Macroeconomic Aggregates and Stock Market Liquidity: Evidence from African Stock Markets

S. O. Igbinosa & *Monday Uhunmwangho
Department of Banking and Finance
University of Benin, Benin City
Nigeria
osaretin.igbinosa@uniben.edu, *osazee1515@gmail.com

Abstract
Activities in macro-economic environment determines Stock market liquidity. This study aimed to examine macro-economic aggregates (variables) and stock market liquidity in African markets. The selected countries are Nigeria, South Africa, Egypt, Mauritius and Morocco, chosen because of the size of the exchanges in the continent and to expand the scope of the study. Cross-sectional research design was used and data were sourced from World Bank data based for the period 2006 to 2016. Fixed effect panel least squares regression technique was employed in the analysis owing to the fact that it tolerates unbalanced panel data, time constant unobserved heterogeneity as well as serial correlation (Kudaisi, 2014). The results revealed that macroeconomic aggregate variables significantly explained stock market liquidity in Africa. The forces that account for stock market liquidity are money supply (T-value= -2.1052 and P.Value =0.042 < 5%), inflation (T-value=2.0942 and P.Value =0.043 < 5%), exchange rate (T-value=-1.6804 and P.Value =0.10) and credit to private sector (T-value=2.0980 and P.Value =0.043 < 5%). Though economic growth shows the needed positive sign, it was not statistically significant at 0.05 level. The goodness of fit statistic of the model (R^{-2}) impressively stood at 0.9386. On adjustment R-squares was 0.9026, an indication that the systematic variations in the dependent variable (TOR) is taking care of by the variations in the regressors to the tune of about 90.26%. F-statistic value is significant at1% level, validating that the model has strong predictive power. This study therefore recommends that investors particularly foreign portfolio investors, pay careful attention to macroeconomic forces of national economies because of the great potentials they hold in influencing stock market returns.

Keywords: Africa stock markets; Macroeconomic aggregates; Stock market liquidity; Panel least squares.

1. Introduction

Occurrences in the macroeconomic environment (aggregates) influence the behaviour of financial markets. Investors desirous of better return on investment must pay careful attention to changes in macroeconomic variables (Musilek, 1997 cited in Barakat, Elgazzar & Hanafy, 2016). Studies have reported that happenings in the macro-economic spheres influence stock market performance (Nkechukwu, Onyeagba & Okoh, 2013; Chia & Lim, 2015).

However, study on the effect of macroeconomic variables on stock market liquidity is evolving, and therefore requires in-depth investigation. liquidity is the ability to trade large quantity of securities with slightest change in price, cost and delay(Kumar & Misra, 2015). Asset price deccrease with liquidity shock, and when liquidity shock is positive, liquidity demanders are willling to sell financial asset because their wealth is positively correlated with assets(Dimitri and Wang(2012). Liquidity is the life-wire of stock exchanges, and it is vital to investors, market regulators and firms listed on the various stock markets (Kumar & Misra, 2015). Besides, liquid market reduce risk and the cost associated with investing in assets therefore,

market liquidity make investment more lucrative, ease the distribution of capital (Levine and Zervos. 1996). Macroeconomic indicators affect stock market through their impact on trading volume and investors' expectations. Specifically, variations in transaction cost impact stock market volume; just as policy on deposit reserve ratio affect lending behaviour of banks by limiting or boosting fund availability for trading; while policy to expand domestic demand or output is a positive signal to investors (Wang, Tsai & Li, 2017). Macro-economic factors including Gross Domestic Product (GDP), inflation, money supply are theoretically expected to have one influence or the other on the liquidity of stock market securities. Gross Domestic Product (GDP) is the total value of goods and services turned out in an economy at a given time. A rise in GDP is considered growth and used to assess the growth of the economy and it's performance (Mbah, Okoli & Amassona, 2017). As economy grows and become stable, it will engender investors' confidence and attract both local and foreign investors into the market, stimulate trading activities, and in the long-run impact stock market liquidity. Inflation is the rise in general price level measured at a point in time. For financial institutions like the deposit money banks, a rise in inflation is synonymous with decrease in deposits (less savings) and ultimately reduction in its ability to creates loans (Oshaibat, 2016). This suggests that inflation may have negative effect on the liquidity of financial market. Money supply is often referred to as stock of money or currency in circulation plus demand deposits at a point in time(Iyoha, 2004). A rise in the quantity of money in circulation increases the purchasing power of the the citizens, stimulates savings and investment; whereas a reduction in money supply may have the opposite effect, thereby influencing the liquidity of financial assets. Governement usually regulate the money supply through the Central bank. Thus, the liquidity of the stock market is influenced by government actions (Wang et al, 2017).

With increasing combination of financial markets and execution of various market transaction policies, it is expected that actions in the macroeconomic arena will affect stock market behaviour and ultimately stock market liquidity. The relationship between macroeconomic variables and market liquidity have been examined. Choi and Cook (2006) empirically assessed the link between macroeconomic factors and stock market liquidity in Japan from 1995 to 2001, applying VAR method and find that macroeconomic factors influenced stock market liquidity. In particular, interest rate is robustly associated with stock market liquidity. Jepkemei (2017) studied the impact of inflation on stock market liquidity in Kenya for the period 2002 to 2011 using least squares and reported that inflation negatively influenced stock market liquidity. Rasmiah, A and Rasmiah, A.M.(2016) investigated the connection between macroeconomic variables and stock liquidity in Jordan for the period January 2012 to June 2016, using monthly data, correlation and ANOVA. The result revealed a negative relationship between GDP on stock liquidity. Paskevicius and Norkaity (2011) x-rayed what effect macroeconomic indices have on the liquidity of Baltic capital markets using correlation techniques for the period 2004 to 2010. The study employed cross-sectional data and found that macroeconomic variables particularly gross domestic product (GDP) is correlated with market liquidity.

Obviously, there exists scope, methodological and findings gaps in many of the studies reviewed. In particular, we note that the scope of most previous studies was limited to same or similar geographical regions. Thus, this study intends to fill a number of these gaps by investigating the influence of macroeconomic aggregates (variables) on stock market liquidity in five African countries namely South Africa, Nigeria, Egypt, Mauritius and Morocco for the period 2006 to 2016. The choice of these African market is informed by the need to expand the scope of our study and the fact that they represent some of the most active markets on the continent of Africa during this period. The main objective is to examine the impact of macroeconomic variables (aggregates) on stock market liquidity in African markets. The study

therefore seeks to provide answer to the question: Can stock market liquidity be predicted with macro-economic variables? It hoped that the results of the study will be useful to investors, market regulators and listed firms on the African stock markets. The study could also be of benefit to foreign portfolio investors in African stock markets.

2. Theoritical Insight

One of the known theories on stock market is the efficient market hypothesis. Fama (1970) is recognised as the foremost researcher on efficient market hypothesis. The semi-strong form of efficient market hypothesis posits that stock price reflect public information. That is, information already made available to the general public. Such as annual reports, earning announcement and other relevant information that can be gathered. This tends to suggest that external factors have no influence on stock movement. However, Grossman and Stiglitz (1980) disagreed with the submission that stock market is efficient information-wise on the ground that, if true, investors would not spend time and resources looking for and analyzing information. Grossman and Stiglitz (1980) revealed that the informed market participants performed better than ignorant investors, therefore have the motivation to obtain information even at a very high cost. Indeed, Hellwig (1980) documents that price does not incorporate information completely, hence market traders employ both price and private signals (information) when making investment decisions. Chordia, Sarkar and Subrahamyam (2001) assert that lag of market returns, lag interest rate and previous volume are predictor of volume changes in stock market.

Therefore, this study seeks to find out if the liquidity of stock market can be predicted using macro-economic indicators (variables). Some of the variables of interest are GDP growth, inflation, and money supply to mention but a few.

3. Conceptual and Empirical Review
Economic growth and stock market liquidity

Economic growth is a boost on the capacity of a country to produce goods and services measure at a particular point in time. Gross domestic product (GDP) is usually employed as proxy for economic growth. GDP is the monetary sum of all goods and services produced in an economy within a time period, usually a year. It helps to assess the level of productivity of an economy and measures economic performance over time (Mbah et al, 2017). As the economy improves, GDP will rise and it is expected that the increase in business activities associated with the growth will speed up stock market activities and ultimately market liquidity. However, in a period of economic downturn, sentiment may arise and there is loss of confidence in the economy, which may slow down investment and activities in the stock market.

Market liquidity is the ability of financial markets to withstand brief variations in trading activities without substantial disturbance in prices (Datar, 2000). A liquid market is one in which a huge volume of transaction is occuring within a space of time but the movement in price is marginal. If the market is not liquid only insignificant investment activities will lead to soaring returns. Furthermore, Market liquidity aids efficient apportionment of economic resources through appropriate spreading of capital, risk and information, and as such enhance financial stability. Stock market liquidity have been measured by different authors in various ways. Gupta (1992) employed volume or frequency of trading as liquidity indicator, while impact cost was used by Shah (1996). Impact cost is the percentage difference between realized price and required price. Realized price is the average of Bid price and Ask price. The Coefficient of elasticity of trading (CET) have also been used as a measure of liquidity, and estimated as percentage change in trading volume divided by percentage change in price (Datar, 2000). Karim and Chaudhary (2017) employed turnover ratio as proxy for stock market

liquidity. Rasmiah, A and Rasmiah, A.M.(2016) investigated the connection between macroeconomic variables and stock liquidity in Jordan for the period January 2012 to June 2016 using correlation and ANOVA and reported that GDP is negatively linked to stock liquidity. Paskevicius and Norkaity (2011) x-ray the link macroeconomic indices has with liquidity of Baltic (Lithuanian, Latvian and Estonian) markets using correlation technique for the period 2001 to 2010. The result revealed macroeconomic variables especially GDP significantly correlate with market liquidity.

Money supply and stock market liquidity
Money supply also referred to as stock of money is the currency in circulation plus demand deposits. Precisely, broad money (M_2) is currency and those assets which serve as media of exchange plus more liquid near money(Iyoha, 2004). An increase in money supply is synonymous with putting more money in the hands of the people, thereby boosting savings and investments. Abdelbaki (2013) stated that monetary policy is connected to security market via money supply and interest rate. For instance, expansionary monetary policy increases money supply, reduces interest rate and boost stock purchases and stock returns. Fernandez-Amador, Gacher, Larch & Georg (2013) hypothesized that monetary policy determines stock liquidity. Rasmiah, A and Rasmiah, A.M (2016) inquire into the connection between macroeconomic variables and stock market liquidity in Jordan from January 2012 to June 2016 using monthly data, employing correlation and ANOVA techniques. The result revealed that money supply (M2) positively and significantly influenced stock market liquidity. Fernandez-Amador et al (2013) investigated the effect of monetary policy on stock market liquidity in Euro zone from 1983 to 2012 using panel and vector auto regression models, and reported that monetary policy significantly affects stock market liquidity.

Inflation and stock market liquidity
Inflation is the rise in general price level measured at a point in time. For financial institution like the deposit money banks, a rise in inflation is synonymous with decrease in deposits (less savings) and ultimately reduction in its ability to grant loans. This means reduction in earning, which may reduce stock performance of deposit institutions in the stock market. However, from non-bank organization perspective, inflation may result in increase in earnings because of the high price of goods and service, which may boost demand for its stock at the exchange (Oshaibat, 2016). This suggests that inflation may have positive or negative effect on stock market and eventually stock market liquidity. Lu and Glascock (2011) inquired into the effect of macroeconomic variables on real estate investment trusts(REITS) stocks liquidity in U.S using vector autocorrelation from January 1980 to December 2009 and reported macroeconomic variables especially inflation significantly influenced the liquidity of REITS stocks. Jepkemei (2017) studied the impact of inflation on stock market liquidity in Kenya from 2002 to 2011 using pane least squares. It was reported that inflation negatively influenced stock market liquidity. Rasmiah, A and Rasmiah, A.M.(2016) investigated the connection between macroeconomic variables and stock liquidity in Jordan for the period January 2012 to June 2016 and reported negative link between consumer price index proxy for inflation and turnover ratio surrogate for stock liquidity.

Exchange rate and stock market liquidity
A rise in exchange rate representing reduction in the value of domestic currency vis-à-vis foreign currencies increase the competeveness of domestic firms because it attracts foreign investors to domestic market (Khahid, 2017). The present of foreign investors in local stock market will boost trading activities at the stock exchange and enhance market liquidity. The opposite is the case when international investors off-load and repatriate their investments.

Indeed, Rasheed, Baloch and Irfanullah (2015) examined the effect of exchange rate on share turnover in Karachi Stock Exchange using daily data and regression technique from 2009 to 2013. The result revealed that exchange rate has significant influence on stock turnover. Waweru (2014) X-rayed the effect of macroeconomic variables on liquidity of bonds market in Kenya from 2009 to 2014 using multiple regression and reported a positive and significant link between exchange rate and liquidity. Nvongesa (2012) inquired into the factors that influence the liquidity of bond market in Kenya from 2001 to 2011 using multivariate ordinary least squares regression. The result revealed exchange rate impact bond market liquidity.

Other explanatory variables
Credit to private sector
Governement usually regulate the money supply through the Central bank using various instruments such as intetest rate, cash reserve ratio and so on. These action will either limit or boost credit to private sector and investment funds depending on the objective of government policy (Wang, Tsai & Li, 2017). Thus, the liquidity of the stock market may be influenced by government actions. It on this background we include credit to private sector in this study.

Total Value traded
It takes value to move the market and external factor passes through value/volume to influence returns, by extension liquidity. Undeniably, Onoh (2016) reported that value of transaction affect stock returns. We added total value traded to control for this effect.

4. Methodology
This study employs cross-sectional research design to examine the effect of Macroeconomic indicators on stock market liquidity of selected African countries namely South Africa, Nigeria, Egypt, Mauritius and Morocco for the period 2006 to 2016, which were purposively chosen because of the size of the exchanges. The data for this study were obtained from World Bank data base from 2006 to 2016 and the panel least squares regression technique was applied on the data set, using E-view 9.0 software.
The impact of macroeconomic aggregates (variables) on stock liquidity was modeled following Chordia et al (2001) who expressed the relationship thus:

$X_t = \sum_{j=1}^{N}(a_{ij}X_{t\_1}) + ... + \sum_{j=1}^{N}(b_{ij}K_t) + E_t$ ……………………………… ………(1)

Where X_t stand for stock liquidity, X_{t-1} is previous stock liquidity and K_t represents explanatory variables such as dummy variable for GDP and consumer price index(CPI).
However, in this study panel data was used, therefore the above model was modified to take the following form:

$X_{it} = b_0 + b_1(K_{it}) + E_t$ ....(2)

Where: X_{it} present stock market liquidity for country$_i$ at time t, K_{it} stands for explanatory variables including economic growth for country$_i$ at time t. The relationship in equation (2) above is stated in functional regression form as follows:

$TOR = f(GDPCG, M_2, IF, EXR, CPS, TVT,)$……………………………...............................(3)

Stated differently in econometric form, we have:

$TOR_{it} = b_0 + b_1GDPCG_{it} + b_2M_{2it}\ b_3IF_{it} + b_4EXR_{it} + b_5CPS_{it} + b_6TVT_{it} + E_{it}$…………... (4)

Where:

TOR_{it} = Turnover ratio of country$_i$ at time t (total value of stock traded divided by market capitalization x100)

$GDPCG_{it}$ = GDP per capita growth of country$_i$ at time t,

M_{2it} = Surrogate for money supply in country$_i$ at time t as percentage of GDP

IF_{it} = Country$_i$ general price level at time t

EXR_{it} = Country$_i$ US dollar exchange rate at time t,

CPS_{it} = Credit to private sector in country$_i$ as percentage of GDP (Included to account for government action to regulate money supply)

TVT_{it} = Total value of stock traded for country$_i$ as a percentage of GDP at time t, and

E_t = Error term. b_1 to b_6 are regression parameters.

TOR is the dependent variable, while GDPCG, M2, IF, EXR and CPS are the main explanatory variables, while TVT is control variable.

5. Data Analysis and Interpretation

The study employed Fixed Effect panel regression to examine the effect of the explanatory variables on stock liquidity. Fixed effect tolerate fixed unbalanced panel data and time constant unobserved heterogeneity, because it permits serial correlation and serial autoregressive of order 1 (Kudaisi, 2014).

The suitability of the model was established using the Redundant Fixed Effect Tests. The result is as highlighted in table 1 thus:

Table 1: Redundant Fixed Effects Estimations

Effects	Statistic	Probability
Cross-sectional Fixed	6.37*	0.0006
Cross-sectional Chi2	30.76*	0.0000
Period Chi2	18.46*	0.0477
Cross-section/Period Fixed	2.85*	0.0063
Cross-section/ Period Chi2	42.69*	0.0001
* Significant at 0.05 level.		

Researchers' estimation 2018.

The result in the above table validates the is appropriateness of the model for this study, because almost all the effects diagnostic tests are significant at 5% level, indicating the acceptance of the econometric technique. Therefore, we went ahead to run the regression on the data set.

The outcomes of the Fixed Effects panel regression estimation are presented in table 2 below:

Table 2: Fixed Effect Panel Regression Estimation (TOR = Dependent variable)

Variables	Coeff.	Std. Error	T-Statistic	Prob.
C	22.25353	15.92044	1.397796	0.1712
GDPCG	0.558393	1.013403	0.551008	0.5852
M2	-0.586595	0.278645	-2.105168**	0.0427
IF	1.590356	0.759399	2.094231**	0.0438
EXR	-0.144806	0.086161	-1.680644***	0.1020
CPS	0.431726	0.205777	2.098030**	0.0434
TVTR	0.896937	0.117837	7.611647*	0.0000

R^{-2} = 0.9386
Adj.R^{-2} = 0.9026
F. Statistic = 26.0193(0.0000)*
DW = 2.1316
*, **, *** Significance at 1%, 5% and 10% respectively.
Note: Probability reported in parenthesis.
Researchers' compilation 2018.

The regression result on table 2 above revealed that GDPCG proxy for economic growth is positively related to stock market liquidity (TOR), indicating that as the economy improves, stock market becomes more liquid, though the result is not significant enough to justify this claim. This provide support for Paskevicius and Norkaity (2011) which documented that GDP correlate with stock market liquidity in Baltic markets. The result further shown that M2 surrogate for money supply is negatively related to stock market liquidity at 5% significant level. The coefficient of M2 which stood at -0.5866 implies that 1% increase in money supply resulted in about 58.66% decline in market liquidity, suggesting that too much money in circulation will have adverse effect on stock market. This is contrary to Rasmiah and Rasmiah, (2016) who reported that money supply (M2) positively and significantly influenced stock market liquidity in Jordan. It is also evidence that inflation has positive influence on stock liquidity. The result which is significant at 5% implies that a rise in general price level enhance stock market liquidity. The result is in line with Oshaibat (2016) who assert that inflation may result in increase in earnings of non-bank business operations because of the high price of goods and service and this will boost the demand for stock at the exchange. It is however, contrary to the finding of Jepkemei (2017) who reported that inflation negatively influenced stock market liquidity. As can be seen in table 2 above, exchange rate negatively and significant influence stock market liquidity. The coefficient of EXR which stood at -0.1448, indicate that a unit rise in exchange rate (representing decline) will lead to about 14.48% reduction in market liquidity. The result is significant at 10% level. This outcome agrees with Baloch and Irfanullah (2015) that exchange rate has significant influence on stock turnover in Karachi, Jordan. The result also revealed the credit to private sector (CPS) impact liquidity positively and significantly at 5% level. The implication is that granting more credit to the private sector boost their investment capacity and promote liquidity of the market, if it is invested in financial assets.

Total value of stock traded (TVT) significantly and positively associate with stock market liquidity, indicating that the market liquidity is driven by trading activities. Meaning that as

trading activities soar, the liquidity of the market improves. The outcome is significant at 1% level.

The goodness of fit statistic of the model for this study was impressive. The adjusted R-square with value of 0.9026 indicates that the systematic variations in the dependent variable (TOR) is taking care of by the variants in the regressors to the tune of about 90.26%. F-statistic value is significant at1% level, validating that the model has strong predictive power. The Durbin Watson statistic stood at an approximate value of 2.1, indicating that there is no autocorrelation in the date series used in the study. On this basis, we conclude that the regression met the necessary diagnostic econometric criteria and therefore useful for policy direction.

Discussion of Result

It is observed from regression estimation that economic growth has a positive and but not significant effect on stock market liquidity. This implies that economic growth has the tendency to fuel activities at the exchange and influence stock market liquidity. The non-significant impact is due to the developing nature of the economies investigated and the economic conditions prevailing in some of the countries at the time of this investigation which may be having adverse effect on investors and firms' performance. The result also revealed that money supply affect stock market liquidity. This is because an increase in money supply enhanced the purchasing power of the people, increase savings and investment. However, having too much money in circulation adversely drive stock liquidity. Also implied in the result is the fact that rise in general price level boost stock market liquidity. This is a pointer to the fact that rise in general price level increase firms' earnings, thereby making stock of listed firms attractive to investors. The positive relationship of credit to private sector with stock market liquidity is attributted to the fact that more credit to investors incease money supply, boost investment capacity and promote trading activities at the market. However, too much money in the economy will have negative effect on stock liquidity. Overall, the results provide support for Choi and Cook(2006) and similar studies that stock market liquidity is associated with macroeconomic factors.

7. Conclusion and Policy Recommendations.

This study investigated the effect of macroeconomic aggregates (variables) on stock market liquidity in Africa. Panel least squares regression technique was employed to probe into the association between the regress and explanatory variables. The result shows that macroeconomic aggregates have significant effect on stock market liquidity in African stock markets. Indeed, money supply, inflation, exchange rate and credit to private sector significantly accounted for stock market liquidity. The study concludes that macro-economic variables influence stock market liquidity in African stock markets. This study, therefore, recommends that investors particularly, foreign portfolio investors, pay close attention to macroeconomic factors of national economies when investing in domestic or foreign capital market for the great potentials they hold in influencing stock market returns.

References

Ajao, G. M. & Oseyomon, E.P. (2010). The predictive content of some leading economic indicators on stock price. *Journal of Research in National Development, 8(1).*

Abdelbaki, H. H.(2013). Causality relationship between macroeconomic variables and stock market development: Evidence from Bahrain. *The International Journal of Business and Finance Research, 7(1), 69-84.*

Amihud, Y., Mendelson, H. & Pedersen, L.H(2005). Liquidity and asset prices. Foundations and Trends in Finance, 1(4), 269-364.

Antwi, S., Zhao,X. & Mills, E.F..A (2013). Impact of macroeconomic policies on Ghana stock exchange: A cointegration analysis. *International Journal of Business Research, 6(3), 100-108.*

Barakat, M.R, Elgazzar, S.H. & Hanafy, K.M.(2016). Impact of macroeconomic variables on stock markets: Evidence from emerging markets. *International Journal of Economics and Finance, 8(1), 195-207.*

Choi, W.G. & Cook, D. (2006). Stock liquidity and the macroeconomic: Evidence from Japan (http://www.nber.org|chapter).

Chordia, T.Sarkar,A. & Subrahmanyam, A.(2001). Determinants of stock market liquidity: The impact of fiancial crises, monetary suppy and mutal fund flows. Federal Reserve bank, New York, December.

Datar, M.K(2000). Stock Market Liquidity: Measurement and Implications. *Fourth Capital Market Conference , Industrial Development Bank of India, December 2000.*

Dimitri, V & Wang, J. (2012). Market liquidity: Theory and empirical evidence. *The Paul Woolley Centre Working Paper Series, No.32, July.*

Fama, E.F.(1970). Efficient capital markets: A review of theory and empirical work. *Journal Finance, 25(2), 383-417.*

Fernandez-Amador, O., Gacher, M., Larch , M. & George, P.(2013). Does monetary policy determines stock market liquidity. New evidence from the Euro zone. Journal of Empirical Finance, 21, 54-68.

Grossman, S. & Stiglitz, J. (1980). On the impossibility of informationaly efficient markets. American Economic Review, 70, 373-408.

Gupta L.C. (1992). Stock Exchange Trading in India: Agenda for Reforms, Society for Capital Market Research and Development, New Delhi.

Hellwig, H. (1980). On the aggregation of information in competitive markets. *Journal of Economic Theory, 22, 477-498.*

Iyoha, M.A. (2004). Macroeconomics: Theory and policy. Mindex Publishing, Benin City, Nigeria.

Jepkemei, B. (2017). The impact of inflation on stock market liquidity: A case of Nairibi Securities Exchanges, Kenya. *International Journal of Economics, Commerce and Management, 5(1), 319-350.*

Karim, S and Chaudhary, M.G.(2017). Effect of stock market development on economic growth in major South Asian and East Asian Economies. A comparative analysis. *Journal of Business Quarterly.*

Kudaisi, B.V. (2014). An empirical determinant of foreign direct investment in West Africa countries: A panel data analysis. *International Journal of Development and Economic Sustainability, 2(2), 19-36.*

Kumar, G Misra, A.K. (2015). Closer view at the stock market liquidity: *A literature Review. Asian Journal of Finance and accounting, 7(2), 35-57.*

Levine, R & Zervos, S.(1996). Stock market development and long-run growth. *The World Bank Economic Review, 10(2), 323-339.*

Lu, R & Glascock, J.(2011). REITS. A study of macroeconomic effects on liquidity(Available at www.Researchgate.net).

Mbah, S.A., Okoli, T.T. & Amassoma, D. (2017). The impact of macroeconomic indicators on the Nigerian stock market performance. *International Journal of Economics, Commerce and Management, 5(8), 710 – 727.*

Nkechukwu, G., Onyeagba, J. & Okoh, J.(2013). Macroeconomic variables and stock price in Nigeria. A cointegration and Vector Error Correction Model Tests. *International of Science and Research, 4(6), 2319 – 7064.*

Oshaibat, S.A.(2016).The relationship between stock returns and each of inflation, interest rates, share liquidity and remittance of workers in the Amman Stock Exchange. Journal of Internet Banking and Commerce, 21(2), 1-18.

Paskevicius, A & Norkaity, M. (2011). Impact of macroeconomic indices upon the liquidity of the Baltic capital markets. Ekonomika, 90(4), 116-132.

Rasmiah, A & Rasmiah, M.A. (2016). The impact of macroeconomic variables on Amman Stock Ecxhange liquidity measurements. *Research Journal of Finance and Accounting, 7(20), 40-44.*

Shah, A.(1996). The Market for liquidity *in* Shah Ajay (ed) Future of India's Stock Exchange Invest India Foundation.

Wang,Y., Tsai, J. & Li, Q.(2017). Policy impact on Chinese stock market: From 1994 Bailout policies to the 2015 Shanghai-Hong Kong stock connect. *International Journal of Finance Studies, 5(4), 1-19.*