

Biz&cons Quarterly

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Effect of financial deepening on stock market returns: The case of military and democratic post-SAP regimes in Nigeria

Abstract

This study examines the effect of financial deepening on stock market returns in the post-Structural Adjustment Programme era between 1985 to 2018 in Nigeria. The quest to ensure a vibrant stock market vis-à-vis a virile financial system that is broadened enough to accommodate several segments of the population provides the motivation for this study. Thus, the study employs credit to the private sector, broad money supply, and liquidity as indicators of financial deepening. Stock market turnover captures stock market returns, while the all share index and market capitalisation are used as control variables. The vector auto regressive results confirm that private sector credit is positive but insignificant while money supply is positive and significant in enhancing stock market returns in both the military and democratic eras. Again, banks' liquidity is insignificant in both regimes. While it negatively stock market returns during the military era, it affects it positively during the democratic era. Furthermore, result shows that there is mutual causality between financial deepening and stock market returns in the military era. Meanwhile, in the democratic era, only unidirectional causality exists from financial deepening to stock turnover. We recommend that the central bank should target policies that attract portfolio investment to increase foreigners' stake in the country's stock market.

Received:

May 30, 2019

Revised:

November 11, 2019

Accepted:

January 02, 2020

Keywords:

Financial Deepening
Stock Market
Money Supply
Stock Returns

JEL Classification:

G11

G14

G15

H11

L10

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How to cite this article: Yusuf, I. A., Mesagan, E. P. & Amadi, A. M. (2020). Effect of financial deepening on stock market returns: The case of military and democratic post-SAP regimes in Nigeria, *Biz&cons Quarterly*, 6, 3–21.

1. Introduction

A well-developed stock market has the potential to enhance liquidity provision, price discovery, risk transfer, and transactions costs reductions, thereby promoting growth, investment, and economic efficiency. Again, an efficient stock market plays an important role in spurring output growth as a vehicle to mobilise liquidity, to channel both long and medium-term capital to boost investment (Gurley & Shaw, 1955; Isola *et al.*, 2017; Charles *et al.*, 2018; Hicks, 1969; Eregha *et al.*, 2015; Leyshon & Thrift, 1992; Omojolaibi *et al.*, 2016a; Mesagan & Amadi, 2017; Isola & Mesagan, 2018). Therefore, a well-developed stock market enhances economic efficiency, private investment and growth. In return, they unleash positive influences on stock market returns. To identify the channel through which the stock markets can be improved globally, studies like Cho & Khatkhate (1989), Fry (1997), and Prasad *et al.*, (2005) have posited that the financial sector can play a crucial role via the financial deepening process.

Financial deepening entails the strengthening the financial intermediation process in an economy to enhance operation of the financial sector and promote growth. This can help to channel funds from the area of surplus to areas of necessities with the aim of promoting both short-term and long-term investment opportunities. While this process may be smoother in developed countries, developing nations' financial instruments and financial assets are very shallow, thereby posing an enormous challenge to their financial deepening process and financial depth. According to Alenoghena *et al.* (2014), Omojolaibi *et al.* (2016b) and Evans (2019), a shallow financial depth is the major cause of low savings and low income in less developed countries. In Nigeria, for instance, earlier financial intermediation studies like Mesagan, Olunkwa, & Yusuf (2018), Mesagan & Nwachukwu (2018) revealed that financial shallowness hinder the country's financial development. Omole (1999) also affirmed that the country's growth process is hindered by its weak financial deepening. Moreover, Ashton *et al.* (2002) and Mesagan *et al.* (2019) berated the country's level of financial deepening but opined that if it is improved, it can provide the means to quicken the pace of development by increasing the contributions of the capital market to the growth process.

The question is how to deepen the financial system in Nigeria to enhance the financial system and accommodate more people through financial intermediation. Therefore, since the stock market is a veritable financial intermediating tool, it thus follows that the financial system can be enhanced through the financial deepening channel to fast track the stock market performance in the country. The stock exchange market as an institution plays a vital role in economic development through its

interaction with other sectors in the economy. According to Mesagan & Bello (2018), any negative shock in the market does not only affect the level of investment by investors but also affects the level of productivity in the economy, firms' profitability, income and employment opportunities. Moreover, if effective financial intermediation is hindered by weak financial deepening, the intermediating role of the stock market will be adversely affected. Hence, the need for a study of this sort in Nigeria with a view to pin-point areas of improvement and recommend appropriate policies.

The reason is that in Nigeria, large segment of the population lack access to banking services. This is more pronounced in the rural areas of the country where access to financial services like credits, loans and even general banking services for deposits are often scarce. To buttress this, a body termed 'Enhancing Financial Innovation & Access' (EFINA) conducted a survey in 2012, and findings showed that only 34.9 million adults (i.e. 39.7%) used the services of formal financial institutions while the remaining 60.3% either lack access to financial services or are not interested in formal financial services available. It also confirmed that about 23 million adults save money at home rather than using the banks (EFINA, 2019). Moreover, Alenoghena *et al.*, (2014) reported that only 28.6 million Nigerian adults (i.e. 32.5% of total population) used formal financial services. The implication is that a large chunk of currency circulates around the informal financial sector, which hinders proper planning and growth of the stock market. This is because the capital market can be greatly influenced if a large segment of the population participates in formal financial process in the country. This means that deepening the financial process has implications on activities in the stock market. Thus, having confirmed that the deepening of the Nigerian financial system is crucial in determining the sector's performance and consequent contribution to the overall economic performance, it is necessary to examine the effect of financial deepening on the stock market returns in Nigeria. Specifically, the study analyses the effects of financial deepening and banks' liquidity on stock market returns in both democratic and military regimes in Nigeria in the post-SAP era (1985-2018). It also examines the causal nexus between financial deepening and stock market returns during both the democratic and military regimes in the country.

Moreover, the empirical studies linking financial development to economic growth are numerous (De Gregorio & Guidotti, 1995; Calderón & Liu, 2003; Ang, 2008; Demirhan *et al.*, 2011; Yildiz & Atasaygin, 2015; Gidigbi, 2019; Evans, 2020). However, studies focusing on the nexus between financial

deepening and stock market returns are relatively scarce. Hence, the need for this present research on the Nigerian economy. Therefore, the effort of financial authorities to embark on financial reforms for the banking sector and the stock market is greatly enhanced by this study and it provides a policy pathway for the Nigerian authorities in achieving their set goals to make the stock market more effective. More so, we reveal shortcomings in the stock market to assist government and regulatory authorities in making policies to correct such and make the market more efficient in the aftermath of the global financial crises. In addition, this research fills the gap which many previous studies had neglected on the link between financial deepening and stock market returns. The rest of the paper is structured as follows. Section 2 presents the empirical literature, section 3 presents the methodology and data, section 4 presents the results, while section 5 concludes the study.

2. Literature Review

In empirical literature, attempts have been made to analyse the link between financial deepening and stock market via several channels. While some studies linked it to economic growth, others traced it to financial sector development. For instance, Shanken & Weinstein (2006) examined the drivers of stock market returns in the United States and found that macroeconomic variables like inflation, government bonds, and industrial production significantly determined stock market returns. King & Levine (1993) analysed the situation in 70 countries and confirmed a strong link between economic growth and financial development. The result also showed that financial development accurately predicted the rates of economic efficiency and growth in the selected nations. Similarly, Levine & Zevros (1998) observed that financial sector development provided accurate economic growth predicting power. Moreover, Omole (1999) examined the Nigerian case between 1970 and 1994 and revealed that financial deepening insignificantly enhanced the stock market performance. Again, Hurlin & Venet (2008) focused on 63 developed and less developed nations using liquid liabilities, private sector credit, and other financial institutions credit to the private sector. Results showed that unidirectional causality runs from growth to financial development. Enisan & Olufisayo (2009) analysed the situation seven Sub-Saharan African (SSA) nations. It was reported that stock market positively and significantly enhanced output growth. Moreover, unidirectional causality from the stock market output growth in South Africa and Egypt, bidirectional causality was found in Morocco, Kenya, Zimbabwe, and Cote D'Ivoire, while no causality was found in Nigeria.

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Regarding studies linking financial development to output growth, Chakrobarty (2014) focused on the Indian economy from 1991 to 2013 and found that financial deepening significantly enhanced economic growth and stock market volatility. While Atasaygin & Yildiz (2015) employed monthly data from 1984 to 2014 and found support for the demand-pulling hypothesis, confirming the substitution of industrial output growth for financial deepening in Turkey. Chen (2010) found that financial shocks adversely affected stock market movement and consequently economic growth. Bojanic (2012) analysed growth and financial development in Bolivia between 1940 and 2010 and confirmed a one-way relationship from the financial sector to economic growth, while long-run relationship was also reported. Valickova et al. (2015) reviewed existing studies and confirmed that stock markets promote faster growth than other financial intermediation processes. Kargbo et al. (2015) utilised data from 2000 to 2008 confirmed that financial deepening stimulates output growth significantly at various levels among selected nations. Agbélénko & Kibet (2015) analysed the situation in West African Economic and Monetary Union (WAEMU) between 1981 and 2010 and found that financial development positively and significant drive economic growth with the existence of bidirectional causality.

Furthermore, studies like Okoli (2010) and Nnenna (2012) examined the Nigerian case between 1980 and 2010. The study found that financial sector is significantly related with stock market and that financial deepening reduced the stock market volatility. Rahman & Mustafa (2017) focused on 9 industrialised and 21 less developed nations from 1988 to 2014. Results showed that market turnover influenced stock market returns than liquidity in the selected sample of countries, but with less significance in developing nations. Alenoghena et al (2014) examined the situation with the Nigerian capital market between 1981 and 2012. Findings confirmed long-term equilibrium relationship between capital market and financial deepening. Moreover, it was ascertained that financial deepening positively impacted the stock market while income and private sector credit positively but insignificantly enhanced capital market performance. Lastly, Boachie et al. (2016) analysed the situation in Ghana and found that exchange rate, interest rate, and liquidity significantly enhanced stock market performance.

Having reviewed different scholarly articles, it is obvious that scholars mostly concentrated efforts on the impact of capital market on economic growth (see Enisan & Olufisayo, 2009; Chen, 2010), as well as, financial development and economic growth (Chen et al, 1986; King & Levine 1993;

Hurlin & Venet, 2008; Bojanic, 2012; Agbélénko & Kibet, 2015). Others like Valickova et al. (2015) also analysed the nexus between stock market and growth. However, other studies like Boachie et al. (2016) and Rahman & Mustafa (2017) focused on the impact of monetary policy variables on capital market without much attention on financial deepening on stock market variables. This gap becomes interesting to this study. Only studies like Okoli (2010), Nnenna (2012), and Alenoghena et al. (2014) attempted to fill this gap but neglected the stock market returns. This study did not only control for stock market returns but also decomposed the analysis into the military and democratic eras to extend the frontiers of knowledge.

3. Data and Methodology

This study is anchored on the Capital Asset Pricing Model (CAPM) developed by Chiarella et al. (2013) and adapted and extended by Greenwood and Shleifer (2014). The theory explained that discounted future expected payoff for a specific asset, describes equilibrium asset price in the market. More so, Sharpe (1991) in the same vein, elucidate that there is a linear relationship between the expected rate of return of an individual asset and some measure risk that is associated with market assets. According to Greenwood & Shleifer (2014), capital asset pricing model (CAPM) is divided into the risk premium and nominal risk-free rate. The latter is determined by the market for government treasury bills and investor's time preference. It also explicates that nominal risk-free asset is perfectly elastic with a constant interest rate and a risky asset which has a fixed capital asset and an aggregate stock market asset. Whereas, the former involves continuous dividend stream whose level per unit of time evolved as an arithmetic Brownian motion as:

$$dy_t = \mathcal{G}_D \mathcal{P}_t + \delta_D \quad (1)$$

Where \mathcal{G}_D and δ_D the expected value and standard deviation of dividend are changes and $\mathcal{D}\omega_t$ is a standard one-dimension Wiener process. Both \mathcal{G}_D and δ_D are constant as the value of the stock market at time t is denoted as \mathcal{P}_t . To formalise the above equation, we introduce a measure of extrapolation expectation value from the stock market which is specified as

$$\mathcal{G}_{p,t}^e = \mathcal{E}_t^e (dp_t) / d_t = \lambda_0 + \lambda_1 \quad (2)$$

Where the superscript 'e' is an abbreviation for extrapolation and λ_0 and λ_1 is the constant parameters.

To further compute the optimal consumption portfolio decision at each moment of time, we extrapolate future price and extend the equation as:

$$dp_t = (\lambda_0 + \lambda_1)d_t + \sigma_p d\omega_t^e \quad (3)$$

In equation 3, ω_t^e is a Wiener process, while σ_p is the actual instantaneous volatility which is endogenously determined. From equation (3), we specify the model for the study using the VAR/VECM system of equations framework as follows:

$$MCAP_t = \alpha_1 + \beta_1 MS_{t-1} + \beta_2 ASI_{t-1} + \beta_3 STO_{t-1} + \beta_4 MCAP_{t-1} + \beta_5 CPS_{t-1} + \varepsilon_1 \quad (4)$$

$$ASI_t = \alpha_2 + \beta_1 MS_{t-1} + \beta_2 ASI_{t-1} + \beta_3 STO_{t-1} + \beta_4 MCAP_{t-1} + \beta_5 CPS_{t-1} + \varepsilon_2 \quad (5)$$

$$STO_t = \alpha_3 + \beta_1 MS_{t-1} + \beta_2 ASI_{t-1} + \beta_3 STO_{t-1} + \beta_4 MCAP_{t-1} + \beta_5 CPS_{t-1} + \varepsilon_3 \quad (6)$$

$$MS_t = \alpha_4 + \beta_1 MS_{t-1} + \beta_2 ASI_{t-1} + \beta_3 STO_{t-1} + \beta_4 MCAP_{t-1} + \beta_5 CPS_{t-1} + \varepsilon_4 \quad (7)$$

From the VECM equations (4) to (7), MCAP represents Market Capitalization, MS is Money Supply (% of GDP), ASI is the All Share Index, STO represents Stock Turnover, and CPS is Credit to the Private Sector (% of GDP). Again, α_1 to α_4 are the intercept terms, β_1 to β_5 are the coefficients, while ε_1 to ε_4 capture the residual terms. Both MS and CPS are expected to be positively signed. To conduct this scientific inquiry, data span across 1985 to 2018 and are sourced from both the Central Bank of Nigeria (CBN, 2019) and the World Bank (WDI, 2019). The military post SAP era covers 1985-1999 while the democratic post SAP era covers 2000-2018. The result is tested for co-integration using the Johansen approach which is suitable for VAR/VECM model. Also, the vector error correction technique is the most suitable for this work in order to overcome the problem of endogeneity that may arise if OLS is used. The appropriate lag length is chosen based on the Akaike Information Criterion.

4. Result and Discussion

4.1 Empirical Result

Here, we present the result of this study starting with the unit root test result in Table 1. Following the unit root is the cointegration test, and then the empirical findings using the VECM framework.

Table 1. Stationarity Test

Variables	Levels			First Difference			Order of Integration
	ADF Test	1%	5%	PP Test	1%	5%	
MCAP	-0.9651	-3.6702	-2.9639	-4.2389	-3.6793*	-2.9677**	I(1)
ASI	-2.3191	-3.6702	-2.9639	-3.7163	-3.6793*	-2.9677**	I(1)
STO	-0.1003	-3.6702	-2.9639	-3.8249	-3.6793*	-2.9677**	I(1)
CPS	-0.7843	-3.6702	-2.9639	-4.2384	-3.6793*	-2.9677**	I(1)
MP	-1.6635	-3.6702	-2.9639	-4.8771	-3.6793*	-2.9677**	I(1)
LQD	-1.6842	-2.1862	-1.9627	-4.8179	-3.6793*	-2.9677**	I(1)

Note: * significant at 1%, ** significant at 5%,

The Augmented Dickey Fuller (ADF) test result shows that all share index, market capitalization, stock turnover, credit to private sector, liquidity ratio, and money supply have unit roots at level. Hence, after first differencing the data, we found that they are all stationary at first difference at 5% significance level. The meaning is that the incorporated series do not have unit roots at first difference. Hence, they converge towards the long-run. In testing for long run relationship between financial deepening and stock market returns in both the military and democratic eras, we use the Johansen cointegration tests at both trace and maximum eigen statistics.

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Table 2. Testing for Cointegration (Military Era)

Hypothesized No. of CE(s)	Trace Statistic	Prob.**	Max-Eigen Statistic	Prob.**
None *	251.9809*	0.0000	151.3712*	0.0000
At most 1 *	100.6097*	0.0000	77.5584*	0.0000
At most 2	23.0513	0.2436	14.0221	0.3632
At most 3	9.0292	0.3627	9.0206	0.2844
At most 4	0.0086	0.9260	0.0085	0.9260
At most 5	0.0094	0.9851	0.0086	0.9946

Both Trace and Max-Eigen tests indicate 2 cointegrating eqn(s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values

Tables 2 and 3 reveal that both the trace and maximum eigen tests confirm that there are two cointegrating equations. Hence, we can reject the null

hypothesis of no co-integration at 5% level of significance. This implies that there exists a long-run equilibrium association among variables considered. Thus, there is long-run association between the all share index, credit to private sector, market capitalization, liquidity ratio, stock turnover and money supply in the both the military and democratic regimes in Nigeria.

Table 3. Testing for Cointegration (Democratic Era)

Hypothesized No. of CE(s)	Trace Statistic	Prob.**	Max-Eigen Statistic	Prob.**
None *	202.0972*	0.0000	162.9262*	0.0005
At most 1 *	104.8628*	0.0003	79.2626*	0.0027
At most 2	43.7033	0.9262	16.0273	0.7372
At most 3	9.9263	0.9276	9.3826	0.9273
At most 4	0.0088	0.8262	0.00264	0.8438
At most 5	0.0064	0.8200	0.00763	0.7829

*Both Trace and Max-Eigen tests indicate 2 cointegrating eqn(s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values*

For the military regime, Table 4 shows that money supply has a positive effect on the stock turnover in both the first and second period, which conforms to apriori expectation. Similarly, credit to private sector positively impacts stock turnover in both the first and second periods. This can be attributed to the fact that increase in the supply of money can cause more investors to invest more in stocks in the capital market. The result also posits that money supply significantly impacts the stock market at 5% critical level, while credit to the private sector is insignificant at the same level. The reason for this is that while money supply has a direct impact in boosting stock market returns, credit to the private sector affects directly firms and not investors in the stock market.

Table 4. Result for the Post-SAP Military Regime

Dependent Variable: Stock Turnover

	Coefficient	Std. Error	t-Statistic	Prob.
Money Supply (-1)	0.2004	0.0725	2.7653	0.0138
Money Supply (-2)	1.4077	0.5223	2.6951	0.0159
Liquidity (-1)	-0.0500	0.3102	-0.1613	0.8739
Liquidity (-2)	-1.6718	0.4572	-3.6568	0.0021
CPS (-1)	0.9579	0.6634	1.4438	0.1681

CPS (-2)	0.0253	0.1205	0.2102	0.8362
ASI (-1)	-0.0597	0.1345	-0.4435	0.6633
ASI (-1)	0.5168	0.3200	1.6149	0.1259
Market Capitalisation (-1)	0.5109	0.4037	1.2658	0.2237
Market Capitalisation (-2)	-1.4699	0.4542	-3.2364	0.0052
Constant	0.0577	0.4549	0.1269	0.9006
ECM (-1)	-0.5818	0.1374	1.9231	0.0424
R-squared	0.6041	Prob(F-stat.)	0.0007	
Adjusted R-squared	0.5319	Durbin-Watson stat	2.1894	

Source: Authors' Computation (2019)

Moreover, liquidity has a negative impact on stock market returns for both the first and second lags. However, the first lag of liquidity is insignificant while the second lag is significant at 1% level. In terms of the suitability of the model, the coefficient of the error correction term (i.e. -0.5818) is negative and significant. This means that the model is well formulated as there is convergence of the model to the long-run path. The coefficient also implies that the speed of adjustment is 58.17%, which is very fast. Moreover, the R-squared value of 0.6041 indicates that about 60.4% of the variation in the stock market turnover is jointly accounted for by all the explanatory variables during the military regime and the adjusted R-squared value of 0.5319 indicates that about 53.19% of the variation in the stock market turnover is explained by all the explanatory variables, after removing the effect of insignificant estimators from the model. The Durbin-Watson value of 2.18 also suggests that there is no serial correlation in the result. Hence, the model is not spurious, and it is a good fit.

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Table 5. Result for the Post-SAP Democratic Regime

Dependent Variable: Stock Turnover

	Coefficient	Std. Error	t-Statistic	Prob.
Money Supply (-1)	0.6374	0.0845	2.0267	0.0036
Money Supply (-2)	1.2838	0.5004	2.0026	0.0052
Liquidity (-1)	2.0373	0.4029	-1.6478	0.3492
Liquidity (-2)	1.2046	0.4835	2.4739	0.0005
CPS (-1)	0.7003	0.5342	1.5946	0.2303
CPS (-2)	0.1937	0.2975	0.6454	0.9352
ASI (-1)	-0.9264	0.3128	-0.8454	0.5639
ASI (-1)	0.1100	0.2800	1.2646	0.2846
Market Capitalisation (-1)	0.6783	0.5063	1.9464	0.3973
Market Capitalisation (-2)	-0.3727	0.2946	-2.6384	0.0145
Constant	0.7300	0.9355	0.7382	0.6025

ECM (-1)	-0.4500	0.1275	1.9845	0.0392
R-squared	0.7249	Prob(F-stat.)	0.0002	
Adjusted R-squared	0.5903	Durbin-Watson stat	1.9117	

Source: Authors' Computation (2019)

For the democratic regime, Table 5 shows that liquidity ratio has a positive impact on stock turnover in both the first and second lags. It means that as liquidity in the banking sector increases, more money is made available to investors who now increase their investment in the stock markets. Hence, liquidity provides the needed impetus for the improvement in the performance of the stock market during the democratic regime in Nigeria. As confirmed by the probability of the liquidity ratio for the first period, it is not significant at 5% level of significance in explaining changes in stock returns. This means that there are other more important determinants of stock market turnover, other than the banking sector liquidity during the democratic era. Meanwhile, money supply positively and significantly enhances stock turnover in both periods and they are both significant at 1% level. This is synonymous with the money supply result in the military era. In terms of the suitability of the model, the coefficient of the error correction term (i.e. -0.4500) is negative and significant. This means that there is convergence of the model to the long-run path and adjustment speed of 45% is also very good. Moreover, the R-squared value of 0.7249 indicates that about 72.4% of the variation in the stock market turnover is jointly accounted for by all the explanatory variables during the democratic regime while the adjusted R-squared value of 0.590263 indicates that about 59% of the variation in the stock market turnover is explained in the model after removing the effect of insignificant regressors. The Durbin-Watson result of 1.91 also means that there is no serial correlation. Hence, our result is not spurious and it is a good fit.

Table 6. Granger Causality Analysis during Military Regime

No Causality		Unidirectional Causality		Bidirectional Causality	
MS	— CPS	ASI	→ CPS	MS	↔ STO
STO	— MCAP	ASI	→ MS	LQD	↔ STO
STO	— MS	STO	→ ASI	LQD	↔ MCAP
		MCAP	→ CPS		
		CPS	→ STO		
		MCAP	→ MS		

Note: (—) No causality, (→) Unidirectional causality, (↔) Bidirectional causality.

Table 6 shows that there is no causality between money supply and credit to the private sector, between stock turnover and market capitalisation, and between stock turnover and money supply. The result also shows the existence of unidirectional causality running from the all share index to credit to the private sector and money supply. Unidirectional causality also runs from market capitalisation to credit to the private sector and money supply, and from credit to the private sector to stock turnover. Lastly, we find bi-directional causality between money supply and stock turnover, as well as, between liquidity, stock turnover and market capitalisation in the military era in Nigeria.

Table 7. Granger Causality Analysis during Democratic Regime

No Causality		Unidirectional Causality		Bidirectional Causality	
ASI	— CPS	MS	→ CPS	MCAP	↔ ASI
ASI	— MCAP	STO	→ MS	LQD	↔ CPS
STO	— MS	STO	→ ASI		
MCAP	— CPS	LQD	→ STO		
MCAP	— MS	CPS	→ STO		
		LQD	→ MCAP		

Note: (—) No causality, (→) Unidirectional causality, (↔) Bidirectional causality.

Table 7 shows that there is no causality between the all share index and credit to the private sector and market capitalisation, between stock turnover and money supply, and between market capitalisation and credit to the private sector. However, we find unidirectional causality running from money supply to private sector credit, from stock turnover to money supply, from liquidity and CPS to stock turnover. Also, bi-directional causality exists between liquidity to private sector credit, and between market capitalisation and the all share index, in the democratic era in Nigeria.

4.2 Discussion of Findings

For the military regime, money supply positively impacts stock turnover meaning that boosting monetary base of the country leads to expansion of transaction activities within the country, which in-turns boosts investors’ funds and market turn-over. The fact that private sector credit also has similar positive, but insignificant effect on stock turnover during military regime is very interesting. The reason is that while money supply has a direct impact in boosting stock market returns, private sector credit affects directly firms and not stock market investors. Hence, justifies why it is not significant in the military era. Since similar results for money supply and

private sector credits is found in democratic era, same position holds. However, Liquidity is positive in democratic regime but negative in democratic era, this has a striking implication. It means that the military administration is choking to banking liquidity in stimulating stock returns unlike in the democratic regimes.

This present study is in consonant with Demetriades and Hussein (1996), which found that bidirectional causality exists between financial deepening indicators and stock market performance in developing countries. It is also in tune with Omole (1999), which suggests that financial deepening insignificantly stimulate stock market performance in Nigeria, by looking at credit to the private sector and liquidity, but it does not align with the study when we use money supply. Again, when financial deepening is analysed using money supply, the study aligns with Okoli (2010) and Nnenna (2012), which found that financial deepening significantly influenced stock market in Nigeria, but when it is analysed using liquidity and private sector credit during both regimes, it contradicts both studies. Moreover, this study is in tune with Alenoghena *et al* (2014), which posited that private sector credit had positive but insignificant impact on capital market performance and that financial deepening positively enhanced performance of the Nigerian stock market. Furthermore, the money supply result in both military and democratic regimes aligns with Chakrobarty (2014), which found that financial deepening significantly influenced stock market in India, but when analysed through liquidity and private sector credit, it is at variance with Chakrobarty (2014). It is also at variance with Boachie *et al* (2016), which found that liquidity significantly enhanced the Ghanaian stock market. It is however, in tune with Rahman & Mustafa (2017), which found that liquidity has weaker impact on the stock markets for developing countries.

5. Conclusion

The study analysed the effect of financial deepening on stock market returns during the military and democratic post-SAP regimes in Nigeria between 1985 and 2018. The variables used to proxy financial deepening include liquidity ratio, credit to the private sector, and money supply, whereas, stock market turnover was used to capture the stock market returns. We used the vector error correction framework to analyse the data obtained from both the World Bank and Central Bank of Nigeria, while the Granger causality analysis was used to determine the causal nexus. Empirical results showed that liquidity negatively and insignificant affected the stock market returns during the military era while it is positive but insignificant during the democratic regime. Moreover, the financial

deepening indicators positively enhanced the stock market returns in both the democratic and military eras in Nigeria. Lastly, we confirmed causal nexus between financial deepening and stock market returns in Nigeria. We, therefore, conclude that financial deepening significantly enhanced stock returns, in both regimes, through the money supply channel, but it was insignificant through the private sector credit channel.

Sequel to these findings, we recommend that those in authority should create an enabling environment to aid investment spending. This can help to prevent the country from external shocks that could hinder the growth of the stock market. Deposit money banks should be encouraged to improve their volume of credits to the private sector to facilitate improvement of the private firms operating in the stock market. This will not only enhance the performance of these firms but also improve investors' confidence in the stock market. The central bank should also create an enabling environment that is suitable for more portfolio investment to encourage foreigners to increase their stake in buying stocks in the Nigerian stock market. This will help to guarantee improved transactions in the market and boosts financial performance of the economy. Again, banks' liquidity should be enhanced to provide the needed impetus for households to improve their purchase of stocks in the stock market. The present reality is that due to the recent economic downturn in Nigeria, the Central Bank has just lowered the monetary policy rate by 50 basis points from 14% to 13.5%. This is expected to boost banking liquidity since it is an expansionary policy. However, such could be sustained or even reduced further to boost domestic income and consequently enhance stock market performance.

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