Towards Exchange Rate And Financial Deepening: A Dependency Determination

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Abstract: *This study interrogates the effect of exchange rate on the financial development of a nation using Nigeria as a baseline. The article is tailored after the ex-post-facto typology where country level time-series data were obtained and scrutinised on both descriptive and inferential statistical platforms. The outcome of the analyses shows that exchange rate affects a nation's financial growth. This result is anchored on the fact that no country is self-sufficient and the lack of a universal currency, implies that trading and other monetary transactions amongst nations will continue to be shaped by exchange rate vagaries. The direction of impact is dependent on the function of an individual country's economic status. Premised on the conclusion reached and the implications arising therein, we recommend that countries with low domestic production capacity should ensure that their exchange rate relative to the US dollar and other major currencies is not too flat. However, as internal productive capacity rises, the exchange rate should be so reviewed to gain an international competitive advantage for the nation's export. Nigeria as a nation, should review its current exchange rate in line with its economic realities, as evidenced in the lull in the real sector of the economy, to boost its financial depth as a medium-term measure. This should be accompanied by a deliberate strategy for exiting the primary product export chain (market) towards gaining more value for its export. It should drive the process leading to building domestic capacity for competing in the international market for finished products.*
Keywords: *Exchange Rate, Financial Deepening, Financial Growth, broad money supply*

I.   Introduction

Competition for limited and scarce investment funds amongst individuals, corporate bodies and nation-states have assumed fever pitch dimension. At the level of corporate entities, various strategies are being deployed to ensure competitive advantage amongst firms. However, in recent times, nation-states have been involved in multiple promotional activities geared towards attracting investors to their domain. These activities have found a veritable tool on the platform created by advances in Information Communication Technology (ICT), providing broad coverage and reach, inclusive of real time. Beyond this, national leadersof some of the most industrialised nations have sometimes undertaken clandestine moves that have undermined the sovereignty of weaker nations for economic advantage. The resultant effect of these moves has often spelt economic doom for the exploited nations. Also, it is a truism, that foreign policies of these leading nations are contingent on gaining a financial advantage, as can the seen in the veto activities of the countries as it is played out on the floor of the Security Council of the United Nations. The overall import of this development is serious financial and by extension economic implications for the underdeveloped world (nations).

Arising from these debilitating activities is the fact that the underdeveloped world (nations) have always sought for foreign credit to boost their domestic economies, that have still lagged in the development indices. Some of these underdeveloped nations are so impoverished arising from locational disadvantages, to poor economic management, corruption and a weak financial base, that the only way out is through external credit. The need for the massive dependence on foreign credit is further fuelled by the low level of domestic savings to support investment. Accordingly, these countries have always beenin deficit, with a weak currency and exchange rate challenges.

The weak economic base also implies the need to rely on foreign goods, thus creating problems of adverse balance of payments. Also, the enormous payments for external debt burden create a further debilitating effect on the local currencies with its attendant implications. The weight of a weak currency for most of these nations is traceable to their colonially administered model and their economic status at the point of becoming an independent nation-state. Literature has documented the exploitative drive of colonialists, such that at independence, the economic foundations of these nations were so weak that without support from their colonial

masters, they could not stand on their own. The path for financial woes already clandestinely laid, granted that the financial strength of a nation defines its overall national security. Accelerating this path further, was the apparent lack of understanding and foresight from the early nationalist leadership that, without building a stable economic base, their nations' relevance was already methodically confined to the background. These early leaders were enamoured and sucked in with the euphoria of independence, which immediately ignited domestic political power struggles and self-entrenchment moves that made them forget the imperative for laying a solid economic base completely. For some leaders, their lack real nationalist foresight, built upon a stablefinancial base led them into an unholy alliance with the very forces of colonisation who massively exploited the system for individual primitive wealth acquisition via exploiting natural resource endowments at paltry gains to the domestic economies. This fact has been proven empirical by the amount of public wealth stolen, stashed away and often lost to the Swiss economy via their banks. The implication was a swift movement on the path to economic whoredom.

Nigeria as a significant participant in the preceding economic misadventure and criticism, in 1986, the International Monetary Fund (IMF) recommended the Structural Adjustment Programme (SAP) as the way out of the financialpuzzle. A significant plank of the SAP model was currency devaluation with attendant implications for exchange rate policy. This began Nigeria's painful and tortious financial journey into its current state of the economicquagmire. The national currency value (exchange rate) began a smooth passage of steady decline to its current appalling state. What intensified the issue was the fact that the SAP did not foreclose external borrowing, thus as the value of the currency was declining, the nation's foreign debt was increasing, accompanied by massive importation with its balance of payment nuances. The finaloutcome was an economic destination farfetched from the SAP espoused objective, as the projected increase in the domestic economy never panned out and the hopeful resurgence of the value of the currency never saw the light of day.

The narrative has bearing with several scholarly works. However, none of the in-country based prior studies by (Muoghalu, 2007; Adeosola, 2009;Ogege&Ekpudu, 2010; Sulaiman&Azeez, 2010;Ezeabasili, Isu, &Mojekwu, 2011; Ogunmuyiwa, 2011;Mojekwu, 2011; Ezenwa, 2012; Momodu, 2012; Ijeoma, 2013; Iya, Gabdo, &Aminu, 2013; Bamidele &Joseph, 2013;Matthew & Joseph, 2014) addressed the exchange rate, financial deepeninglink.These in-country studies addressed various aspects of the SAP, economic growth link, debt to growth interface, etc thus leaving a void which this current study addresses.This provides the point of departure for the research effort and the imperative to interrogate the bearing of the exchange rate on financial deepening.

II. Literature and Hypothesis Premise
2.1 The Concept of Financial Deepening

The existing literature on financial deepening is agog with various empirical works. The research it has ignited is quite robust and interesting. As reported by David (1996), the McKinnon (1973) and Shaw (1973) analysis injected life into the financial development debate, spawning contributions from many other theorists, most of whom supported their thesis. Also,Nguena and Abimbola (2013) noted that most of the empirical reflections on financial deepening was kick-started with McKinnon (1973) and Shaw (1973) theory of financial liberalisation. McKinnon (1973) and Shaw (1973) outlined the constraints placed on economic development, by an unproductive financial segment and the benefits that accrue from financial liberalisation in developing or lagging economies. As observed by Shaw (1973), financial deepening involves a specialisation in commercial functions and institutions, and organised domestic institutions and markets for gain inrelation to foreign markets. It enables the matching of the informal sector to the formal to facilitate investment. He maintained that an increase in the real size of the monetary system would generate opportunities for the cost-effectiveprocesses of other institutions as well; from bill dealers to industrial banks and insurance companies.In contributing later on the concept of financial deepening inspired by the pioneering works of McKinnon (1973) and Shaw (1973), NnannaandDogo (1998) describedfinancial deepening as a state of an atomised financial system which is mostly free from financial domination. Interestingly, in search for a solution to the elusive aspiration for development at the time, McKinnon (1973) and Shaw (1973) observed that there was too much regulation in the financial system, that was foreclosing the efficient allocation of resources in pursuit of the development agenda. They opined that there were many reasons advanced to justify interventionist financial measures, such as market disappointment, control of exploitation, and protection of the national interest, leading to the frequency in financial repression, arising precisely from policy failure. The market flops because it is controlled and national awareness gets confused with privilege. Thus, there is opposition to financial reform despite its economic advantages. Their advocacy is anchored on the need to liberalise the financial sector by allowing market forces to drive the pace of activities in the economy. From the subsequent works, following their pioneering expose', it is evident that financial deepening describes the extent to which a country's financial system has depth showcased by the degree of leverage giving to market forces to drive the system.

Furthermore, the avalanche of research ignited by their pioneering work has led to scholars interrogating the factors that shape financial deepening. From the effiorts of (Boyd, Levine & Smith, 2001; Demetriades, &Luintel, 2001; Collier, Hoeffer&Pattillo, 2001; Boyce &Ndikumana, 2001; Odhiambo, 2006; Chinn & Ito, 2006;Tanomoune, 2007;Beck et al. 2008; Ang, 2008; Moboladji&Ndako, 2008;Allen et al. 2010) amongst several others, the existing literature has identified; inflation rate and pattern, interest rate, degree of trade openness, level financial openness, GDP per capita growth rate, population density and savings rate, real exchange rate, level of reserves and sometimes what has now come to be known as diaspora transfers back to their home country as stimulants of financial deepening. The preceding variables have be designated as drivers of financial deepening- a cursory look at the list of variables clearly signposts economicliberalisation as a common denominator.

Beyond identifying the list of FD determinants, various empirical studies have also outlined the benefits that support the McKinnon (1973) and Shaw (1973) financial liberalisation theorization. The conclusion is divided into two dimensions. The ones in support and the competitorsaganst excess financial deepening. Though, from these two strands, the scale is tilted in favour of the McKinnon (1973) and Shaw (1973) standpoint. For scholarly works on the benefits of financial deepening see (Edison, Levine, Ricci, &Slok, 2002;Beck and Levine, 2004; Rousseau and Vuthipadadorn, 2005; Levine, 2005; Bekaert, Harvey, &Lundblad, 2005; Mavrotas& Son, 2006;Danchen and Juan, 2007; Kose, Prasad, Rogoff, & Wei, 2008;Perera&Paudal, 2009;Odhiambo, 2010;Ang, 2008& 2010;Anwar and Nguyen, 2011; Hamori and Hashiguchi, 2012; Bumann, Hermes, &Lensick, 2013). Whereas, for the antagonists of the danger of excess financial deepening, see (Stiglitz & Weiss, 1981; Diamond &Dybvig, 1983;Demirgüç-Kunt&Detragiache, 1998; Boot 2000; Stiglitz, 2000;Hellmann, Murdock and Stiglitz, 2000; Klingebiel, Kroszner, &Laeven, 2007). The foregoing empirical works have demonstrated the need for liberalising the financial sector. However, corporate scandals and the global financial meltdown has signposted the fact that left alone market forces cannot adequately self-regulate, without some form of intervention.

From the pioneering work of McKinnon (1973) and Shaw (1973), delineating financial deepening statistical is near impossible. This is contingent on the broad perspective of the espousal of the construct. Most the dimensional attributes counts are non quantitative, implying a foreclosure of real empirical analyses covering the entire gamut of financial depening attribute counts. Given this rationale, for the purpose of this current effort, financial deepening shall be discriminated by a single attribute, the ratio of broad money supply to GDP at the country level.

2.2 Exchange rate

The absence of a single universal currency amongst nations meant that currencies of trading countries must be benchmarked against one another. This gap accounts for the long and rich history of the discourse on the exchange rate as captured in the existing literature following the birth of the modern economy. As opined by Michael (1984), exchange rate is the relative price of one nation's money in terms of that of another country, hence it is natural to think of an exchange rate as determined, at least proximately by the outstanding stocks of these monies and by the demands to hold these money stocks. For Blaise & Aaron (2013), exchange rates are vital prices in the economy. For more on the concept of exchange rate see (Jhingan, 2005;Khan and Jain, 2009; Usman and Adejare, 2013; Nwankwo, 2014; Omojolaibi and Gibadebo, 2014) amongst numerous others. The preponderance of contributors on the concept is indicative of the level its import and generality. Hence, the value of one currency benchmarked against another denotes exchange rate.

Interestingly, the composition and dynamics associated with the modern global economy makes it imperative for continuous trading amongst nations and between nations. Attempts to create regional currencies that would eliminate the issue of the exchange rate has not been successful beyond the eurozone. The implication of this is that, inter currency value would continue to be a significant determining fact in international business, represented by trading amongst and between countries.See (Michael, 1984; and Mark, 1995) for details on the economics and theories of the exchange rate.Conceptually therefore, exchange rate is the amount for which various sovereign currencies are traded amongst themselves.

The volume of scholarly works that have documented the centrality of the exchange rate construct on the modern economy are too numerous. There is no lack of studies that have captured the import of exchange rate. For example, the works of (;Tan, 2009; Bakare, 2011;Klein and Shambaugh 2012; Ramzan et al., 2012; Taiwo and Adesola, 2013; Uddin et al., 2014;Adeoye and Saibu, 2014; Medel et al., 2015; Adelowokan, et al., 2015; Hina and qayyum, 2015; Dilmaghani and tehranchian, 2015; Isola et al., 2016; Okonkwo et al., 2017; Mohammed and Abdulmuahymin, 2016;Oleka, 2016; Etuk et al., 2016; Chipeta et al., 2017;Rahim et al 2018) are amongst some recents works that have deposed the cardinality of the exchange rate dilemma. In essence, ther is no want of literature on the place of exchange rate in modern economic palance.

2.3Theoretical Premise of Financial Deepening
This work is based on certain theoretical espousals that have shaped research and policy formulation in both constructs of financial deepening and exchange rate. Thus, in this work, some core theoretical paradigms were captured to provide a theoretical foundation for the research effort.

2.3.1 McKinnon's and Shaw's Financial Liberalization Hypothesis
The financial Liberalization hypothesis is concerned with the efficient mobilisation of credit via financial deepening. Financial deepening tends to acceleratethe ratio of private domestic savings to income. With real growth of financial institutions, credit seekers will have access to borrowing, and there will be incentives for savings, with many players and borrowing will become cheaper. Savings also will tend to rise in the government sector.Also, financial deepening permits the business process of mobilising and allocating savings to displace inflation and foreign aid. It enables superior allocation of savings through widening and diversifying the commercial market; where investment opportunities compete for savings flow. The savers are offered a more comprehensive menu of portfolio choices; the market is broadened in terms of scale, maturity and risk (Shaw, 1973).

Furthermore, financial deepening is an essential pre-requisite for a competitive and innovative disposition of savings flows. Thus, financial deepening and its allied policies bring in equal distribution of capital and reduce monopoly rents, arising from import, licenses to few importers and bank borrowers. With it, there will be the availability of financial information, local capital markets integration and new avenues for pooling savings and specialised investments. The theory, argues that financial deepening enhances credit management, leading to positive real deposit rates that raises the savings rate, a positive correlation between the degree of financial deepening and growth rate, increased real rate that raises the level of investment and increased real deposit rate that promote economic growth (Oshikoya, 1992; Ozturk, 2008)**.**

According to McKinnon and Shaw (1973), the financial system of many developing countries are characterized by high ownership structure, resulting in Oligopolistic practices which encourages privileged access to credit for large companies but limited access to smaller and emerging companies, as a result of repressed or shallow financial system characterised by slow growth of financial assets and business structure. Financial deepening breaks this barrier by the integration of the formal and informal credit markets, which result in the efficient transfer of funds between savers and investors globally. In support of McKinnon and Shaw (1973), Jao (1976) argued that financial repression is a consequence of inappropriate policies, which imposed ceilings on nominal interest rates, the existence of fixed exchange rates, which overvalue the domestic currency and inhibits the expansion of the economic base. That these policies penalize savings, suppress market signals relating to capital scarcities and encourage lop-sided development of capital-intensive industries and that to keep interest rate liberalisation on track, it requires close cooperation between monetary authorities and government agencies responsible for structural reforms in the real sector.

2.3.2 Other Related Theories
From the early work of Schumpeter, (1911) to the outstanding paradigm of McKinnon and Shaw's Financial Liberalization Hypothesis, various scholars have proposed different theoretical constructs that shaped the financial deepening discourse. Thus, from the works of (Levine, 1999, 2002, 2005; Beck and Levine, 2004; Kose, Prasad, Rogoff, & Wei, 2010), market-based, bank-based, financial services-based and law and finance based theories have been espoused. For instance, the financial services based theorisation by (Kose et al. 2010) is anchored on both the bank-based and market-based proposals, that emphasize the centrality of financial services provided by the banking sector, as key participants in the economic liberalisation framework. Meanwhile, the market-based theory outlines the imperative of deregulated market system, that allows for an efficient market system fostering growth, profit incentives, strong corporate governance, diversification and risk management. For the bank-based theory, the emphasis is on creating an enabling environment that allows banks to mobilise savings and channelsame to viable investment outlets that propel economic growth, as well as reduction of risk. Finally. The law and finance theory harpson effective legal system, where the rule of law is supreme, where investors can seek and obtain redress where necessary. The relevance of the law theory is well showcased in the negative vibes that the absence of the rule of law resonates around the globe for any country. This scare away foreign investors, as well as making domestic investors very cautious in business adventures, and this accounts for why states undertake various forms of campaigns, including propaganda to present a law-abiding image.

The spread of the theories outlined above and their linkages is indicative of the fact that financial activities are at the fabric of our existence as a people. No wonder, the pursuit of wealth lies at the heart of the majority of human endeavours and national government policy thrusts.

2.3.3. Purchasing Power Parity and Balance of Payments Theories of Exchange Rate
The exchange rate construct has been operationalized via primary theoretical strands. In this regard, Michael, (1984) opined that a central objective of theoretical simulations of exchange rate determination, ought to be a stronger understanding of the monetaryinstruments,overriding the actual behaviour of exchange rates in the real world and the relationship between exchange rates and other important economic variables. For instance, the theoretical literature captures two basic theoretical paradigms of the exchange rate as; Purchasing Power Parity (PPP) and Balance of Payments (BoP). PPP theory of exchange rate, is underscored by the fact that movements in exchange rates over time is contingent on the dynamics of national price levels. In other words, this theoretical strand espouses that exchange rate is a function of the general price level (inflationary trend) in an economy.While,BoPposits that the status of a country's balance of payments determines the exchange rate. What both theories deposes is about the explainatory variablesof exchange rates. In their interrogation of exchange rate determinants, conceptualised under the two methods (Michael, 1984), concluded that no simple model exchange rate determination philosophy is sufficient on its own, to explain the observed movements or changes in rates under a floating exchange rate regime adequately. However, it is essential to note that both the PPP and BoP operate under a free or floating exchange rate regime, and it implies that under fixed or inflexible rate policy, what drives exchange rate is a government decision and this rate can only change when the government alters it. It is not amenable to market forces or state of the economy.Conclusively, the literature on the exchange rate has clearly shown that the fixed typology is not amenable. It is considered repressive.
The preceeding theoretical literature excusion underscores the current research effort, for both variable dimensions encapsulated in this work.

2.4 Some Prior Studies
Various prior studies have been done on the exchange rate as indicated earlier on in various climes. There is preponderance of scholarly works on exchange rate detailing various perpectives and domains.The empirical literature on the exchange is enormous. For instance, (Blaise & Aaron, 2013) studied the links between exchange rate volatility, the real economy and financial markets and observed that many emerging economies have intervened in the foreign exchange markets in the previous decade to contain volatility and possibly to curb appreciation pressures in their currencies. To the extent that intervention restricts the overall scope of exchange rate flexibility, there may be implications in terms of real economic outcomes and financial market development and concluded that the relationship between exchange rate flexibility and the development of financial markets is less clear. A multitude of different factors influence financial market development, and the credibility of the chosen foreign exchange rate regime also plays a non-trivial role. They also averred, that, the relationships between exchange rates and the real economy are complex, and there are many contributing factors, such as levels of income, market imperfections and financial development.
Furthermore, Aghion, Bacchetta, Ranciere andRogoff (2009) interrogated the relationship between exchange rate volatility and productivity growth: the role of financial development, and concluded that low levels of financial depth, benchmarked by the ratio of credit to GDP, generally negate growth. While, an earlier work by Rodrik (2008) on the real exchange rate and economic growth, noted that the extent to possible exchange rate misalignments account, for the empirically observed relationships between productivity growth and exchange rate volatility was not clear. He inferred that the growth impact of exchange rate undervaluation depends on the level of development, with stronger effects found in lower-income economies, as exchange rate undervaluation can stimulate growth if the tradable goods sector is affected disproportionately by market failures or institutional weaknesses (Rodrik, 2008).
Some other studies on the exchange construct, were based on decomposing the merits and demerits of fixed and flexible exchange rates and their impact on economic growth. For instance, in a related earlier study on the mirage of fixed exchange rates, (Obstfield&Rogoff, 1995), concluded that a flexible exchange rate was more beneficial than a fixed rate, given that the flexible exchange rate has capacity for hedging the economy against the negative effects of external shocks through its countercyclical role in reducing output volatility. Their work was based on the fact that this period represented an era where most emerging economies had controlled or fixed exchange rate. Also, see(Tornell& Velasco, 2000;Calvo & Reinhart, 2002;Rogoff& Yu-chin, 2003;Goldstein & Turner, 2004,Thorbecke, 2008;Filardo& Grenville, 2012)
Similarly, studies by Miyajima, Mohanty and Chan (2012) on local currency bonds in emerging markets, highlighted the vital role exchange rate plays in shaping the development of domestic currency bonds, as Mihaljek and Packer (2010); Allayannis andOffek(2001) and Geczy, Minton and Schrand(1997)have earlier concluded on the link between exchange rate and the derivative market in emerging economies.
Quite curiously, interrogation of country level studies on exchange rate have indicated the existence of a gap. For most of the studies (Rano-Aliyu, 2009; Aliyu, 2011; Obansa et al., 2013; Rasaq, 2013; Ayodele, 2014; Adeniran, Yusuf and Adeyomi, 2014; Azu and Nasri, 2015; Lawal et al., 2016;) concentrated of exchange

rate behavioural disposition and economic growth . Others like (Lawal, 2016) concentrated on exchange rate and manufacturing output. While, Olufayo and Fagite (2014) investigated the link between exchange rate volatility and sectoral export development. For Osinubi and Amaghionyeodiwe (2009), the focus was on foreign direct investment and exchange rate volatility, thus leaving a room for further scholarly incursions in the field.

On the FD front, be that as it may, Agu and Chukwu (2008) interrogate the relationship between financial deepening and economic progress in Nigeria using time series data spanning from 1970 to 2005, and concluded that FD impacts on economic development. Their conclusion is akin to that of (Sulaiman&Azzez, 2012; and Shittu, 2012). In the same vein, the decision from the empirical work of Onwumere, Ibe, Ozoh and Mounanu(2012) on the FD construct, concluded that that broad money velocity and market liquidity promote economic growth in Nigeria, while money stock diversification, financialinstability and market capitalisation did not within the period studied. The study recommended that government policy should be geared towards increasing money supply and promoting efficient capital market, that will enhance overall economic efficiency, create and expand liquidity, mobilise savings, enhance capital accumulation, transfer resources from traditional sectors to growth-inducing sectors.

Similarly, Nwanna andChinwudu (2016) examined the effect of financial deepening on economic growth in Nigeria from 1985 to 2014 and observed that both bank-based and capital market financial deepening proxies have significant and positive influence on economic development and that the banking segment and capital market in the country has asubstantial role in the process of economic growth. Furthermore, studies by (Arcand, Berkes, &Panizza 2012;Philippon&Reshef, 2012 & 2013;**Eugster 2014)** did argue that too much finance increases the frequency of booms and busts and leaves countries ultimately worse off and with lower real GDP growth ant that it also leads to a diversion of talent and intellectual capital away from productive sectors and toward the financial industry.

From the preceding existing literature, and the specific country level studies it does reveal a gap in studies on the interface between EXR and FD. Also as earlier sign posted, prior works (i.eBlaise& Aaron, 2013),have considered various determinats of FD, hence this study and the hypothesised relationship espoused herein:

Ho: *Exchange rates (EXR) have no significant bearing on financial deepening (FD).*

III. Methodology and Empirical model

Adopting the ex-post factor research design here is anchored on the nature of the study, which is an after the effect typology, hence the use of country level aggregate time-series data.A study period of 36 years was captured and official country level data were sourced from authorized releases by the Debt Management Office (DMO), the Central Bank of Nigeria (CBN) Statistical Bulletins, Nigeria Securities Exchange (NSE). The data collected include; the ratios of the broad money supply to GDP (M2/GDP) and Official Exchange Rate.The data wasanalysed using ordinary least square (OLS),and operationalized via the e-views platform.

IV. Empirical Model and Data Analyses

The model was formulated using financial deepening as the dependent variable, while the explanatory variable is the Official Exchange Rate.

The model was formulated as follows:

Mathematically; GDP = f (EXR)………………………………….(1)

To make the Mathematical expression estimable, it was transformed as equation (2) below:

GDP1 = bo + b1EXR+ et. …………………………………(2)

Where;

bo = a constant

b1= coefficient of the independent variable

GDP_t = ratios of the broad money supply to GDP (M2/GDP),

EXR = Official Exchange Rate

et =the disturbance term or error term

Table 1. Summary of Descriptive Statistics

Parameters	FD	EXR
Mean	15.44118	72.99405
Median	17.00000	57.37225
Maximum	38.00000	193.2792
Minimum	1.200000	0.547000
Std. Dev.	8.155722	66.72580
Skewness	0.323575	0.173922
Kurtosis	3.696455	1.329785
Jarque-Bera	1.280458	4.123371
Probability	0.527172	0.127239

Sum		525.0000	2481.798
Sum Sq. Dev.		2195.021	146926.90
Observations		**36**	**36**

Source: Authors' computation
Key: FD (Financial Deepening)
   EXR (Exchange Rate)

As seen in table 1 the mean for FD (ratios of the broad money supply to GDP (M2/GDP)), EXR (Exchange Rate) are 15.44118, and 72.99405 respectively. While the median for FD and EXR are 17.00000and 57.37225, respectively. Furthermore,the maximum and minimum values for FD are 38.00000 &1.200000. Whereas, that of EXR are 193.2792&0.547000 respectively.Meanwhile, the standard deviations for FD and EXR are8.155722and 66.72580 respectively.Positive skewness implies that the distribution has a long right tail and negative skewness suggests that the delivery has a long left tail. From the above table, we observe that FD and EXR both have positive skewness with values of 0.323575 and 0.173922 respectively, as such, they have long right tails. Further descriptive statistics are as reflected in the table.

Table 2. Augmented Dickey-Fuller Unit Root Test Result

	AT LEVEL				AT 1ST DIFFERENCE				
Variable	ADF Test Statistic	Critical Value at 5%	Lag	Remarks	ADF Test Statistic	Critical Value at 5%	Lag	Remarks	Order of integration
FD	-2.463458	-3.544284	0	NS	-7.378229	-3.548490	0	S	I(1)
EXR	-2.159852	-3.544284	0	NS	-5.354541	-3.548490	0	S	I(1)

Source: Authors' Computation

The a priori expectation when using the ADF test is that a variable is stationary when the value of the ADF test statistic is higher than the critical value at 5%. None of the variables used met this a priori expectation at levels as they were non-stationary (NS) and as such were differentiated once to become stationary (S). The result of the unit root test presented in table 2 above indicates that the variables used in the model have unit root problem when revealed at their level form, but curved stationery after their first difference.

Table 3: Johansen Cointegrated Test
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.230063	12.80989	18.39771	0.2531
At most 1 *	0.108914	3.920698	3.841466	0.0477

Trace test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.230063	8.889188	17.14769	0.5071
At most 1 *	0.108914	3.920698	3.841466	0.0477

Source: Authors' computation

In table 3 is captured the output from the test indicating term association between the variables. The Trace and the Maximal-Eigen value test identified one cointegration each at 5% level of significance, which highlights the presence of a long run relationship between the hypothesized variables. The presence of at least one cointegrating equation necessitates the analysis of the VECM. The VECM which is used to derive the long-run co-integrating relationship consists of two parts: long-run co-integrating coefficients and the short-run typologycoefficients. The outcome of both dimensions are encapsulated in the preceeding two tables presented hereunder:

Table 4. Vector Error Correction Estimates (VECM): Long Run Relationship

FD	EXR
1.000000	-0.114458
	(0.01231)
	[-9.29700]

Source: Authors' computation

The test output captures the presence of an extended term relationship between financial deepening and exchange rate. Also, The coefficients of the one-period lagged differences in the table can be interpreted as the short-run parameters representing the short-run effect of exchange rate on financial deepening. The result is presented below.

Table 5. Short run Coefficient

Error Correction:	D(FD)	D(EXR)
CointEq1	-0.434359	-0.088654
	(0.17248)	(0.52984)
	[-2.51827]	[-0.16732]

Source: Authors' computation

To extend the scope of data diagnostics, the correlation test was also conducted with the output as indictated in table 6 below:

Table 6. Correlation Analysis

	FD	EXR
FD	1.000000	0.651772
EXR	0.651772	1.000000

Source: Authors' Computation

The test output encapsulates empirically the connection between FD and EXR. The implication of this is that there is a marriage between both variables, suggesting the need to careful attention in national policy formulation. Going forward, the Granger causality test was also deployed and the output is indicated in table 7 below:

Table 7.Result of Pairwise Granger-Causality Test (1980-2015) with 2-period Lag length

Null Hypothesis:	Obs	F-Statistic	Prob.
EXR does not Granger Cause FD	34	2.57189	0.0937
FD does not Granger Cause EXR		0.39938	0.6744

Source: Authors' Computation

The output of the Granger causality test indicates that FD (M2/GDP) has causality with EXR. This analytical output signposts the need for critical scenario analyses as a prelude to borrowing.Following the indication from the prior country level data analyses and the revealed pattern, the t-test statistic was deployed to decompose the hypothesis of the study. The test output is as presented in table 8 below:

Table 8. Result of t-test of Hypothesis

Variables	Student t-cal (Table value)	Student t-stat. for Financial deepening (Regression output)
Ho$_3$EXR	1.697	5.354541

Source: Authors' computation

From the result of the t-test, it is evident that the null hypothesis did not pan out, given that the regressed output is higher than the critical table value. Therefore, we can,infer that EXR affects financial deepening.

V. Conclusion, Implications and Recommendations

The need to ontribute to expanding the frontiers of knowledge, propelled the inquisition into the link between EXR and FD. The broad import of EXR is well documented in the literature, but country level analyses on the interface between the espoused variables was wanting. Aginst this proviso, country level data spanning 36 years was obtained and scrutinized using the e-views platform. Based on the outcome of the statistical connectivity test, we conclude that EXR bears a significantl relationship with financial deepening.

The implication of the foregoing deposition, is that an increase in country level exchange rate or a decrease,relative to the USD,embodies broadbasedimplications for foreign trade and the domestic economy in general. The direction of the swing of the impact is consigned to the economic developmental index of the country. A glaring example is that of China. Despite her menancing dominance in global trade, the country's currency has continued to trail the US dollar, on purpose to remain competitive. The outcome is massive flow of export leading a growth in the real sector. This has engendered a deep financial pocket for the Chinese economy. Balance of payments have remainde favourable on account of the huge export earnings. However,when the domestic currency is priced high relative to others, for a none-productive economy, it leads to trade deficit and serious alien repayment obligations. This is because, the absence of domestic output means import reliance, like the current Nigerian scenario, with severe implications for import payment obligations and by extension reducing the amount money available for investment. However, for a producing economy, the rise in pricing implies gaining competitive advantage in the international market, thus leading to enhanced domestic capacity, with implications for the growing domestic money stock.

Specifically, the Nigerian economy as construed currently, smacks of the absence of a robust domestic real sector and the absence of value-adding activities (the dominance of primary products in the nation's export milieu), implies that the current EXR of 360 naira to 1 USD is a recipe for economic disaster. A further implication of the conclusion espoused here, is the reality that, the manufacturing sector currently depends a lot of imported raw and semi-raw materials inputs, driven by the absence of local content alternatives. This means depleting of the nation's resources for high import payments due to EXR, given that import reliance currently is inevitable if production must continue. From this, we can infer that a high exchange rate against the dollar would continue to deplete the nation's scarce resources.

Premised on the conclusion reached and the implications arising therein, we recommend that nations with low domestic production capacity should ensure that their exchange rate relative to the US dollar and other major currencies is not too flat. However, as internalproductive capacity rises, the exchange rate should be so reviewed to gain an international competitive advantage for the nation's export. Nigeria as a nation, should review its current exchange rate in line with its economic realities, as evidenced in the lull in the real sector of the economy, to boost its financial depth as a medium-term measure. This should be accompanied by a deliberate strategy for exiting the primary product export chain (market) towards gaining more value for its export. It should drive the process leading to building domestic capacity for competing in the international market for finished products, asthis would inadvertently alter the nation's current negative balance of payments position and ensure the inflow of revenue via export promotions in the finished goods sector, ultimately contributing to the nation's financial depth.

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