Fama Macbeth Regressions.....	21
5. CONCLUSION AND IMPLICATIONS	28

APPENDICES	31
Appendix A – Corporate Governance Index Variables	31
Appendix B – Descriptive Statistics on the Governance Indices.....	32
Appendix C – Equally Weighted Index Regression Statistics	33

Abstract

This study estimates the premia demanded by investors for corporate governance risk in the Kenyan equity market. Using the OECD/G20 corporate governance principles, corporate governance indices are constructed for the 10 of the NSE 20 Share index constituents for the period 2008 to 2015. The indices use objectively observable principles that cover shareholder and stakeholder rights, disclosure and transparency as well as board responsibilities. The arbitrage asset pricing framework is then applied to determine the risk premia associated with corporate governance risk. The findings show that for the period under consideration, corporate governance risk attracted a premium of approximately between 4.64% and 15.16% in the NSE. The risk premia suggest Disclosure and Transparency standards rank above other elements of corporate governance in order of importance to investors in Kenya's equity market.

JEL Classifications: G34, G12, G31

Keywords: Corporate Governance Risk, OECD/G20 Governance Principles, Arbitrage Asset Pricing Framework, Risk Premia

LIST OF ABBREVIATIONS

US	-	United States of America
UK	-	United Kingdom of Great Britain and Northern Ireland
CAPM	-	Capital Asset Pricing Model
NSE	-	Nairobi Securities Exchange
APT	-	Arbitrage Pricing Theory
OLS	-	Ordinary Least Squares
CMA	-	Capital Markets Authority
GDP	-	Gross Domestic Product

1. INTRODUCTION

1.1. Background to the study

Corporate Governance is defined as the “system by which companies are directed and controlled” Cadbury (1992). The failure of companies to implement high standards of corporate governance has led to various financial crises globally including the Asian Financial Crisis of 1997 and the Global Recession of 2008. It has also led to the collapse of various global behemoths such as Enron and the Lehman Brothers.

In response to these crises and collapses various governments and professional bodies commissioned the development of corporate principles of good governance that would prevent future corporate failures related to governance. In the UK, corporate scandals such as Polly Peck and Maxwell that arose as a result of financial reporting irregularities led to the establishment of the ‘*Financial Aspects of Corporate Governance Committee*’ which produced the Cadbury Report (1992). The Cadbury Report made recommendation in the areas of disclosure & transparency, board composition and selection as well as the separation of the role of an organisation’s chief executive and chairman. The report’s recommendations were incorporated into the Listing Rules of the London Stock Exchange.

More committees and reports were produced after the Cadbury Report (1992), such as the Greenbury Report (1995) which recommended extensive disclosure in annual reports on remuneration and recommended the establishment of a remuneration committee comprised of non-executive directors. These recommendations were also endorsed in the Listing Rules of the London Stock Exchange. Other reports that followed included the Hampel Report (1997) which reviewed the extent to which the Cadbury and Greenbury reports had been implemented. The end result was the Combined Code on Corporate Governance which was incorporated into the Listing Rules of the London Stock Exchange. The code has been reviewed and iterated by various committees to date.

In the US, the Enron scandal caused the collapse of the Enron Corporation¹ and the dissolution of Arthur Andersen, one of the 5 largest audit firms in the world. The Sarbanes-Oxley Act was introduced in 2002 in response to the Enron scandal. The act introduced

¹ The Enron Bankruptcy was the largest bankruptcy reorganisation in America at the time.

regulations to expand the reliability of financial reporting for public companies and increase the accountability of auditing firms to remain objective and independent of their clients.

Global financial crises have also led to the development of various codes of corporate governance. The Asian financial crisis led to the development of the Code of best Practices for Corporate Governance while the Global Financial crisis² led to the development of laws such as the Dodd Frank Act and Basel III. Recent corporate governance standards have focused on disclosure, transparency and internal risk management as a form of corporate governance standard especially for banks and other financial institutions. The scandals and financial crises that preceded these codes and laws highlight the significance of corporate governance risk, especially in increasingly integrated financial markets (Quinn & Voth, 2008).

Corporate governance risk is defined as the risk of loss emanating from inadequate principles, standards and practices that guide the management of companies. These principles, standards and practices are crucial in ensuring other risks such as financial risks do not materialise. The Cadbury Report (1992) points out that the existence of certain codes and practices of good governance in corporations is crucial in identifying malfeasance and fraudulent activities by the insiders of corporations before they threaten the stability of those corporations and the financial system.

The question then is; what really is the value of corporate governance to investors? And if investors indeed value good corporate governance, is governance risk included in stock prices? An analysis of agency theory points out that the adoption of good corporate governance is crucial to the minimisation of the principal-agent conflict (Jensen & Meckling , 1976). This in turn reduces agency costs and boosts returns due to shareholders. However, literature has gone further to show that the advantage not only lies in the reduction of agency costs but also, corporate governance can be an important factor to consider when formulating investment strategies. Numerous studies have shown that portfolios that buy firms with good corporate governance and sell those with 'bad' corporate governance earn superior abnormal returns over time ((Black, 2001), (Cremers & Vinay, 2005), (Gompers , Ishii, & Metrick, 2003) and (Schillhofer, Drobetz, & Zimmermann, 2004) to name a few). While crucial in answering the first question, literature is silent on the significance of corporate governance to

² The Global Financial Crisis is estimated to have caused losses of USD 4.1 trillion by the IMF while other estimates put losses at over USD 15 trillion globally.

equity risk premia. The aim of this study is to establish whether governance risk is priced in capital markets using the case of Kenya.

1.2. Motivation for the study

Studies on corporate governance have focused on its impact on company valuation and stock performance. Most of the work has been done on developed markets but emerging and frontier markets have also been studied. However, the literature is silent on the risk premium attached to corporate governance. The equity risk premium of a company determines the cost at which capital markets lend money to the firm as well as the valuation of the firm. This information is therefore crucial not only to investors but also the company management in capital budgeting and capital structure decisions.

Equity risk premiums are a central component of every risk and return model from the CAPM to the Fama-French factor models. However, none of these models make use of corporate governance as a determinant of risk. This is despite the overwhelming evidence on the significance of corporate governance to stock returns. Gompers, Ishii and Metrick (2003) (GIM) find that a trading strategy that sold stocks of firms with poor corporate governance and bought those with good corporate governance standards earned an abnormal return of 8% in the United States between 1990 and 1999. These findings are corroborated by Cremers & Vinay (2005) who find that the abnormal return on such a trading strategy yields an even larger abnormal return of up to 15%.

It is on the auspices of these studies that this study seeks to determine what proportion of the equity risk premium is attributable to corporate governance. The study adds to the body of knowledge on equity risk premiums and quantifies the impact of corporate governance to capital structure and budgeting decisions as well as investment strategies.

1.3. Statement of the problem

Empirical work on corporate governance has described the positive relationship between corporate governance and firm performance and valuation. Black, Jang, & Kim (2003) study the South Korean market and find that a moderate 10 point increase in a company's corporate governance score predicts a 5% increase in Tobin's q and a 14% increase in its market/book ratio. A worst-to-best change in the score predicts a 38% increase in Tobin's q and a 105%

increase in market/book ratio. Durnev & Kim (2005) further show that the positive relationship between corporate governance and stock returns is even stronger in countries whose legal systems are less investor friendly demonstrating that firms adapt to poor legal environments to establish efficient governance practices. The study also finds that firms with more investment opportunities and higher needs for financing are more likely to adopt high corporate governance standards.

In Kenya, Mwangi and Mwiti (2015) find that voluntary disclosure beyond the legal requirements is positively related to the performance of firms listed on the NSE. Lishenga and Mbaka (2015) find that there is a positive effect on firm performance even when companies comply with the legally required standards. In a study that focuses on the entire East African region, Okiro, Omoro , & Aduda (2015) find a significant positive relationship between corporate governance and firm performance as well as a positive significant intervening effect of leverage on the relationship between corporate governance and firm performance.

However, few studies have attempted to determine the equity risk premium associated with corporate governance risk. The estimation of this relationship, the governance risk premium, adds not only to the body of knowledge on corporate governance but also the composition of equity risk premiums. This has both policy and investment implications. Bertinetti and Mantovani (2014) find a 142 basis point governance risk premium for the Italian equity market after applying a state preference theorem approach to the determination of risk premiums. This paper seeks to expand the body of knowledge on the governance risk premium with a focus on the Kenyan equity market, a frontier market.

1.4. Research objective

The objective of this study is;

- i. To determine the corporate governance risk premium in Kenyan capital markets.

1.5. Research Hypothesis

H_{01} : Governance risk does not attract a premium in Kenyan Equity markets

H_{a1} : Governance risk attracts a premium in Kenyan Equity Markets

1.6. Justification of the Study

An increasing number of corporate failures in the global and local stage have brought the importance of corporate governance to the foreground. Empirical research has shown that corporate governance is crucial for investors both in trading strategies as well as minimizing agency costs. However, corporate governance is also essential for the managers. Managers also have a market for their services and their track record bears on their value.

Minimizing governance risk will contribute to higher valuations for companies and thus enhance value addition to the shareholders. This builds up the credibility of management. In addition, the consideration of governance risk is beneficial in choosing investments for retail and institutional investors. As such, the estimation of the governance risk premium is a value adding endeavor.

2. LITERATURE REVIEW

2.1. The modern corporation: ownership, control and shareholder rights

Before the industrial revolution, property was owned by the sovereign and held in trust by feudal lords. However, after the industrial revolution and the rise of capitalism, people owned property and the means of production directly. With the limited liability company, individuals were able to conduct business while at the same time limiting their personal liability.

In their seminal work, *The Modern Corporation and Private Property*, Berle and Means (1932), state that the modern corporation, an evolutionary product of the limited liability company, is made prolific by the expansion of industrial activity and the public market for securities. Berle and Means (1932), distinguish the modern corporation from the foregoing limited liability company. The public markets for securities enable the diverse ownership of companies which differs from the previous practice of individual ownership of companies. This diverse ownership when combined with the growth in scale of industry necessitates the employment of people, called management, that oversee business activities of the corporation in exchange for compensation.

This in effect leads to the separation of control and ownership. Shareholders surrender the control they had over direct management of the company's property to the management who are charged with the responsibility of executing business activity in the interest of shareholders. However, management does not have ownership of the company property which presents opportunity for the divergence of management's interests and those of shareholders. Berle and Means (1932) find that in cases where ownership is sufficiently diverse such that no one shareholder has minority interest, the interests of shareholders can be subjugated to those of management. Studies by Berle and Means established such diverse ownership to be the case in the United States.

This assertion has, however, been disproved by numerous studies including those of La porta et al (1999) and Shleifer and Vishny (1986). In an analysis of 27 wealthy economies, La porta et al (1999) find that with the exception of economies with high levels of shareholder protection such as the United States and the United Kingdom, few companies are widely held. Instead, concentrated ownership is held by the state or wealthy families. La porta et al (1999) find that equity control by financial firms is less common which directly contradicts findings by Schillhofer, Drobotz, & Zimmermann (2004) who find that concentrated ownership in Germany is exercised by banks. The two studies, however, concur that

concentrated ownership and the control that comes with it is executed through participation in management and the use of pyramids³.

The evidence presented by La porta et al (1999), then begs the question of whether indeed shareholder interests are left at the behest of management as is proposed by Berle and Means (1932). The answer to this question can be found in the work presented by GIM (2003) and Fama (1980). GIM (2003) find and classify corporations as either democracies or dictatorships depending on the level of shareholder rights restriction. GIM assert that before the rise of the junk bond market in the 1980s and subsequent shareholder activism, companies were largely in the middle ground. However, the junk bond market and the hostile takeovers it brought with it caused management in many companies to institute takeover defences that largely curtailed shareholder rights. The restriction in shareholder rights had a significant impact on the performance of these companies and the returns due to their stocks as shall be seen later on in this literature review.

Fama (1980) addresses this question in a different way. Following the work established by Jensen & Meckling (1976), he further establishes the description of the firm as a set of contracts. He points out the irrelevance of the concept of ownership of the firm by pointing out that in a firm each factor is owned by somebody that isn't always the entrepreneur as is described by Jensen et al (1976). The entrepreneur, in this case the shareholder owns the firm's capital goods which is different from ownership of the firm. Furthermore, the shareholder does not necessarily lose the most should management misappropriate his wealth. This is because of the presence of public markets for the company's securities. Following from Portfolio Theory, the shareholder will have already diversified their holdings and reduced their exposure to misappropriation by management. Furthermore, management also has a market for their skills. As such poor performance of the company is reflected as inadequacy of their skills. This in conjunction with the fact that lower managers also aim to rise higher keep management in check. Additionally, the presence of non-executive directors in the board ensures third party supervision on management.

While on the face of it the proposition by Fama (1980) seems to address the concerns of agency theory, it assumes an efficient market, both for the firm's securities as well as the factors. Without an efficient market, the argument crumbles. This is where corporate governance comes in.

³ Pyramids here refer to an ownership structure where control in one firm is maintained through the use of a chain of companies.

2.2. Corporate governance in the late 20th and 21st centuries

Modern corporate governance started with the Cadbury report (1992). The report followed a series of high profile fraud and false financial reporting scandals. It sought to protect weak and widely dispersed shareholders against the actions of self-interested directors and managers. The report developed a “Code of Best Practice”. The code required voluntary adoption for non-listed companies and statements of compliance from listed companies. As such, it was not a statutory requirement and required the push of shareholders. According to the report, there are three main entities that are charged with the responsibility of corporate governance; the board of directors, shareholders and the auditors.

Corporate Governance differs in its application in different jurisdictions. Two paradigms present themselves, diverse ownership vs. concentrated ownership as depicted by GIM (2003). From this we can derive three dominant models of corporate governance prevalent throughout the world; the Anglo-saxon model used in the USA and UK, the Continental model used in mainland Europe and the Japanese model – the *Keiretsu* (Schillhofer, Drobetz, & Zimmermann, 2004). The Anglo-saxon model is used where there is largely diverse ownership of companies and is thus characterised by the use of shareholder activism and external mechanisms of control such as takeovers to keep management in check. The continental model used in mainland Europe consists of concentrated ownership through banks and other financial institutions. Corporate control is thus channelled through the use of board membership and selection into the board. In the Japanese model ownership is held by through pyramids of corporations that form a sort of solidarity movement. Similar to the continental model, corporate control is channelled through the board.

In Sub-Saharan Africa, the model used for corporate governance is that described by La porta et al (1999) where many companies are either owned by the State, wealthy families or pyramidal ownership structures.

2.3. Corporate governance and company valuation and performance

There is a wide body of literature on the relationship between Corporate Governance and the performance of companies as well as their valuation. To develop this relationship requires some form of measurement of corporate governance as well as a tool that shows the relationship between the two aspects of corporations. Many studies use a long run event study

methodology with regression analysis (GIM (2003), Cremers & Vinay (2005) and Schillhofer et al (2004)).

In a long horizon event study regression, a corporate governance index is used. The corporate governance index can be constructed using the various aspects that comprise good corporate governance. GIM (2003) construct their index using the incidence of 24 governance rules that proxy for the level of shareholder rights at about 1500 large firms in the United States during the 1990s. Each firm receives a rating of between 1 and 24 where the absence of any rule leads to the subtraction of one point. The firms are then divided into ten deciles where the lower deciles indicate stronger shareholder rights and higher deciles weak shareholder rights. The study's analysis finds that an investment strategy that sold the high decile firms and bought low decile firms would have earned an 8.5% abnormal return between 1990 and 1999. Cremers & Vinay (2005) follow closely the work done by GIM but instead focus on takeover defences taken up by companies.

Their corporate governance index is therefore constructed using the incidence of said defences whether voluntary or through state mandate in the United States. Their long run regression event study shows that a portfolio that an investment strategy that buys firms with the highest level of takeover vulnerability and sells firms with the lowest level of stakeholder vulnerability would earn a 10 to 15% abnormal return between 1990 and 2001 only when there is high pension fund block shareholding. This emphasises the importance of shareholder activism in the monitoring of management activity. The result also shows that the internal and external mechanisms of corporate control are complementary in nature. However, when restricted to just the internal mechanisms the same strategy yields a 8% abnormal return but only in the presence of high takeover vulnerability.

These two studies above highlight the importance of shareholder rights in a company. Stronger shareholder rights lead to reduced agency costs since management has a stronger incentive to act in the best interests of the shareholders. The lower agency costs then yield higher performance and valuation in an efficient market (Gompers , Ishii, & Metrick, 2003). However, the two studies fall short because they only consider one aspect of corporate governance. The results of these studies then may belay the presence of effects of other governance metrics such as disclosure. Black (2001) finds that the effects of disclosure are highly correlated with the effects of the other governance metrics.

In Korea, Black et al (2003) use a more comprehensive approach to the construction of the corporate governance index. The index contains sub-indices that have proxies for shareholder rights, board of directors in general, outside directors, audit committee, disclosure and ownership parity. The use of more corporate governance metrics solves the problems identified above from the work done by GIM (2003) and Cremers & Vishny (2005).

The results of the study above find that a 10 point increase in the corporate governance index predicts a 5% increase in Tobin's q and a 14% increase in the market/book ratio while a worst-to-best change in the index predicts a 38% increase in Tobin's q and a 105% increase in market/book ratio. Delving into the results from the regressions on the elements of the sub-indices shows that the elements have more predictive power when they are aggregated together. However, the single strongest coefficient is produced by regression on the incidence of $\geq 50\%$ independent non-executive directors. The coefficient implies that a firm with 50% outside directors has a higher market capitalization by 17% of book asset value. This differs from results found in the United States by Bhagat & Black (1999).

Governance indices can also be constructed by combining two or more different governance indices. This is the case in Black, Love, & Rachinsky (2006). The study combines four different governance indices to investigate the relationship between corporate governance and firm performance with fixed effects. The study finds an economically important and statistically strong correlation between governance and market value both in OLS and in fixed effects regressions with firm-index fixed effects. The novelty of this study is that it addresses the possibility that there are unobserved firm level variables that explain the correlation between corporate governance and firm performance and valuation. Black et al (2003) similarly address this problem by introducing control variables for various aspects such as firm age. The results show that even with these controls, most of the coefficients remain significant even though they may be weaker.

Further both studies demonstrate that the way governance is measured matters by applying the regression to different indices. Other indices present stronger and higher results than others.

2.4. Causal Relationship between Corporate Governance and Firm Performance and Valuation

Correlation between corporate governance and firm performance and valuation can be explained in three ways; first is that higher corporate governance standards in a firm lead to better firm performance and higher valuations by investors. The second is that larger market capitalisation companies attract higher levels of attention from market participants and thus are forced to adopt better corporate governance practices. This is described as endogeneity. The third is signalling which states that; by adopting better corporate governance principles, firms signal that the insiders intend to “behave well”. However, it is not the adoption and application of the principles that predict higher valuations but rather the signals themselves.

Several studies have attempted to establish which of the three explains the correlation between firm performance and valuation and corporate governance including Bhagat & Black (1999), Black et al (2003) and Black, Love, & Rachinsky (2006). Other studies include Durnev & Kim (2005) and Weisbach & Benjamin (2001).

To control for company size, Black et al (2003) include an asset size dummy variable. The expectation is that the coefficient of this variable (should it be that the index value explains entirely the correlation between corporate governance and firm valuation) will be insignificant. The results show that the asset size dummy is an exogenous predictor of corporate governance thus proving the possibility of reverse causation. The results further prove that mandatory governance rules are significant in the explanation of the correlation between corporate governance and firm valuation. Bhagat & Black (1999) find that there is a negative correlation between board independence and firm performance. However, they also determine that board composition is an endogenous determination of corporate governance. However, the negative correlation weakens and becomes statistically insignificant after controlling for this endogenous effect.

2.5. The Risk Premium for Corporate Governance

While there is a wide body of research on the relationship between corporate governance and company valuation, literature on the risk premium attached to corporate governance is slim and most of the work has been done on developed markets. From the literature reviewed for the purpose of this study Bertinetti & Mantovani (2014) is the only study that attempts to determine the risk premium for corporate governance. They posit that there is indeed a risk

premium for corporate governance because of incomplete markets and the nexus of contracts elaborated by Fama (1980). Every member of the company takes out a contract with the company with some economic incentive (return) but with the risk that the other members might not fulfil their end of the contract leading to the loss of the economic incentive. They apply State Preference Theorem and the CAPM to price for corporate governance risk in different states of nature. They establish that for the Italian Stock Exchange, governance risk attracts a 142bp premium.

2.6. Similar Studies in Kenya

There is a wide body of research on corporate governance in Kenya. Iraya, Mwangi, & Muchoki (2015) investigate the effect of corporate governance practices on earnings management at the NSE and find that is negatively related to ownership concentration, board size and board independence but positively related to board activity and CEO duality. Mwangi & Mwiti (2015) find that voluntary disclosure is positively correlated with firm performance for firms listed at the NSE. The study echoes the findings of Black et al (2003) which show some companies outperform others within country as a result of adopting voluntary standards of corporate governance. Lishenga & Mbaka (2015) perform the same study focusing on the mandatory disclosure requirements set in the CMA Guidelines on Corporate Governance issued in 2002. The study finds similar results as those of Mwangi & Mwiti (2015).

2.7. Conclusion: Relationship between Research Objectives and Literature

Studies have shown that corporate governance has a significant effect on firm valuation and performance. This study extends on that literature by estimating a risk premium for corporate governance with the example of the Kenyan capital markets. Like Black et al (2003) a corporate governance index is constructed based on a wide array of corporate governance standards and practices with the use of secondary data. Black et al (2003) uses primary data.

The approach taken with regard to the relationship between corporate governance and firm valuation in this study is also different. While Black, Love, & Rachinsky (2006), GIM (2003) and Cremers & Vinay (2005) all assess this relationship by establishing a positive and significant correlation between corporate governance and the value of the firm, this study

delves into the discount factor used in valuing firms. An attempt is made to establish what proportion of the return is attributable to corporate governance, that is, the risk attached to compliance and non-compliance to global standards of corporate governance. However, there is similarity in the assumption of a buy and hold strategy of all subject companies. This study also attempts to establish the variance in risk premiums between good and bad corporate governance from a portfolio perspective. This is done by creating portfolios based on the subject companies' corporate governance scores.

This paper takes on the point of view of Fama (1980), Jensen et al (1976) and Bertinetti et al (2014) where the firm is described as a nexus of contracts. This helps explain the motivation to management to adopt the highest corporate governance standards. The payoff to management is a higher value in the market for their services. This value is derived from a higher valuation of their companies due to lower risk premiums demanded by investors. A lower risk premium also aids management in capital budgeting and capital structure decisions. The risk premium measurement approach, however, differs from that of Bertinetti et al (2014) which measures the corporate governance risk premium as an aggregation of the risk premium demanded by different stakeholders during different life cycle stages of the company. In this study, the corporate governance risk premium is measured from the point of view of the investor over a medium term horizon.

3. METHODOLOGY

3.1. Research Design

The process used in this study involves the construction of a corporate governance index for the constituent companies of the NSE 20 Share Index. Each company gets a corporate governance score of between 0 and 21 which is then standardised. The dispersion from the market governance mean for each year forms the index..

The stock return is then computed on an annual basis based on the last trading price of the year. The holding period return, H_{it} , is computed as the natural logarithm of the ratio of the price at the end of year t to the price at the end of year $t - 1$.

$$H_{it} = \frac{P_{it}}{P_{i,t-1}} \quad (1)$$

The risk premiums of each company are then determined by deducting the proxy risk free rate from the stock return calculated as above and regressed against fundamental and macroeconomic factors that affect stock returns to obtain corporate governance exposure. This exposure is then used to determine the corporate governance risk premium in an arbitrage pricing theory framework.

3.2. Population and Sampling

There are 10 subject companies in this study obtained from the NSE. To address the question of blanket applicability of corporate governance to different industries, subject companies represent 7 out of 12 industry classifications on the market. The stocks on the index are blue chip stocks which ensures they reflect market behaviour. *Table 1* presents the salient features of these stocks.

Industry	Company	Market Capitalisation as at 31 Dec 2015 in KES
Construction and Allied	ARM	50,451,339,225.00
	Bamburi	44,327,112,500.00
Investment	Centum	40,924,669,162.50
Banking	Equity Bank	27,808,405,391.25
Telecommunications	Safaricom	13,019,280,604.50
Energy and Petroleum	KenGen	2,964,721,500.00
	KPLC	6,649,354,942.00

Commercial and Services	KQ	186,990,239,510.00
	TPS Serena	21,258,155,279.52
Agriculture	Sasini	546,707,890,000.00
	Total	941,101,168,114.77

Table 1: This table presents the market capitalisation and industry classification of the stocks used in this study. There are 10 stocks which represent 7 out of 12 industries. The total market capitalisation of these stocks accounts for half the market capitalisation of the NSE as at the end of 2015.

3.3. Data Types and Sources

The study makes use of qualitative and quantitative data. Qualitative data observed from the financial statements of the NSE 20 Share Index companies is used to construct the corporate governance index. The historical prices of these stocks are used to determine their returns. Lastly, the return on 91-Day Treasury Bills is used as a proxy for the risk free rate which is used to determine the risk premiums of the stocks.

The stock price information is collected from stock market information vendors and the corporate governance variables are obtained from the subject companies' annual report. To ensure the adequacy of the data, this study relies on data from 2008-2015 in estimating the relationship between the risk premium and corporate governance score. The eight-year analysis gives a medium term horizon analysis of the relationship.

3.4. Data Analysis

3.4.1. Construction of the Corporate Governance Index

The study makes use of the G20/OECD Principles of Corporate Governance (2015) to extract 23 variables that are classified into 4 sub-indices; shareholder rights, stakeholder rights, disclosure & transparency and board responsibilities (See Appendix A). The variables are standards/practices that are objectively observable from the financial statements of the NSE 20 Share Index companies. Each variable takes on a value of 1 if present and 0 if absent except for CEO duality which takes on a value of -1 if present and 0 if absent. The summation of the variables values yields the value of each sub-index.

The final governance score is computed as follows;

$$CGI = A + B + C + D \quad (2)$$

Where A = Shareholder rights

B = Stakeholder rights

C = Disclosure and Transparency

D = Board Responsibilities

To introduce an element of risk in the index, dispersions from the mean are computed. The mean used here is the governance score mean of the 10 stocks for each year. In this way, companies with better than average governance standards are rewarded with a positive index value while companies that have below average governance standards attract a negative index value.

Three other indices are developed to assess the contribution of each governance sub-index to the corporate governance risk premium. These indices are computed by changing the weighting scheme such that each index is 50% biased to the total score of one sub-index.

3.4.2. Model Specification and Corporate Governance Risk Premium determination

The Fama and Macbeth (1973) approach is applied in an APT framework to obtain the risk premia for corporate governance. The approach involves two steps. The first step yields the factor loadings for the parameters in the model presented in equation 3 below. The parameters used to construct the model are corporate governance, two fundamental factors and two macroeconomic factors. These parameters are chosen because of their affirmation by previous studies to be sufficient in explaining cross-sectional variation in stock returns. Fama and French (1992) in their seminal study on the applicability of the CAPM find that size and book-to-market equity, combine to capture the cross-sectional variation in average stock returns associated with market size, leverage, book-to-market equity, and earnings-price ratios. These are represented here by size and value factors. Other studies have shown that GDP growth and inflation are prolific in explaining variation in stock returns.

$$R_{it} = \alpha + \beta_{i1}GOVERNANCE_{it} + \beta_{i2}INF_t + \beta_{i3}GROWTH_t + \beta_{i4}VALUE_{it} + \beta_{i5}SIZE_{it} + \varepsilon_{it} \quad (3)$$

Where R_{it} is the return on stock i at time t . $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 are the factor loadings that determine the return R_{it} . $GOVERNANCE_{it}$ is the governance score while INF_t represents inflation and $GROWTH_t$, the GDP growth. $VALUE_{it}$ and $SIZE_{it}$ represent value and size factors.

The second step involves the cross-sectional regressions of the factor loadings against excess stock returns to obtain the risk premia due to the parameters. This is reflected in *equation 5*. However, this study deviates from the approach used by Fama and Macbeth by using a pooled model so as to obtain a single risk premium for the market for the entire period under consideration as opposed to every year in the study's horizon.

$$\gamma_{it} = \beta_{i0}\gamma_{it-1} + \beta_{i1}\lambda_1 + \beta_{i2}\lambda_2 + \beta_{i3}\lambda_3 + \beta_{i4}\lambda_4 + \beta_{i5}\lambda_5 + \varepsilon_i \quad (4)$$

Where γ_{it} is the excess return and λ_k is the risk premium to the risk factors. λ_1 is the risk premium to corporate governance while γ_{it-1} is the lagged value of the excess return on each stock. γ_{it-1} is added so as to enhance the explanatory power of the model and reduce collinearity.

To address the possible endogeneity problem that may arise as a result of the chosen regressors, the Generalised Method of Moments (GMM) approach is used in both the first step and second step Fama Macbeth regressions. The first step Fama Macbeth regressions apply the time series instrumental variable Generalised Method of Moments (IVGMM) regression to *equation 3* while the second step Fama Macbeth regressions apply the Arellano-Bond/Blundell GMM estimator approach to *equation 4*.

4. RESULTS

4.1. Corporate Governance Index

The governance indices are presented in tables 2 to 4. Their descriptive statistics are displayed in Appendix B. An analysis of the indices potentially holds the answer to whether governance standards are applicable uniformly across various industries. The answer to this question could take three forms; an affirmation that governance standards are indeed uniformly applicable, an affirmation of blanket applicability but not a uniform level of importance and a negation of any form of blanket applicability. Analysis of the indices suggests an answer of the second variety; affirmation of blanket applicability but not a uniform level of importance. This is apparent from the minimal change in signs of the index values for the stocks across the indices but differing levels of magnitude of the dispersion from the mean.

It is noteworthy that companies which have significant government shareholding ($\geq 20\%$) consistently post positive index values across the indices. This would seem to buck the perception that it government shareholding of itself reduces the value of the governance risk premium since the government will bail out these companies anyway and reduce the risk of loss to other shareholders. The indices suggest that listing on public equity markets instead is what leads to the reduction in risk of loss to the shareholders due to mismanagement since it forces these companies to implement better governance standards. However, this conclusion can only be affirmed by a comparison of the scores before and after listing of which this paper falls short.

Equally Weighted Index										
	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen	Centum	Safaricom
2008	-8.57%	10.48%	5.71%	0.95%	-13.33%	5.71%	15.24%	-3.81%	5.71%	-18.10%
2009	-19.05%	0.00%	9.52%	0.00%	-14.29%	14.29%	9.52%	-9.52%	14.29%	-4.76%
2010	-17.62%	1.43%	10.95%	-3.33%	1.43%	1.43%	15.71%	20.48%	-31.90%	1.43%
2011	-9.52%	-9.52%	4.76%	4.76%	-4.76%	-4.76%	14.29%	4.76%	4.76%	-4.76%
2012	-4.29%	-9.05%	-4.29%	5.24%	-4.29%	-4.29%	14.76%	10.00%	-4.29%	0.48%
2013	-2.86%	-2.86%	-2.86%	6.67%	-2.86%	-12.38%	11.43%	6.67%	-2.86%	1.90%
2014	-9.05%	-4.29%	-4.29%	10.00%	-4.29%	-13.81%	14.76%	10.00%	0.48%	0.48%
2015	-4.29%	-9.05%	5.24%	10.00%	-9.05%	-13.81%	10.00%	5.24%	0.48%	5.24%

Table 2 displays the equally weighted governance index where the total score from each sub-index is allotted 33.33% of the total score of the entire score. The final value displayed here is the dispersion from the mean of each stock's total score. The mean is the average total score from all the stocks.

Bias on Stakeholder Rights										
	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen	Centum	Safaricom
2008	-5.06%	6.19%	3.69%	0.56%	-8.19%	3.69%	9.31%	-2.56%	3.69%	-11.31%
2009	-12.48%	-1.23%	5.02%	-1.23%	-10.60%	21.06%	4.40%	-7.48%	7.52%	-4.98%
2010	-12.96%	-1.71%	4.54%	-4.83%	-2.33%	11.21%	7.04%	10.17%	-22.33%	11.21%
2011	-8.46%	-8.46%	0.29%	0.29%	-5.96%	7.58%	20.08%	0.29%	0.29%	-5.96%
2012	-6.94%	-9.44%	-6.94%	-0.69%	-6.94%	6.60%	19.10%	2.44%	-6.94%	9.73%
2013	-5.94%	-5.94%	-5.94%	0.31%	-5.94%	1.35%	16.98%	0.31%	-5.94%	10.73%
2014	-10.79%	-8.29%	-8.29%	1.08%	-8.29%	-1.00%	17.75%	1.08%	8.38%	8.38%
2015	-6.40%	-8.90%	13.40%	2.98%	-42.02%	0.90%	16.52%	-0.15%	10.27%	13.40%

Table 3 displays the index biased in favour of Stakeholder Rights which comprise both shareholder and other stakeholder rights. It differs from *table 2* in that the total governance score used to calculate the dispersion from the mean (which constitutes the final index) is obtained by allocating a 50% weighting to the stakeholder rights score and 25% each to disclosure & transparency and board responsibilities.

Bias on Disclosure and Transparency										
	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen	Centum	Safaricom
2008	-7.31%	8.94%	3.94%	0.81%	-10.44%	3.94%	12.06%	-2.31%	3.94%	-13.56%
2009	-17.15%	-0.90%	5.35%	-0.90%	-10.27%	15.56%	7.23%	-7.15%	10.35%	-2.15%
2010	-16.54%	-0.29%	5.96%	-3.42%	1.58%	6.79%	10.96%	14.08%	-25.92%	6.79%
2011	-8.79%	-8.79%	2.46%	2.46%	-3.79%	1.42%	13.92%	2.46%	2.46%	-3.79%
2012	-4.19%	-9.19%	-4.19%	2.06%	-4.19%	1.02%	13.52%	5.19%	-4.19%	4.15%
2013	-3.44%	-3.44%	-3.44%	2.81%	-3.44%	-4.48%	11.15%	2.81%	-3.44%	4.90%
2014	-9.71%	-4.71%	-4.71%	4.67%	-4.71%	-5.75%	13.00%	4.67%	3.62%	3.62%
2015	0.02%	-4.98%	11.48%	9.40%	-55.60%	-1.02%	14.60%	6.27%	8.35%	11.48%

Table 4 displays the the index biased in favour of the Disclosure and Transparency sub-index. The total governance score used to compute the dispersion from the mean displayed here is computed by allotting a 50% weight to the Disclosure and Transparency sub-index score and 25% each to the other two sub-indices.

Bias on Board Responsibilities										
	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen	Centum	Safaricom
2008	-7.88%	9.62%	7.13%	0.88%	-14.13%	7.13%	15.88%	-5.38%	7.13%	-20.38%
2009	-16.96%	0.54%	13.04%	0.54%	-18.21%	17.63%	9.29%	-11.96%	15.54%	-9.46%
2010	-15.67%	1.83%	14.33%	-4.42%	-1.92%	0.17%	16.83%	23.08%	-34.42%	0.17%
2011	-9.92%	-9.92%	5.08%	5.08%	-7.42%	-5.33%	19.67%	5.08%	5.08%	-7.42%
2012	-6.63%	-9.12%	-6.63%	5.88%	-6.63%	-4.54%	20.46%	12.13%	-6.63%	1.71%
2013	-4.38%	-4.38%	-4.38%	8.13%	-4.38%	-14.79%	16.46%	8.13%	-4.38%	3.96%
2014	-9.33%	-6.83%	-6.83%	11.92%	-6.83%	-17.25%	20.25%	11.92%	1.50%	1.50%
2015	-2.54%	-5.04%	12.04%	16.21%	-53.79%	-12.96%	18.29%	9.96%	5.79%	12.04%

Table 5 displays the the index biased in favour of the Board Responsibilities sub-index. The total governance score used to compute the dispersion from the mean displayed here is computed by allotting a 50% weight to the Board Responsibilities sub-index score and 25% each to the other two sub-indices.

4.2. Fama Macbeth Regressions

4.2.1. First Pass Regressions

The first step of the Fama Macbeth regressions yields the coefficients presented in *Table 6*. The regression statistics are presented in Appendix C. All the coefficients and the model are statistically significant with the explanatory power of the model ranging between 30% and 99.99% for different stocks and over different indices. The results indicate that overall, standards on board responsibilities have the most positive effect on the return of stocks with only 3 stocks having a negative corporate governance coefficient as compared to 5 in regressions with the other two biased indices. Overall, corporate governance had a positive impact on returns for 7 out of 10 companies in the sample.

Equally Weighted Index Regression Results					
	SMB	CGIScore	GDPGrowth	Inflation	HML
ARM	-0.2012	-0.0930	0.0074	-0.0757	-0.0284
Bamburi	-0.2729	0.1073	-1.1998	-0.2113	-0.1473
Centum	-0.0434	0.0227	0.0961	-0.1063	-0.0127
Equity	0.0304	-0.0183	-0.0889	-0.0449	-0.0112
Safaricom	-0.0582	0.0453	-0.0913	-0.0157	-0.0009
KenGen	-0.0143	-0.0183	-0.0021	-0.0607	-0.0100
KPLC	-0.0124	0.0574	-0.0050	-0.0204	0.0086
KQ	0.7786	0.3660	-0.6219	0.2457	-0.0966
TPS_Serena	-0.2092	-0.0376	0.2871	0.0001	0.0287
Sasini	-0.0145	0.0021	0.0712	-0.0099	0.0053

Index with Bias on Stakeholder Rights Regression Results					
	SMB	CGIScore	GDPGrowth	Inflation	HML
ARM	0.5549	0.1354	0.0385	0.0288	0.0292
Bamburi	-1.2983	-0.1031	-0.1930	-0.0848	0.0083
Centum	-0.0743	0.0183	0.0384	-0.0846	-0.0111
Equity	0.0297	-0.0402	-0.0799	-0.0386	-0.0089
Safaricom	-0.0334	0.0156	-0.0820	-0.0162	-0.0004
KenGen	-0.0271	-0.0004	-0.0272	-0.0451	-0.0022
KPLC	0.0700	-0.0323	-0.0586	0.0092	-0.0126
KQ	-1.0476	-0.5982	0.4684	-0.3934	0.1093
TPS_Serena	-0.1341	0.0078	0.0578	-0.0234	0.0033
Sasini	1.3028	1.4248	-1.4636	0.1516	-0.2295

Index with Bias on Disclosure and Transparency Regression Results					
	SMB	CGIScore	GDPGrowth	Inflation	HML
ARM	-0.0786	0.0161	-0.0554	-0.0323	-0.0007
Bamburi	-1.1319	-0.0658	-0.2488	-0.0997	-0.0084
Centum	-0.0888	0.0285	0.0970	-0.1046	-0.0126
Equity	0.0836	-0.0450	-0.0930	-0.0358	-0.0117
Safaricom	-0.0273	0.0181	-0.1043	-0.0275	-0.0039

KenGen	-0.0231	-0.0038	-0.0196	-0.0464	-0.0028
KPLC	0.0641	-0.0677	0.0066	0.0068	-0.0073
KQ	0.6082	0.5045	-0.8204	0.2495	-0.1266
TPS_Serena	-0.1425	-0.0871	0.4820	0.0331	0.0509
Sasini	-0.0148	0.0020	0.0695	-0.0102	0.0050

Index with Bias on Board Responsibilities Regression Results

	SMB	CGIScore	GDPGrowth	Inflation	HML
ARM	-0.0754	0.0207	-0.0342	-0.0205	0.0045
Bamburi	-0.2362	0.1020	-1.3836	-0.2558	-0.1692
Centum	-0.0588	0.0203	0.0778	-0.1073	-0.0141
Equity	0.0467	-0.0172	-0.0917	-0.0447	-0.0110
Safaricom	-0.0710	0.0229	-0.0818	-0.0233	-0.0002
KenGen	-0.0202	-0.0034	-0.0208	-0.0479	-0.0036
KPLC	-0.1534	0.0919	0.0375	-0.0543	0.0260
KQ	1.0517	0.6219	-1.3433	0.4020	-0.2065
TPS_Serena	-0.1974	-0.0306	0.3219	0.0020	0.0335
Sasini	-0.0153	0.0025	0.0700	-0.0099	0.0051

Table 6: The coefficients produced by the first step of the Fama Macbeth regressions using *equation 3* where: SMB = the size factor, CGIScore = the corporate governance score, GDPGrowth = GDP and HML = the value factor. These coefficients are then plugged into *equation 4* to obtain the risk premia for each factor in an APT framework.

4.2.2. Second Pass Fama Macbeth Regressions

The results of the second pass Fama Macbeth regressions are presented in tables 7 to 10.

Premia from the Equally Weighted Index

Applying the coefficients obtained from regressions with the equally weighted index, the results indicate that the market demanded a 30.08% risk premium for corporate governance. It defies economic theory since it is larger than all the total returns of the stocks in the study. However, as is explained below, the risk premia for corporate governance start to make sense with the biased indices and when control variables are added to the model. These results seem to support the conclusion implied from the indices that while corporate governance standards are of importance to all companies, some elements are more important to investors and subsequently management than others.

The figure is statistically insignificant unlike the model which passes both the Sargan and Hansen tests indicating that the model is adequately identified. The model also passes the first autoregressive (AR(1)) test but fails the second (AR(2)). These results are puzzling since they seem to conflict with the assertion of a well defined model derived from the Sargan and Hansen tests. A possible source of this conflict could be the combination of a relatively short horizon in a low frequency and the assumption of a zero constant term from the APT

framework. While the Arrelano-Bond/Blundell GMM estimator approach addresses the first problem, it does not cater to the second.

Equally Weighted Index						
Prob > chi2	0.0000					
ExcessReturn	Coef.	Std. Err.	z	P> z 	[95% Conf.	Interval]
L1.	0.8526	1.9215	0.4400	0.6570	-2.9135	4.6186
CGIScore	0.3008	19.4510	0.0200	0.9880	-37.8224	38.4240
GDPGrowth	0.0988	5.9338	0.0200	0.9870	-11.5312	11.7288
Inflation	0.8398	24.1607	0.0300	0.9720	-46.5143	48.1939
HML	-0.9052	43.8133	-0.0200	0.9840	-86.7776	84.9673
SMB	-0.4571	17.4188	-0.0300	0.9790	-34.5973	33.6830
AR(1)				Sargan test		
Pr > z	0.7550			Prob > chi2	0.9910	
AR(2)				Hansen test		
Pr > z	0.0310			Prob > chi2	0.2800	

Table 7 presents the results of the second step of the Fama Macbeth regressions using the Arellano-Bond/Blundell GMM estimator approach with coefficients obtained from first pass regressions using the equally weighted governance index. L1. = the first lag of the excess return, CGIScore = the governance factor, HML = the value factor, GDPGrowth = the GDP factor and SMB = the size factor. While the model passes the first autoregressive (AR(1)) test, the Sargan and Hansen's tests, it fails in the second autoregressive (AR(2)) test. For all the tests, rejection of the null hypothesis leads means the model fails the test.

Premia from the Stakeholder Rights Biased Index

The results indicate that investors in Kenya's equity market demanded a 4.64% risk premium for corporate governance between 2008 and 2015 where the focus is on Stakeholder Rights. This is a sharp decline compared to the 30.08% result from the equally weighted governance index. It is also the lowest risk premium of all the indices even when control variables are added to the model.

The results suggest that stakeholder rights rank last in the importance of different governance elements. This is somewhat a contradiction to the results of GIM (2003) and Cremers and Vinay (2005) who find that in the US more shareholder rights in a company leads to better company performance which connotes lower governance risk. A possible answer to this contradiction lies in the ownership structure of companies in Kenya. While companies in the US are diversely owned as in the model suggested by Schillhofer et al (2004), the opposite is true in Kenya where ownership is concentrated in the hands of government, corporations and families/individuals. As such the major shareholders have a major say in the composition of

the board such that they have more control over the rights available to them. This is documented in La-Porta et al (1999).

Stakeholder Rights Bias						
Prob > chi2	0.0000					
ExcessReturn	Coef.	Std. Err.	z	P> z 	[95% Conf.	Interval]
L1.	-0.6223	0.4809	-1.2900	0.1960	-1.5648	0.3202
CGIScore	0.0464	0.6121	0.0800	0.9400	-1.1532	1.2460
GDPGrowth	0.0634	0.9715	0.0700	0.9480	-1.8408	1.9676
Inflation	4.1038	2.0137	2.0400	0.0420	0.1569	8.0506
HML	1.3391	5.1613	0.2600	0.7950	-8.7770	11.4551
SMB	-0.3890	0.1878	-2.0700	0.0380	-0.7570	-0.0210
AR(1)				Sargan test		
Pr > z	0.8370			Prob > chi2	0.3210	
AR(2)				Hansen test		
Pr > z	0.0310			Prob > chi2	0.1980	

Table 8 presents the results of the second step of the Fama Macbeth regressions using the Arellano-Bond/Blundell GMM estimator approach with coefficients obtained from first pass regressions using the corporate governance index biased towards stakeholder rights. L1. = the first lag of the excess return, CGIScore = the governance factor, HML = the value factor, GDPGrowth = the GDP factor and SMB = the size factor. While the model passes the first autoregressive (AR(1)) test, the Sargan and Hansen's tests, it fails in the second autoregressive (AR(2)) test. For all the tests, rejection of the null hypothesis leads means the model fails the test.

Premia from the Disclosure and Transparency standards biased Index

When the spotlight is focussed on Disclosure and Transparency standards, the risk premium demanded by investors rises to 15.16% for the period under investigation. While the figure is statistically insignificant, its economic importance cannot be overstated. With the exception of the results from the equally weighted index, this is the highest recorded risk premium. The suggestion then is that Disclosure and Transparency are the most important elements of governance to investors in Kenya's equity market.

The results are congruent with the findings of Mwangi & Mwiti (2015) and Lishenga & Mbaka (2015) who find a positive relationship between governance disclosure practices and firm performance. Conclusions can also be drawn about the effectiveness of mandatory disclosure standards imposed by the CMA since 2002. While extensive, this risk premium suggests that they fall short of investor's expectations which would then justify the stricter proposed guidelines established in 2013.

Bias on Disclosure and Transparency

Prob > chi2	0.0000					
ExcessReturn	Coef.	Std. Err.	z	P> z 	[95% Conf.	Interval]
L1.	0.6981	0.3670	1.9000	0.0570	-0.0212	1.4175
CGIScore	0.1516	0.2586	0.5900	0.5580	-0.3552	0.6584
GDPGrowth	-0.4971	1.0720	-0.4600	0.6430	-2.5981	1.6039
Inflation	-0.6757	1.7599	-0.3800	0.7010	-4.1250	2.7737
HML	4.3632	8.2947	0.5300	0.5990	-11.8942	20.6206
SMB	0.3027	0.6851	0.4400	0.6590	-1.0400	1.6455
AR(1)						Sargan test
Pr > z	0.1910			0.5940		Prob > chi2
AR(2)						Hansen test
Pr > z	0.0020			0.5270		Prob > chi2

Table 9 presents the results of the second step of the Fama Macbeth regressions using the Arellano-Bond/Blundell GMM estimator approach with coefficients obtained from first pass regressions using the corporate governance index biased towards Disclosure and Transparency L1. = the first lag of the excess return, CGIScore = the governance factor, HML = the value factor, GDPGrowth = the GDP factor and SMB = the size factor. While the model passes the first autoregressive (AR(1)) test, the Sargan and Hansen's tests, it fails in the second autoregressive (AR(2)) test. For all the tests, rejection of the null hypothesis leads means the model fails the test.

Premia from the Board Responsibilities standards biased Index

Investors in Kenya's equity market demanded a 6.04% risk premium when the focus is on board responsibilities. This would rank standards on board responsibilities second in importance to equity investors after disclosure and transparency standards. Similar to the other two biased indices, the results are statistically insignificant but call for a discussion on their economic significance.

The results are puzzling when the board room scandals that have rocked the market in the last 10 years are considered (for example those of CMC Motors, Uchumi and Kenya Airways). Logic would dictate that investors demand better standards on board responsibilities. However, it can be argued that since as per the prevalent mode of ownership, major shareholders already control the boards of listed companies, other investors resort to demands for higher disclosure and transparency standards as a way to safeguard their investments. This paints a gloomy picture of the state of corporate governance in the country; where instead of demanding for better leadership and stronger rights, it is easier for investors demand better disclosure and transparency which enable them to hedge their investments.

Bias on Board Responsibilities

Prob > chi2	0.0000					
ExcessReturn	Coef.	Std. Err.	z	P> z 	[95% Conf.	Interval]
L1.	0.9612	2.4018	0.4000	0.6890	-3.7463	5.6687
CGIScore	0.0604	5.1605	0.0100	0.9910	-10.0539	10.1747
GDPGrowth	0.6096	12.4484	0.0500	0.9610	-23.7888	25.0080
Inflation	3.6177	60.8644	0.0600	0.9530	-115.6743	122.9096
HML	-8.0598	146.0793	-0.0600	0.9560	-294.3701	278.2504
SMB	-2.2232	38.9720	-0.0600	0.9550	-78.6068	74.1604
AR(1)				Sargan test		
Pr > z	0.7850			Prob > chi2	0.6370	
AR(2)				Hansen test		
Pr > z	0.0860			Prob > chi2	0.4680	

Table 10 presents the results of the second step of the Fama Macbeth regressions using the Arellano-Bond/Blundell GMM estimator approach with coefficients obtained from first pass regressions using the corporate governance index biased towards Disclosure and Transparency L1. = the first lag of the excess return, CGIScore = the governance factor, HML = the value factor, GDPGrowth = the GDP factor and SMB = the size factor. The results in this table are unlike the others since the model passes all the tests including the AR(2) test. For all the tests, rejection of the null hypothesis leads means the model fails the test.

Premia demanded when control variables are added to the model.

Two control variables are added to the model; government shareholding and asset turnover. Government shareholding is added to investigate the perception that governance standards do not matter when a company has significant government shareholding.

A dummy variable is used to represent significant government shareholding ($\geq 20\%$). Asset turnover is added as a proxy for efficiency and therefore tests the risk premium demanded by investors for governance standards that relate to efficiency of operations. The results are contained in tables 11 and 12.

The results indicate that government shareholding in listed companies does not reduce the risk of loss from collapse as a result of poor governance standards. Investors demand a risk premium of 11.89%. However, these results are incongruent with the fact that companies in the sample that have significant government shareholding consistently post better than average governance scores.

There are two possible explanations. It could be that privatisation of government owned companies opens them up to even more scrutiny which forces them to adopt higher government standards. However, investors still retain the perception that government

companies have poor governance standards and therefore demand a high risk premium from these companies. Alternatively, it could be the opposite and investors perceive companies with significant government shareholding as having high standards of corporate governance. The other companies are the source of a significant portion of the risk premium.

Control on Significant Government Shareholding

	Coef.	Std. Err.	z	P> z	[95% Conf.	Inter
Prob > chi2	0.0000					
ExcessReturn						
L1.	0.7114	1.9019	0.3700	0.7080	-3.0162	4.4
CGIScore	0.1189	6.9227	0.0200	0.9860	-13.4493	13.6
GDPGrowth	0.0232	2.6414	0.0100	0.9930	-5.1538	5.2
Inflation	0.2313	14.9180	0.0200	0.9880	-29.0074	29.4
HML	-0.0214	24.6177	0.0000	0.9990	-48.2712	48.2
SMB	-0.1139	9.2329	-0.0100	0.9900	-18.2100	17.9
Govt	-0.0238	0.3640	-0.0700	0.9480	-0.7372	0.6
AR(1)			Sargan test			
Pr > z	0.7820		Prob > chi2	0.9670		
AR(2)			Hansen test			
Pr > z	0.0090		Prob > chi2	0.1810		

Table 11 presents the results of the second step of the Fama Macbeth regressions using the Arellano-Bond/Blundell GMM estimator approach with coefficients obtained from first pass regressions using the equally weighted governance index. A dummy variable for significant government shareholding is added in the second pass regressions. L1. = the first lag of the excess return, CGIScore = the governance factor, HML = the value factor, GDPGrowth = the GDP factor, SMB = the size factor and Govt = the dummy variable for significant government shareholding. While the model passes the first autoregressive (AR(1)) test, the Sargan and Hansen's tests, it fails in the second autoregressive (AR(2)) test. For all the tests, rejection of the null hypothesis leads means the model fails the test.

Based on Black et al (2006) who find that higher ratios of net income to assets are instrumental variables for corporate governance in firm fixed effects regressions, the asset turnover ratio is used to proxy for efficiency. When efficiency is considered, investors demand 11.38% as the risk premium for corporate governance risk. This signifies the importance of operational level governance standards which are not part of the index.

Control on Efficiency

Prob > chi2	0.0000					
ExcessReturn	Coef.	Std. Err.	z	P> z 	[95% Conf.	Interval]
L1.	-1.0461	1.0354	-1.0100	0.3120	-3.0755	0.9833
CGIScore	0.1138	3.5468	0.0300	0.9740	-6.8379	7.0654
GDPGrowth	0.7241	2.3936	0.3000	0.7620	-3.9672	5.4154
Inflation	-2.7707	2.6749	-1.0400	0.3000	-8.0135	2.4721
HML	-7.7097	7.5821	-1.0200	0.3090	-22.5703	7.1509
SMB	1.2380	1.8176	0.6800	0.4960	-2.3245	4.8005
AT	-0.0819	0.2911	-0.2800	0.7790	-0.6524	0.4887
AR(1)				Sargan test		
Pr > z	0.9270			Prob > chi2	0.2250	
AR(2)				Hansen test		
Pr > z	0.2150			Prob > chi2	0.2870	

Table 12 presents the results of the second step of the Fama Macbeth regressions using the Arellano-Bond/Blundell GMM estimator approach with coefficients obtained from first pass regressions using the equally weighted governance index. An additional variable – asset turnover – is added in the first pass regressions. L1. = the first lag of the excess return, CGIScore = the governance factor, HML = the value factor, GDPGrowth = the GDP factor, SMB = the size factor and AT= Asset Turnover. The model passes both autoregressive tests and the Sargan and Hansen tests. For all the tests, rejection of the null hypothesis leads means the model fails the test

5. CONCLUSION AND IMPLICATIONS

This study attempts to determine the risk premium attached by investors to corporate governance risk in the Kenyan equity market. Corporate governance risk is noted to be important for both investors and managers. Investors who choose an investment strategy that is long on companies that have strong standards of corporate governance and short those that have weak standards of corporate governance are likely to earn above average returns. Managers keen on minimising corporate governance risk minimise agency costs, boost the values of their companies and in return their own value in the market for their services. These are concepts that have been established in literature.

The contribution of this paper is the determination of the corporate governance risk. Using 10 companies from the NSE, a corporate governance index is developed and used in Fama Macbeth regressions to obtain a governance risk premium of 30.08% which is statistically and economically insignificant. However, subsequent iterations of the index with different weighting schemes for the different elements of corporate governance yield economically significant risk premia that range from 4.64% to 15.16%. Additionally we find that investors demand a risk premium of 11.89% when government shareholding is controlled for and 11.38% when operational governance standards are considered through an efficiency proxy.

The major implication of this study is that investors in Kenya's equity market attach higher risk premia to disclosure and transparency standards of corporate governance. As such, companies that have high levels of disclosure are likely to have higher valuations and lower costs of capital. Alternatively, investors who sell short companies with poor disclosure and transparency and go long on companies with high levels of disclosure and transparency are likely to earn a superior return.

This study faces several weaknesses emanating from the short time horizon and cross-section of stocks used. A longer time horizon and larger cross-section of stocks will likely yield results that are more statistically and empirically sound. The study further encourages investigation into the endogeneity problem that arises from the relationship between corporate governance risk and government shareholding.

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APPENDICES

Appendix A – Corporate Governance Index Variables

The governance standards and practices used to construct the corporate governance index (CGI) are as follows;

<u>Variable</u>	<u>Value if Present</u>	<u>Value if Absent</u>
1. Shareholder Rights		
Ability to vote in absentia	1	0
Ability to vote by proxy	1	0
2. Stakeholder Rights		
Means of reporting illegal/unethical practices to the board	1	0
3. Disclosure and Transparency		
Disclosure of financial and operating results of the company	1	0
Disclosure of company objectives and non-financial information ⁴	1	0
Disclosure of major share ownership	1	0
Information on board remuneration and key executives	1	0
Information on the board members such as but not limited to qualifications, other directorships and status on independence	1	0
Information on related party transactions	1	0
Disclosure of foreseeable risk factors	1	0
The governance structure and policies including the content of any corporate governance policy	1	0
Conduct of annual audits by independent external auditors	1	0

⁴Non-financial information refers to information relating to business ethics, the environment and, where material to the company, social issues, human rights and other public policy commitments.

Online dissemination of financial information and reports	1	0
4. Board Responsibilities		
Presence of a risk management committee	1	0
Risk Management Committee headed by independent director	1	0
Presence of an audit committee and internal audit office	1	0
Audit committee headed by independent director	1	0
Presence of a remuneration committee	1	0
Remuneration committee headed by independent director	1	0
Annual Board Training	1	0
Board majority is of independent directors	1	0
CEO Duality ⁵	-1	0

Appendix B – Descriptive Statistics on the Governance Indices

Equally Weighted Index								
	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen
Mean	-0.09405	-0.02857	0.030952	0.042857	-0.06429	-0.03452	0.132143	0.054762
Standard Error	0.021405	0.024181	0.021617	0.016884	0.019026	0.035836	0.008806	0.032159
Median	-0.0881	-0.03571	0.05	0.05	-0.04524	-0.04524	0.145238	0.059524
Mode	-0.04286	-0.09048	-0.04286	0.1	-0.04286	-0.1381	0.147619	0.1
Standard Deviation	0.060542	0.068394	0.061141	0.047755	0.053815	0.101359	0.024907	0.090958
Sample Variance	0.003665	0.004678	0.003738	0.002281	0.002896	0.010274	0.00062	0.008273
Kurtosis	-0.712	0.88601	-1.76302	-0.94718	-0.74865	-0.48233	-1.59431	0.586005
Skewness	-0.77361	1.011395	-0.19329	-0.29801	-0.3389	0.645875	-0.69787	-0.15546
Range	0.161905	0.2	0.152381	0.133333	0.157143	0.280952	0.061905	0.3
50% Bias on Stakeholder Rights								
	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen
Mean	-0.08628	-0.04721	0.007214	-0.0019	-0.11284	0.064245	0.138984	0.00513
Standard Error	0.010863	0.019279	0.026286	0.007974	0.044716	0.025264	0.021335	0.017479
Median	-0.07698	-0.07115	0.019896	0.003021	-0.07562	0.051458	0.1675	0.003021
Standard Deviation	0.030726	0.054529	0.074348	0.022553	0.126475	0.071456	0.060344	0.049437
Sample Variance	0.000944	0.002973	0.005528	0.000509	0.015996	0.005106	0.003641	0.002444

⁵ CEO duality is defined as the occupation of both the chairperson and CEO offices by one individual.

Kurtosis	-1.66626	1.130748	-0.58625	2.654276	7.1751	1.823691	-1.44511	2.486546
Skewness	-0.44498	1.281702	0.333994	-1.10903	-2.62489	1.314782	-0.68898	0.57868

Bias on Disclosure and Transparency

	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen
Mean	-0.08388	-0.02919	0.021068	0.02237	-0.11357	0.021849	0.120547	0.032526
Standard Error	0.02151	0.020401	0.02042	0.013454	0.064681	0.024011	0.008273	0.022042
Median	-0.08052	-0.04073	0.031979	0.022604	-0.04448	0.012188	0.125313	0.037396
Standard Deviation	0.06084	0.057702	0.057756	0.038055	0.182946	0.067913	0.023398	0.062345
Sample Variance	0.003701	0.00333	0.003336	0.001448	0.033469	0.004612	0.000547	0.003887
Kurtosis	-0.84142	2.086187	-0.97736	1.285663	6.953944	1.310422	2.009337	1.116817
Skewness	-0.35938	1.219338	0.182439	0.577476	-2.57786	1.013545	-1.29973	0.008462
Range	0.171667	0.18125	0.161875	0.128125	0.571875	0.213125	0.07375	0.212292

Bias on Board Responsibilities

	Sasini	KQ	TPS Serena	Equity	ARM	Bamburi	KPLC	KenGen
Mean	-0.09161	-0.02911	0.04224	0.05526	-0.14161	-0.03745	0.171406	0.066198
Standard Error	0.017855	0.023197	0.031739	0.023428	0.059591	0.041888	0.012828	0.038596
Median	-0.08604	-0.04708	0.061042	0.054792	-0.07125	-0.04938	0.175625	0.090417
Standard Deviation	0.050502	0.065612	0.089772	0.066263	0.16855	0.118478	0.036282	0.109166
Sample Variance	0.00255	0.004305	0.008059	0.004391	0.028409	0.014037	0.001316	0.011917
Kurtosis	-0.69586	0.559523	-2.01946	-0.34863	5.749002	-0.06071	3.123074	0.293636
Skewness	-0.49025	0.985577	-0.27461	0.189933	-2.32334	0.745042	-1.60194	-0.48654
Range	0.144167	0.195417	0.211667	0.20625	0.51875	0.34875	0.111667	0.350417

Appendix C – Equally Weighted Index Regression Statistics

ARM

Prob > chi2	0.0000					
R-squared	0.9906					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-0.2012	0.0049	-41.1200	0.0000	-0.2108	-0.1916
CGIScore	-0.0930	0.0347	-2.6800	0.0070	-0.1610	-0.0250
GDPGrowth	0.0074	0.0490	0.1500	0.8800	-0.0887	0.1034
Inflation	-0.0757	0.0086	-8.7600	0.0000	-0.0926	-0.0588
HML	-0.0284	0.0065	-4.3800	0.0000	-0.0411	-0.0157
_cons	0.0177	0.0012	15.0000	0.0000	0.0154	0.0200

Bamburi

Prob > chi2	0.0000					
R-squared	0.9148					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-1.1728	0.4078	-2.8800	0.0040	-1.9720	-0.3735
CGIScore	-0.0496	0.0824	-0.6000	0.5470	-0.2112	0.1120
GDPGrowth	-0.2924	0.2161	-1.3500	0.1760	-0.7159	0.1311
Inflation	-0.1044	0.0525	-1.9900	0.0470	-0.2073	-0.0015
HML	-0.0120	0.0474	-0.2500	0.8000	-0.1050	0.0810
_cons	0.0376	0.0322	1.1700	0.2430	-0.0256	0.1008

Centum

Prob > chi2	0.0000					
R-squared	0.9998					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-0.0434	0.0004	-104.6200	0.0000	-0.0442	-0.0425
CGIScore	0.0227	0.0004	62.9900	0.0000	0.0220	0.0234
GDPGrowth	0.0961	0.0013	72.7400	0.0000	0.0935	0.0987
Inflation	-0.1063	0.0010	-104.6400	0.0000	-0.1083	-0.1043
HML	-0.0127	0.0002	-82.2500	0.0000	-0.0130	-0.0124
_cons	0.0118	0.0001	86.5700	0.0000	0.0116	0.0121

Equity

Prob > chi2	0.0000					
R-squared	0.9857					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	0.0304	0.0146	2.0800	0.0380	0.0017	0.0591
CGIScore	-0.0183	0.0061	-2.9900	0.0030	-0.0303	-0.0063
GDPGrowth	-0.0889	0.0099	-8.9700	0.0000	-0.1083	-0.0695
Inflation	-0.0449	0.0029	-15.4900	0.0000	-0.0506	-0.0392
HML	-0.0112	0.0011	-10.0200	0.0000	-0.0134	-0.0090
_cons	0.0154	0.0009	16.7500	0.0000	0.0136	0.0172

Safaricom

Prob > chi2	0.0000					
R-squared	0.9706					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-0.0582	0.0101	-5.7700	0.0000	-0.0780	-0.0384
CGIScore	0.0453	0.0076	6.0000	0.0000	0.0305	0.0601
GDPGrowth	-0.0913	0.0077	-11.8800	0.0000	-0.1063	-0.0762
Inflation	-0.0157	0.0038	-4.1700	0.0000	-0.0230	-0.0083
HML	-0.0009	0.0003	-2.8700	0.0040	-0.0016	-0.0003
_cons	0.0087	0.0004	19.9100	0.0000	0.0078	0.0095

KenGen

Prob > chi2	0.0000					
R-squared	0.8454					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-0.0209	0.0122	-1.7100	0.0870	-0.0448	0.0031
CGIScore	-0.0061	0.0117	-0.5200	0.6020	-0.0290	0.0168
GDPGrowth	-0.0163	0.0299	-0.5500	0.5840	-0.0749	0.0422
Inflation	-0.0494	0.0127	-3.8700	0.0000	-0.0744	-0.0244
HML	-0.0044	0.0050	-0.8700	0.3850	-0.0142	0.0055
_cons	0.0076	0.0040	1.9000	0.0570	-0.0002	0.0154

KPLC

Prob > chi2	0.0000					
R-squared	0.9352					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-0.0124	0.0029	-4.3100	0.0000	-0.0181	-0.0068
CGIScore	0.0574	0.0057	10.1100	0.0000	0.0463	0.0685
GDPGrowth	-0.0050	0.0103	-0.4900	0.6280	-0.0251	0.0151
Inflation	-0.0204	0.0020	-10.1900	0.0000	-0.0244	-0.0165
HML	0.0086	0.0004	23.7900	0.0000	0.0079	0.0094
_cons	-0.0097	0.0004	-25.8800	0.0000	-0.0104	-0.0090

KQ

Prob > chi2	0.0000					
R-squared	0.9999					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	0.7786	0.0022	354.2600	0.0000	0.7743	0.7829
CGIScore	0.3660	0.0011	341.7600	0.0000	0.3639	0.3681
GDPGrowth	-0.6219	0.0015	-409.4200	0.0000	-0.6249	-0.6189
Inflation	0.2457	0.0015	159.0700	0.0000	0.2427	0.2488
HML	-0.0966	0.0001	-723.2000	0.0000	-0.0969	-0.0964
_cons	0.0727	0.0002	398.2400	0.0000	0.0723	0.0730

TPS Serena

Prob > chi2	0.0000					
R-squared	0.9339					
Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-0.1727	0.0389	-4.4300	0.0000	-0.2490	-0.0964
CGIScore	-0.0229	0.0190	-1.2100	0.2260	-0.0601	0.0142
GDPGrowth	0.2117	0.1061	1.9900	0.0460	0.0037	0.4198
Inflation	-0.0062	0.0096	-0.6400	0.5200	-0.0251	0.0127
HML	0.0202	0.0114	1.7700	0.0770	-0.0022	0.0426
_cons	-0.0196	0.0115	-1.7100	0.0880	-0.0421	0.0029

Sasini

Prob > chi2 0.0000

R-squared 0.9991

Return	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
SMB	-0.0145	0.0009	-15.6100	0.0000	-0.0163	-0.0127
CGIScore	0.0021	0.0002	8.5000	0.0000	0.0016	0.0025
GDPGrowth	0.0712	0.0016	43.5200	0.0000	0.0680	0.0744
Inflation	-0.0099	0.0002	-40.1400	0.0000	-0.0103	-0.0094
HML	0.0053	0.0002	28.2100	0.0000	0.0049	0.0056
_cons	-0.0045	0.0002	-25.8100	0.0000	-0.0049	-0.0042
