THE IMPACT OF FINANCIAL DEEPENING ON ECONOMIC RECESSION IN NIGERIA

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ABSTRACT

The role of financial services and financial deepening cannot be under-emphasised in growth and development of an economy and therefore as a veritable tool in bringing an economy out of recession. However, economists differ in their positions regarding this. The financial repression argument presented by McKinnon and Shaw was used to show how restriction of banks' activities, interest rates, reserve requirement and credit direction could plunge an economy into recession and if not effectively addressed, may eventually result into depression. The study adopts a time series analysis of selected data set and conducts unit root tests on the data set to avoid spurious result, auto-regressive distributed lag models were constructed and the least square estimation technique was employed in determining the coefficients of the parameter estimates using the E-views statistical package. The evidence indicates that there is a strong positive relationship between financial deepening and economic growth, that high rates of inflation and high levels of money stock could plunge an economy into recession and recommends that government should continue to strengthen the financial system and build the public confidence in the system and seek to address continuous increase in price levels as well as discourage wide interest rate spreads.

Index Terms: financial deepening, recession, unit root, auto-regressive distributed lag model, economic growth

INTRODUCTION

The role of financial services and financial deepening in economic growth and development dates back to the work of Schumpeter (1912), McKinnon and Shaw (1973) amongst others. The financial repression argument presented by McKinnon and Shaw seeks to explain how the restriction of banks' activities, interest rates, reserve requirements and direction of credit all undermines growth, thereby resulting into recession and if not effectively contained, eventually into depression.

Financial liberalization, therefore, seeks to reverse financial repression and support economic growth and development. Furthermore, in a perfect world characterized by an Arrow-Debreu economy, there is no role for the financial services sector and intermediation and transactions cost are absent making the role making of financial intermediation irrelevant.

The Nigerian financial system can be broadly divided into two sub-sectors namely the informal and the formal sectors. While the informal sectors comprising of the local money lenders, the thrifts, savings association are poorly developed, limited in reach and not integrated into the formal financial system, the formal financial system on the other hand can be sub divided into capital and money market institutions made up of the banks and non-banks financial institutions. The financial system comprises of the central bank, commercial bank, mortgage banks, mutual funds, brokerage houses, discount houses, stock exchange amongst others. These institutions trade in currencies, bonds, stocks and in the process mobilise funds from the surplus savers to the deficit spenders.

THEORETICAL LITERATURE

Theoretically, there exist some form of linkage between finance and economic growth. While Schumpeter (1912) posits that finance is paramount for economic growth, Robinson (1952) argues that economic growth promotes financial development. Theoretically, the linkage between finance and economic growth may take different forms Aye (2015). Patrick (1966) presented the notion of the supply-leading role of financial development which states that the financial development causes real economic growth as well as an opposite view referred to as the demand-following hypothesis which purports that real economic growth leads financial sector development. Schumpeter (1911) in his vision for a well-developed capitalist financial system emphasized the importance of the banking system in economic growth.

Gurly and Shaw (1975), Patrick (1966), Goldsmith (1969), McKinnon (1973), Shaw (1973), Levine (1991), King and Levine (1993) reveal that financial revolution has motivated people to invest in a multitude of instruments catering to every possible profile of risk and return and share risks across the world. Their studies also revealed that there has been a profound impact upon financial development giving rise to a group of closely intertwined international markets on which banks corporations, inter countries' trade ties or government agencies trade on an increasing amount of assets such as bonds, shares or currencies.

Levine (1997, 2005) posited that in our modern day cutting edge technological world, transaction cost of accessing external funds has shrunk considerably which can facilitate investment and market's free entry and exit. In a market oriented economy, the financial sector has a special role as it mobilizes resources both domestic and foreign sources in the form of foreign direct investment and allocates them to those investments that are capable of generating highest returns on capital. In this light, a lot of industrialized countries especially the "Asian Tigers" have over

the years achieved significant economic growth rates. However, growth has not been sustainable with the emergence of the Asian Financial Crisis of 1997 as a clear cut evidence and the credit crunch that engulfed the United States Housing market and its accompanied global financial meltdown which exposed the weaknesses of the respective nation's financial systems during the period (Kargbo, Ding and Kabia 2015).

The inadequacies drew researchers to examine the source of economic development and the importance of financial development and stability to sustain economic growth. Furthermore, least developed countries inclusive of sub-sahara countries reveals major deficiencies that render them unable to provide the coverage and extent of support required for the realization of their economic growth potentials which makes it imperative to have a robust, efficient, flexible and stable financial system that can rekindle growth and development in order to save weak economies from collapsing, falling into recession or eventually going to depression.

EMPIRICAL LITERATURE

Empirically, a number of studies have examined the relationship between financial deepening and growth. The few studies that have that have examined this link in Nigeria, investigated the relationship without considering the issue of causality. It is however widely accepted that the existence of a relationship does not imply causality. Nguena and Abimbola (2013) investigated the implication of financial deepening dynamics for financial policy coordination in the WAEMU sub-region and adopted a hypothetical deductive theoretical approach and an empirical investigation in both static and dynamic panel data econometrics analysis. Arestis and Demetriades (2012) purported that financial liberalization can stimulate investment and growth using the Barro growth regression econometric model.

Aye (2015) observed that the causal connection between finance and growth has typically been investigated with standard Granger causality tests and noted that the method suffers from a number of limitations as the test results are sensitive to the functional form in which the vector auto-regression or vector error correcting mechanism is specified. This paper therefore seeks to re-examine the causal link between financial deepening and economic growth in Nigeria.

METHODOLOGY

An annual time series data which covers the period from 1980 to 2015 were used with economic growth measured as gross domestic product(GDP) while financial deepening index is proxied by broad money (M2) and inflation(INF) was also added. The lagged values of GDP and inflation were also included in the regression equation. The stationarity of the data was determined using the Augmented Dickey Fuller test. Furthermore, broad money and GDP were transformed into natural logarithm, the Auto-Regressive Distributed lag (ARDL) model was constructed and employed in estimating the coefficients of the parameters of the regression equation.|

The functional form of the model for the study is presented as:

$\ln Y = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + \mu$, represented as

$\ln GDP = \beta_0 + \beta_1 \ln GDP^1 + \beta_2 \ln M2 + \beta_3 \ln INF + \beta_4 \ln INF^1 + \mu$

where;

lnGDP = natural logarithm of gross domestic product

lnMS = natural logarithm of money stock

lnINF = natural logarithm of inflation

$\ln GDP^1$ = natural logarithm of the lagged value of GDP

$lnINF^{1}$ = natural logarithm of the lagged value of inflation

RESULTS

The results of the unit roots test employing the Augmented Dickey Fuller test are presented below:

Null Hypothesis: GDP has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		5.504923	1.0000
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

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	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(INF) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.370111	0.0001
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	
	10% level	-2.615817	

Null Hypothesis: INF has a unit root
Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.546224	0.1137
Test critical values:	1% level	-3.632900	
	5% level	-2.948404	
	10% level	-2.612874	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: INF has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.655076	0.2602
Test critical values:	1% level	-4.243644	
	5% level	-3.544284	
	10% level	-3.204699	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: M2 has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.519060	0.0004
Test critical values:	1% level	-4.262735	
	5% level	-3.552973	
	10% level	-3.209642	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: M2 has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 9 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		3.634868	1.0000
Test critical values:	1% level	-3.711457	
	5% level	-2.981038	
	10% level	-2.629906	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: M2 has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 9 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		2.355060	1.0000
Test critical values:	1% level	-4.356068	
	5% level	-3.595026	
	10% level	-3.233456	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(M2) has a unit root
Exogenous: Constant
Lag Length: 8 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.568817	0.1120
Test critical values:	1% level	-3.711457	
	5% level	-2.981038	
	10% level	-2.629906	

*MacKinnon (1996) one-sided p-values.

The result of the estimated model using the ARDL method is presented below:

Date: 11/27/17 Time: 18:47
Sample (adjusted): 1981 2015
Included observations: 35 after adjustments
Maximum dependent lags: 4 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic): LM2 INF
Fixed regressors: C
Number of models evalulated: 100
Selected Model: ARDL(1, 0, 1)
Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LGDP(-1)	0.698955	0.104724	6.674257	0.0000
LM2	0.285435	0.098999	2.883220	0.0072
INF	0.001145	0.004766	0.240147	0.8118
INF(-1)	0.011125	0.004717	2.358431	0.0251
C	0.569717	0.218284	2.609981	0.0140

R-squared	0.995980	Mean dependent var	8.113369
Adjusted R-squared	0.995444	S.D. dependent var	2.314345

S.E. of regression	0.156222	Akaike info criterion	-0.743514
Sum squared resid	0.732159	Schwarz criterion	-0.521321
Log likelihood	18.01149	Hannan-Quinn criter.	-0.666813
F-statistic	1857.981	Durbin-Watson stat	1.958832
Prob(F-statistic)	0.000000		

*Note: p-values and any subsequent tests do not account for model selection.

DISCUSSION OF RESULTS

The explained variable GDP was stationary at level with both intercept and trend. Therefore, the null hypothesis that GDP possess unit root is rejected. Inflation on the other hand was not stationary at level but was stationary at first difference with trend and intercept coefficients. Money stock was also not stationary at level but stationary at first difference with trend and at only 5% and 10% levels of significance.

The result of the estimated Auto-Regressive Distributed Lag(ARDL) using the standard error test indicates that the coefficients of M2, lagged values of inflation and GDP are statistically significant. However, it shows that the coefficient of inflation is not statistically significant while the p-value indicates only M2 and lagged value of GDP to be statistically significant.

CONCLUSION AND RECOMMENDATION

Although the relationship between financial deepening proxied by the level of money stock and growth is very strong, there is still a relatively low level of deepening in the financial market during the period studied. This could be attributed to the decline in the country's GDP for more than two consecutive quarters. Also an increase in the general price level result into a corresponding decrease in the value of goods and services available in an economy which will trickle down into deterioration in the level of welfare of the populace and subsequently a fall in their standard of living.

It is recommended that government should continue to strengthen the financial institutions and market and should discourage high interest rate as it curtails the amount of money available for

investment. The government should also ensure that measures are put in place to address continuous increase in prices and continue to build public confidence in the financial system. Also, of utmost importance is that policies should be put in place to discourage the wide rate of interest rates (the difference between the lending and savings rate) in the economy. This will all things being equal result into an increase in the total value of goods and services available in an economy, an increase in the level of employment, reduction in the rate of inflation as well as improvement in the stock market which are all sine qua non for resolving the decline in the country's level of GDP and revamping the economy to achieve prolonged positive economic prospects.

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