Relationship between Board Characteristics and Firm Financial Diversification (Geographic Aasets) Among Listed Firms on Nairobi Securities Exchange, Kenya: Dynamic Panel Approach

Elijah Museve[1], Joel Tenai[2], Philip Mulama Nyangweso[3],
Daniel Kipruto Tuitoek[4]

Moi University, Kenya
Moi University, Kenya

BSTRACT
Previous studies on board diversity and firm diversification have concentrated on large sized firms in America, Western Europe and Asia with no conclusive evidence on the relationship between board demographics and firm financial diversification and majorly utilized static panel multivariate regressions. Due to differences in country specific factors and level of market development, this study was an attempt to fill this gap by utilizing both static and dynamic multivariate panel regression analysis in Kenya. Agency Theory, free cash flow hypothesis and Resource Based View theory provided theoretical framework.The specific objectives of the study were: to determine the relationship between diversity of board and firm financial diversification. Longitudinal research design was used in the study.Research revealed that experience diversity positively and significantly influenced geographic assets while interlock directorship and nationality diversities negatively and significantly determined investments in geographic assets.Future studies could examine relationship between Board diversity and firm financial diversification mediated by EBIT.

I. Background of the Study

Researchers globally have done several studies testing different aspects of diversification on the firm's value. Lung and Stultz (1994) and Berger and Ofek (1995) asserts that firms operating in multiple lines of business are valued less than comparable focused firms thus diversification has been observed to have value destruction. Lamont and Polk (2002) offered an alternative approach to causal effects of diversification and argue that firm's diversification status can change even if the firm does not change it on purpose and as such exogenous change in diversification is plausibly independent of a firm's behaviour. Booz *et al.*, (1985) define diversification as 'a means of spreading the base of a business.' Ramanujam and Varadarajan (1989) define diversification as the extent to which firms are simultaneously active in many different businesses. A firm has many ways to alter its degree of diversification. It can either change the number of segments, or it can re-allocate its businesses among divisions. Thus, diversification describes a two-dimensional internal structure: the various types of business and the dispersion of certain characteristics among the businesses. Byers *et al.*, (1996) see diversification occurring when the firm wants to take advantage of an extremely attractive opportunity especially when compared to other possible growth strategies. The possible reason for this being that the markets for the current products or services are saturated and or if not the profit potential of diversification appears greater than that of expanding the current business.

International review of finance (2012) sought to investigate the value effects of endogenous and exogenous changes in diversification by combining the methodologies used in Campa and Kendia (2002) and Lamont and Folk (2002). The study isolated exogenous diversification applying a two stage least square and generalized method of moments instrumental variables (GMM-IV) econometrics techniques to identify causality in the endogenous diversification. The research established that an exogenous increase in diversification reduces firm value consistence with Lamont and Folk 2002. In contrast, an endogenous increase in diversification enhances premium for firms consequently causing such firms to alter their organization structure. The paper concluded that the cost of diversification outweighs the benefits.

Studies have also shown that certain factors that negatively affect firm value may also lead firms to diversify. Matsusaka (2001) asserts that firms diversify to search for a better match between their organizational and industrial opportunities. Maksimovic and Philips (2002) established that firms optimally choose organizational structures depending on their comparative advantages. Gomes and Livdan (2004) through their model demonstrate that diversification allows corporations to explore synergies and better production in

---

response to current decline in performance. Their model predicts that a diversification discount could exist even if diversification is intended to enhance value for firms that actually pursue it.

Lewellen (1971) and Shleifer and Vishny (1992) suggest that diversified firms achieve a higher debt capacity hence giving additional interest tax shields. Rajah *et al.,* (2000) observes that diversification strategies allow managers to divert resources to inefficient division and that agency theory predicts that firm value would be destroyed if managers endogenously increase the degree of diversification. Campa and Kendia (2002) show that there are significant differences between firm characteristics that cause firms to adopt various types of organizational structures. Del Brio *et al.,* (2010) studied the relationship between ownership structure and diversification in an environment of weak shareholder protection and assert that; corporate diversification is associated with lack of alignment between ownership and control, and the failure of control mechanisms.

Yoshikawa and Phan,(2005), observe that firms with greater ownership concentration are less diversified, though, in contrast; provide managers with considerable discretion and greater latitude in determining the corporate strategy, entrench themselves and encouraging very high levels of insider ownership. Del Brıo *et al*., (2010), Miguel *et al.,* (2004), La Porta *et al*., (2000, 1998) assert that in French, Spanish, and Turkish firms, ownership concentration is deemed as a good substitute for legal investor protection in weak investor ownership, and entrenchment likeness is very high at higher ownership levels of concentration. Jensen and Zajac (2004) argue that in USA corporations, individual characteristics of corporate elites may imply different preferences for particular corporate strategies such as diversification and acquisitions, these basic preferences, when situated in different agency contexts (e.g., CEO, outsider director, non- CEO top management team member), generate very different strategic outcomes. Similarly, the study of Sambharya (1996) posits that TMTs with higher mean international experience and greater heterogeneity of foreign experience were associated with the firm's geographic diversification.

The Kenyan Capital Market is part of the financial market that provides funds for long-term development. Firms trading at NSE are regulated by the Capital Markets Authority (CMA) which is an independent public agency charged with the responsibility of regulating and facilitating the development of orderly, fair and efficient capital markets in Kenya (CMA Act, 2012). Over the years CMA has endeavored to develop critical aspects that include: creation of a nationwide system of stock market and brokerage services for wider participation of the public, creation, maintenance and regulation of an orderly, fair and efficient securities market, protection of investor interests, as enshrined in CMA amendment Act, (2012).

KNBS (2009), posit that the Capital Market performance for the period 2004 – 2008, experienced a downturn in 2008 with NSE share index losing 1,924 points by the end of 2008. It is, however, notable that capitalization in the equities market rose to over one trillion Kenya shillings following the IPO of Safaricom shares in the second quarter of 2008 but declined to Kenya Shillings 854 billion at the end of the fourth quarter. The total bond turnover rose by 12.4% to Kenyan shillings 95.4 billion in 2008 compared to Kshs 84.9 billion in 2007. Over the years some policy measures have been instituted through the budget aimed at deepening the Capital Markets as well as strengthening CMA supervisory capacity, enhancement of corporate governance among the financial market players as well as reducing cost for listed companies. In addition, during the period 2004 – 2008 foreign participation which historically has been of net inflows changed to net out flows. KNBS, statistical abstract (2012) indicate that the NSE share index from the year 1997 – 2011 on month to month basis, has been fluctuating with a high of 5,774.24 January 2007 and a low of 1,027 September 2002. Further, some of the privately and publicly owned firms' have had both operational and financial difficulties caused by Principal-principal conflict and Principal- Manager Conflict (case of CMC Kenya, Access Kenya, Eveready and Uchumi Supermarkets). WEOU, (2014), indicate that Sub Saharan Africa Emerging economies had an average growth rate of 5.8% between 2004 - 2008, slowed to 2.5% in 2009 and closed at 5.0% in 2014.

KFSSR (2013), indicate that the Kenyan banking sector liquidity has exceeded the statutory requirement of 20% with gross loans to deposits ratio being 73.3% in 2008 to 81.1% in 2013. The banking sector has neither been spared with National Bank of Kenya having remained unprofitable for 12 years and a dry spell of dividends pay-out attributable to uncontrolled investments decisions. Accordingly, industry statistics, show that about 10% of adult Kenyan own shares in the country's Securities market which translate to about 2 million Kenyans. This figure is lower than that of the USA where up to 48 per cent of the adults have invested in stocks and government papers, in Australia the figure is estimated to be about 40 per cent and in Sweden and Switzerland, 30 per cent of the adults have put their money in securities (See Appendix II Table 1). WEOU, (2014), indicate that Sub Saharan Africa Emerging economies had an average growth rate of 5.8% between 2004 - 2008, slowed to 2.5% in 2009 and closed at 5.0% in 2014.

Institute of Economic Affairs survey (2012) reveal that RGDPG for Kenya grew from 1.5% in 2008 to 2.7% in 2009 with a high of 4.6% in 2012 and that RGDP per capital was low at 36933 in 2008 and a high of 39607 in 2012 and WEOU, (2014) forecasting 5.2% RGDP growth rate for Emerging and Developing economies, 1.5%, for Euro Area, and 3.0% for USA in 2015 (Appendix I Table1). GDP at regional level, Tanzania (6.5%) and Rwanda (7.7%) have continued to post relatively high growth rate comparable to Kenya

(4.6%).The various sectors of the economy have equally posted mixed growth rates between the years 2008 and 2012. Manufacturing sector registered highest growth rate of 4.5% in 2010 and a low of 3.1% in 2012, transport and commercial sector, financial sector, and Agricultural sector registering average growth rates of 4.8%, 6.4%, and 1% respectively between 2008 and 2012.

Empirical studies revealed that previous studies have concentrated on the relationship between board diversity and firm performance majorly in USA, Asia and Europe large sized firms (Jackling and Shireejit 2009, Letting *et al.,* 2012, Laeven and Levine, 2007, Stephene *et al.,* 2010) among others. This study therefore examined the relationship between board demographics and firm diversification in listed firms at NSE, an emerging market focusing on a two-dimensional internal structure: the various types of business and the dispersion of certain characteristics among the businesses. This study is different from previous studies on the basis of sectors chosen, period of the study and method of data analysis.

Problem Statement

Corporations worldwide diversify for a host of reasons. In some cases, it is a survival strategy while in other cases they do so to ensure a regular revenue stream throughout the year. Matsusaka (2001) asserts that firms diversify to search for a better match between their organizational and industrial opportunities. Gomes and Livdan (2004) reveal that diversification allows corporations to explore synergies and better production in response to current declines in performance. Kenya Financial Sector Stability Report (2013) reveals that, NSE performance between 2008 and 2013 registered mixed results across key sectors of the economy, with NSE 20 Share Index closing at 3247.40 points in Dec 2009, 4432.6 in Dec 2010 and 4926.97 in Dec 2013. Annual Average Foreign Investors Share (AAFIS) to Total Equity Turnover (TET) fluctuating between 28.52% and 51.38% in the year 2009 and 2013 respectively. Further, equity turnover for (2013) grew by 79.4%, year- on-year to Kshs.155.7 billion on account of increased local and foreign investor participation with foreign investors accounting for 59.2% of the equity purchases and 43.6% of equity sales.

The performances of the various sectors of the economy are driven by a set of variables that are multidisciplinary in nature affecting various investments strategies undertaken by listed firms with varying degrees. Commercial and Manufacturing sectors consist of ten firms 'each with both local and foreign based operations. The sectors consist of the most promising investments segment appealing for both local and foreign investors. The firms are spread across the country and region offering media, marketing, retail, hospitality, transport and logistics services as well as fast moving consumer goods. Regionally, the Kenyan firms in the commercial and manufacturing have diversified into Rwanda, Uganda, Tanzania and Southern Sudan while others offer logistical, transport and freight services and goods across Africa Continent and beyond. This expansion tends to expose firms to political risks a notable one being instability in Southern Sudan and currently in Burundi. The firms in commercial and manufacturing sectors have suffered from a raft of factors particularly, regional insecurity, high profile domestic attacks, economic crisis (global financial meltdown, 2008), rising levels of corruption (governance problems in Kenya, BMI Research, 2014) and recently misconceptions about the spread of Ebola in West Africa. These factors have served to keep international tourist arrival low, as well as precipitate threats of closure of subsidiaries disrupting revenues streams, assets utilization and displacement of human resources (KFSSR, 2013).

Retail businesses have incurred high operational costs arising from Principal-principal conflict and Principal- Manager Conflict (Uchumi Supermarket, delisted in 2006 and re-listed in 2011, Muchira, 2013) and currently in cash flow problems having posted a record loss of Kshs. 3.7 billion in 2014/2015 financial year. Irrecoverable investments losses at Kenya Airways (Annual Report, 2011) in addition to poor investments in fuel derivatives at much higher prices than their fair values. A record loss of Kshs. 7.9 billion after tax in the financial year 2013-2014 attributable to poor marketing, overpricing of tickets, and unsustainable debt levels with Kenya Senate in its report to parliament questioning the competence of board members (Standard, Dec 3rd 2015). In addition, it has been noted that Express Kenya, Kenya Airways and Uchumi Supermarket are tilting towards insolvency or have negative working Capital (Business Daily, December 11[th]2015). Equally, Media, Marketing and other logistical firms within the sector share the global financial crisis that impact on the purchasing power of their respective market segments. In the manufacturing sector, Mumias Sugar Company (heavily indebted requiring Government intervention), Eveready East Africa, and B.O.C (K) have had several cash flow problems and resignations of some board members.

In spite of these challenges, all the firms in the sector continue to either operate multiple business segments within the country or spread geographically offering diverse product lines. Geographic diversification has been considered as a strategy that allows a firm to leverage its capabilities across foreign markets enabling it to maximize monopolistic advantages lowering its operational risk (Kim, *et al.,* 1993). Porter (1990) posit that firms may prefer to diversify within the country relying on skills acquired at home to provide superior competitive advantage with which to operate in foreign markets.

The decisions to diversify are majorly undertaken by firms' board of directors as the governance body on behalf of the shareholders in pursuit of wealth maximization. Such decisions are consequential judgement that requires careful review and consideration of a mapping of firm characteristics and environmental scanning for custodial role of the board. In as much as diversification allows a firm to take advantage of economies of scale, arbitrage across factor markets, leverage market power to reduce input costs and as well as control output markets and spread of market risks, it does present considerable ambiguities, complexities and risks. The associated challenges require a set of rational and objective cognitive abilities, orientation and competencies among board members in decision making regarding diversification strategies. This study sought to establish the nature of the relationship between board characteristics and firm diversification for firms listed at the NSE, Kenya, and in particular, Commercial and Manufacturing sectors. The board members were chosen on the basis that managerial responsibilities are rarely exclusive domain of a single person (CEO) (Hambrick and Mason, 1984) previous.

The findings of the study extended and mirrored some prior studies in the literature review and its implication on theory and policy regarding board diversity and firm diversification. However, the findings diametrically departed on the previous studies that have concentrated on relationship between board demographics and firm performance with limited studies on relationship between board demographics and firm financial diversification in Kenya. The uniqueness of this study is premised on four perspectives; first the set of control variables that were divided into two: - namely, firm financial based variables (Leverage, Free cash flow and firm size) and Corporate governance mechanism proxied by operational risk often used in financial institutions thus its interaction in non -financial sectors is considered novel, secondly, the study period is recent with the sectors selected not having been covered by prior studies and lastly, method of data analysis - Generalized Least Squares (GLS) Fixed Effect method in both static and dynamic heterogeneous panels.

1.3 General Objective of the Study
The major objective of the study was to determine the relationship between board characteristics and firm diversification in firms listed on Nairobi Securities Exchange, Kenya:

1.4 Specific objectives were;
1. To determine the relationship between gender diversity and firm financial diversification.
2. To determine the relationship between board tenure diversity and firm financial diversification.
3. To determine the relationship between board experience diversity and firm financial diversification.
4. To determine the relationship between board interlock directorship diversity and firm financial diversification.
5. To determine the relationship between nationality diversity and firm financial diversification
6. To determine the relationship between directors' remuneration and firm financial diversification

1.5 Research Hypotheses
H_{01} : Board gender diversity has no significant relationship with firm financial diversification.

H_{02} : Board tenure diversity has no significant relationship with firm financial diversification.

H_{03} : Board experience diversity has no significant relationship with firm financial diversification.

H_{04} : Board interlock directorship diversity has no significant relationship with firm financial diversification.

H_{05} : Board Nationality diversity has no significant relationship with firm financial diversification.

H_{06} : Board remuneration has no significant relationship with firm financial diversification.

II. Theoretical Review
Geographic diversification has been extensively studied under three categories. The first category focuses on establishing the relationship Geographic Diversification and firm performance without much attention to the contingency factors Geringar*et al.,* 1989) Tallman and Li 1996). The second category comprises research that focuses primarily on the contingency conditions affecting Geographic diversification performance relationship (for instance Hitt*et al.*, 2006); Kotabe*etal.*, 2002). The third category comprises research that explores the relationship in different empirical settings (see for example Capar and Kotabe 2003; Nachum, 2004)

Literature review of the studies on Geographic diversification that has been done in the last 30 years' reveals mixed results. Scholars have found positive relationships (Hitt*et al.*, 2006), negative (Denis *et al.,* 2002; Geringer*et al.,* 2000) inverted "U" shaped Geringer*et al.,* 1989; Hitt *etal.*, 1997) "S" shaped (Contractor et al.,

2003) as well as no relationship (Dess *et al.*, 1995) between Geographic diversification and firm performance. Given the range of time periods, country coverage and the type of firms studied, it is quite natural to have different results across studies (Mathur*et al.,* 2006). Much of the studies have dwelt on larger firms based in USA, Europe and parts of Asia as it has been argued that such firms possess ownership specific advantages that allow them to compensate for the cost and risks associated with operating in international markets.

Lehmann and Weigand, (2000) revealed that, that those firms that observe good governance are less likely to diversify and, in turn, are more likely to pursue strategies that ensure shareholder interests and that, there is a positive relationship between management pursuit of value maximizing strategies and the level of director remuneration. These results are in contrast to those of Rangan and Rosenstein (1997) which suggests that managers of firms with poorer governance could actually refrain from pursuing diversifying activities that would make them busier.

Lamont and Polk (2002) established that exogenous diversification due to industry shocks has negative effects on firm value and that endogenous change in diversification is negatively correlated with firm value. They recommended that the effects of endogenous diversification may not be conclusive. Porter (1962) asserts that diversification strategies occur where the organization seeks to extend its current range of offerings or spheres of activity. This may be through means of integration or through new product development or new market development. Grant (1991) points out that firms diversify to create competitive advantage hence may trade current profit for investment in market share or technology or may forego profit in the interest of customers' satisfaction or employee benefits consequently increasing her ability to respond more quickly and effectively to external change due to increasing markets turbulence.

One of the main motivations behind diversification strategies, for entrenched managers, is making themselves more valuable to shareholders and costly to replace (Denis *et al.*, (1999), Shleifer and Vishny (1989). Amihud and Lev (1981, 1999) report that, through diversification strategies, managers diversify their own employment risk, reduce firm risk and increase firm size, thus generating personal gains, such as a concomitant increase in compensation schemes. Stulz (1990), Villalonga (2004a, b) asserts that the pursuit of value- maximizing strategies and growth are not driven by agency problems and self-aggrandizement of management, thus contradicting Jensen and Ruback (1983).

Laeven and Levine, (2007),suggests that companies that exhibit more agency problems are more diversified and, more specifically, that firms with greater ownership concentration are less diversified, highlighting the correlation between diversification and ownership structure. Amihud and Lev, (1999); Yoshikawa and Phan, (2005), observe that firms with greater ownership concentration are less diversified, though, in contrast; provide managers with considerable discretion and greater latitude in determining the corporate strategy, entrench themselves and encouraging very high levels of insider ownership.

Del Brıo *et al.,* (2002, 2010), Miguel *et al.,* (2004), La Porta *et al.,* (1998) assert that in French, Spain, and Turkish firms, ownership concentration is deemed as a good substitute for legal investor protection in weak investor protection, high level of information asymmetries, entrenchment likeness very high at higher ownership levels concentration. Pindado and De la Torre, (2006) in addition observe that, when rent expropriation by large shareholders takes place, the highly concentrated shareholder ownership structure requires very high levels of insider ownership in order to ensure value maximization. This is in contrast to firms in the USA and other European markets.

Stephen *et al.,* (2010) sought to establish the relationship between value and diversification choice by considering firms from emerging and developed countries for a period of fifteen years. They established that firms in less developed countries were more likely to diversify suggesting greater utility of internal capital markets in economies where it is difficult to raise external capital. They further observed that high leverages, larger size, lower levels of growth, R & D, free cash flow, profitability and Tobin's q encourage firms to diversify industrially i.e. across multiple lines of business while reduced growth rates and profitability encourage firms to diversify globally that is across different national markets.

Lee Li *et al.,* (2013) studied the breadth and depth of international diversification and its effects on firm performance. Their research established that the interaction effects is positive and significant when the level of both breadth and depth is moderate, however the positive and significant effect reverses and becomes negative when a higher level of both dimension is reached. They defined breadth of international diversification as the number of foreign markets served by a firm while depth of international diversification as the level of intensity of operation in each country or region that a firm had entered. Kumar and Tsetsekos (1999) defines emerging markets as those characterized by less information efficiency and more volatile corporate governance institutions, taxations on dividends and capital gains, as well as highly concentrated ownership structure.
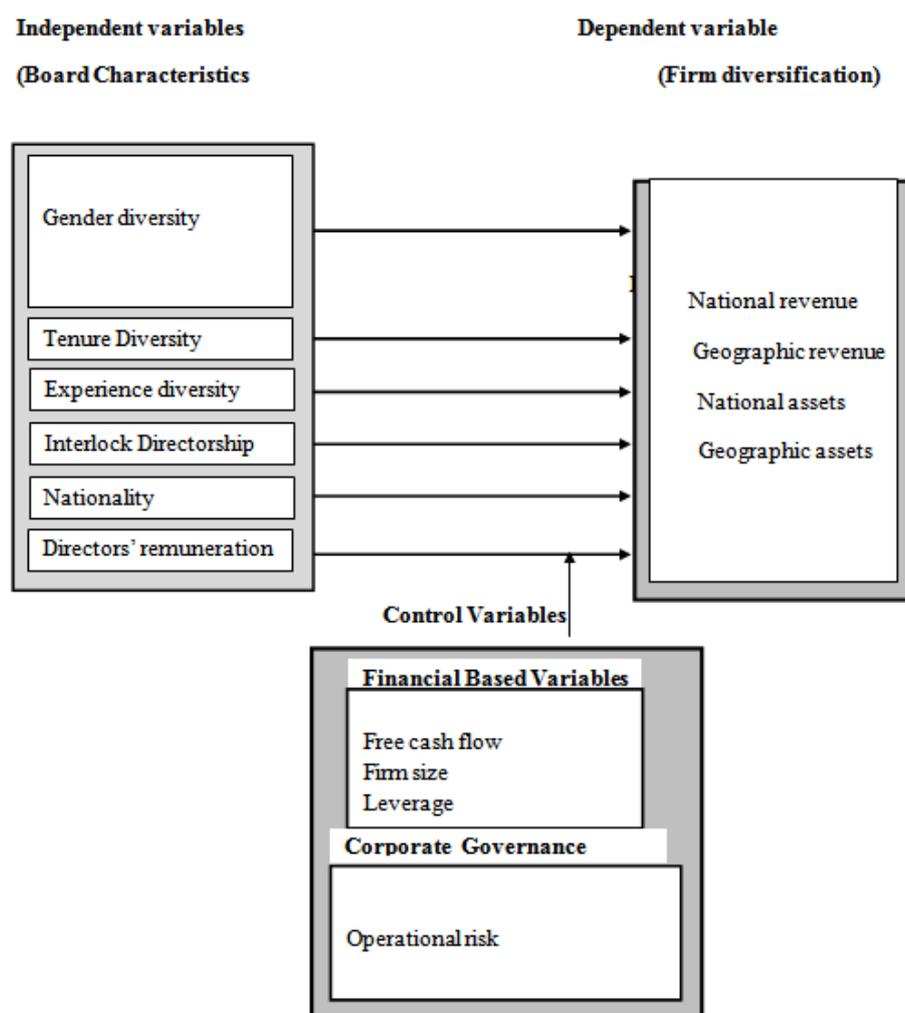
Figure 2.1: Conceptual Framework

Figure 2.1: Conceptual Framework
Source: Researcher's Own Conceptualization, (2016)

III. Research methodology

3.1 Research Design

Longitudinal design was used in the study due to its power in tracking changes over time and relating them to variables that might explain why the changes occur. It is capable describing patterns of change and help establish the direction and magnitude of causal relationships and as well as the prediction of future outcomes based upon earlier. The study targeted a sample of 18 listed firms on NSE under category of Commercial and Services and Manufacturing sectors. Complete information was available on 13 firms for the period 2004 to 2014 bringing a total of 130 observations. The selected sectors consisted of firms that had both local and foreign operations with diverse lines of products or services, largest investments in assets, high sales sufficient information on end-of- financial year common equity, total debt, total sales, assets and liabilities, and information relating to board of directors gender, experience, tenure, Nationality, interlock boards functionality and directors' remuneration.

3.2 Selection of Estimation Method

Having confirmed the presence of unit roots, the previous research and utilizing Hadri (2000) a residual-based Lagrange multiplier (LM), generalised least squares (GLS) fixed effect and random effects was found suitable for the data due to itspowerful assumptions about homoskedasticity and no serial correlation that is common in Pooled Ordinary Least Squares (Wooldridge, 2012, 2002 and Ujunwa *et al.,* 2012).

GLS assumes that regression parameters do not change over time and do not differ between various cross sectional units, thereby enhancing the reliability of coefficients estimates (Gaur and Gaur, 2006.

3.3 Linear Regression Analysis

       To test the specific hypotheses, this study used multivariate regression analysis (Feasible Generalized Least Squares fixed effect method) in order to isolate the main effects of the corporate governance mechanisms on firm diversification at the same time independently assess how each of the independent variable influence the dependent variable. This method has been previously used by Kayo and Kimura (2010), Ujunwa *et al* (2012). Feasible Generalized Least Squares fixed effect method and Arrelano-Bond Dynamic panel data regression models were used to test the hypotheses of the study test.

3.3.1 Specification of the Econometric Model-Static and Dynamic States.

$$Y_{it} + \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} +$$

$$\beta_8 X_{8it} + \beta_9 X_{9it} + \beta_{10} X_{10it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.1)$$

Where Y_{7it} is diversification due to firm's distribution of assets in different regions or countries static state, Y_{8it-1} is diversification due to firm's distribution of assets at different regions or countries dynamic state, X_{1it} is the number of female members on the board, X_{2it} is the length of stay of a director interlock directorship measured as the number of board of directors serving on more than one board either intra or extra industry, X_{5it} is nationality which was treated as the number of countries represented by the board members, X_{6it} is free cash flow measured as the ratio of current assets to total assets, X_{7it} is operational risk estimated as the ratio of operational costs to operational income, X_{8it} was directors' remuneration measured as the total amount paid to directors in form of fees, X_{9it} was the size of the firm as logarithm of sales, X_{10it} was leverage measured as ratio of debt to equity and ε was stochastic error term assumed to be a white noise process, t was time trend(current, Static), t_{-1} previous time trend (dynamic), i was cross-sectional units.

IV. Panel Unit Root Tests

       Unit root test was done to determine stationarity of the time series variables because regressing non stationary time series gives spurious regression results. The results for panel unit root tests indicated that there was unit root on tenure diversity, experience, free cash flows, and operating risk by both fisher and Levin-Lin-Chu tests. The results also revealed that there was conflicting evidence for unit root between Fisher and Levin-Lin-Chu panel unit root tests for interlock directorship, nationality, directors' remuneration, leverage and geographic sales. These conflicting results were resolved by use of Hadri Lagrangian Multiplier test utilizing both Swamy-Arora and Nerlove's' transformations. The results of LM test gave evidence of unit root for all variables (see Museve *et al*., 2016, Table 4.3).

4.1 Model Selection

       Feasible Generalised Least Squares (FGLS). FGLS was preferred model for estimation due to its powerful assumptions about homoscedasticity and no serial correlation that is common in Pooled Both Akaike and Bayesian Information criteria were used to identify the goodness of fit of the model with their Log likelihood with values > 30 indicating the power of the statistics. Bartlett kernel test was used to test for homogeneity. See Table 4.4 Results of Hadri Lagrangian Multiplier Panel Data Unit Root Test, Swamy- Arora Transformation (Museve *et al*., 2016)

4.2 Dynamic Panel Regression Results for Geographic Assets

       On running dynamic panel analysis on geographic assets, the results posited that experience diversity had a positive and significant effect on firm's investments in assets geographically with (p – value = 0000 < 0.05). This finding suggested that the board members with international orientation used their network abroad in finding the right mix of assets at the best possible price in addition to strategic business locations to maximize on the objective of geographic expansion in such foreign markets and tend to offer corrective suggestion for previous time assets investments decisions. These results are summarised in table 4.9.3, and regression equation 4.8b ('000') in line with model specification equation 3.16b.

Table 4.9.3 Dynamic Panel Regression Results for Geographic Assets

Variable	Coefficient	Std. Error	T –Value	Prob > |Z|
Gender	-0.5636079	0.1382593	-4.05	0.0000
Tenure diversity	0.1136891	0.07123436	1.60	0.1000
Experience	0.1135945	0.02926963	3.55	0.0000
Interlock directorship	-0.13333363	0.005199963	-2.56	0.0100
Nationality	-0.7712655	0.1224336	-6.30	0.0000
Free cash flow	0.10370.79	0.08013987	1.29	0.1960
Operating risk	0.6204125	116.6786	0.010	0.9960
Directors remuneration	-0.230529	.0541025	-0-4.26	0.0000
Size	-0.69991.65	0.08517012	-8.26	0.0000
Leverage	-0.1011.721	0.0197303	-5.13	0.0000
Constant	0.4675949	0.1520436	3.08	0.0020
Probability >	0.00000	Cov	91	
Wald	-209.76	Auto	0.0000	

Source: Researcher, (2016)

The international experience diversity caused the firms to increase their geographic assets investments by factor0.1135945. This infers that board members with international orientation have lower agency problems. Gender diversity, interlock directorship, nationality and directors' remuneration, had a negative and significant influence on geographic assets (both with $p-value = 0.0000 < 0.05$). These results imply that female board members are cautious and more concerned with the known rather than injuring the firm reputation and value by investing assets geographically due to search for broader range of outcomes and concerns for safety and sustainability of shareholders' investments (Marquis and Lee, 2013; Zhang, 2013; Zhang *et al.,*2013).

Similarly, directors serving on various boards of listed firms and different countries represented on the boards provide the board with the necessary information concerning risk identification, measurement and evaluation in relationship to investing in segments assets geographically. Their knowledge about their respective countries particularly on pricing, availability of human skill to operate such assets, political stability, and safety of assets and acting as a link in harnessing of community good will provided the basis as to why the firm invested in assets geographically in previous time period. This result did not uphold the free cash flow hypothesis and contrasted the findings of Lee and Park (2006).

5.1 Summary of Findings
The major objective of the study was to determine the relationship between board characteristics and firm financial diversification in commercial and manufacturing firms listed on the Nairobi Securities Exchange, Kenya. This research revealed that board characteristics continue to have different outcomes on firm performance. This finding supports prior studies of Pearce *et al.,* (2000),Laeven and Levine, (2007), Lukers *et al.,* (2009), Jackling and Johl (2009), and Stephen *et al.,* (2010), Pierre (2010), Bear *et al.,* (2012), Shital and Mishra (2012) but depart from them on the basis of variables involved in the modelling, and nature of methodology adopted for analysis (static and dynamic panel regressions). Firm size, leverage, free cash flow and operational risk cannot be ignored as the firms pursue diversification since they act as indirect measure of firms' capacity to undertake diversification.

Diversity among the board members provided unique resource since better decisions were made with regard to investments in assets. The diversity ofexperiences,nationalities,andgenderoffirms' boardmembers were found to have different influences on firm diversification within and outside the country. This diversities affirmed the use of RBV of the firm and the Upper Echelon Theory.

The research noted that cross board's membership appeared to have been linking the sampled firms to geographic business environments as evidenced by the results dynamic panel regressions on investment in assets (Museve *et al* 2018, 2016). This finding implies that such board members have access to distribution channel, have a better understanding of sectors regulations and can effectively mitigate the risk posed by Multinational Corporations.

Majority of the firms were noted to have solvency ratios above 20% and were considered to be healthy (Ryan 2013) see appendix Based on this results, it was upheld that gender diversity, board tenure diversity, and nationality diversity significantly affected diversification of the selected listed firms on NSE with regard to business sales geographically, hence the first, second and fifth null research hypotheses were rejected based on the dynamic panel data regression results. This therefore provided a basis for policy frame work to guide these diversities.

These findings suggested that the board members from various countries used their network abroad in finding the right mix of assets at the best possible price in addition to strategic business locations to maximize on the objective of geographic expansion in such foreign markets and tend to offer corrective suggestion for previous time assets investments decisions. This infers that board members with international orientation have lower agency problems. Gender diversity, interlock directorship, nationality and directors' remuneration, had a

negative and significant influence on geographic assets (both with ($p - value = 0.0000 < 0.05$). These results imply that female board members are cautious and more concerned with the known rather than injuring the firms' reputation by investing assets geographically due to search for broader range.

Interlock directorship and different nationalities provide the board with the necessary information concerning risk identification, measurement and evaluation in relationship to investing in segments assets geographically. Their knowledge about their respective countries particularly on pricing, availability of human skill to operate such assets, political stability, and safety of assets and acting as a link in harnessing of community goodwill provide the basis as to why the firm invested in assets geographically in previous time period.

Entropy measure of diversification revealed that experience diversity positively and significantly influenced overall firm diversification. Board interlock diversity negatively and significantly determined firm diversification. Akaike criterion, Hannan-Quinn and Schwarz criterions were used in selecting the best model that fit the data and their respective values were above 10 for the model to be considered to have best fit the data. Firm size and free cash flow were found to be indirect measure of firms' capacity to pursue diversification.

5.2 Conclusions of the Study

Previous studies have argued that independent boards are associated with higher diversification and that publicly listed firms are less diversified. However, this study reveals that the more diverse the board is, the firm financial diversification is affected differently both nationally and geographically.Both static and dynamic panel analysis revealed that no single board characteristic selected for the research could be viewed as having a stand-alone significant effect on firm diversification. This study is a behavioural compliment contribution to the more convectional financial dimensions of firm performance particularly ROE, ROI and EPS.

5.3 Recommendations
5.3.1 Implication to Theory

The results provide support for the RBV, Upper echelon theory, Agency theory, and free cash flow hypothesis on firm financial diversification within and outside the country. The board of directors provide a set of skills, expertise and knowledge that together with firm resources creates synergy and competitive advantage for the investment within and outside the country. Further, the results revealed that geographic financial diversification is associated with agency conflict and provide a platform through which managers diversify employment and increase chances of rent extraction. The attitude of the board of directors towards risk as they increase the scope of the firm nationally and geographically based on their observable characteristics' and cognitive skills validated the use of Upper Echelon Theory. Operational risk predominantly used in financial institutions was used to proxy risk in commercial and manufacturing sectors evident by the interaction effect with study variables. This study is a behavioural compliment contribution to the more convectional financial dimensions of firm performance particularly ROE, ROI and EPS.

5.3.2 Implication to Practice and policy

The CMA should encourage firms to incorporate more board members with international experience for they have a better insight of investments and political environments in foreign countries in which the various Business segments operate. This should be done both in short and long run as part of the system-wide adjustments to board members for listed firms in Kenya. Similarly, Similarly, CMA of Kenya should consider introducing quota system on gender and interlock directorship on the board composition of listed firms. In addition, directors' fees should be partly fixed and partly based on performance. This approach will stop BOD members compensating themselves unreasonably high even when the firm profitability is on a downward trend which will consequently lower agency costs associated with geographic investments in assets, a trade-off of profitability.

5.3.3 Suggestion for future Research
Further research may be conducted to examine the relationships between board demographics, macro-economic factors (inflation, foreign exchange rates and borrowing rates) and firm level of financial diversification.

References
[1]. Amihud and Lev, B. (1981). Risk reduction as a Managerial Motive for Conglomerate Mergers, The Bell Journal of Economics, 12:605-17.
[2]. Austin Ujunwa, ChinweOkoyeuzu and Ifeoma Nwakoby (2012) Corporate Board Diversity and FirmPerformance: Evidence fromNigeria; Review of international comparative Baltagi B. H (2005). Econometric Analysis of Panel Data, 3rd Edition. West Sussex, England: Bank for International Settlements (2001): Operational Risk, Consultative Document, Basel Committee on Banking Supervision.
[3]. Berger, P.G. and E. Ofek, (1995). "Diversification's effect on firm value," Journal of Financial Economics, 37, 39-65.
[4]. Business Daily, December 11th,2015

[5]. Campa, Jose Manuel, and Simi Kedia, (2002), Explaining the diversification discount, Journal of Capar N., and Kotabe M,. (2003).The Relationship between International Diversification and Performance in Service Firms. Journal International Business Studies 34(4, 345 - 355)

[6]. Del Brio, Esther B. Elida, L. Maia-Ramires and Alberto De Miguel (2010).Ownership Structure and Diversification a scenario of Weak Shareholder protection, Applied Economics 43, 4537-4547.

[7]. Denis, D.,D.,Denis, and A. Sarin, (1997), "Agency problems, equity ownership, and corporate diversification," Journal of Finance, 52, 135-160.

[8]. Denis, David J., Diane K. Denis, and AtulyaSarin, (1997), Agency Problems, Equity Ownership,and Corporate Diversification, Journal of Finance 52, 135-160.

[9]. Elijah Museve, Joel Tenai, and Philip Nyangweso (2016);Relationship between Board Characteristics And Firm Financial Diversification (National Sales And Assets) Among Listed Firms On Nairobi Securities Exchange, Kenya; International Journal of Economics, Commerce and Management,Vol. IV, Issue 11, November 2016,Page 77 http://ijecm.co.uk/

[10]. Elijah Museve, Philip Nyangweso, and Joel Tenai (2018); Relationship between Board Characteristics and Firm Financial Diversification (Geographic sales) among listed firms on Nairobi Securities Exchange, Kenya: Static Panel Approach, American journal of Finance, Vol 2, No. 7 (2017), January 2018;https://ajpojornals.org/jo.Finance 57, 1731–1762.

[11]. Gaur, A.S. &Gaur, S.S. (2006). Statistical MethodsforPracticeand Research:A GuidetoData AnalysisUsing SPSS,ResponseBooks, Sage Publication, New Delhi.

[12]. Geringer J. M., Beamish, P. W. and Dacostar R. C., (1989) Diversification Strategy and Internationalization: Implications for MNEs Performance. Strategic Management Journal, 10(2), 109-119

[13]. Geringer J. M., Tallman, S. and Olsen D. M., (2000). Product and Geographic Diversification among Japanese Multinational Firms: Strategic Management Journal 21, 51 – 80

[14]. GoK (2013). Economic Survey (2013). Reviewing Kenya's economic performance, progress, challenges and reversals, Institute of Economic Affairs

[15]. Gomes L. and K. Ramaswamy (1999). An Empirical Examination of the Form of The Relationship Between Multinationality and Performance; Journal of International Business Studies, 30 Pp 173-17.

[16]. Hadri, K. (2000). Testing for stationarity in heterogeneous panel data. Econometrics Journal 3: 148–161.

[17]. Hambrick D. C. and A. Mason (1984). Upper Echelons: The Organization As A Reflection of its Top Managers: Academy of Managerial Review, 9, pp. 193-206

[18]. Hassan,Z, Samian,A.L. andSilong,A.D.(2006).ReadingsonEthnicRelations inMulticulturalSociety:PerspectivesandResearchonNationalUnityand Integration, Serdang:UniversityPulra Malaysia.

[19]. Hendry,K.andKiel,G.(2004).Theroleoftheboardinfirmstrategy: Integratingagencyand organizationalcontrolperspectives, InternationalConferenceonCorporateGovernanceand BoardLeadership.BlackwellPublishing Ltd.U.S.A.

[20]. Hitt M. A., Bierman L., Uhlenbruck, K., and Shimizu K. (2006). The Importance of Resources in the Internationalization of Professional Service Firms: The good the bad and ugly, Academy of Management Journal 49 1137-1157

[21]. Ibrahim, H and Samad, F.A (2011). Agency costs, corporate governance mechanisms and performance of listed firms in Malaysia; S. Afr .J. Bus.Manage.2011, 42(3) ISSN 2348 0386.

[22]. Jackling, B.J. and Johl, S. (2009). Board structure and firm performance: Evidence from India's top companies. Corporate governance: An International Review, 17: 492-509.

[23]. Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers, American Review, 76:323-29.

[24]. Jensen,M.C.andMeckling,W.H.(1986),"Agencycostsoffreecashflow,corporatefinanceand takeovers",AmericanEconomic Review,Vol.76,pp.323-39.Journal of Political Economy, 102, 1248-1280. John Wiley and Sons Ltd.

[25]. Kayo, E.K., and Kimura, H. (2010). Hierarchical determinants of capital structure. The Journal of Banking and Finance.

[26]. Kenya Financial Sector Stability Report December (2013), Issue no. 5, Annual Review by the Financial Sector Regulators Forum, August 2014.

[27]. Kenya Financial Sector Stability Report December (2013). Issue no. 5, Annual Review by the Financial Sector Regulators Forum, August 2014,

[28]. Kenya National Bureau of Statistics; Economic survey 2009

[29]. Kenya National Bureau of Statistics; Statistical abstract 2012.

[30]. Kim, W. C., Hwang, P. and Burgers, W. P. (1989) Global diversification strategy and corporate profit performance, Strategic Management Journal, 10: 45–7.

[31]. Kotabe, M., Srinivasan, S., S., and Aulakh, P., S., (2002). Multinationality and Firm Performance: The Moderating Role of R&D and Marketing Capabilities Journal International Business Studies 33(1, 79 -97)

[32]. La Porta R. Lopez-de-Silandes F., Shleifer A., Vishni R. (2000). Investor Protection and Corporate Governance. Journal of Financial Economics, 58(1-2), 3-27.

[33]. La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, (1998). Law and finance, Journal of Political Economy, 106, 1113–55.

[34]. Laeven, L. and Levine, R. (2007). Is there a diversification discount on financial conglomerates? Journal of Financial Economics, 58, 331–67.

[35]. Lamont, O. A. and Polk, C. (2002). Does diversification destroy value? Evidence from the industry shocks. Journal of Financial Economics, 63(1):51 – 77.

[36]. Lamont, Owen, and Christopher Polk, (2001). The diversification discount: Cash flows versus returns. Journal of Finance 56, 1693-1721.

[37]. Lamont, Owen, and Christopher Polk,(2001). The diversification discount: Cash flows versus returns. Journal of Finance 56, 1693-1721.

[38]. Lang L.H.P. and Stulz, R.M (1994). Tobin's q corporate diversification, and firm performance, Journal of political economy, 102: 1248-80.

[39]. Lang L.H.P.and Stulz, R.M (1994). Tobin's q corporate diversification, and firm performance, Journal of political economy, 102: 1248-80.

[40]. Lee,C.,andJ.Farh.(2004).Jointeffectsofgroupefficacy andgenderdiversityongroup cohesionand performance.AppliedPsychology:AnInternationalReview53(1): 136–154.

[41]. Letting, N, Aosa .E, and Machuki .V, (2012). Board Diversity and Performance of Companies Listed on Nairobi Stock Exchange; International Journal of Humanities and Social Science, Vol. 2 No.11.

[42]. Lewellen, W., (1971), "A pure financial rationale for the conglomerate merger," Journal Finance, 26, 521-537.

[43]. Maksimovic, Vojislav, and Gordon Phillips, (2002). Do conglomerate firms allocate resources inefficiently across industries? Journal of Finance 57, 721-767. Management Vol.13 1ssue 4.

[44]. Mathur,I.,Singh,M.andGleason,K.C.(2004).Multinationaldiversificationandcorporateperformance:EvidencefromEuropean firms,EuropeanFinancialManagement,10:439–64.

[45]. Matsusaka,J.G.(2001). Corporate diversification,valuemaximization,andorganizationalCapabilities, JournalofBusiness,74(30):409– 31.

[46]. Michael Jensen and Edward J. Zajac (2004) Corporate Elites and Corporate Strategy: How Demographic Preferences and Structural Position Shape the Scope of the Firm, Strategic Management Journal.

[47]. Miguel, A., Pindado, J. and De la Torre, C. (2004). Ownership structure and firm value: new evidence from Spain, Strategic Management Journal, 25 1199–207.

[48]. Museve, Elijah, Tenai Joel, and Nyangweso Philip (2016). Relationship between Board Characteristics and firm financial diversification (National sales and Assets) among listed firms on Nairobi Securities Exchange, Kenya; International Journal of Economics, Commerce, and Management, Vol IV, Issue II,

[49]. Nachum, L,. (2004). Geographic and Industrial Diversification of the Developing Country Firms. Journal of Management Studies 41(2) 273 – 294

[50]. Porter; M.T.(1980). Competitive Strategy Techniques for Analysing Industries and Competitors. The Free Press: New York.

[51]. Sambharya. R.B. (1996) Foreign experience of the top management teams and international diversification strategies of US Multinational Corporations; Strategic Management Journal 17: 739-746

[52]. Shital J and Mishra, R.K, (2012). Board Diversity and Corporate performance: The Indian Case; The IUP Journal of Corporate Governance Vol. XI No.3, 212.

[53]. Shleifer, Andrei, and Robert Vishny, (1989). Management Entrenchment: The Case of Manager-Specific Investments, Journalof Financial Economics25, 123–139.

[54]. Stephen B., Noushi Raman and Corine Post (2010). The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation; Journal of Business Ethics, 97:207-221.

[55]. Subrahmanyam, V.N., Rangan, N. & Rosenstein, S. 1997. 'The Role of Outside Directors in Bank Acquisitions', Financial Management, **26:** 23-36.

[56]. Tallman S., and Li. J. (1996). Effects of International Diversoty and Product Diversity on the Performance of Multinational Firms, Academy of Management Journal 39(1) 179-196

[57]. Tarus D., K. and Sitienei I. (2015); intellectual capital and innovativeness in software development firms: the moderating role of firm size; Journal of African Business,

[58]. Varadarajan, P. Rajan, and Vasudevan Ramanujam, "Diversification and Performance: A Reexamination Using a New Two dimensional Conceptualization of Diversity in Firms," Academy of Management Journal, June 1987, 30, 380-93.

[59]. Villalonga, B., (2004a). Diversification discount or premium? New evidence from the business information tracking series, Journal of Finance, 59, 475–502.

[60]. Villalonga, B., (2004b). Does diversification cause the diversification discount? Financial Management, 33, 5–27.

[61]. Wooldridge, J., (2012). Econometric Analysis of Cross Section and Panel Data (3 ed.). New York: South-Western College Pub.

[62]. Yoshikawa, T., and Phan, P.H., (2005). The Effects of Ownership and Structure on Board Composition and Strategic Diversification in Japanese Corporations, Corporate Governance: An International Review, 13:303-12.

APPENDIX I

Table 1: World Economic Outlook Update

OUTPUT INDICATORS					Difference from April 2014 WEOprojections	
Real GDP Growth (%)	2012	2013	2014e	2015f	2014	2015
World Output	3.5	3.2	3.4	4.0	-0.3	0.0
Advanced Economies	1.4	1.3	1.8	2.4	-0.4	0.1
Euro Area	-0.7	-0.4	1.1	1.5	0.0	0.1
Japan	1.4	1.5	1.6	1.1	0.3	0.1
United States	2.8	1.9	1.7	3.0	-1.1	0.1
Emerging & Developing Countries	5.1	4.7	4.6	5.2	-0.2	-0.1
China	7.7	7.7	7.4	7.1	-0.2	-0.2
Russia	3.4	1.3	0.2	1.0	-1.1	-1.3
Brazil	1.0	2.5	1.3	2.0	-0.6	-0.6
MENA, Afghanistan, Pakistan	4.9	2.5	3.1	4.8	-0.2	0.2
SSA	5.1	5.4	5.4	5.8	0.0	0.2
South Africa	2.5	1.9	1.7	2.7	-0.6	0.0

Source: WEO, April 2014 and WEO Update July2014

Table 2: Sub-Saharan Africa Real GDP Growth.

REGION	2004-08	2009	2010	2011	2012	2013	2014	2015
SSA except S. Africa	**7.2**	**4.3**	**6.7**	**6.3**	**5.8**	**5.9**	**6.5**	**6.5**
SSA of which:	**6.4**	**2.6**	**5.6**	**5.5**	**4.9**	**4.9**	**5.4**	**5.5**
1.1 Oil-exporters	8.4	4.8	6.7	6.1	5.2	5.7	6.6	6.5

1.2 Middle Income	5.1	-0.8	4.1	4.9	3.4	2.7	3.0	3.3
1.3 Low-Income countries	7.3	5.1	7.0	6.5	6.2	6.8	6.9	6.8
1.4 Fragile states	2.7	3.3	4.8	3.3	7.5	6.0	7.1	7.1
SSA and Emerging Markets	**5.8**	**2.5**	**5.4**	**5.5**	**4.8**	**4.4**	**5.0**	**5.2**

Source: IMF World Economic and Financial Surveys, April 2014