The influence of gender diversity and company financial performance in East Africa

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The main aim of this study was to examine the influence of gender diversity on financial performance of EAC’s listed companies and to compare influence of gender diversity on company’s financial performance before and after the operationalisation of the East African Community (EAC) Common Market in 2010. The authors adopted a positivist paradigm in a quantitative analysis using non-probability sampling to select forty-two EAC listed companies. They developed hypotheses basing on secondary data from data stream database and annual reports. SPSS was used to generate correlation, and regression results. The findings indicated that gender diversity of the board has no statistically significant influence on company financial performance measured by Return on Assets (ROA), Return on Equity (ROE), Tobin Q ratio (TBQ) and Price Earnings Ratio (PER). Secondly, the authors discovered no changes in gender diversity for most listed companies for the period before and after operationalisation of the EAC - Common Market.

Key words: Gender, diversity.

INTRODUCTION

The relationship between company performance and gender diversity has been a topical issue over a long a time. Many researchers have shown a growing concern over influence of gender diversity and company finance performance (Adams et al., 2011; Ahern and Dittmar, 2012; Broadbridge et al., 2006; Eckel and Grossman, 2008; Fawcett and Pringle, 2000; Giovinco, 2014). Many countries enacted regulations aimed to increase the number of female directors on board (Bohren and Strom, 2010; Lerner and Oberholzer, 2015; Reguera-Alvarado et al., 2017). For instance, in 2003, Norway, Finland, France, India, Italy, the Netherlands, Spain, and Belgium introduced the board-gender quota regulation that required all listed companies to have at least 40% female board representation (Lerner and Oberholzer, 2015).

The presence of female directors is seen as a means to effective board independence, board monitoring and control of the executive, which minimises the principal–agent conflicts (Ang et al., 2000). Moreover, female directors increase company performance via improved
performance “disclosure practices” (Barako and Brown, 2008:321). Female managers also tend to have better monitoring skills, such as independent thinking, than their male counterparts which improves board performance (Adams et al., 2011).

Using the ‘upper echelons’ theory, Hambrick (2007) posits that the board of directors have different cognitive frames, which influences their companies’ financial performance. These cognitive frames include their information-seeking, evaluation and processing, which depends on the directors’ experiences, knowledge, and values (Hambrick, 2007). Such experiences, knowledge, and values shape the directors’ information processing and decision-making capabilities, which ultimately influence the companies’ financial performance. Recruiting female directors onto a board is therefore, is perceived as a way of expanding the available pool of cognitive frames, because female directors tend to have patience and natural sales and marketing skills (Groysberg and Bell, 2013).

Again, According to Singh et al. (2008), female directors possess different experiences and knowledge due to their different pathways to directorship positions. While most of the female directors may not have been senior executives before being, appointed as board directors, they have more home management skills given their nurturing roles in family. Moreover, Women tend to have more domestic influence over their male counterparts on such decisions like, domestic sales and purchasing decisions (Phipps and Burton, 1998). Hence, appointing female directors may improve the company management’s understanding of the consumer markets (Campbell and Minguez-Vera, 2008). Moreover, Groysberg and Bell (2013) posits that female directors have greater interests in philanthropy and community service than their male counterparts, which translates to good ideas that are relevant to companies’ interests (Groysberg and Bell, 2013). According to Reguera-Alvarado et al. (2017), increasing the number of female directors enhances companies’ economic performance.

Gender-diverse boards are more motivated to engage in deep and extensive discussions for the benefit of the company’s financial performance. According to Loyd et al. (2013), well diverse boards tend to engage in deeper discussions, shares different knowledge and skills than a homogeneous board. Mahadeo et al. (2012), posits that female directors are more likely to adopt a cooperative decision-making approach with less prejudice especially when competing interests are at stake and Peterson and Philipot (2007) suggest that male directors are more likely to base their decisions on more traditional ways of problem solving following established rules and regulations.

On the other hand, Carter et al. (2010) documented a negative relationship between gender diversity and company financial performance in listed companies in the USA. Their study concluded that neither ethnicity nor gender diversity positively influence a company’s financial performance. Likewise, Francoeur et al. (2008) studied the relationship between gender diversity and company performance by examining the contribution of women directors and senior management to company financial performance. They discovered that companies that operated in difficult environments produced less return attributed to female board directors. Although the participation of female directors did not seem to make a difference in this regard, companies with a high proportion of women in both their management and governance systems generated enough value to keep up with normal stock-market returns. Hence, they advocated for smaller proportion of female directors on the board as a means of generating higher return on investment.

A study by Bohren and Strom (2010) in Norway overlooked the importance of gender diversity. The study was aimed at analysing the economic rationale for board quota regulation in Norway, being the first country in the world to implement the gender quota system (Adams et al., 2011). The study discovered that companies with higher gender diversity created less value for their owners than those with lower gender diversity. They thus advised corporate governance regulators not to enforce a gender quota system but rather to allow companies to make a choice of their directors based on each potential director’s ability to add value to the company using his/her skills and knowledge (Bohren and Strom, 2010).

Despite the above divergences in literature, influence of gender diversity and the contribution of female directors in the EAC cannot be ignored. While some commentators consider the presence of female directors as merely philanthropic; aimed at a public relations exercise for gender equality (Kanter, 1977), others acknowledged gender as one of the main drivers to improved company performance (Bohren and Strom, 2010; Giovincio, 2014). The EAC member countries are not mandated to have a gender quota in their board rooms, though it’s highly recommended by the EAC’s corporate governance codes (CMA, 2002).

East African community regional economic integration policy

The EAC was formed in 1917 as a customs union by Uganda and Kenya and was later joined by Tanzania in 1927, before its break up in 1977. The EAC was reinvigorated by 1993 agreement between Kenya, Uganda and Tanzania, which created the Permanent Tripartite Commission for East African Co-operation. In April 1997, Kenya, Uganda and Tanzania entered an agreement to establish the EAC, a process that took three years before the November 1999 treaty, which established the current East African community. The November 1999 treaty became effective in July 2000 after its ratification by Uganda, Tanzania and Kenya in 2010, the EAC- Common Market was operationalised. Currently, Membership of the EAC- Common Market
includes Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. The Common Market status has changed the mode of operation of most listed companies to match the best practices within the region, moreover most EAC listed companies are required to apply similar standard governance doctrines and equal treatment of all member states’ citizens without discrimination.

Aims of this study

The main objective of this study was to examine the influence of gender diversity on the financial performance of listed companies following the operationalisation of the EAC Common market in 2010. The study addressed the following specific objectives:

i) Examine influence of gender diversity on performance of EAC’s listed companies

ii) Comparing the influence of gender diversity on company’s financial performance, before and after the operationalisation of the EAC-Common Market.

The study is focused on identifying the impact of gender diversity of the board given the recent changes brought about by the operationalisation on the EAC’s common market in 2010 and to encourage listed companies, as well as the regulatory authorities, to proactively understand the contribution of gender diversity as an element of good governance frameworks. The findings will thus help in appreciating gender diversity as good corporate governance practices (OECD, 1999, 2004, 2015).

LITERATURE REVIEW

A number of theories have been used in research to explain the relationship between gender diversity and company financial performance. They adopted the agency theory and stewardship theory as commonly used in business and corporate governance research studies (Adams et al., 2011; Ahern and Dittmar, 2012; Giovinco, 2014).

Agency theory

According to the agency theory, the need to separate organisational ownership and control creates an agency relationship, whereby shareholders (principals) contract managers (agents) to run their business on their behalf (Bhaduri and Selarka, 2016; Fama and Jensen, 1983). An agency relationship is thus established due to an organisation’s need to ensure independence of organisational control from organisational ownership. According to Jensen and Meckling (1976), a company is a nexus between different company stakeholders with the principal at one end and an agent on the other. The principal and the agent hence have different rights and responsibilities, which theoretically should complement each other for the economic good of the company. However, the agency theory suggests that managers are selfish beings, inclined to the promotion of personal interests rather than those of the principal, in the process of the company’s strategic decision-making. The agency theory hence seeks to resolve such principal–agent conflicts of interest by means of applying strict monitoring and control systems, which aim to restrain subjective management decisions and actions. The principal–agent conflict is further exacerbated by information asymmetry, in that an agent is perceived to have more information than that of the principal, thus creating a moral dilemma which might motivate an agent to pursue personal interests that may be irreconcilable with those of the principal (Bhaduri and Selarka, 2016). Consequently, the principal is forced to incur agency costs, e.g. the monitoring cost (audit fees) to make the agents accountable for their decision-making roles, in an attempt to reduce the agent’s extravagances that may harm the principal’s economic interests (Jensen and Meckling, 1976).

Typically, company shareholders appoint a board of directors (agents) to oversee the company on their behalf. The board of directors in turn, appoint employees to carry out the day-to-day management of company’s undertakings. Shareholders appoint agents to run their business because some companies have hundreds or thousands of shareholders with no skills, knowledge, time or inclination to manage their own investments (Bhaduri and Selarka, 2016). They are therefore willing to engage a professional manager with the skills and knowledge needed to achieve the company’s primary objectives of shareholders wealth maximisation (Friedman, 2007). Agents, on the other hand, are willing to offer their skills, knowledge and time in exchange for reward, in pecuniary or no pecuniary terms. This creates multiple goals, and/or lack of goal congruence between the agent and the principal (Jensen and Meckling, 1976). It is in the principal’s interest to minimise agency costs, including the manager’s rewards, to maximise the company value. However, because of the agents’ perceived self-seeking nature, they tend to focus on maximising their personal interests such as remunerations, luxurious offices, personal assistants or even luxury cars (Jensen and Meckling 1976). Consequently, they may not always act in the best interests of the principal, but rather seek to maximise their own utility, which gives rise to principal–agent conflicts (Jensen and Meckling 1976). To mitigate such conflicts, the principal incurs some costs, such as the cost for drawing legal employment contracts that clearly articulates the manager’s accountability and responsibility. Other agency costs may include payment reducing the company agency costs and the appointment for the agent’s asymmetric information and monitoring of managerial performance e.g. paying for external audits.
and review (Bhaduri and Selarka, 2016). Hence, the principal will need to ensure that an appropriate reward scheme is implemented to effectively motivate the agent to act in the principal’s best interest. Such initiatives result in additional monitoring costs aimed at mitigating the agent’s selfishness at the principal’s cost.

The agency theory, hence advocates strict monitoring and control of the agent’s activities. This is achievable by putting in place a set of good policies including gender balance of the board as a means of increasing the shareholders’ wealth (Grant and McGhee, 2014). This study used the agency theory recommendations to explain the importance of gender diversity of the board as means of enhancing company financial performance. The agency theory has a big influence on corporate governance in the EAC, because corporate governance indicators such as gender diversity enhance the board’s ability to monitor and control management decisions.

Stewardship theory

This theory views managers as company stewards who act in the best interest of the shareholders (Donaldson and Preston, 1995). An organisational management is assumed trustworthy and considerate in the use of company resources to increase company profits, which in turn maximises shareholder returns (Davis et al., 1997).

The stewardship theory suggests that shareholder satisfaction in a company’s positive performance will subsequently lead to greater levels of satisfaction for its managers. Therefore, a good company performance is looked at as a means of attaining both the shareholders’ and managers’ satisfaction because the stewards’ and shareholders’ interests are concurrently maximised (Davis et al., 1997). Consequently, managers are more motivated to maximize the company’s financial performance for their reputation’s sake, confident that high levels of performance will avail their future career opportunities, than they are motivated to seek shorter-term self-interests which are not likely to benefit owners. In such a case, a consistent and progressive company performance is seen as a good indicator of the management’s competence, which is attributed directly to individual employees, the management team or the CEO’s performance. This was identified earlier by Fama (1980), who contends that company executives manage not only their company’s resources, but also their careers, with a desire to be seen as the most effective and resourceful stewards in a given sector or industry. According to Abdullah and Valentine (2009), the stewardship model is more applicable to the Japanese corporate governance model, with employees assuming the role of stewards. Moreover, the stewardship theory encourages the duality of the CEO as a means of of executive directors on company boards as a source of good business practice to enhance the company performance (Clarke, 2004). The stewardship theory has an immense influence on corporate governance developments and company performance in the EAC especially for SME’s and family owned companies where most companies tend to advocate for gender diversity of the boards.

Company financial performance

Financial performance is a term used to measure company monetary results based on its policies and processes (Margolis and Walsh, 2001). Performance can be measured using a financial management tool such as accounting ratios like return on equity or return on assets to measure the extent to which a company has achieved its financial objectives over a period of time (El-Shishini, 2001). According to Lussier (2011), financial performance is influenced by the company’s internal and external risk. It is therefore important to strengthen the company’s internal control systems to manage and control most of the internal risks. However, the causes of external risk are often beyond the company management’s control. For example, external risks can be caused by political, economic, or the social technological factors which are beyond the management’s control (Ferreira and Otley, 2009; Lussier, 2011).

They adopted the accounting-based performance measurements that are commonly used in accounting and finance research (Adegbite, 2012a, b; Youssef and Bayoumi, 2015). Accounting-based performance measurements involve the use of the accounting information to assess the extent to which a company has achieved its predetermined performance objectives. As the name suggests, accounting-based performance indicators are used to measure company performance using financial accounting data, mainly from the published company annual reports (Agarwal, 2013; Weber et al., 2012).

METHODOLOGY

Henn et al. (2005), identified two major types of research paradigms that exist in social science research, namely the positivist and the critical or interpretive paradigms. The positivist paradigm is also known as the empiricist, scientific, quantitative or deductive paradigm (Henn et al., 2005). Under this type of paradigm, a researcher is perceived to be independent from the research study, and the behaviour of the person (s) or study group(s) used in the study is explained using only facts and observations (Veal, 2005). The positivist paradigm depends, on the following principal assumptions; firstly, the cause and effect must be identified in order to explain the phenomena and to test a theory; secondly, knowledge is based on what can be tested by observing tangible evidence; and thirdly, a researcher must use a scientific method that emphasises control, standardisation and objectivity (Gill and Johnson, 2010; Henn et al., 2005; Veal, 2005). These assumptions help to clarify the research structure, and help us to carry out research on a large scale with the help of some quantitative statistical data analysis tools (Henn et al., 2005). The positivist paradigm is usually applicable in quantitative research on
a large scale, using theories and hypotheses developed prior to the empirical study (Henn et al., 2005; Veal, 2005). Critical or interpretive paradigm is also known as “qualitative, phenomenological, hermeneutic, inductive, interpretive, reflective, ethnographic or action research” (Veal, 2005:25). It assumes that human behaviour can be studied in the same way as non-human phenomena (Henn et al., 2005). The critical paradigm assumes that the world is socially constructed, and that “the reality studied depends on the actors involved in a given social milieu” (Veal, 2005:24). They relied on the persons being studied to offer their own explanation of the behaviour to be examined in the research, thereby enabling them to achieve deeper understanding of the participants’ point of view (Veal, 2005).

The aim of this study was to examine the influence of gender diversity on the financial performance of listed companies within the EAC. To achieve this objective, they adopted the positivist paradigm and the deductive approach, using quantitative techniques to identify the causes and effects of social phenomena (Collis and Hussey, 2013). This quantitative approach is often used in company performance studies (Alagha, 2016; Heenetiigala, 2011; Silva Lokuwaduge, 2011). The authors adopted a deductive approach, in which hypotheses was developed from the review of existing literature, and data were collected and used to confirm or negate the proposed hypotheses. Hypothesis testing in this study is based on secondary data from published statistics and annual reports. The use of a deductive approach and hypothesis testing method is a consistent with a quantitative research approach (Gill and Johnson, 2010) and was adopted in this study due to its advantages over the qualitative approach. For instance, the use of numerical measurement in the quantitative approach makes it easier for research analysis and presentation of results for explanatory purposes. Additionally, the quantitative approach has less bias error than the qualitative approach (Collis and Hussey, 2013). According to Veal (2005), a qualitative approach does not often provide researchers with the same level of rigour as a quantitative approach. The quantitative data in this study was obtained from secondary sources, which is the most commonly used method for obtaining data in the performance of the company research studies (Alagha, 2016; Tshipa, 2015; Silva Lokuwaduge, 2011).

They used secondary data source because the data required for this study was available in annual reports of companies. The use of secondary data is consistent with other accounting, finance research studies, in which researchers clearly stated that they used secondary data saves time and money (Ngwenya and Khumalo, 2012; Okiror, 2014). The type of secondary data used in this study includes journal articles, e-books, press releases and websites, which were used in conducting the literature review on corporate governance and company financial performance. They also obtained financial data from DataStream database. Microsoft Excel and Statistical Package for the Social Science (SPSS) version 23 were used for data handling and analysis. Excel was used for managing and formatting the data, prior to exporting to SPSS for statistical applications. SPSS was used to carry out the preliminary diagnostic tests, Wilcoxon signed-rank test, correlation, and regression analyses. According to Field (2009), SPSS is capable of providing comprehensive outputs for analyses such as descriptive statistics, model analysis, multiple regressions and correlation analysis.

**Data collection and sample selection**

This study used secondary financial data (dependent variables) from DataStream database while gender diversity data were obtained from published companies’ annual reports and company websites. Gender diversity was measures as the ratio of female directors to total directors. They used Microsoft Excel and Statistical Package for the Social Science (SPSS) version 23 for data handling and analysis. Excel was used for managing and formatting the data, prior to exporting to SPSS for statistical applications. SPSS was used to carry out the preliminary diagnostic tests, Spearmen’s rank correlation and linear regression analyses.

**Sampling framework and selection**

They adopted non-probability sampling to select 42 out of a total of 108 EAC listed companies. Listed companies were preferred because their information is publicly available and they tend to provide the information necessary to identify their corporate governance structures (Okiror, 2014). The sample was comprised of 30 companies from the Nairobi Securities Exchange (Kenya), 7 from the Dar es Salaam Stock Exchange (Tanzania) and 5 from the Uganda Securities Exchange (Uganda).

**Dependent variables**

The authors adopted some of the commonly used performance measurement in Corporate governance, business, finance and accounting research, namely, Return on Assets (ROA), Return on Equity (ROE), Tobin Q ratio and Price Earnings Ratio (PER) as our dependent variables (Alagha 2016; Heenetiigala 2011; Kiel and Nicholson 2003; Klein 1998; Laing and Weir, 1999; Tshipa 2015; Silva Lokuwaduge 2011).

**Return on Assets (ROA)**

The ROA ratio measures the efficiency of the company in generating income using its total assets (Lesakova, 2007). It is a financial performance ratio commonly used in assessing companies’ economic health as well as the efficiency of investment portfolios (Basarab, 2010; Lesakova, 2007). According to Ingram and Albright (2006), the ROA ratio links all a company’s annual operations to its investment activities. The ratio also measures the management’s efficiency in the utilisation of company assets (Lesakova, 2007).

The ROA is calculated as:

$$\text{ROA} \% = \frac{\text{Year-end profits after interest and tax}}{\text{Total assets at the year-end}}$$

A higher ROA ratio indicates that a company has an enhanced ability to utilise its assets to generate a higher value for its owners (Basarab, 2010; Lesakova, 2007).

**Return on Equity (ROE)**

The ROE measures company performance using return on investment. It focuses mainly on the management’s ability to earn returns for equity holders in form of profits or financial surplus after deducting all expenses. The ROE was calculated in this study as:

$$\text{ROE} \% = \frac{\text{Year-end profits after interest and tax}}{\text{Total shareholders' equity at the Year-end}}$$

Total shareholders’ equity at the Year-end A higher ROE ratio is an indicator of management’s ability to generate extra earnings for shareholders.

**Tobin’s Q ratio (TBQ)**

TBQ ratio uses market values as a measure of company
performance. It’s computed as the ratio of company market value to total book value. A lower TBQ ratio is an indicator of poor market confidence in its equity, which could be attributed to poor governance that reduces company profits (Weir et al., 2002). According to Gross (2007), TBQ ratio is a hybrid measure of performance, that is based on both accounting and market-based data. TBQ is calculated as the ratio of a company’s market capitalisation to its total assets (Chorafas, 2004).

\[
\text{TBQ} = \frac{\text{Year-end market capitalisation}}{\text{Total assets at the Year-end}}
\]

According to Leng (2004), the TBQ ratio measures the company’s growth prospects due to its asset base. A TBQ value of 1 indicates that the company’s market value is equal to the total value of its assets. If the ratio is greater than 1, the company’s market value is greater than its asset’s book value, and hence management is deemed to have created more value for shareholders (Chorafas, 2004). On the other hand, a TBQ less than 1 indicates that the company’s market value is lower than the total value of its assets, which may suggest that the company’s market worth is being undervalued (Chorafas, 2004). A lower TBQ value is an indication of poor corporate governance mechanisms, which may negatively affect market perception of the company (Weir et al., 2002).

**Price earnings ratio (PER)**

The PER is used to estimate the market value of a companies’ shares using the year-end share price and earnings per share (EPS) (Bernstein and Wild, 1993). The value of the company’s PER depends on its existing corporate governance policy, past performance, future growth potential, and the industry risks (Bernstein and Wild, 1993). For example, when a company has superior past performance results (profitability) and high future growth potential (such as in sales and earnings), it would also have a higher PER than a similar company with poor past performance and low growth potential (Bernstein and Wild, 1993). Equally, a company with good corporate governance policies will attract positive market perception and may be considered less risky than its peers within a same industry. Likewise, high and stable dividend payouts will influence a company’s PER because of its market-signalling impact. Consistent dividend payouts are a good signal to the market that a company is both financially strong and committed to rewarding its shareholders (Lease et al., 1999). This study calculated PER using the following formula:

\[
\text{PER} = \frac{\text{Company's year-end share price}}{\text{Earnings per share (EPS)}}
\]

PER is influenced by the company risk, particularly the finance risk or the risk of having debt capital within its capital structure. The presence of debt capital affects both earnings and share price, hence reducing earnings growth. This also increases the risks of bankruptcy and can sometimes affect the company’s financial results. Thus, lower leverage is associated with higher PER ratio and vice versa (Bernstein and Wild, 1993).

**Hypothesis development**

The study’s hypotheses rested on the broad assumption that the adoption of gender diversity as one of the codes of corporate governance and best practices is likely to enhance company financial performance (Shleifer and Vishny, 1997). Ford and Richardson (1994) posit, that female directors are more ethical than their male counterparts, especially in managing company finances while Broadbridge et al. (2006), and Konrad et al. (2008) argued that female directors are more organised, more focused on corporate board business and more likely to objectively query management’s actions or the rationale behind management’s decisions, than their male counterparts. This increases company monitoring and controls and hence can lead to the enhancement of company financial performance. According to Melero (2011) and Baglioni and Colombo (2013), gender diversity enhances company monitoring which can result in higher company performance. Moreover Khan and Vieto (2013) assert that presence of female directors leads to better company performance because females are naturally more risk-averse than men, hence companies with female directors are less likely to take high risks in investment decisions such as excessive debt capital or diversification, which may increase agency costs and reduce company value (Niessen and Ruener, 2006).

Furthermore, Hambrick (2007) suggests that gender differences in the boardroom influence company financial performance. This can be due to differences in gender cognitive characteristics, as proposed by the upper echelons theory (Hambrick, 2007). According to the upper echelons theory, female directors are more likely to have different cognitive frames than their male counterparts, which influences the way they perform their board functions (Hambrick, 2007). For instance, female directors tend to have better talents in marketing and sales (Groysberg and Bell, 2013), which may influence their contribution to the company’s profitability. Furthermore, female directors may have different knowledge and experience by virtue of their path to directorships - they are less likely to have been CEOs and are more likely to have come from non-business backgrounds (Hillman et al., 2002; Singh et al., 2008).

According to Kopczuk et al. (2010), recent increases in gender equality at work places, especially in industrialised countries, have generally increased the female purchasing power. Consequently, women’s influence and control in household purchasing decisions have drastically increased (Phipps and Burton, 1998). Such responsibility helps women to enhance their knowledge of consumer markets, which may contribute to better board decision-making (Carter et al., 2003). Groysberg and Bell (2013) argued that female directors have more interest in philanthropy and community service, which makes them more likely to consider the interests of all stakeholders, thus increasing company performance. Female directors are more likely to value interdependence, benevolence, and tolerance, which may help to elicit information and stimulate collaboration among board members (Bart and McQueen, 2013).

Within the EAC, gender-diversity of boards is still relatively low; most company boards are still dominated by male directors, as compared to countries with the highest percentage of female directors like Norway (40.1%), Sweden (33.7%) and France (33.5%) (Lee et al., 2015). According to Wachudi and Mboya (2012), the relative rarity of female directors in the EAC can be attributed to the prevalent patriarchal culture in the EAC countries. We used the ratio of female directors to total directors as a measure of gender diversity of the board and hence adopted the following hypotheses to test influence of gender diversity on a company’s financial performance.

i) There is a significant relationship between gender diversity of the board and company financial performance ($H_1$)

ii) There has been a significant change in gender diversity after the operationalisation of the EAC- Common Market ($H_2$).

**Regression analysis**

The authors adopted the ordinary least squares (OLS) regression to examine the relationship between the dependent and independent
variables. According to Bowerman et al. (2003) the independent variable’s estimated coefficients indicates the size of effect that one variable has over the dependent variable. The sign on the coefficient (positive or negative) gives the direction of the effect. A positive coefficient indicates how much the dependent variable is expected to increase when the independent variable increases by one unit; holding other independent variables constant and the reverse is true for the negative coefficient (Tabachnick and Fidell, 2006; Tabachnick et al., 2001). According to Zikmund et al. (2013), OLS regression is considered a straightforward method of statistical analysis which guarantees that the resulting straight line will produce the least possible total error in using X to predict Y. Their model was derived using the following equation:

\[ Y_i = \beta_0 + \beta_1 X + \varepsilon_i \]  

(1)

Where: \( Y_i \) = the dependent variable; \( X \) = the independent variable; \( \beta_0 \) = intercept; \( \beta_1 \) = slope and \( \varepsilon \) = error term.

The above equation was used to derive equation 2 and the subsequent 4 equations we that were used in this study:

\[ Y_t = \beta_0 + \beta_1 Bi + \varepsilon_t \]  

(2)

Where: \( \beta_0 \) = intercept, \( \beta_1 \) = slope, \( Y_t \) represents dependent variable (PER, TBQ, ROE or ROA) at time \( t \), \( Bi \) = board gender diversity, and \( \varepsilon \) represents the margin of error due to other factors outside the model that may influence \( Y_t \). We thus derived the following four model equations used to test the study hypotheses with the help of SPSS version 23.

\[ \text{i) } ROAt = \beta_0 + \beta_1 GB + \varepsilon t \]

(3)

\[ \text{ii) } ROEt = \beta_0 + \beta_1 GB + \varepsilon t \]

(4)

\[ \text{iii) } LnTBQt = \beta_0 + \beta_1 GB + \varepsilon t \]

(5)

\[ \text{iv) } LnPERt = \beta_0 + \beta_1 GB + \varepsilon t \]

(6)

Data analyses were carried out using the macro on HCSE estimators developed by Hayes and Cai (2007) which is known to provide heteroscedasticity-consistent regression results (Hayes and Cai, 2007).

RESULTS

The results of this study are discussed below. Table 1, shows the results of Spearman’s correlation analysis for the variables used in this study.

According to the results of the Spearman’s rank correlation (Table 1), for 2008/2009, the following pair of variables exhibited significant correlation at 1% significance. ROA and ROE had a correlation coefficient of 0.66, PER, TBQ had a correlation coefficient of 0.57, PER, ROA had a correlation coefficient of -0.33, PER, and ROE had a correlation coefficient of -0.39. The spearman’s rank correlation for 2013/2014 in Table 1 shows that the following pair of variables exhibited significant correlation at 1% significance: PER and TBQ with correlation coefficient of 0.41, PER and gender diversity of the board with correlation coefficient of -0.29, PER, TBQ and ROA with correlation coefficient of 0.60, TBQ and ROE with correlation coefficient of -0.43, ROA and ROE with correlation coefficient of 0.69. The above correlation figures indicate lower correlations between the dependent and independent variables and some lack of significant correlations between some variables.

Regression analysis results

They adopted regression to examine the relationship between the dependent and independent variables. The results of the regression analysis are discussed below.

Influence of gender diversity on the ROA

They used ROA to measures the efficiency of the company management in generating profits from company assets. Table 2 presents a summary of the regression results on the relationship between company performance measured by ROA and gender diversity of the board between 2008/2009 and 2013/2014.

The 2008/2009 results show an adjusted R-squared value of 0.30, which indicates that about 30% of the variability in ROA is explained by gender diversity of the board. However, the F test result indicates that Gender diversity does not significantly influence ROA (F = 1.68, p = 0.16>0.10). On the other hand, the 2013/2014 results show an adjusted R-squared value of 0.54, which indicates a better model fit than in 2008/2009. This means that, about 54% of the variability in ROA is explained by gender diversity of the board. None the less, the F test result for the regression model in 2013/2014 indicates that Gender diversity of the board have a statistically significant influence on ROA (F= 5.85, p = 0.00<0.01). This suggests that the gender diversity of the board is more relevant to ROA in 2013/2014 than in 2008/2009.

Influence of gender diversity on the ROE

The ROE represents the net amount of profits created by the company using shareholders’ funds (Khatab et al., 2011). Table 3, presents a summary of the regression results on the relationship between company performance measured by ROE and gender diversity of the board between 2008/2009 and 2013/2014.

As shown in Table 3, in 2008/2009, the regression results showed an adjusted R² value of 0.21, which suggests that about 21% of the total variability in ROE is explained by gender diversity of the board. The F test result indicated that gender diversity of the board ROE (F = 1.98, p = 0.09<0.10). On the other hand, the results for2013/2014 presented an adjusted R² value of 0.52, which shows a better model fit than 2008/2009. The adjusted R-squared result indicates that during 2013/2014, about 52% of the total variability in ROE could be attributed to gender diversity of the board. The F test result also indicated that gender diversity of the
Table 1. Spearman’s rank correlation analysis.

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<thead>
<tr>
<th></th>
<th>PER</th>
<th>TBQ</th>
<th>ROA</th>
<th>ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2008/2009</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PER</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TBQ</td>
<td>0.571*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-0.325**</td>
<td>0.156</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>-0.393**</td>
<td>0.662***</td>
<td>0.662**</td>
<td>1</td>
</tr>
<tr>
<td><strong>2013/2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PER</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TBQ</td>
<td>0.409***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-0.239</td>
<td>0.603***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>-0.121</td>
<td>0.430***</td>
<td>0.687***</td>
<td>1</td>
</tr>
<tr>
<td>GB</td>
<td>-0.288*</td>
<td>-0.244</td>
<td>-0.087</td>
<td>-0.033</td>
</tr>
</tbody>
</table>

Where: *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. Where: GB = Gender Diversity of the Board, ROA = Return on assets, ROE = Return on Equity, TBQ = Tobin’s Q Ratio and PER is price earnings ratio.

Table 2. Regression analysis.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable: ROA</td>
<td>Model fit: $R^2 = 0.2960$</td>
<td>Model fit: $R^2 = 0.5426$</td>
</tr>
<tr>
<td></td>
<td>P= 0.1601</td>
<td>P= 0.0003</td>
</tr>
<tr>
<td></td>
<td>F= 1.6809</td>
<td>F= 5.8543</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>60.843</td>
<td>6.091</td>
<td>0.000</td>
<td>52.834</td>
<td>3.713</td>
<td>0.001</td>
</tr>
<tr>
<td>Gender diversity</td>
<td>-0.086</td>
<td>-1.392</td>
<td>0.174</td>
<td>0.025</td>
<td>0.206</td>
<td>0.838</td>
</tr>
</tbody>
</table>

*** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level

GB = Gender diversity of the board.

Table 3. Regression analysis.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable: ROE</td>
<td>Model fit: $R^2 = 0.2121$</td>
<td>Model fit: $R^2 = 0.5168$</td>
</tr>
<tr>
<td></td>
<td>P= 0.0997</td>
<td>P= 0.0001</td>
</tr>
<tr>
<td></td>
<td>F= 1.9820</td>
<td>F= 6.3576</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
<th>Coefficient</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>62.223</td>
<td>2.924</td>
<td>0.007</td>
<td>26.876</td>
<td>1.411</td>
<td>0.167</td>
</tr>
<tr>
<td>GB</td>
<td>0.045</td>
<td>0.248</td>
<td>0.806</td>
<td>-0.048</td>
<td>-0.292</td>
<td>0.772</td>
</tr>
</tbody>
</table>

*** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level

GB = Gender diversity of the board.

Board influenced ROE (F= 6.34, p = 0.00<0.01).

Influence of gender diversity on the TBQ

The TBQ is calculated as the ratio of company market value to the total book value (Bhagat and Jefferis, 2005).

Table 4 presents a summary of the regression results on the relationship between company performance measured by TBQ and gender diversity of the board between 2008/2009 and 2013/2014.

According to the regression results in Table 4, the adjusted R-squared value in 2008/2009 was 0.21, which suggests that about 21% of the total variability in TBQ...
Table 4. Regression analysis.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable: TBQ</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model fit: $R^2$</td>
<td>0.2088</td>
<td>0.7368</td>
</tr>
<tr>
<td>$P$</td>
<td>0.2719</td>
<td>0.0000</td>
</tr>
<tr>
<td>$F$</td>
<td>1.3368</td>
<td>8.6757</td>
</tr>
<tr>
<td><strong>Independent variable</strong></td>
<td><strong>Coefficient</strong></td>
<td><strong>T</strong></td>
</tr>
<tr>
<td>Constant</td>
<td>2.129</td>
<td>1.347</td>
</tr>
<tr>
<td>Gender diversity</td>
<td>-0.004</td>
<td>-0.259</td>
</tr>
</tbody>
</table>

*** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. GB = Gender diversity of the board.

Table 5. Regression analysis.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable: PER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model fit: $R^2$</td>
<td>0.1834</td>
<td>0.4099</td>
</tr>
<tr>
<td>$P$</td>
<td>0.2402</td>
<td>0.0038</td>
</tr>
<tr>
<td>$F$</td>
<td>1.4186</td>
<td>3.9907</td>
</tr>
<tr>
<td><strong>Independent variable</strong></td>
<td><strong>Coefficient</strong></td>
<td><strong>T</strong></td>
</tr>
<tr>
<td>Constant</td>
<td>3.921</td>
<td>3.312</td>
</tr>
<tr>
<td>Gender diversity</td>
<td>0.003</td>
<td>0.220</td>
</tr>
</tbody>
</table>

*** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. GB = Gender diversity of the board.

can be explained by gender diversity of the board, board independence, enterprise risk management, board size, total assets and market capitalisation. The F test result indicated that all variables in aggregate do not have a statistically significant influence on TBQ in 2008/2009 ($F = 1.34$, $p = 0.27>0.10$). The 2013/2014 results show an adjusted $R^2$ value of 0.74, which demonstrates better model fit, than 2008/2009. In other words, in 2013/2014 about 74% of the total variability in TBQ can be explained by gender diversity of the board. The F test result also indicated that all variables in aggregate have a statistically significant influence on TBQ ($F = 8.68$, $p = 0.00$). This improvement in the model fit and model significance suggests that gender diversity have more relevance in explaining TBQ in 2013/2014 than in 2008/2009.

Influence of gender diversity on the PER

Table 5 presents a summary of the regression results on the relationship between PER and gender diversity of the board in 2008/2009 and 2013/2014. The 2008/2009 results (Table 5) show an adjusted $R$-squared value of 0.18, which means that during 2008/2009, about 18% of the total variability in PER is explained by gender diversity. The F test result indicates that gender diversity does not have a statistically significant influence on PER ($F = 1.42$, $p = 0.24>0.10$). According to the 2013/2014 results (Table 5), the adjusted R-squared value was 0.41, which indicates better model fit than 2008/2009. This shows that about 41% of the total variability in PER in 2013/2014 can be explained by gender diversity of the board. The F test results also indicates that all variables in aggregate have a statistically significant influence on PER ($F = 3.99$, $p = 0.00$).

Summary of results

Table 6 presents the summary of the hypothesis tests results for the hypotheses used in this study. As indicated in Table 6, the results of the regression analysis were used to explain the relationship between gender diversity of the board and the company financial performance variables (ROA, ROE, TBQ and PER). The findings of this study are structured according to the study’s specific objectives mentioned above. Two hypotheses were used in this study to examine influence of gender diversity on company financial performance as well as comparing changes in board gender diversity before and after the establishment of the EAC common market in 2010. As indicated above, an essential finding in this study was that there was no statistically significant relationship between gender diversity and company
financial performance. The regression results indicate that gender diversity of the board has no statistically significant influence on any of the company financial performance indicators (ROA, ROE, TBQ and PER). Gender diversity may improve the board’s efficiency; however, it does not guarantee a company’s superior performance. Hence, a company’s financial performance may not be driven by gender diversity of the board but by other factors such as sources of revenue and costs, with revenue depending upon the price and quantity of the goods or services sold (Kotler, 2012).

The findings that gender diversity does not influence company financial performance are consistent with a number of studies (Farrell and Hersch, 2005; Rose, 2007) which discovered no relationship between the presence of female directors on the board and company financial performance. The results are also consistent with Haslam et al. (2010) study, which revealed no relationship between the presence of female directors on the boards in UK and companies’ financial performance, as measured by ROA and ROE. Additionally, Ahern and Dittmar’s (2012) study discovered that the gender diversity of the board did not statistically influence company financial performance in Norway. This lack of a significant relationship, according to Ahern and Dittmar (2012) was caused by the abrupt introduction and enforcement of the 40% mandatory gender quota system in Norway in 2006, which forced many companies to recruit female directors, regardless of their age or board experience, and hence we concluded that the EAC stock markets appear to attach little value to the gender diversity of boards.

This is attributed to low levels of women participation in the workforce due to cultural practices such as the primordial African taboo in which women were not allowed to work and men were to provide for the entire family (Wachudi and Mboya 2012). This stereotype still limits women participation in the workforce in Africa in general and EAC in particular. According to Lituchy et al. (2017), there is as low as 40% of women participation in the workforce in Kenya and Uganda and 20% in Africa with majority of women employed in informal employment.

**Conclusion**

The findings indicated that gender diversity of the board ($H_1$) had no statistically significant influence on company financial performance indicators such as ROA, ROE, TBQ and PER. Again, the result of the hypothesis $H_2$ about changes in gender diversity before (2008/2009) and after (2013/2014) the operationalisation of the EAC-Common market indicated inconclusive results. This study thus recommended that EAC-listed companies adopt a code of best practice that emphasises an increase, rather than a decrease of female board of directors to improve board advisory and monitoring functions which may have a positive contribution to company financial performance.

Despite the statistically insignificant and inconclusive relationships between the gender diversity and company financial performance, the results from each regression model fit reveal that these indicators have become relatively more relevant to company financial performance after the operationalisation of EAC common market in 2013/2014 than in the period 2018/2019 prior to this market integration. Future studies should continue the investigation of these gender diversity, by expanding the research scope to include unlisted companies and other financial and non-financial performance indicators, as well as additional gender diversity to further identify models for determining the impact and significance of

**Table 6. Summary results from hypothesis testing.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$: There is a significant relationship between gender diversity of the board and company financial performance</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and ROA</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and ROE</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and TBQ</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and PER</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>$H_2$: There has been a significant change in gender diversity following the operationalisation of the EAC-Common Market</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and ROA</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and ROE</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and TBQ</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>GB and PER</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

Source: Own source
gender diversity of the board on company financial performance, and also changes following the operationalisation of the EAC common market. A longer time lapse for tracking changes in gender diversity after the operationalisation of the EAC common market is also recommended to allow for companies to adequately transit and adapt to the EAC common market framework.

**Recommendation**

While the results of this study indicated no significant relationship between the gender diversity of the board and company financial performance, extant literature suggests that gender diversity of the board does enhance company performance. For instance, according to Barako and Brown (2008: 321), the presence of female directors increases the board’s independence and improves company “disclosure practices” and hence company financial performance, while Adams et al. (2011), contend that gender diversity on boards strengthens their monitoring function because female managers tend to have better monitoring skills. This is because female directors tend to have better knowledge, and stronger academic backgrounds than their male counterparts (Hillman et al., 2002). Moreover, female directors are more likely to have better marketing and sales skills than their male counterparts (Groysberg and Bell, 2013). According to Loyd et al. (2013), female directors tend to engage in deeper discussions and share different knowledge and information, compared to homogeneous boards, so gender-diverse boards are more motivated to engage in deep and extensive discussions for the benefit of company financial performance. Adams and Funk (2012), argue that female directors tend to place higher value on tolerance, benevolence, and interdependence, which may help elicit better information and views, and stimulate teamwork amongst fellow board members. Bart and McQueen (2013) believe that female directors are more likely to adopt a cooperative decision-making approach, which results in fairer decisions when competing interests are at stake, whereas Peterson and Philpot (2007) suggest that male directors are more likely to base their decisions on traditional ways of doing business, and on rules and regulations. Hence, with a gender-balanced board, companies are likely to have a broader understanding of the industry and of their multiple stakeholders (Carter et al., 2003).

Based on the above literature, gender diversity is seen to be a potential contributor to the future financial performance of EAC listed companies, because many countries are now striving to have gender equality. Consequently, many consumers in developing countries attach value to companies that have observed gender equality, which improves their share price. Therefore, based on the above literature, this study recommends an increase in gender diversity of boards in the EAC from the current mean of 10-15% to about 40%, as proposed by the Norwegian legal and corporate governance system. This will help EAC listed companies to benefit from the female director attributes discussed above, by increasing board independence, directors’ broad knowledge, skills and understanding of the industry and of the companies’ multiple stakeholders, thereby improving company value.

**CONFLICT OF INTERESTS**

The authors have not declared any conflict of interest

**REFERENCES**


