

CEO CHARACTERISTICS AND CAPITAL STRUCTURE IN LISTED SUB-SAHARAN AFRICAN FIRMS

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ABSTRACT: *The study focuses of five CEO characteristics with the aim of discovering the possible link between these characteristics and the capital structures of the firms they are attributed to. The study applied parametric or non-parametric test (depending on the outcome of the normality test) to determine the nature of relationship between CEO characteristics and capital structure. Data for this study was obtained from three sub-Saharan African countries: Kenya (twenty companies), Nigeria (twenty-three companies) and South Africa (twenty-one companies) for a period of five years (2012 to 2016). CEO nationality characteristic (which is a proxy for international experience/competence for the CEO) was found to be significant to the capital structure of companies.*

Keywords: CEO Tenure, CEO Nationality, CEO Gender, CEO Share Ownership, Capital Structure, Sub-Saharan Africa

INTRODUCTION

The study focuses on the relationship between the characteristics of Chief Executive Officers (CEO) and capital structure of the firms they lead in three sub-Saharan Africa countries. Capital structure of firms is not a new area of study. The impact of capital structure on firm performance has been widely published, with Modigliani and Miller (1958) concluding that capital structure, under assumption of perfect market, is irrelevant (Jiraporn, Chintrakarn & Liu 2012). Perfect market assume managers maximize shareholders welfare, perfect financial markets and symmetrical information. Seeing that these assumptions do not exist in the reality, it is beneficial to discover what is most beneficial for firms, given that capital structure influences firm value and performance (Zhengfei & Lansink 2006). This study views capital structure from the perspective of CEO characteristics.

The chief executive of any firm has significant influence in decisions that shape the firm. Many CEO characteristic studies were carried out from a financial perspective, using pecking order and static order theories, among others. Mainstream studies on Chief Executive Officer characteristics focus on performance (and viewed the characteristics of the Chief Executive mainly from a non-financial lens. This study classifies the characteristics of the chief executive into biographic and financial.

This study fills the following research gap:

- i. previous studies were carried out in the developed or more developed nations, such as the United States (Aggarwal and Aungkyaw, 2006; Auerbach, 1985), the United Kingdom (Panno 2003; Marsh 1982; Bevan and Danbolt 2002; Ozkan 2011; Veprauskaite and Adams 2013), Europe and Asia. A few studies have been carried out on individual African Countries with respect to CEO characteristics and capital structure, but none had studied Sub-Saharan African. This is due to the dearth of data for empirical studies and lack of databases that aggregate what have been studied;
- ii. this study has distinct classification of the dimensions of the CEO characteristics different from previous ones, separating the financial attributes from the non-financial ones;
- iii. the association between the nationality of the CEO and capital structure in the sub-Saharan context may bring up novel discussion not previously perceived, considering that previous studies have different cultural contexts from sub-Saharan African;

LITERATURE

Capital Structure

Companies in need of new finance have to decide through their Board of Directors whether the funds needed will be raised through debt or equity. Financial leverage is defined as the ratio of debt (both short term and long term) to total assets; and the ratio of total debt to net assets, each definition with each limitation (Rajan & Zingales, 1995). The study of financing choices in organisations has intrigued researcher for a long time: as the decision to finance either using debt or equity has have been observed to affect the financial performances of the deciding firms. Rajan and Zingales (1995) found that, at an aggregate level, leverages of corporate organisations across the G-7 countries (the United States, Japan, Germany, France, Italy, the United Kingdom and Canada) were more similar than previously thought. Empirical studies on determinants of capital structure in developed and developing economies have produced different results. In developed economies (such as the UK) empirical research has revealed positive impacts of firm size and profitability and negative impacts of liquidity conditions and bankruptcy risks on financial leverage of companies; with well-developed financial systems having long-term target leverage ratios compared with less efficient markets where optimal debt level is not a leading concern (Panno, 2003). Öztekin (2015) whose study spanned 37 countries found reliable determinants of leverage to be profitability, tangibility, firm size, industry leverage, and inflation; and assessed which characteristics were reliably important at the firm, industry and macroeconomic levels and the specific institutional factors at work. Öztekin (2015) studied eighteen institutional features, among which was executive quality. Executive quality was found to be significant on adjustment speed (towards target leverage) for stock market capitalisation, but not for bond market capital and GDP growth; nor significant on leverage.

Review of the significant determinants of the firm capital structure reveal that there has been scarce focus on top management, or the influence of the chief executive. This study intends to examine the relationship between the characteristics of the chief executive officers and firms' capital structure. Jiraporn, Chintrakarn and Liu's (2012) review highlighted agency theory as having received empirical support in the study of capital structure.

Chief Executive Officer Characteristics

Chief executive officer characteristics has been the focus of many management studies, possibly because affect corporate policies and corporate value. Custodio and Metzger (2013) wrote that very little is known about how CEOs create value. Yang, Zimmerman and Jiang (2011) expresses the importance of CEO in new firms to be in part due to his/her power to make final decision and shape the vision and direction of the firm.

Previous studies on CEO characteristics have been diverse and varied with no classification of the dimension of the characteristics studied. Yang, Zimmerman and Jiang (2011) focused on CEO's executive experience, role as founder, education, network, age, and CEO duality. Peni (2014) looked at the characteristics of the CEO in terms of gender, executive age, executive experience and quality, and executive business. Rajagopalan and Datta (1996) defined CEO characteristics in terms of firm tenure, educational level, functional background, and functional heterogeneity. Peterson, Galvin and Lange (2012) focused on the psychological perspectives of executive characteristics of narcissism, founder status, and organisational identification. Manner (2010) drew largely from the work of various authors (McGuire, Dow & Arghyd (2003), Hambrick & Mason (1984), Dearborn & Simon (1957), and Carpenter, Geletkanycz & Sanders 2004) and classified CEO characteristics as managerial discretion, educational field of study, functional work experience, gender and CEO compensation. This study classified CEO characteristics as biographic (gender, nationality, tenure and turnover) and financial (CEO share ownership).

CEO Gender

According to Martins, Nishikawa and Williams (2009), previous studies on gender of top executives have concentrated on gender stereotype, influence of gender on performance and strategy, and financial markets. Atkinson, Baird and Frye (2003) examined the performance and investment behaviour of female fixed-income mutual fund managers compared with the male fixed-income mutual fund managers to assess if the stereotype of women being less competent than their male counterparts. The study found that female managers performed as well as their male counterparts, and the reason mutual fund firms are reluctant to hire female managers was that investors prefer male managed funds. While Martins, Nishikawa and Williams (2009) examined the impacts of CEO appointments on valuation and risk, Lee and James (2007) assessed investors' perception of female leadership.

Previous literature suggest differences between women and men in leadership style; women and men are perceived differently in leadership roles in general and in executive

leadership positions in particular; and gender in executive leadership positions may affect firms in such a way that those led by females tend to be more risk averse than those led by males, but the performance consequences of gender executive leadership remain unclear (Zhang and Qu, 2016). The signalling theory is applied to firm-level announcements to which investors may respond by buying or selling the shares.

This study differs from previous ones on CEO gender in that it assesses the relationship between CEO gender and the capital structure in sub-Saharan African.

H₁: Listed sub-Saharan African companies led by female CEOs do not have capital structures significantly different from similar companies led by male CEOs.

CEO Nationality

CEO nationality has previously been used as an alternate for CEO's international experience or managerial style (Sebbas, 2017). Jalbert, Chan, Jalbert and Landry (2007) examined the backgrounds of the highest paid CEOs in the United States, specifically, investigating the extent to which national origin affected salaries received, the way firms were managed and how firms performed. The study relied on the Forbes 800 CEO compensation data. Results indicated that CEOs with differing nationalities were compensated differently and operated their firms differently than US born CEOs. The compensation of the CEOs was found to be higher for some groups of foreign born CEOs. Some evidence of differing capital structures was found. However, the results were not significant after incorporating the full set of control variables into the regressions. CEOs from Central and South America paid out larger percentages of firm earnings to owners in the form of dividends than other CEOs. Finally, the study found some evidence to suggest that Central and South America born CEOs, and Australian and New Zealand born CEOs earned a higher return on assets than other CEOs.

Sebbas (2017) inferred that the nationality of CEOs and has different implications in European settings from the United States due to the broader cultural diversity in Europe. It can also be inferred that since the cultural context in Africa is different from both the American and European setting, a study in the current setting is necessary to confirm the generalizability of the findings of previous studies.

Previous CEO nationality studies adopt the upper-echelons theory. The theory is built on the premise of bounded rationality. Interest in executive effects in different national systems and research is encouraged in advancing understanding of how upper echelon theory might take on very different complexions, depending on the macrosocial context (Hambrick, 2007). This study examines the relationship between CEO nationality and the capital structure of the firms they lead.

H₂: Listed companies in sub-Saharan Africa led by indigenous CEO have capital structure that are not significantly different from similar companies with foreign led CEOs.

CEO Tenure

Caliskan and Doukas (2015) emphasize CEO tenure as a proxy for managerial entrenchment. This entrenchment is the likelihood of a manager opting for concentrated power (Berger, Ofek, & Yermack, 1997; Hu & Kumar, 2004) or risk aversion (Coles, Daniel & Naveen, 2006), both of which indicate that CEOs with longer tenure are less likely to increase firm value and as such they pay more dividends as opposed to investing in value-increasing projects (Caliskan & Doukas 2015).

Jo and Pan (2009) examined the relationship between managerial entrenchment and dividend policies for United States industrial firms. The authors adopted logit and tobit estimators to measure managerial entrenchment via the Gompers, Ishii and Metrick GIM's G-Index (Gompers, Ishii & Metrick, 2003). They found that firms with entrenched managers are more likely to pay dividends and that doing so lowers cash holdings, thus rendering firms more vulnerable to hostile takeovers. Al Ghazali (2014) however, opined that increased CEO tenure increases his power over the board, and hence he forces a reduction in dividends to fund new projects internally. Likitracharoen, Jiraporn and Kanitpong (2012) found out that CEO tenure showed a significant negative association with the propensity to pay dividends. The authors asserted in their study that over the past decades, there have been numerous discussions about the influence of dividends and firm's value: if dividends have an influence on the firm's value, then it is worth exploring the factors that have an influence on dividends. The study tested the association between firm's propensity to pay dividends and firm's CEO reputation while controlling for firm size, market-to-book ratio, leverage, R&D spending, capital expenditures, CEO tenure, year dummies, and industry dummies. Press coverage (media counts) are used to proxy for CEO reputation. The results from logistic regression show that firms with higher reputable CEOs have lower propensity to pay dividends. Their results support the investment hypothesis that CEOs with higher reputation tend to be more aggressive and use the funds to make more investment rather than paying out dividends. Onali, Galiakhmetova, Molyneux and Torluccio (2015) employed three main proxies for CEO power: CEO ownership, CEO tenure, and unforced CEO turnover to investigate the role of CEO power and government monitoring on bank dividend policy for a sample of 109 European listed banks. The study showed that CEO power has a negative impact on dividend payout ratios and on performance, suggesting that entrenched CEOs do not have the incentive to increase pay-out ratios to discourage monitoring from minority shareholders. Likitracharoen (2011) investigates the relationship between CEO reputation (of which CEO tenure was among the proxies used) and firm's dividend pay-outs. This study assessed the relationship between length of stay of CEO and the capital structures of the firms they led:

H₃: Listed companies in sub-Saharan Africa with entrenched CEO have capital structure that are not significantly different from similar companies led by CEOs that are not entrenched.

CEO Turnover

Caliskan and Doukas (2015) assert that, CEO tenure is generally used as a proxy for managerial entrenchment. This entrenchment can be defined as the likelihood of a manager to opt for concentrated power (Berger, Ofek, & Yermack, 1997; Hu & Kumar, 2004) or risk aversion (Coles, Daniel & Naveen, 2006), both of which indicate that CEOs with longer tenure are less likely to increase firm value and as such they pay more dividends as opposed to investing in value-increasing projects (Caliskan & Doukas 2015).

Jo and Pan (2009) examined the relationship between managerial entrenchment and dividend policies for United States industrial firms from 1990 to 2003. The authors adopted logit and tobit estimators to measure managerial entrenchment via the Gompers, Ishii and Metrick GIM's G-Index (Gompers, Ishii & Metrick, 2003). They found that firms with entrenched managers are more likely to pay dividends and that doing so lowers cash holdings, thus rendering firms more vulnerable to hostile takeovers. Al Ghazali (2014) however, opined that increased CEO tenure increases his power over the board, and hence he forces a reduction in dividends to fund new projects internally. Likitratcharoen, Jiraporn and Kanitpong (2012) found out that CEO tenure showed a significant negative association with the propensity to pay dividends. The authors asserted in their study that over the past decades, there have been numerous discussions about the influence of dividends and firm's value. If dividends have an influence on the firm's value, then it is worth exploring the factors that have an influence on dividends. The study tested the association between firm's propensity to pay dividends and firm's CEO reputation while controlling for firm size, market-to-book ratio, leverage, R&D spending, capital expenditures, CEO tenure, year dummies, and industry dummies. Press coverage (media counts) are used to proxy for CEO reputation. The results from logistic regression show that firms with higher reputable CEOs have lower propensity to pay dividends. These results support the investment hypothesis that CEOs with higher reputation tend to be more aggressive and use the funds to make more investment rather than paying out dividends.

Onali, Galiakhmetova, Molyneux and Torluccio (2015) employed three main proxies for CEO power: CEO ownership, CEO tenure, and unforced CEO turnover to investigate the role of CEO power and government monitoring on bank dividend policy for a sample of 109 European listed banks for the period 2005–2013. The study showed that CEO power has a negative impact on dividend payout ratios and on performance, suggesting that entrenched CEOs do not have the incentive to increase payout ratios to discourage monitoring from minority shareholders. Likitratcharoen (2011) investigates the relationship between CEO reputation (of which CEO tenure was among the proxies used) and firm's dividend payouts. The results show that reputable CEOs tend to make more investment and pay lower dividends. On the basis of the above, the fourth hypothesis is proposed:

H4: Companies led by newly appointed CEOs have capital structure that are not significantly different from similar companies led by CEOs who are not newly appointed.

CEO Share Ownership

Research has shown that companies that pay directors with shares and options have seen an association with performance. By owning a part of the company, the interests of Directors are aligned with shareholders and agency costs decreases (Ghosh & Sirmans, 2006). However, when the Directors have a large part of the shares, takeover threat reduces, and the Directors are entrenched (Morck et al., 1988). Extensive research has been done on the consequences of entrenchment on agency costs. First, leverage will be lower than optimal (Brounen, de Jong & Koedijk, 2006), debt will have longer maturity (Guney & Ozkan, 2005), larger amounts of cash will be held (Ozkan & Ozkan, 2004) and there will be overinvestment (Pawlina & Renneboog, 2005). The evidence given above indicates that the agency cost will decrease when the percentage of shares held by the executive increases. When managers get entrenched, agency cost will start to increase again. Dividend payment is expected to follow the same pattern. Al-Ghazali (2014) find that CEOs stock ownership and option holding are insignificantly correlated with the amount of, and the propensity to pay dividends which is inconsistent with the empirical findings of Deshmukh *et al.*, (2013) who develop a model which shows that, because overconfident CEOs overestimate the value of future projects and view external finance as costly, they are more likely to pay less dividends. However, none of these studies have theoretically considered the influence of agency problems on this relationship.

H5: CEO share ownership has no significant effect on dividend payout among listed companies in sub-Saharan Africa.

METHODOLOGY

Data for this study was made available through the MACHAMERATIOS ® database; was obtained for three sub-Saharan African countries: Kenya (twenty companies), Nigeria (twenty-three companies) and South Africa (twenty-one companies). Sample period was from 2012 to 2016. CEO gender (ceogen) was computed as “1” for companies that have female CEOs and “0” otherwise. CEO nationality (ceonat) was computed as “1” for companies that have foreign CEOs and “0” for companies with indigenous CEOs. CEO tenure (ceoten) was computed as “1” for companies that have CEOs that have stayed for three years and “0” for CEOs with less than three years. CEO turnover (ceotur) was computed as “1” for companies that have had a change of CEO in a particular year and “0” otherwise. CEO share ownership is the percentage of CEO shares to total outstanding shares (was measured on an interval scale). Measures were also obtained debt to total assets (dta) is a percentage computed as total liabilities (current + non-current) by total assets.

The independent variables, CEO characteristics, are CEO gender, nationality, tenure, turnover and ownership. Of the five independent variables, four have a binary format, while CEO ownership is a ratio. The independent variables are all ratios. Given this characteristic, the requirement for parametric statistics is fulfilled, because the dependent variable is non-categorical. Descriptive statistics is carried out, followed by test for normality, and correlation of the variables. These preliminary tests are followed by the regression and the post regression diagnostics.

RESULTS AND DISCUSSION

Descriptive Statistics

The study applied STATA/MP 13. Table 1 is a compact data off relevant data for the study.

Table 1: Summary Statistics

		Ceonat	Ceoten	Ceogen	Ceoturn	Ceowown	Dta
Kenya	Number	100	100	100	100	100	100
	Mean	0.23	0.82	0.05	0.18	1.8349	60.41
	Median	0	1	0	0	0	73.13
	Max	1	1	1	1	18.19	122.51
	Min	0	0	0	0	0	10.82
	SD	0.4229526	0.3861229	0.2190429	0.3861229	4.760709	26.43798
	Skewness	1.283171	-1.665853	4.129483	1.665853	2.678125	-0.3373881
	Kurtosis	2.646527	3.775068	18.05263	3.775068	8.693144	1.816198
Nigeria	Number	115	115	115	115	115	115
	Mean	0.5304348	0.8173913	0.0434783	0.1826087	0.301913	64.958
	Median	1	1	0	0	0	64.64
	Max	1	1	1	1	9.29	94.88
	Min	0	0	0	0	0	17.79
	SD	0.501257	0.3880362	0.2048236	0.3880362	1.362826	19.65571
	Skewness	-1.219653	-1.64304	4.477215	1.643044	5.557793	-3.131918
	Kurtosis	1.014876	3.699595	21.04545	3.699595	34.04767	1.934357
South Africa	Number	105	105	105	105	105	105
	Mean	0.7904762	0.7238095	0.047619	0.1619048	1.166095	53.35238
	Median	1	1	0	0	0.04	50.3
	Max	1	1	1	1	32.35	94.82
	Min	0	0	0	0	0	3.36
	SD	0.4089207	0.4492566	0.2139802	0.3701302	4.033646	26.38494
	Skewness	-1.427511	-1.001134	4.248529	1.835661	5.42342	-0.0295958
	Kurtosis	3.037788	2.002269	19.05	4.369652	37.34679	2.197944
Total	Number	320	320	320	320	320	320
	Mean	0.521875	0.7875	0.046875	0.175	1.064531	59.72866
	Median	1	1	0	0	0	60.95
	Max	1	1	1	1	32.35	122.51
	Min	0	0	0	0	0	3.36
	SD	0.5003036	0.4097174	0.2117021	0.3805622	3.660741	24.6036
	Skewness	-0.087584	-1.405604	4.287483	1.710674	4.615234	-0.316986
	Kurtosis	1.007671	2.975724	19.38251	3.926407	27.59711	2.134938

Source: STATA 13 Output

For the data on CEO nationality (ceonat), it can be seen that Kenyan companies have more indigenous CEOs than foreign ones (0.23); Nigerian companies has slightly more foreign CEOs than indigenous ones (0.53) and a majority of South African CEOs are non-indigenous (0.79). Looking at CEO tenure, the CEOs of Kenyan, Nigerian and South African companies for the period under review have been in those positions three years or more (at 0.82, 0.82 and 0.72 respectively). Reviewing the STATA output on CEO gender, all three Sub-Saharan African countries have more male CEOs than female ones (at 0.05, 0.04 and 0.05 for Kenyan, Nigerian and South African companies respectively). CEO turnover for the three countries show that majority of the companies in the countries under study have not had a change in their CEOs in the period under review 0.18, for Kenyan and Nigerian companies and 0.16 for South African companies respectively). Nigerian CEOs are shown to have the lowest share ownership (0.3) compared to Kenyan CEOs (1.83) and South African CEOs (1.17). The review of the summary output on capital structure reveals an average debt to total assets of 60% in Kenyan companies; 65% in Nigerian companies; and 60% in South African companies. A breakdown of the capital structure information shows that for long-term debt to asset ratio, South African companies had the highest at 17.9%, followed by 17.5% for Kenyan companies and Nigerian companies have an average ratio of 17.2%.

Average debt to asset ratio for the three countries was 59.7%, suggesting that about 60 percent of the total assets of the companies were financed using debt. The average figures show that CEO nationality is more indigenous at 0.52, CEO tenure can be considered entrenched at 0.78, there are more male than female CEOs (0.05), majority of the CEOs have been in their positions 3 years or more (0.175) and CEO share ownership was 1.06.

Table 2: Skewness/Kurtosis Tests for Normality

Skewness/Kurtosis tests for Normality					
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Joint	
				Adj chi2 (2)	Prob>chi2
Ceo nationality	320	0.5140	-	-	-
Ceo tenure	320	0.0000	0.9183	50.28	0.0000
Ceo gender	320	0.0000	0.0000	-	0.0000
Ceo turnover	320	0.0000	0.0076	68.87	0.0000
Ceo ownership	320	0.0000	0.0000	-	0.0000
ST debt to TA	320	0.0257	0.0000	-	0.0000
LT debt to TA	320	0.0000	0.0003	56.23	0.0000
Debt to TA	320	0.0207	0.0000	29.76	0.0000

Source: STATA 13 Output

The skewness and kurtosis test for normality was conducted on the data set. From the output in Table 2 above, the p -value for the combined kurtosis and skewness test for all the variables are less than 5% for all the variables under consideration (there is no p -value for CEO nationality because it is represented by binary), hence the hypotheses that CEO characteristics (tenure, gender, turnover, ownership) and leverage measures are normally distributed are rejected. When data is not normally distributed, one of the cardinal assumptions for regression is violated and regression cannot be computed.

Some reasons for non-normality are extreme values; values close to zero or natural limit; and so on.

Since the variables did not pass the normality test, equivalent tools for non-normally distributed data were applied. Specifically, the study applied is the Wilcoxon Rank Sum test. For instance, if the presence of a female CEO causes an increase in leverage, we expect the ranks of the capital structure from companies with female CEOs to be smaller as a group than ranks from companies with male CEOs.

This study utilises nonparametric test, specifically the Wilcoxon rank-sum test, used for the comparison of two groups of nonparametric (interval or not normally distributed) data, such as number of indigenous and nonindigenous; entrenched and non-entrenched; male and female; and so on.

Table 3.1a: Wilcoxon Rank Sum - Debt to CEO gender

. ranksum dta, by (ceogender)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

<i>ceogender</i>	<i>obs</i>	<i>rank sum</i>	<i>expected</i>
<i>0</i>	<i>305</i>	<i>48965</i>	<i>48952.5</i>
<i>1</i>	<i>15</i>	<i>2395</i>	<i>2407.5</i>
<i>combined</i>	<i>320</i>	<i>51360</i>	<i>51360</i>
<i>unadjusted variance</i>	<i>122381.25</i>		
<i>adjusted for ties</i>	<i>0.29</i>		
<i>adjusted variance</i>	<i>122380.96</i>		

Ho: dta (ceogen ~ r = 0) = dta (ceogen ~ r = 1)

$$z = 0.036$$

$$Prob > |z| = 0.9715$$

Source: STATA 13 output

Wilcoxon rank sum test was carried out on total debt to asset ratio and CEO gender. From Table 3.1a above, the results indicate that the medians of the capital structure of companies led by female CEOs and those led by male CEOs are not statistically significant at any levels smaller than 97.15%. Similarly, the median test (Table 3.1b) fails to reject the null hypothesis that listed sub-Saharan African companies led by female CEOs do not have capital structures significantly different from similar companies led by male CEOs.

Table 3.1b: Median Test - Debt to CEO gender

.median dta, by (ceogender) exact medianties (split)

Median test

<i>Greater than the median</i>	<i>CEO Gender</i>		<i>Total</i>
	<i>0</i>	<i>1</i>	
<i>No</i>	<i>152</i>	<i>8</i>	<i>160</i>
<i>yes</i>	<i>153</i>	<i>7</i>	<i>160</i>
<i>Total</i>	<i>305</i>	<i>15</i>	<i>320</i>

Pearson chi2(1) = 0.0699 Pr = 0.791

Fisher's exact = 1.000

1-sided Fisher's exact = 0.500

Continuity corrected:

Pearson chi2(1)= 0.0000 Pr = 1.000

Source: STATA 13 Output

Tables 4.1a to 4.1b were used to represent the result of tests of the equality of medians of CEO tenure on the gearing of companies listed in SSA.

Table 4.1a: Wilcoxon Rank Sum test - Debt to CEO tenure

.ranksum dta, by (ceotenure)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

<i>ceotenure</i>	<i>obs</i>	<i>rank sum</i>	<i>expected</i>
<i>0</i>	<i>68</i>	<i>11615.5</i>	<i>10914</i>
<i>1</i>	<i>252</i>	<i>39744.5</i>	<i>40446</i>
<i>combined</i>	<i>320</i>	<i>51360</i>	<i>51360</i>

unadjusted variance 458388.00

adjusted for ties -1.09

adjusted variance 458386.91

Ho: dta (ceoten ~ e = 0) = dta (ceoten ~ e = 1)

z = 1.036

Prob > |z| = 0.3001

Source: STATA 13 Output

From Table 4.1a above, the results indicate that the medians of the capital structures of indigenous and foreign CEOs are not statistically different at any level smaller than 30.01%. Table 4.1b fails to reject null hypothesis that listed companies in sub-Saharan Africa led by entrenched CEO have capital structure that are not significantly different from similar companies led by CEOs with less than three years tenure.

Table 4.1b: Median Test - Debt to CEO tenure

. median dta, by (ceotenure) exact medianties (split)

Median test

Greater than the median	CEO Tenure		Total
	0	1	
No	33	127	160
yes	35	125	160
Total	68	252	320

Pearson chi2(1) = 0.0747 Pr = 0.785

Fisher's exact = 0.891

1-sided Fisher's exact = 0.446

Continuity corrected:

Pearson chi2(1) = 0.0187 Pr = 0.891

Source: STATA 13 Output

Tables 5.1a to 5.1b were used to reproduce the result of the equality of medians of CEO nationality on the gearing of companies listed in SSA.

Table 5.1a: Wilcoxon Rank Sum test - Debt to CEO nationality

.ranksum dta, by (ceonat)

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

ceonat	obs	rank sum	expected
0	153	27313.5	24556.5
1	167	24046.5	26803.5
combined	320	51360	51360

unadjusted variance 683489.25

adjusted for ties -1.63

adjusted variance 683487.62

$H_0: dta(ceonat = 0) = dta(ceonat = 1)$

$z = 3.335$

$Prob > |z| = 0.0009$

Source: STATA 13 Output

From Table 5.1a above, the results indicate that the medians of the capital structures of companies led by indigenous and foreign CEOs are statistically different at any level smaller than 0.09%. Table 5.1b rejects the null hypothesis that listed companies in sub-Saharan Africa led by indigenous CEO have capital structure that are not significantly different from similar companies with foreign led CEOs. Consequently, it can be concluded from the data examined that the capital structure of companies with foreign led CEOs are statistically different from that of indigenous CEOs ($Pr = 0.001$).

Table 5.1b: Median Test – debt to CEO nationality*.median dta, by (ceonat) exact medianties (split)**Median test*

<i>Greater than the median</i>	<i>CEO Nat</i>		<i>Total</i>
	<i>0</i>	<i>1</i>	
<i>No</i>	<i>61</i>	<i>99</i>	<i>160</i>
<i>yes</i>	<i>92</i>	<i>68</i>	<i>160</i>
<i>Total</i>	<i>153</i>	<i>167</i>	<i>320</i>

*Pearson chi2(1) = 12.0355 Pr = 0.001**Fisher's exact = 0.001**1-sided Fisher's exact = 0.000**Continuity corrected:**Pearson chi2(1)= 11.2716 Pr = 0.001*

Source: STATA 13 Output

Tables 6.1a and 6.1b were used to reproduce the result of the equality of medians of CEO turnover on the gearing of companies listed in SSA.

Table 6.1a: Wilcoxon Rank Sum test - Debt to CEO turnover*.ranksum dta, by (ceoturn)**Two-sample Wilcoxon rank-sum (Mann-Whitney) test*

<i>Ceoturn</i>	<i>obs</i>	<i>rank sum</i>	<i>expected</i>
<i>0</i>	<i>264</i>	<i>41314.5</i>	<i>42372</i>
<i>1</i>	<i>56</i>	<i>10045.5</i>	<i>8988</i>
<i>combined</i>	<i>320</i>	<i>51360</i>	<i>51360</i>
<i>unadjusted variance</i>	<i>395472.00</i>		
<i>adjusted for ties</i>	<i>-0.94</i>		
<i>adjusted variance</i>	<i>395471.06</i>		

*Ho: dta (ceoturn = = 0) = dta (ceoturn = = 1)**z = -1.682**Prob > |z| = 0.0926*

Source: STATA 13 Output

From Table 6.1a above, the results indicate that the medians of the capital structures of companies led by recently appointed CEOs, are statistically different at any level smaller than 9.3%. From Table 6.1b it can be seen that, from the set of data used, the null hypothesis that Companies led by newly appointed CEOs have capital structure that are not significantly different from similar companies led by CEOs who are not newly appointed is not rejected.

Table 6.1b: Median Test – debt to CEO turnover*.median dta, by (ceoturn) exact medianties (split)**Median test*

Greater than the median	CEOTurn		Total
	0	1	
No	135	25	160
yes	129	31	160
Total	264	56	320

Pearson chi2(1) = 0.7792 Pr = 0.377

Fisher's exact = 0.462

1-sided Fisher's exact = 0.231

Continuity corrected:

Pearson chi2(1)= 0.5411 Pr = 0.462

Source: STATA 13 Output

Table 7 below is the regression result of the relationship between CEO share ownership and capital structure. The result shows that only 0.15% of the proportion of variance in the dependent variable (capital structure) can be explained by the independent variable (CEO share ownership). The coefficient of the CEO share ownership was not significant (at 48.9%).

Table 7: Linear Regression Result of debt to asset ratio and CEO Ownership

Source	SS	df	MS	Number of obs.	=
Model	290.63024	1	290.63024	320	=
				F(1, 318)	=
				0.48	=
				Prob > F	=
				0.4892	=
Residual	192811.573	318	606.326864	R-square	=
				0.0015	=
				Adj R-square	= -
				0.0016	=
Total	193102.573	319	605.337219	Root MSE	=
				24.624	=

DTA	Coef.	Std. Err.	t	P > t	[95% Conf. Interval]
CEOOwn	-.2607391	.3766076	-0.69	0.489	-1.001696 .4802183
-cons	60.00622	1.433702	41.85	0.000	57.18548 62.82696

Source: STATA 16 output

CONCLUSION

Results from the sample studied did not support the hypothesis that capital structure of sub-Saharan African companies led female CEOs are different from those led by male CEOs. This result is supported by a similar study - that financial markets favourably greets the news of selecting a female CEO as well as the news of selecting a male CEO (Martins, Nishikawa & Williams 2009). Lee & James (2007) study indicated that shareholders responded: more negatively to the announcement of female CEO appointment than to male CEO appointment; more negatively to the announcement of female CEO appointment than to female appointments in top management appointments other than CEO; and less negatively to women who are promoted to the CEO position from within the firm than to those who are promoted externally. This study did not have access to information on if the female CEOs were external appointments or internal promotions.

Only the CEO nationality characteristic (which is a proxy for international experience/competence for the CEO) was found to be significant to the capital structure of companies (see Table 8 below). In Sebbas (2017), it was inferred that foreign CEOs are treated differently by firms, and in some aspects seem to perform differently. This does not correspond with a previous study in which it was concluded that CEO nationality coefficient does not appear to show a statistically significant association with beyond-compliance environmental performance (Rivera & De Leon, 2005).

Table 8: Aggregated Result from Test of Hypothesis

S/N	Independent Variable	Result of the Test of Hypothesis	Remark
1.	CEO Gender	$Prob > z = 0.9715$	Not significant
2.	CEO Tenure	$Prob > z = 0.3001$	Not significant
3.	CEO Nationality	$Prob > z = 0.0009$	Significant
4.	CEO Turnover	$Prob > z = 0.0926$	Not significant
5.	CEO Share Ownership	R-Square = 0.15%, P Value = 48.9%	Not significant

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Appendices

Table D

	ceonat	ceoten	ceogen	ceoturn	ceoown	sdta	ldta	dta	logA
Ceonat	1.0000								
Ceoten	-0.0843	1.0000							
Ceogen	-0.2317	0.0791	1.0000						
Ceoturn	0.0292	-0.8665	-0.0632	1.0000					
Ceoown	-0.1142	0.1414	-0.0641	-0.1248	1.0000				
Sdta	-0.1949	0.0382	0.0874	-0.0097	-0.0543	1.0000			
Ldta	0.0672	-0.1153	-0.1749	0.1268	0.0212	-0.4328	1.0000		
Dta	-0.1912	-0.0455	-0.0161	0.0845	-0.0388	0.8179	0.1351	1.0000	
LogA	-0.2758	-0.0538	-0.2034	0.0754	-0.0931	0.4673	0.0109	0.5538	1.0000