Impact of Institutional Factors on Stock Markets: Evidence from Sub-Saharan African Countries

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A b s t r a c t

By investigating factors impacting on stock market capitalization, this paper aims to provide some answers on how to improve the efficiency of sub-Saharan African (SSA) stock markets. We use six most capitalized and oldest stock exchanges as representative sample for the period 1996 to 2016, to investigate effects of institutional factors on market capitalization of selected sub-Saharan African countries. We estimate with Static and dynamic panel regression analysis of Pooled OLS, Fixed Effects, Random Effects and Generalized Methods of Moments (GMM) in which insightful outcomes emanates. Our findings provide evidence that institutional factors of governance effectiveness, regulatory quality, and voice and accountability have significant impact on market capitalization by theoretical priors and statistical levels of significance. Our findings from the sample demonstrate the importance of institutional factors on market capitalization of sub-Saharan African countries.

Keywords:
Generalized method of moments, Government effectiveness, Institutional factors, Market capitalization

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Background to the Study
It is generally recognized that a strong financial system guarantees economic growth and stability. A well-developed stock market can lead to overall positive impact on economic development. Relative to developed economies, market capitalization of sub-Saharan African countries as a percentage of the gross domestic product have been on a downward trajectory resulting from macroeconomic factors (Aawaar, 2017). Motelle and Biekpe (2015) argued that financial integration, a product of liberalized markets brings about the risk of financial instability resulting in poor performance of market capitalization of South African development community countries, namely South Africa and Zambia. Greater macroeconomic instability of exchange rate, inflation rate fluctuation and weaker institutions were observed in these countries.

Bhattacharya et al (1997) and Kenny and Moss (1998) suggest that institutional factors should create an enabling environment to curb fraud and insider trading. This has the potential to improve the performance of stock exchanges. They also suggest that the development of a healthy domestic base of investors such as pension and mutual funds, with improvement in financial and institutional infrastructure has the potential of attracting a large pool of foreign investments. Similarly, Levine (1999) examines the link between legal environment and financial development, and his findings were that financial intermediaries are better developed in countries with good legal and regulatory systems.

Kyereboah-Coleman and Agyire-Tettey (2008) show that macroeconomic policies do influence stock exchange performance. They find that macroeconomic indicators such as rate of inflation, lending rates and exchange rate do affect stock market activities of Ghana. Their study is limited in scope, as only one country (Ghana) was used and also neglects institutional aspects of stock market. This makes our study different from other previous studies that have limited scope. In the study of development of stock markets, there is need to broaden the scope by looking at many countries in order to arrive at stronger conclusion.

Law and Habibullah (2009) provide evidence on the influence of institutional quality, trade openness and financial liberalization on financial market development. The overall evidence from their work is for emerging markets to develop adequate institutions and sound macroeconomic policies before undertaking market policy reforms. They provide evidence on the influence of institutional quality, trade openness and financial liberalization on financial market development. The overall conclusion from their work is for emerging markets to develop adequate institutions and sound macroeconomic policies before undertaking policy reforms.

The remainder of this paper is organized as follows. Section 2 provides the theoretical link between institutional factors and market capitalization. Section 3 presents model specification and data. Methodology is section 4. Empirical results and discussion is presented in section 5. Section 6 concludes the study.

Literature Review

This section undertakes review of theories underpinning stock market capitalization as well as its empirical reviews so as to provide compelling perspectives for the subsequent analysis. Efficient market hypothesis (EMT) relates to the extent or the speed with which stock market prices reflect all publicly available information (Roberts, 1967; Fama, 1970, 1991). The theory claims that the financial markets are as efficient with respect to information that no investor would be able to earn excess return over the average risk adjusted market return. EMH supports the Random Walk Hypothesis, which implies that price fluctuations represent random variations that have nothing to do with previous prices. There are three versions of the EMT regarding the informational efficiency of the market i.e. weak, semi-strong and strong form of EMT. There are three different forms of market efficiency such as weak form, semi-strong form and strong form.

At the dawn of the twenty-first century however, the validity of the Efficient Market Theory in terms of its theoretical foundations and empirical evidence came under sharp criticism. The grounds for the criticism included the fact that the EMH does not take into account investors' rationality assumption, and presence of arbitrage opportunities. Following from this, a number of market anomalies which create excess return opportunities for some market participants have been identified in the literature (Schwert, 2003; Alagidede, 2008).

According to Ross (1976), the expected return on any financial asset can be expressed as the linear function of various macroeconomic variables or theoretical market indices. The asset value can be estimated by summing up all the discounted future cash flows. Ross (1973, 1976), specify that the current price of equity share is approximately equal to the present value of all future cash flows to the equity.

The Capital Asset Pricing Model (CAPM) assumed that asset price depends only on market factor. Hence, it is tagged a one factor model. On the other hand the Arbitrage Pricing Technique/Model (APT) which could be taken as a protest of CAPM believes that the asset price is influenced by both the market and non-market factors such as foreign exchange, inflation and unemployment rates. However, one of the defects or disadvantages of APT in spite of its advancement of asset pricing model is that the factors to be included in asset pricing are unspecified. Further studies by Chen, Roll and Ross (1986); Fama (1981, 1990); Fama and French (1989) and Ferson and Harvey (1991) as supporters of using arbitrage pricing theory (APT) model developed by Ross (1976), indicated that macroeconomic variables like industrial production index, changes in risk premium, changes in interest rate are related to stock prices in the US.

Supporters of the Arbitrage Pricing Theory argue that it offers several major advantages. First, it makes less restrictive assumptions about investor preferences toward risk and return. Second, no assumptions are made about the distributions of securities returns. Finally, the theory is potentially testable because the theory does not rely on the identification of the true market portfolio.

Capital asset pricing model (CAPM), an important asset valuation tool, was developed by Treynor (1961, 1962),Sharpe (1964), Lintner (1965) and Mossin (1966) independently on the work of Harry Markowitz. Such model determines the required rate of return on the asset. CAPM, a true revolution in finance theory which took place in sixties, describes the relationship between market risks and expected returns of all types of assets (Gursoy & Rejepova, 2007).

However, on the empirical front, much research efforts have been put forward to unravel the impact of macroeconomic and institutional factors on stock market capitalization. Our emphasis here will be on the institutional impact on stock market capitalization in SSA countries. Hryckiewicz (2009) used the generalized method of moments (GMM) technique on the panel of eight Central and Eastern European developing countries over the period of 1995-2006, while Ajide and Raheem (2016) examined the impactful role of institutions in attracting remittances inflow to ECOWAS region for the period 1996-2013 also in a system generalized method of moments (GMM) on a panel dataset. Further, Bannaga, Gangi and Abdrazak (2013) investigated the effects of good governance on foreign direct investment inflows in Arab countries using panel regression based on an augmented gravity model..

Other works in the African context, Yartey (2010) focused on institutional and macroeconomic determinants of stock market development using a panel data of 42 emerging economies for the period 1990 to 2004. He used a modified calderon-Rossel partial equilibrium model of stock market growth. While in a similar vein, Aregbesola (2016) examined the relationship between capital market development and inflow of foreign direct investment to Africa – a VECM-conditioned Impulse. Using data generated through the World Bank databases for the six largest (and oldest) capital markets in Africa in a series of econometric techniques. The findings from Yartey (2010)indicated that macroeconomic determinants such as income level, domestic investment, foreign direct investment, banking sector development and stock market liquidity are important for stock market development while in institutional factors including Political risk, law and order, bureaucratic quality and democratic accountability are important determinants of stock market liquidity.Yarram and Farooque (2013) investigating the interactions between foreign direct investment (FDI) and country-level individual governance indicators for a sample of 173 countries from 1996 to 2007. Lim (2013) investigated the institutional and structural determinants of investment worldwide by considers institutional and structural factors associated with investment activity in a panel of up to 129 developed and developing countries. Finally, Adeleke (2014) investigated the effect of governance on FDI-growth nexus in Africa using panel data technique to examine the interrelationship.

Hryckiewicz (2009) results show that political risk, law and order, and bureaucratic quality are important determinants of stock market development because they enhance the viability of external finance.suggested that pension reform attracts institutional investors' participation on securities markets and promote stock market growth. The

results from the work of Ajide and Raheem (2016)reveal an appreciable impact of institutional infrastructures on the migrants' remittances in the region. In a likewise manner, Bannaga *et al*(2013)regression results lend a strong support for the significance of good governance to foreign direct investment inflows. This is further corroborated from the work of Slesman, Baharumshah and Wohar (2015) findings showing a strong and robust evidence that portfolio equity (including foreign direct investment) and debt inflows have positive effects on growth only in countries with high-quality institutions. Even though, Gankou, Bendoma and Sow (2016) in their paper further underscores the importance of the political and institutional environment, corruption exacerbates the relationship, political and institutional stability helps to mitigate illicit capital outflows arising from an increase in external debt.

Yarram and Farooque (2013) empirical result show evidence of positively significant two-way relationships between each of the six individual governance indicators and lagged FDI inflows scaled by lagged GDP to confirm that governance is a function of FDI inflows and vice-versa. While that of Adeleke (2014), showed that governance in many African countries was quite weak and thus inhibited growth. When governance was interacted with FDI, it brought about positive and increased growth. The finding was robust to different estimation techniques and disaggregated governance dimensions. Evidences from recent literatures exployed confirm the role of good govemance in engendering sustainable economic growth and development (Roy, 2005; Verspagen, 2012).

Model Specification and Data
To examine the more precisely the impact of institutional factors on market capitalization of SSA countries, static and dynamic panel data models were estimated for the sample of SSA countries using annual data between 1996 and 2016.

The models use a balanced panel of six SSA countries. The data are annual for the period 1996-2106. As already identified above, this was mainly due to data availability for some of the variables. Many of the stock exchanges in the region started far after our 1996 date.

$$Y_{it} = \alpha_0 + \alpha_1 Y_{i,t-1} + \sum_{k=1} \alpha_k X_{k,it} + \mu_i + \varphi_n + \varepsilon_{it} \qquad (1)$$

Where, Y_{it} is the proxy for market capitalization of countries i in year t; $_0$ is the constant; $_1$ and $_k$ are unknown estimated coefficients; X is a vector of explanatory variables used in the model. $_i$, represents unobserved firm fixed-effects; $_n$ represents time-specific effects that are time-variant and common to all countries and ε_{it} is the error term.

Market capitalization: according to El-Wassal (2013), a common indicator for assessing stock market size is Market capitalization/GDP, which equals the market value of listed shares divided by the relevant GDP. This indicator has been widely used in the literature as a stable measure of stock market development for two reasons. First, it is a measure of stock market size, which is positively correlated with the ability to mobilize capital and

diversify risk. Second, it is presumed to include companies' past retained profits and future growth prospects so that a higher ratio to GDP can signify growth prospects as well as stock market development (Levine and Zervos, 1998).

The composite country-level institutional index is composed of six dimensions of governance such as (i) voice and accountability, (ii) political stability and absence of violence/terrorism, (iii) government effectiveness, (iv) regulatory quality, (v) rule of law, and (iv) control of corruption (Kaufmann, Kray and Mastruzzi, 2008). These elements, ranging between -2.5 to +2.5 as prepared by World Bank since 1996, are becoming more and more important in international finance and political economy. It is broadly accepted amongst development economists that countries with relatively good institutions tend to grow faster, while countries with relatively bad institutions tend to grow more slowly. Without a well established institution, political risk will increase and this discourages investment to the capital market (Yartey, 2008).

Methodology
Owing to the nature of our dataset this paper uses panel data techniques for estimating the regression models. All the relationships studied can be characterized by the joint endogeneity of most of the variables involved. This means that, most explanatory variables in our model are either simultaneously determined with the dependent variable or have a two-way causal relationship with it. We recognize that there may also be unobserved country-specific effects, and ignoring them may produce inconsistent estimates given that they are likely to be correlated with the explanatory variables. This approach is developed by Arellano and Bond (1991) as revised by Arellano and Bover (1995). The estimations in this study are instrumented by suitable lag levels and lagged first differences of the regressors. To minimize the number of GMM-style instruments used and due to concern of sample size, we restrict the maximum lags of dependent variables in the estimation. J-Hansen test of over-identifying restrictions and the Arellano-Bond test that the average auto-covariance of residuals of order two is zero are reported and all results are based on robust standard errors. The J-Hansen test of over-identifying restrictions helps to uncover possible autocorrelation between the instruments and the model residuals. Studies that used this proxy include (Cherif & Gazdar, 2010; Lazarov & Slaveski, 2015

$$MKTCAP_{it} = \alpha_o + MKTCAP_{it-1} + \beta_1 CORRP_{it} + \beta_2 GOVEF_{it} + \beta_3 REGQ_{it} + \beta_4 ROL_{it} + \beta_{5i} VOACC_{it} + \beta_6 POLST_{it} + \varepsilon_{it}$$

$MKTCAP_{it}$ depicts market capitalization
$MKTCAP_{it-1}$ is the lagged of market capitalization
$CORRP_{it}$ is control of corruption
$GOVEF_{it}$ is governance effectiveness
$REGQ_{it}$ is regulatory quality
$VOACC_{it}$ is voice and accountability
$POLST_{it}$ is political stability

ε_{it} is the Error Term

$\varepsilon = \mu + \upsilon$

where ε_{it}, denotes error term and it contains the country-specific fixed effects that are time variant, μ_t and υ_{it} is assumed to be exogenous and normally distributed with zero mean and constant variance (σ) both over time and across country.

Empirical results and discussions

Descriptive Statistics

Table 1: Descriptive Statistics for Institutional, Macroeconomic and Market Capitalization Variables

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Obs.
MKTCAP	54.22	23.12	322.66	3.12	74.16	126.00
TOP	56.90	56.97	93.20	17.73	15.68	126.00
CORRP	-1.52	-0.34	0.73	-1.43	7.53	126.00
GOVEF	-0.20	-0.29	1.05	-1.21	0.66	126.00
REGQ	-0.10	-0.22	1.13	-1.35	0.56	126.00
POLST	-0.32	-0.14	1.12	-2.21	0.90	126.00
ROL	-0.23	-0.25	1.08	-1.43	0.71	126.00
VOACC	0.05	-0.12	1.01	-1.55	0.62	126.00

The table shows the mean, median, maximum, minimum and standard deviation values of the following variables: Market capitalization is defined as the value of listed domestic shares on the domestic exchange divided by GDP (MKTCAP), exchange rate (EXR), inflation rate (INF), trade openness is the addition of import and export expressed as a percentage of the GDP (TOP), net foreign direct investment as percentage of GDP (FDI). The institutional variables are rule of law (ROL), control of corruption (CORRP), government effectiveness (GOVEF), regulatory quality (REGQ), voice accountability (VOACC), political stability (POLST) and (INST) represents institutional dimensions using principal component analysis to arrive at a single variable for all institutional variables. All the values were calculated from the 126 country-year observations for six sub-Saharan African countries. The estimation process was facilitated using Stata 14.

The mean value of market capitalization table 1 is 54.22; this implies that on the average the stock market of the different countries is well capitalized on the average. The maximum value for the market capitalization is 322.66 and the minimum value is 3.72. The mean value for control of corruption is given as -1.52. This suggests that for the sampled countries on the average, the level of corruption is widespread. This is because the average value of -1.52 is very close to -2.5 scales which indicate higher level of corruption. The mean value of government effectiveness is -0.20. This shows that on the average the sampled countries governance is not effective because it has a negative value. The maximum value is 1.05 on a scale of 2.5 for better governance and the minimum value is -1.43 on a scale of -2.5 for bad governance.

Table 2: Market Capitalization and Control of Corruption
Dependent Variable: LMKTCAP

Variable Predicted Sign		Pooled OLS	Fixed Effect	Random Effect	SGMM	DGMM
Panel A						
Corrp	-	0.0164**	-0.0067***	-0.0065***	0.0048***	0.0015**
		(0.0066)	(0.0002)	(0.0002)	(0.0008)	(0.0007)
L.mktcap					0.9693***	0.6684***
					(0.0319)	(0.0531)
Constant		3.2891***	3.2539***	3.2542***	0.0975	-
		(0.1083)	(0.0004)	(0.4827)	(0.1063)	-
Panel B						
R^2		0.0111	0.0098	0.0098	-	-
F		6.115**	751.7***	-	-	-
Wald Test		-	-	737.5***	1068.05***	1334.19***
Hausman Test		-	-	0.830	-	-
Breusch-Pagan RE		-	-	818.82***	-	-
Test		-	-	-	-	-
DW-Hausman Test		-	-	-	-1.86	-
Hansen Test		-	-	-	2.898	4.742
AR(1)		-	-	-	-1.962**	-2.012**
AR(2)		-	-	-	0.229	0.227
Observations		126	126	126	120	114

Table 2 reports Pooled OLS, fixed effects, random effects and dynamic GMM regression results of the effects of market capitalization on institutional dimensions. The dependent variable is MKTCAP is defined as the value of listed domestic shares on the domestic exchange divided by GDP and CORRP represents the corruption index In Panel A, the *t* statistics are in parentheses and in Panel B, the probability values are in parentheses. * Significant at 10%, ** Significant at 5%, *** Significant at 1%.

Table 3: Market Capitalization and Government Effectiveness
Dependent Variable: LMKTCAP

Variable	Predicted Sign	Pooled OLS	Fixed Effect	Random Effect	SGMM	DGMM
Panel A						
Govef	+	1.0989***	0.4995*	0.6004**	0.0898	0.2750
		(0.1239)	(0.2628)	(0.2411)	(0.0661)	(0.2184)
L.mktcap					0.9402***	0.6357***
					(0.0553)	(0.0429)
Constant		3.4801***	3.3623***	3.3821***	0.2027	-
		(0.0856)	(0.0671)	(0.3920)	(0.2061)	
Panel B						
R^2		0.3881	0.0294	0.0294	-	-
F		78.64***	3.611*		-	
Wald Test		-	-	6.200**	1212.01***	491.33***
Hausman Test		-	-	0.930	-	-
Bresuch-Pagan RE		-	-	640.52***	-	-
Test		-	-	-	21.85***	
DW-Hausman Test		-	-	-	3.907	5.335
Hansen Test		-	-	-	-1.976**	-2.008**
AR(1)		-	-	-	0.265	0.326
AR(2)		126	126	126	120	114
Observations						

Table 3 reports Pooled OLS, fixed effects, random effects and dynamic GMM regression results of the effects of market capitalization on institutional dimensions. The dependent variable is MKTCAP is defined as the value of listed domestic shares on the domestic exchange divided by GDP and GOVEF represents government effectiveness. In Panel A, the *t* statistics are in parentheses and in Panel B, the probability values are in parentheses. *Significant at 10%, **Significant at 5%, ***Significant at 1%.

Table 4: Market Capitalization and Regulatory Quality
Dependent Variable: LMKTCAP

Variable	Predicted Sign	Pooled OLS	Fixed Effect	Random Effect	SGMM	DGMM
Panel A						
Regq	+	1.2491***	0.0854	0.2105	0.0960**	-0.0736
		(0.1496)	(0.2374)	(0.2275)	(0.0385)	(0.1756)
L.mktcap					0.9433***	0.6637***
					(0.0448)	(0.0476)
Constant		3.3848***	3.2724***	3.2845***	0.1832	
		(0.0851)	(0.0492)	(0.3900)	(0.1587)	
Panel B						
R^2		0.3600	0.0011	0.0011	-	
F		69.76***	0.129	-	-	
Wald Test		-	-	0.856	1297.48***	195.23***
Hausman Test		-	-	3.37*	-	
Bresuch-Pagan RE Test		-	-	573.66***	-	
DW-Hausman Test		-	-	-	91.36***	
Hansen Test		-	-	-	3.077	3.377
AR(1)		-	-	-	-1.975**	-1.977**
AR(2)		-	-	-	0.177	0.232
Observations		126	126	126	120	114

Table 4. reports Pooled OLS, fixed effects, random effects and dynamic GMM regression results of the effects of market capitalization on institutional dimensions. The dependent variable is MKTCAP is defined as the value of listed domestic shares on the domestic exchange divided by GDP and REGQ represents regulatory quality. In Panel A, the *t* statistics are in parentheses and in Panel B, the probability values are in parentheses. * Significant at 10%, ** Significant at 5%, *** Significant at 1%.

Table 5: Market Capitalization and Rule of Law
Dependent Variable: LMKTCAP

Variable	Predicted Sign	Pooled OLS	Fixed Effect	Random Effect	SGMM	DGMM
Panel A						
ROL	+	0.6297***	-0.4027	-0.1607	0.0465	-0.3193***
		(0.1369)	(0.3748)	(0.3304)	(0.0353)	(0.1172)
L.mktcap					0.9609***	0.6626***
					(0.0412)	(0.0382)
Constant		3.4082***	3.1720***	3.2274***	0.1278	
		(0.1019)	(0.0960)	(0.4891)	(0.1450)	
Panel B						
R^2		0.1457	0.0096	0.0096	-	
F		21.16***	1.155	-	-	
Wald Test		-	-	0.237	1336.08***	351.83***
Hausman Test		-	-	1.870	-	
Breusch-Pagan RE Test		--	-	778.77***	-	
DW-Hausman Test		-	-	-	2.67	
Hansen Test		-	-	-	3.588	5.083
AR(1)		-	-	-	-1.956*	-1.967**
AR(2)		-	-	-	0.24790	0.0353
Observations		126	126	126	120	114

Table 5 reports Pooled OLS, fixed effects, random effects and dynamic GMM regression results of the effects of market capitalization on institutional dimensions. The dependent variable is MKTCAP is defined as the value of listed domestic shares on the domestic exchange divided by GDP and ROL represents rule of law. In Panel A, the *t* statistics are in parentheses and in Panel B, the probability values are in parentheses. *Significant at 10%, **Significant at 5%, ***Significant at 1%.

Table 6: Market Capitalization and Voice and Accountability
Dependent Variable: LMKTCAP

Variable Predicted Sign	Pooled OLS	Fixed Effect	Random Effect	SGMM	DGMM
Panel A					
VOACC +	0.9332***	-0.2913	-0.1938	0.0890*	-0.0154
	(0.1475)	(0.2024)	(0.1970)	(0.0473)	(0.2031)
L.mktcap				0.9486***	0.6654***
				(0.0453)	(0.0476)
Constant	3.2133***	3.2800***	3.2747***	0.1518	
	(0.0915)	(0.0445)	(0.4320)	(0.1623)	
Panel B					
R^2	0.2441	0.0171	0.0171	-	
F	40.05***	2.070	-	-	
Wald Test	-	-	0.968	1361.53***	258.37***
Hausman Test	-	-	4.38**	-	
Bresuch-Pagan RE Test	-	-	626.65***	-	
DW-Hausman Test	-	-	-	20.73***	
Hansen Test	-	-	-	3.530	4.848
AR(1)	-	-	-	-1.951*	-1.977**
AR(2)	-	-	-	0.262	0.184
Observations	126	126	126	120	114

Table 6 reports Pooled OLS, fixed effects, random effects and dynamic GMM regression results of the effects of market capitalization on institutional dimensions. The dependent variable is MKTCAP is defined as the value of listed domestic shares on the domestic exchange divided by GDP and VOACC represents voice and accountability. In Panel A, the t statistics are in parentheses and in Panel B, the probability values are in parentheses. [*] Significant at 10%, [**] Significant at 5%, [***] Significant at 1%.

Table 7: Market Capitalization and Political Stability
Dependent Variable: LMKTCAP

Variable	Predicted Sign	Pooled OLS	Fixed Effect	Random Effect	SGMM	DGMM
Panel A						
POLST	+	0.2453**	0.1329	0.1424	0.0198	-0.0287
		(0.1147)	(0.1762)	(0.1685)	(0.0197)	(0.1119)
L.mktcap					0.9688***	0.6644***
					(0.0347)	(0.0496)
Constant		3.3427***	3.3067***	3.3098***	0.0979	
		(0.1094)	(0.0712)	(0.5230)	(0.1158)	
Panel B						
R^2		0.0355	0.0048	0.0048	-	
F		4.570**	0.569	-	-	
Wald Test		-	-	0.714	1043.84***	254.84***
Hausman Test		-	-	0.030	-	
Bresuch-Pagan RE Test		-	-	848.21***	-	
DW-Hausman Test		-	-	-	2.28	
Hansen Test		-	-	-	3.842	4.036
AR(1)		-	-	-	-1.948*	-1.991**
AR(2)		-	-	-	0.194	0.257
Observations		126	126	126	120	114

Table 7 reports Pooled OLS, fixed effects, random effects and dynamic GMM regression results of the effects of market capitalization on institutional dimensions. The dependent variable is MKTCAP is defined as the value of listed domestic shares on the domestic exchange divided by GDP and POLST represents political stability. In Panel A, the t statistics are in parentheses and in Panel B, the probability values are in parentheses. * Significant at 10%, ** Significant at 5%, *** Significant at 1%.

From table 2 above, Control of corruption is negatively and significantly related to market capitalization at 1 per cent significance level. The negative values of -0.0065, in the estimated Random Effect model for control of corruption is in conformity with the a-priori expectation that increases in the level of corruption will reduce the activities of the stock market thereby leading to low market capitalization.

From table 3, Government effectiveness is positively related to market capitalization according to the estimated Random Effect Model, and this positive relationship is significant at 5 per cent level. The positive value of 0.6004 for government effectiveness is in conformity with the a-priori expectation that increases in the government effectiveness will increase the activities of the stock market thereby leading to high market capitalization. The implication of this result is that government effectiveness is a significant factor influencing changes in market capitalization.

The inference from the System GMM result in Table 4 showed that Regulatory quality exhibits positive and significant relationship with market capitalization 5% per cent level of significance. The positive value of 0.0960 for regulatory quality is in conformity with the a-priori expectation that increases in the regulatory quality will increase the activities of the stock market thereby leading to high market capitalization. The difference GMM result in Table 5 indicated that Rule of law is negatively related to market capitalization, and the negative relationship is statistically significant at either 1 per cent level. The negative value of 0.3193 for rule of law is not in conformity with the a-priori expectation that increases in Rule of law will lead to increase in market capitalization. The coefficient of Voice and accountability in table 6 is positive and significant only in the System GMM model at either 10 per cent level. The positive value of 0.0890 for voice and accountability voice and accountability is in conformity with the a-priori expectation that increases in the voice and accountability will increase the activities of the stock market thereby leading to high market capitalization. In other words, the results showed that a 1 unit increase in voice and accountability will lead to 8.90% increases in market capitalization.

The results in Table 7 show that Political stability is positively related to market capitalization in the Random Effect and System GMM models, but not statistically at either 1, 5 and 10 per cent levels. The positive values of 0.142 and 0.0198 for political stability are in conformity with the a-priori expectation that increases in political stability will lead to increase in market capitalization.

However, it was discovered that there is absence of serial correlation in the second order because the AR (2) statistic in all the results. Thus we can conclude that the null hypothesis of no serial correlation on all the explanatory variables and the market capitalization is not rejected. The tests for over-identifying restrictions reported in the tables examined the lack of correlation between instruments and the error term. The Hansen statistics was not significance at any level. These imply that the instruments used in the dynamic models for market capitalization and with the explanatory variables are valid. This finding is in agreement with the empirical research of Yartey (2008) that political risk, law and order, and bureaucratic quality are important determinants of stock market development because they enhance the viability of external finance. This finding also supports the view of Ajide, Adeniyi and Raheem, (2014) that the governance dimensions: control of corruption, political stability and government effectiveness matter for the influence of foreign direct investment growth on economic growth in sub-Saharan Africa.

Conclusion
The study analysed the impact of institutional factors on market capitalisation of SSA countries. The study attempted to provide answers to prevailing issues in relations to institutional factors affecting market capitalisation for the benefit of capital market operators and other stakeholders in the investment process. Six indicators of institutional framework were identified (control of corruption, government effectiveness, regulatory quality, rule of law, voice and accountability and political stability on market

capitalization of SSA countries namely: Nigeria, Ghana, Kenya, Zambia, South Africa and Mauritius. The findings of this study show that institutional factors affect market capitalisation of SSA countries. The study finds evidence to support the hypothesis that institutional dimensions have significant and positive effect on market capitalisation of selected sub-Saharan African countries.

References

Aawaar, G. (2017). *African stock markets: Empirics of development, integration, efficiency and Investor herd behaviour.* (Unpublished Doctoral Dissertation). University of Zululand, South Africa.

Adeleke, A. I. (2014). FDI- Growth nexus in Africa: Does governance matter? *Journal of Economic Development, 29* (1)

Ajide, K. B., & Raheem, I. D. (2016). The institutional quality impact on remittances in the ECOWAS Sub-Region. *African Development Review, 28* (4), 462-481.

Ajide, K. B., Adeniyi, O., & Raheem, I. (2014). Does governance impact on the foreign direct investment-growth nexus in sub-Saharan Africa? *Zagreb International Review of Economics & Business. 17* (2), 71-81.

Alagidede, P. (2008). African stock market integration: Implication for portfolio diversification and risk sharing. *Proceedings of the African Economic Conference*, 2008, 25-54.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variables estimation of error-components models. *Journal of Econometrics, 68* (1), 29-51.

Bhattacharya, A., Montiel. P. J. & Sharma. S. (1997). How can sub-Saharan Africa attract more private capital inflows? *Finance and Development*.

Blume, M., Crockett, J., & Friend, I. (1973). A new look at the capital asset pricing model. *Journal of Finance, 28* (3), 19-33.

Cherif, M., & Gazdar, K. (2010). Macroeconomic and institutional determinants of stockmarket development in MENA region, *International Journal of Banking and Finance, 7* (8), 139-159.

El-Wassal, K. A. (2013). The development of stock markets: In search of a theory. *International Journal of Economics and Financial Issues, 20* (4), 606-624

Fama, E. (1970). Efficient capital markets: A review of theory and empirical work. *Journal of Finance, 25* (2), 283-417

Fama, E. F., & French, K. R. (1989). Business conditions and expected returns on stocks and bonds, *Journal of Financial Economics,25*(4), 23-49.

Farooq, F., Anwar, S., & Chaudhry, I. S. (2016). Impact of interest rates differentials on market capitalization of Pakistan: An empirical analysis. *Pakistan Journal of Commerce and Social Sciences, 10* (3), 687-707.

Kenny, C. & T.J. Moss. 1998**.** Stock markets in Africa: Emerging Lions or White Elephants**?** *World Development*, 26 (5), 829-843.

Motelle, S., & Biekpe, N. (2015). Financial integration and stability in the southern African development community. *Journal of Economics and Business,79* (3), 100-117.

Nasser, F. A., Rosid,C. M., & Baharuddin, N. S. (2017). Relation between macroeconomic variables and ASEAN stock index. *Terengganu International Finance and Economics Journal, 5* (1), 7-13.

Naceur, S. B., Ghazouani, S., a& Omran, M. (2007). The determinants of stock market development in the Middle-Eastern and African region. *Managerial Finance, 33* (7), 477-89.

Kaufmann, D, A., Kraay, H., & Mastruzzi, M. (2008). Govemance matters VII: Aggregate and individual governrnce indicators 1996-2007. World Ban, World Bank *Institute Policy Research Working Paper,* No. 4654

Kyereboah-Coleman, A., Kwame, F., & Agyire-Tettey, K. F. (2008). Impact of macroeconomic indicators on stock market performance. The case of Ghana stock exchange. *The Journal of Risk Finance,9*(4), 364-378

Law, S. H.& Habibullah, M.S. (2009). The determinants of financial development: Institutions, openness and financial liberalization. *South African Journal of Economics*, *77*(1), 45-58.

Lazarov, A., & Slaveski, K. (2016). Empirical estimation of macroeconomic, financial and institutional specific determinants of capital markets development in the CEE countries. *Being A paper presentation in 14th European conference for comparative economic studies 9th September 2016- 12th September 2016.*

Levine, R., & Zervos, S. (1998). Stock markets, banks, and economic growth, *American Economic Review 88* (3), 537-558.

Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolio and capital budgets, *Review of Economics and Statistics. 47* (6), 13-37.

Mossin, J. (1966). Equilibrium in a capital asset market. *Econometrica*, *34* (2), 768-783.

Odean, T. (1999). Do Investors Trade Too Much? *American Economic Review, 89*(2), 1279-1298.

Polkovnichenko, V. (2005). Household portfolio diversification: A case for rank-dependent preferences. *Review of Financial Studies, 18* (3), 1467-1502.

Ross, S. (1976). The Arbitrage theory of capital asset pricing. *Journal of Economic Theory*, *13* (3), 340-360

Roll, R. (1977). A critique of the asset pricing theory's test. Part. 1: On past and potential testability of the theory. *Journal of Financial Economics, 4* (2), 129-179.

Schwert, G. W. (2003). Anomalies and market efficiency, in: *Handbook of the Economics of Finance*, 1, 939-974, G. Constantinides, M. Harris, and R. M. Stulz, eds. Amsterdam, North Holland.

Treynor, J. L. (1961). *Toward a theory of market value of risky assets* in Korajczyk R. A. (eds). Asset pricing and portfolio performance: Models, strategy and performance metrics (1999) Chapter 2.

Yarram, S. R. & Farooque, O. (2013) Evidence on two-way relationship between foreign direct investment inflows and countries-level individual governance indicators. *The Singapore Economic Review, 58* (2), 202-210.

Yartey, C. A. (2010). The institutional and macroeconomic determinants of stock market development in emerging economies. *Applied Financial Economics*, *20* (21), 1615-162