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Ditch the NAIRA and Champion the ECO?

A Post-Forex Crisis Assessment

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ABSTRACT

The 2014-2017 forex crisis in Nigeria highlights two significant drawbacks of oil dependency in the country. The first being the challenge monetary policy in Nigeria faces in facilitating both stability and economic growth. The second drawback is the inability of the countries exchange rate regime to cope with shocks to the oil-dependent economy.

The ECOWAS Monetary Union is a potential solution to the constraints and vulnerabilities of the Nigerian economy. Through a holistic assessment of both the theory, empirical studies and the use of the Eurozone as a case study, I conclude that Nigeria should benefit from the ECOWAS Monetary Union. The analysis in this paper is both timely and endogenous when considered alongside the 2014-2017 forex crisis.

This paper presents a method of analyzing a monetary union that is based on an individual state's perspective. Such a method of analysis if replicated and collated across different countries and techniques will provide a more rigorous analysis of the ECOWAS Monetary Union.

Keywords: CBN, ECOWAS, Forex, Nigeria, OCA, WAMZ

Introduction:

In 2000, further development towards ECOWAS's planned monetary integration were made with the establishment of West African Monetary Zone (WAMZ)[1]. The initial intention of the WAMZ agreement was to establish the zone by 2003 and subsequently merge it with L'Union économique et monétaire Ouest-Africaine (UEMOA)[2] in 2004 to form a single currency area across the two. Fast forward to 2015, ECOWAS members opted to abandon the interim monetary union of the WAMZ states in a bid to create a single currency area across the whole ECOWAS region by 2020. However, previous failures to establish the WAMZ union has placed doubts over the political commitment to meeting the 2020 deadline. The name of the ECOWAS currency will be the ECO. The paper seeks to address the foreign exchange crises in Nigeria.

Section I: Theory of Optimum Currency Area

Traditional theory

The theory OCA is vast; however, one can expect to find commonality amongst the literature through reference to the three founding theories of OCA put forward in the 1960s. It is imperative to consider these founding thoughts in this paper sufficiently to be in line with mainstream monetary union studies. An OCA is a geographic region that maximizes economic efficiency by sharing a common currency. Despite discussions on OCA taking place before the 1960s Robert Mundell's paper titled "A Theory of Optimum Currency Areas" is often credited with originating the concept (1961). In his paper, he calls for economists to look beyond the doubts over political feasibility often used to downplay the viability of a currency union. To properly assess the merit of a union focus must be placed on the economic implications of such union. The

[1] WAMZ Countries: Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone

[2] UEMOA consists of ECOWAS member states that use the CFA franc as a common currency: Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo. It was established in 1994.

political feasibility that OCA theory faced in the 1960s resembles the contemporary criticisms of a currency union in Africa. However, in a similar fashion to Mundell focus shall be placed on the economic implications of the ECO in this paper.

Mundell (1961) uses examples to illustrate the impact asymmetric shocks can have on unemployment and inflation for two countries. By comparing the resulting consequences for these countries, he highlights the roles exchange rates and monetary policy play in different scenarios and exchange regimes. The main takeaway is that when shocks cause central banks with different currencies to enforce similar monetary policies, they cannot adequately control for both unemployment and inflation due to preserved exchange rate equilibrium. Subsequently, in Mundell (1961), we are shown an example where national currency borders are exchanged for currency borders based on responses to asymmetric shocks such that both central banks do not take the same monetary actions. In this case, when faced with asymmetric shocks a flexible regional currency can play its shock-absorbing role effectively. Using asymmetric shocks to define currency borders allows monetary policy to respond effectively to both unemployment and inflation. Although greatly simplified, the same explanation behind the shock absorbing ability of flexible exchange rates can be applied to argue for currency borders based on correlating asymmetric shocks. Given the fact that correlating shocks are not confined to national areas Mundell shows that there is scope for OCA outside of national borders. Herein we have a founding theory of OCA that makes it difficult to argue for flexible exchange rates but against the existence of OCAs.

Factor of Production

In the previous examples, we assumed low factor mobility to inflate the role in exchange rates play in determining the impact asymmetric shocks have in two countries. However, further on in his paper Mundell challenges the Ricardian assumption that factors of production (FOP) have high internal and low external mobility. By relaxing this assumption in the monetary theory of trade then flexible exchange rates only work if organized along factor mobility lines otherwise movements in factors of production can stabilize prices and unemployment making performing the stabilizing role a potential common currency would fulfil.

During the initial stages of the European common market formation, Meade (1957) used the lack of factor mobility as a case to suggest Western Europe was not ready for a single currency. However, Scitovsky (1958) believed a common currency would induce more factor mobility within a monetary union. The division of opinion in OCA theory between ex-ante and ex-post integration will be explored further on in this paper. The unique aspect of Meade and Scitovsky's contradiction is, as Mundell (1961) points out, not whether OCA in itself as a theory holds, but when and how to determine its existence.

Trade Openness

In 1961 we were introduced to two of the main criteria that are used to assess the viability of a region as an OCA. By offering an alternative view to the boundaries of a flexible exchange rate Mundell (1961) proposes that similar responses to asymmetric shocks and a high degree of factor mobility can identify an OCA. McKinnon (1963) adds to OCA literature by suggesting that the level of trade openness is a key attribute that requires consideration.

McKinnon (1963) also uses the vulnerability concerning inflation and unemployment as the basis of his proposal. Removing the presence of flexible exchange rates between a country and their trading partners can reduce the

transmitted destabilizing implications of free trade. The aforementioned amongst others is one of the main reasons commodity-driven countries such as Nigeria find it necessary to fix their exchange rates. Failure to do so transmits the volatility of commodity prices into their exchange rates and subsequently the real economy. Nigeria may have little to gain from an ECOWAS monetary union based on trade as African countries only constitute 15% of Nigeria's Trade and 62% of that coming from South Africa in 2016[3].

Recall the divide between ex-ante and ex-post integration in our assessment of factors of mobility as an OCA criterion. The case of trade provides the same divide in opinion. Masson and Pattillo (2004) based on Glick and Rose (2002) specifications show evidence of post-monetary union trade gains as they estimate trade to be three times larger between fellow monetary union states than non-union states. With the suggestion that monetary union can improve price transparency and reduce transaction cost presented by De Grauwe (2009), it is possible to conceive a framework for greater trade between member's ex-post of a monetary union. The ability of Nigeria to increase trade ex-post would mean McKinnon (1963) openness criteria is of more importance in the success of a union less so in determining an OCA.

Diversification

In 1969 Kenen another prominent contributor to the theory of OCA asserted the need for a country to have a high level of product diversification before joining a monetary union. He agrees with Mundell (1961) views on asymmetric shock correlation as diversified countries are less likely to suffer from asymmetric shock as the law of large numbers imposes the ability for product diversification to offset negative shocks. He again refers to Mundell (1961) as he superimposes the need for labour mobility by asserting that more diversified areas are more adept

[3] The observatory of economic complexity: http://atlas.media.mit.edu/en/

to labour mobility due to the greater number of employment opportunities within that economy. Kenen (1969) arguments would suggest that Nigeria's oil-dependent economy would not be suited for a monetary union unless there is enough labour mobility within the region to impede the stabilizing impact of a fixed exchange rate in the region. However, a careful survey is required when comparing Kenen's assertions to the state of Nigeria's exchange rate regime. His recommendations are pro-fixed exchange rates for diversified economies, yet flexible for undiversified economies. He also confesses to the "major caveat" that his assertions ignore the impacts of the business cycle:

> *"When those occur the whole range of exports will be hit, and export diversification cannot forestall 'imported' instability… Fixed rates, it is said are much to be preferred if one's authorities, especially the central bank, are less adept or more err than those of other countries" Kenen(1969)*

This acknowledgement makes it difficult to apply the Kenen (1969) criteria to Nigeria. On the one hand, Nigeria is undiversified making it unsuited for a monetary union. While on the contrary, a lack of central bank independence would suggest Nigeria gains most from a fixed exchange rate, which in Mundell (1961) framework is akin to entering an OCA. Crude oil, which renders Nigeria undiversified, was at the route of Nigeria's 2016 recession. This complex relationship diversification and business cycle make Nigeria an inconsistent case in Kenen's (1969) framework.

The overall theme in Traditional OCA is the ability of an OCA to handle asymmetric shocks is essential. The authors vary on the main influences and causes of asymmetric shocks that need consideration in a common currency framework.

New theory of OCA

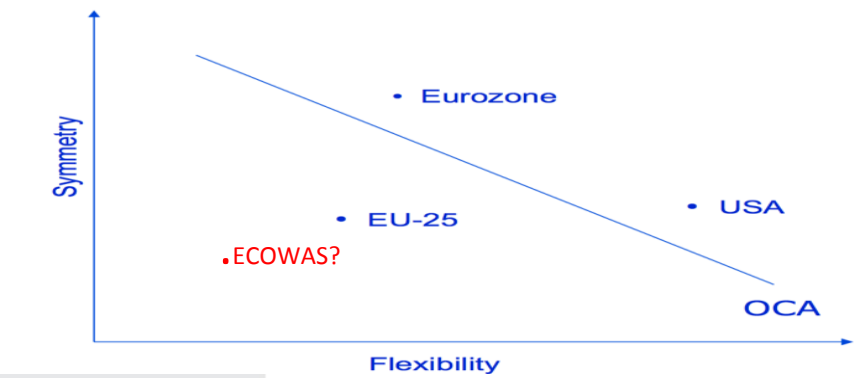
Further to the discussion on diversifications role in a Monetary Union Mundell (1973) departs from his previous assertion on asymmetric shocks as he introduces the concepts: asset diversification and international risk sharing. Mundell alleges that countries within a monetary union are not as affected by asymmetric shocks as financial claims on other union members will spread the impact of shocks across union members. Also, due to a larger pool of currency reserves that results from a monetary union, the impacts of shocks are again lessened for individual countries as they can draw down on their reserves, while other members share the burden of preventing a significant depreciation by maintaining their reserves. Applying these advantages of a monetary union to the Nigerian case: a greater flow of financial capital and reduction in reserve burdens are two remedies that would have counteracted the pressures that led to the erosion of Nigeria's foreign reserves in the 2014-2017 forex crisis and subsequent recession.

The shift of placing more importance on the role of financial flows in determining an OCA is predicated on the level of financial integration within that area. However, it is not clear as to how much financial integration is required ex-ante versus the degree of increase in financial integration that comes ex-post. This is similar to the previous divide in views mentioned in the previous sections.

Mundell's shift in his assertions is recognized as the beginning of the new theory of optimum currency area. The most obvious shift in new theory is the greater emphasis placed on analyzing the costs and benefits of a union. Many prominent economists including De Grauwe's (2016) look at labor, Krugman(1993) on specialization, Frankel and Rose(1998) on trade, and Obstfield and Rogoff (2011) on diversification have advanced the inferences made in Traditional OCA theory. The general theme of modern optimum OCA theory is that there is a tradeoff between symmetry and flexibility in determining

the greater of benefits and costs a monetary union administers. From this generalized hypothesis, we have the downward sloping OCA line which contemporary empirical studies model their analysis on:

Figure 6: OCA Line



Source: De Grauwe Economics of Monetary Union Oxford Lecture and edit by Author

An unresolved conflict in OCA theory is the division of opinion between Economist (Kenysian) and Monetarists. We have already explored these opposing views in Meade (1957) and Scitovsky (1958). The divide was most notable during the 1980s during the formation of the European Monetary Union (EMU). (Mongelli 2008) The 'French monetarist' championed the forward-looking approach and argued that monetary integration could drive convergence towards OCA criteria. The implication of this school of thought is that institution building, and facilitation of a Monetary Union are of more concern. In opposition, the "German economists" argued for more emphasis on coordination of economic policies and convergence of OCA criteria as this would reduce the spill-over from high inflation countries to others within a monetary union. Their assertion being that convergence was most important ex-ante monetary union.

Challenging OCA Theory

The largest limitation to OCA theory is the number of theories and frameworks. Already in this paper, we have seen various potential theories one can use to determine the most important criteria are for an OCA. The lack of a single framework makes it possible for multiple interpretations as to what constitutes an OCA, and thus one can only truly know the effects after establishing a union. In addition to this, there is little said on the timeline for an OCA to reach optimum efficiency making it difficult post-union to know if the integration has failed or is still adjusting. Tavlas (1994) coined this property the "problem of inconclusiveness".

The majority of traditional OCA theory is predicated on the Keynesian belief that monetary policy is an effective policy instrument. However, in the 1970s we are introduced to the rational expectation theory where economic agents are rational and should anticipate any changes in monetary policy. This anticipation effectively succumbs monetary policy to only being able to control inflation and not employment. Based on this New Classical school of economic thought traditional OCA theory comes into question as it is originally predicated on the limitations of monetary policy.

Calvo and Reinhart (2002) also make the assertion that the loss of monetary autonomy is small for countries with weak monetary policy. Given that the loss of monetary policy autonomy is ordinarily given as the main cost of a monetary union Calvo and Reinhart (2002) conclusions highlight the difficulty in performing an effective cost vs. benefit analysis of an OCA.

Tower and Willet (1970) allude to the idea that OCA theory is not necessarily powerful as a theory, but rather as a tool to assess the benefits and costs of a monetary union for individual countries. Taking this into account, and the reality that currencies follow national borders, not economic boundaries, I suggest that

we take OCA theory on asymmetric shocks as a guideline as opposed to a checklist.

Section II: ECOWAS Monetary Union

There is scarce literature testing OCA theory on the ECOWAS region compared to that which was available during formation of the EMU. Data is the leading cause of this scarcity in addition to the lack of political commitment towards is implementation. Nonetheless, we shall review some of the prominent work done on the field the majority of which focuses on correlating responses to shocks.

Asymmetric Shocks

Most empirical studies on asymmetric shocks separate them into supply, demand, and monetary, and employ structural vector autoregressive decompositions methods. One of the earliest studies on OCA in Africa was performed by Július Horváth and Richard Grabowski (1997). They find there to be a significant level of demand shock symmetry between west and central francophone African countries, in addition to some symmetry between non-neighboring countries. However, they find very little supply shock symmetry across the entire continent and conclude that there is little evidence of an OCA on the Continent. In more recent work Harvey and Cushing (2015) use various techniques to identify the shock behavior of countries within the WAMZ[4] region. Also, they test for linear dependence of these shocks amongst member states. Their results suggest that ECOWAS is not an OCA as it fails to see significantly common shocks or responses to shocks. The argument is based on the fact that the lack of business cycle convergence makes it unadvisable to introduce a union as the central bank will be faced with difficult monetary policy decisions.

[4] Recall: WAMZ consists of Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone

The lack of convergence would effectively mean stabilizing policies may benefit some members yet harm others. Their Structural vector autoregressive model does highlight a significant level of convergence between Ghana and Guinea. However, this fails to replicate a core group of countries in which the union could be built around, which was the suggestion of Bayoumi and Eichengreen (1997) when they highlight such a core group in the Eurozone.

In making their conclusions Harvey and Cushing (2015) make use of five Eurozone[5] countries to provide a range in which to test the correlation between WAMZ countries. Their comparison is flawed as they do not consider the "monetarist" view that correlation may be an ex-post phenomenon. Thus, using ex-post monetary union correlation as a benchmark for an ex-ante monetary union is not informative. Based on this although their results are numerically small we do not have a strong benchmark in which to compare their significance from an OCA perspective. A better analysis would have been to compare results to pre-Eurozone correlations; however, the difference in time, geography, and economic climate facing the EMU then and ECOWAS today would make that benchmark would be equally ambiguous. Additionally, one would also need to assume that the Eurozone is an OCA, which in itself is heavily debated.

Jallow (2013) applies the theory of shock correlations in a global perspective. Given the magnitude of the 2007 financial crisis testing in a global perspective is warranted. His results show a lack of correlation between ECOWAS countries and price shocks in the US, UK and France (Appendix 2), which supports the claims made by Harving and Cushing (2015). However, when testing for co-integration in exchange rates, he finds multiple models of co-integration models between the Naira, CFA, Dalasi and Cedi (Appendix 3)[6]. His discovery of co-integration between exchange coincides with Enders and Hums (1994) concept of Generalized-Purchasing-Power-Parity (GPP). The results suggest that the

[5] Spain, France, Italy, Greece and Germany
[6] Currencies of Nigeria, UEOMA, Gambia and Ghana respectively

evidence of co-integration amongst exchange rates, by removing stationary noise, implies some interrelation in macroeconomic trends in the long run and the co-movement of bilateral exchange rates. Both the concept of GPP and shock symmetry would suggest ECOWAS does constitute an OCA making Jallow (2013) conclusions mixed.

In other work by Ogunkola (2005) he shows co-integration to exist more strongly amongst CFA countries and non-CFA Countries, but not so much between the two sets. Evidently, opinions on asymmetric shocks in the ECOWAS region are varied with more weight suggesting the ECOWAS region is not an OCA. However, recalling that even the Eurozone was not perfectly symmetrical before its union perhaps more emphasis should arguably be placed on the ability of an ECOWAS central bank to respond to shocks within the region.

Fiscal Policy Convergence

The 2020 criteria for potential ECO member states does not place primary focus on shock convergence[7]. Assertions made on the need for shock convergence is still very much a theoretical phenom, which makes it impractical to use as criteria. It is also exempted due to modern day OCA theory being more monetarist in nature, i.e.; shock convergence can occur post-union as trade, factors of mobility and diversification will increase post-union. Following in the footsteps of the 1991 Maastricht Treaty that established the EMU convergence criteria ECOWAS members have placed heavy emphasis on fiscal convergence, and monetary policy independence by placing limits on fiscal deficit, taxes and the degree of central bank financing.

Placing emphasis on fiscal variables allows for practical membership rules, as well as reducing the likelihood of a crisis spreading throughout a union. The prohibition of bail-outs is considered the primary reason for fiscal restraints in a

[7] See appendix for criteria

monetary union. Eichengreen and Wyplosz, (1998) highlight that it is not possible to completely remove the probability of bailouts, however, limiting the deficit of member states can significantly reduce the likelihood of a bailout. Central bank bailouts require the reduction of interest rates or monetizing of debt. Both of which create inflationary pressures throughout a union. Large deficits also create substantial levels of debt overhang, which can result in underinvestment by a government, which also increases the economies vulnerability to shocks and financial distress. A softer, but ever real aspect of fiscal restraints in a union is the signaling of commitment by adhering to restraints. Failure to meet or maintain fiscal constraints is viewed as a lack of commitment to a union, and subsequently, decreases the likelihood of the union's success and its credibility to hold ex-post.

The 2009 European debt crisis serves as a comprehensive case study for the need for fiscal convergence and discipline within a monetary union. Debrun (2000) highlights how weak fiscal and monetary policies can increase bailout pressures on a regional central bank. With ECOWAS members having a history of both a lack of fiscal discipline[8] and central bank independence[9] the need for fiscal restraints is even more important.

Debrun et al. (2003) analyze both the desirability and sustainability of an ECOWAS Monetary Union and concludes that there are gains to be made from a union. However, the durability of this they argue is predicated on fiscal discipline and interference. They also question whether Nigeria would be a suitable member of the union given their dominance in the region and track record of ambitious public expenditure, which may enable them to pressure a central bank into administering favorable policies. They place fiscal convergence as the primary obstacle for a successful monetary union.

[8] Based on Africa Progress Panel Report: 2013.
[9] The Central Bank Independence Index 10 calculated by Arnone, Laurens and Segalotto (2009) for West African countries gives the following scores: 0.69 for BCEAO; 0.63 for Guinea; 0.50 for Ghana; 0.44 for Nigeria, against an average of 0.47 in Africa.

Evidently, three key focus points that need to be addressed in the ECO union are:

- Fiscal constraints need to be feasible and efficient, however determining the appropriate level of constraints is made difficult given there is a degree of a self-fulfilling prophecy in the data given ECOWAS countries have been making attempts to converge to the criteria since 2000.

- Fiscal constraints need adequate monitoring. WAMI[10] is charged with monitoring convergence criteria. However, using corruption indexes as a proxy for the difficulty in accurately measuring fiscal expenditure we find ECOWAS members amongst the poorest performers[11]. Corruption may highlight unaccountable expenditure, which makes monitoring more difficult

- Sanctions for violating countries needs to be effective as a deterrent, yet not to the extent that it is detrimental to the growth of violating countries.

Unlike the criteria in previous sections, the argument between ex-ante and ex-post is reduced. Fiscal policy convergence It is important before union as it is harder to attain after, and failure to converge shortly after union reduces the effectiveness of monetary policy and the credibility of the central bank. Conclusively joining a successful monetary union requires sacrificing some fiscal autonomy. So far this cost would not seem to be a major burden to the Nigerian government as they have maintained an average deficit to GDP percentage of 2.85% from 1981 to 2015 vs. the 4% required to join the ECOWAS Monetary Union. However, note that this is predicated on oil revenues.

The credibility of Union is dependent on the member countries commitment. Further push backs in the implementation of the ECO will significantly dampen the credibility of the union, which is a key factor behind some of the unions' benefits. Bacoup and Ndoye (2016) point out that to accelerate the progress

[10] West African Monetary Institute tasked with monitoring criteria convergence
[11] Transparency International's Corruption Perceptions Index

being made the union requires a champion to take ownership of the project. Nigeria's economic strength in the region makes them a suitable candidate for the championship of the ECOWAS Monetary Union's 2020 deadline. However, to recommend Nigeria do so we must first assess the ECO from Nigeria's point of view, which tests on correlating shocks within a region do not adequately do.

Section III: Nigeria

Nigeria's Forex Crisis

In 2016 the Nigerian Government announced its intentions to discontinue its fixed exchange rate regime as it became too costly to maintain following the crash in oil prices, which eroded their dollar reserves. The Nigerian government effectively adopted a managed-floating Naira instead of the free-floating Naira they initially intended. The semi-reversal in direction resulted in the widening of the Official and Black-Market rate as foreign investors pulled out of Nigerian assets and speculators took on the CBN. The CBN responded to the persistent widening by introducing multiple exchange windows to help service additional dollar demands in Nigeria. Although subsequent improvements in oil prices enabled the CBNs response to prevent the gap from widening further were successful, it greatly complicated the Nigerian exchange market and left the economy in the contradicting position of high unemployment and high interest rates.

The CBN's decision to introduce various measures between a managed-float and capital controls implied a violation of the economic theory of the impossible trinity presented by Mundell-Flemming, which states that to pursue such a policy the CBN must forgo monetary independence. It is not clear as to whether this is the short- or long-term solution for the bank. The inability of the CBN to commit to a clear a long-term solution has led to a reduction in investor confidence in the country at a time when non-oil sector investment is

paramount. The forex crisis naturally begs the question of how effective monetary policy and exchange regime in Nigeria are against instability.

Figures 1-6 add visual context to the implications of the 2014-2017 forex crisis in Nigeria.

Figure 1: Naira exchange rate following devaluation[12]

Figure 2: Rise in core inflation following Naira devaluation[13]

12 Source: Bloomberg and abokifx.com

13 Source National Bureau of Statistics Nigeria via Tradenomics.com

Figure 3 CBN Foreign Reserves following oil price crash from Mid 2014: Mid 2016[14]

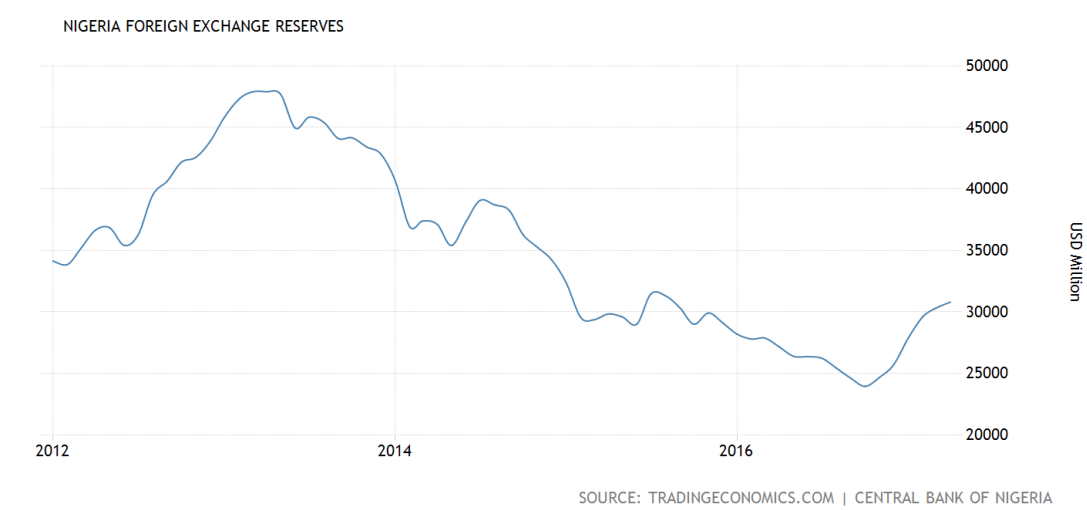
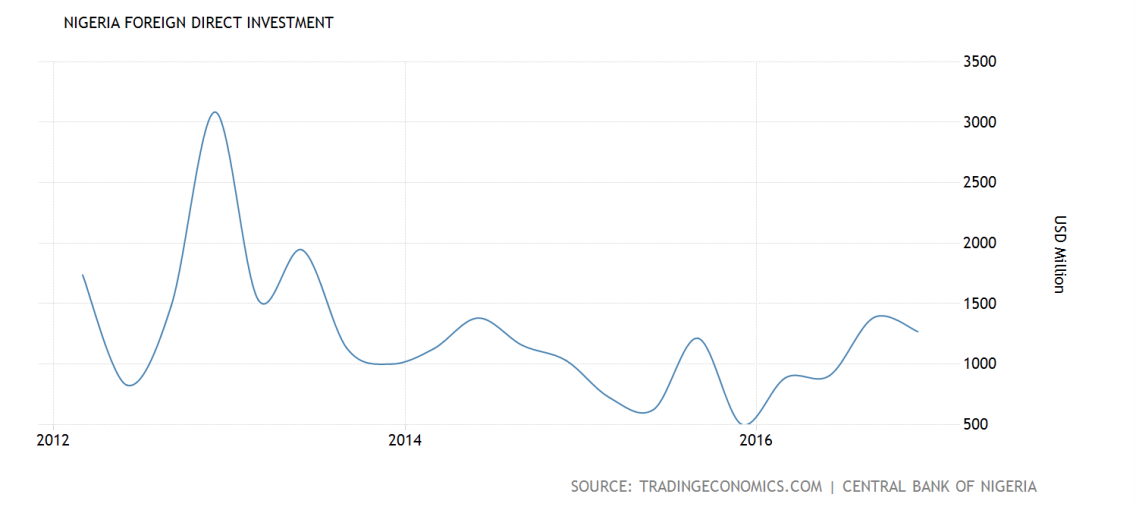


Figure 4: Decline in FDI following oil price crash from Mid 2014: Mid 2016[15]



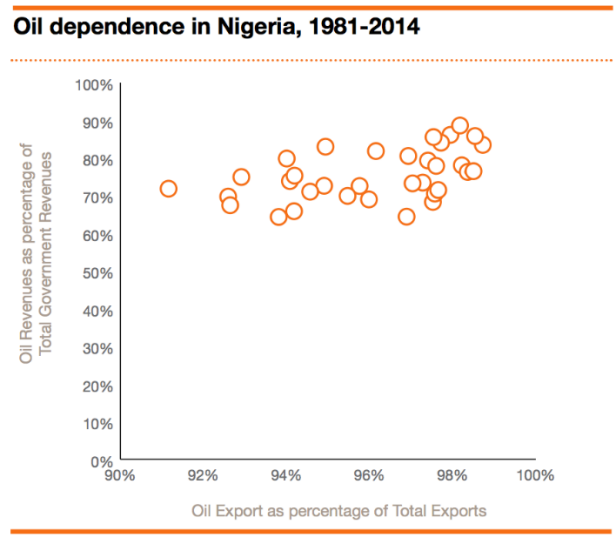
Source 5: Nigerian Stock Market following oil price crash oil price crash from Mid 2014: Mid 2016 [16]

14 Source National Bureau of Statistics Nigeria via Tradenomics.com

15 Source National Bureau of Statistics Nigeria via Tradenomics.com

16 Source National Bureau of Statistics Nigeria via Tradenomics.com

Figure 6: Nigeria's oil dependency from 1981-2014 [17][18]



Monetary Policy

The empirical studies on the optimal long-term exchange rate regime the CBN should employ is varied[19]. From the 2015 forex crisis and the extended periods of double-digit inflation[20] we have grounds to question the CBN's ability to maintain stability. Similar to other ECOWAS countries the CBN has a history of

[17] See Gokmenoglu, Korhan K., Festus Victor Bekun, and Nigar Taspinar. (2016), Ikein (2016) Asekunowo and Olaiya (201) for further review of Nigeria's oil dependency

[18] Source PWC Nigeria: Fiscal and Macroeconomic analyses 2015

[19] See Akinlo and Lawal (2015), Ogundipe et al., (2013), Loto (2011), Eregha (2016)

[20] Depicted in Figure 2 above- Core inflation excludes oil driven inflation amongst others

fiscal dominance, which provides some answers to the question on the effectiveness of Nigerian monetary policy for economic stability. Evidence suggesting fiscal dominance was prevalent during the 1980s and 1990s where monetary policy financed large fiscal deficits that averaged 5.6% of GDP (Onyeiwu 2012). The amount of credit offered to the government also significantly outweighed that provided to the private sector during the same period. It was not until 1993 that amendments were made to the Central Bank's Act to lessen the influence the Ministry of Finance could exert on the CBN. However, Oyejide (2003) finds evidence that the fiscal dominance and state of the financial markets still hindered the effectiveness of monetary policy after 1993.

Onyeiwu (2012) deploys OLS and co-integration techniques to analyze the impact of monetary policy on GDP. He uses money supply metrics to show some significance in monetary policy in regards to economic growth. His results show a particularly significant role of money supply toward Nigeria's economic growth. However, given the size of the cash-based payment system and informal economy, the ability of the CBN to control the money supply is limited. This points to the need for improvements in financial infrastructure for monetary policy to be a driving force for economic growth.

For the CBN to contribute to both stability and growth a common theme in empirical studies on Nigeria's monetary policy is the need for the central bank to focus on creating a stable investment environment as this will spur the much-needed growth in non-oil sectors. However; as we have learnt from the 2015 forex crisis, capital flows can be indirectly dictated by the price of crude oil. Considering the role capital markets play in the development of emerging economies there are three key areas of improvement the CBN can contribute to macroeconomic instability, the illiquidity of the market and the size of the financial market.

To summarize, the 2015 forex crisis highlighted the need for Nigeria to reduce its exposure to the price of oil, while greater monetary policy independence and financial infrastructure improvements are needed to make monetary policy more effective in Nigeria. Arguably had Nigeria been in a successful monetary union it could have avoided the currency related impact of the oil price drop on the Nigerian economy, this is because the currency of the union would be more diversified in its determining exports. The cost of a monetary union would be the loss of monetary policy autonomy. However, the evidence reviewed in this paper thus far suggests that monetary policy is ineffective in countering instability cost in Nigeria.

Section IV: ECOWAS Monetary Union and Nigeria

Bacoup and Ndoye (2016) asserts the need for a hastening of the introduction of a single West African currency. They present a well-argued case for ensuring the 2020 deadline is met by a full monetary union, which they describe as "The Big Bang" option. Their main argument is that failure to do so will have negative implications towards the credibility of the union, and questions over the political commitment. In this last section, I will survey both empirical studies and examples from the Eurozone to judge the benefits for Nigerian in the ECOWAS Monetary Union.

Greater Stability

As Nigeria is one of the few oil-dependent countries in the region, a crash in oil prices would not have had the same impact had they been part of a union. Mundell (1973) idea of international risk sharing would suggest the Government could have drawn down on centralized reserves to protect the trade balance thus spreading the risk to other ECOWAS members. Instead or in addition to, the Stabilisation and Cooperation Fund (SCF) provided for in the initial 2000 WAMI

agreement could have provided emergency funds to stabilize Nigeria. The European Financial Stability Facility (ESSF) played this role by rescuing Greece in the European debt crisis in 2009. Work by Ching and Dereveux (2000) also show there are gains to be made in a monetary union through risk sharing via asset diversification introduced by Mundell (1973). Their work indicates that this gain is even more substantial for countries like Nigeria who currently issue debt in foreign currencies.

Externally the concept of global liquidity in international finance highlights the destabilizing impact the monetary policy of major currencies countries can have on other economies Shin (2013). From a political point of view, an ECOWAS common currency would have greater strength in international monetary coordination dialogue, and could better negotiate measures to reduce the impact of global liquidity on the ECOWAS countries.

The trade implications of a monetary union also provide scope for more stability. Derbrun, Masson, and Pattillo (2002) find significant growth in trade post-union, which could stimulate the growth of non-oil exports. Additionally, Charalambos et al., (2006) support claims of substantial trade growth from a monetary union, as well as stating that this can lead to less trade volatility given the lower price volatility between members.

A monetary union presents a strong case for its ability to assist economic stability in Nigeria when faced with external shocks as well as facilitating diversification. However, this comparison would need to be tested in a systemic case to be. Which also highlights the added burden poor performing members may be to Nigeria's stability akin to the Greek-German relationship during the 2009 European debt crisis.

Credible Monetary Policy

If a monetary union is to be formed within ECOWAS, then it will mean Nigeria will have to forgo monetary policy autonomy. We have already assessed the role of the CBN in Nigeria, and from that analysis, the cost of forfeiting monetary policy could be evaluated as low. A more credible supranational bank could bring a boost to investor confidence as it removes a layer of uncertainty in monetary policy and fiscal influence. Also, membership in the ECOWAS Monetary Union places fiscal constraints, which would force the Nigerian Government to spend more efficiently and create more confidence in meeting inflation targets as membership is predicated on this.

Given Nigeria's significant economic presence in the region for a regional central bank to maintain its credibility it must not show too much influence over its decisions from Nigeria. No influence is not necessarily the best position for Nigeria as they could be in a similar situation to German and have greater ground to pressure the regional bank for favorable monetary policies. However, this must be traded off against the impact on the credibility of the central bank.

Greater access to Capital

An ECOWAS monetary union may be better suited to facilitating investment and economic growth through greater financial depth. One of the major barriers to financial integration is transaction costs (De Grauwe, 2009). A monetary union would significantly reduce this by the removal of convertibility frictions and the integration of financial systems.

In his survey of the Eurozone Lane (2013) finds the harmonization of regulation and a common currency explain the level of capital flows for EU members more than other developed economies. Again if we lean on the Euro example, there are stark benefits that a monetary union can induce. A larger pool of capital could reduce liquidity risk within capital markets, and thus lessen the cost of

capital and enable financial capital markets to play a greater role in Nigeria's economic development.

The benefits of greater financial depth are of particular importance to Nigeria as it has a need to develop its non-oil sectors. The growth in the pool of borrowers from financial integration could see the cost of borrowing reduce for banks as they can better diversify their risk across the region. Olowofeso et al. (2015) show a statistically significant relationship between private sector credit and economic growth in Nigeria, and thus by increasing the competition between banks and decreasing their risks and monetary union should foster greater private sector growth.

There are two considerations to make when determining the benefit of greater capital in a monetary union. Particularly in Nigeria's case the size of its informal economy and the cash-based system could prove a hindrance on the gains from more financial depth. The resources and time that would be required to ensure optima may have significant implications for the cost-benefit analysis of the ECO in the short term. While in the long run, we must be mindful of the potential destabilizing characteristics of a larger and mobile financial market a lesson the 2009 European debt crisis offers.

Conclusion

Based on traditional Optimum Currency Area theory the ECOWAS region would fall short of being an OCA due to the absence of asymmetric shock convergence. However, OCA theory remains varied in both the theory and the methods for its empirical study. The lack of unity in OCA theory makes it more suited as a guide than the determining factors for implementing monetary union. (Tower and Willet 1970)

To join a monetary union is a choice, and to properly maximize the economic gain across the region, each state's union membership decisions require the

thorough analysis of the net position of individual states. The majority of West African Monetary Union literature attempts to determine union suitability from regional and continental perspectives. This approach results in the unique characteristics of each country to be lost in analysis. This paper presents a framework for both future empirical study and literature reviews on Monetary Union from an individual states' perspective. A collation of such work would offer a more rigorous analysis of the ECOWAS monetary union than the work that is currency available.

The question of whether Nigeria should champion the monetary union is based on the assumption that such championship will increase the speed and likelihood of the union's fruition. In this paper, I have presented arguments that are unique to the Nigerian economy, highlighted in the recent forex crisis. Through this review, there is a clear trade-off for Nigeria: Stability vs. Flexibility. However, given fiscal dominance, a need for a more inclusive financial framework, and the need for financial capital to facilitate non-oil sector I recommend Nigeria considers forgoing monetary autonomy and devotes more resource towards the ECO project. Such a recommendation is only possible when one matches the needs of the Nigerian Economy to the costs and benefits of monetary union.

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APPENDIX

Appendix 1: 2020 ECOWAS monetary union convergence Criteria:

Primary Criteria:

- a single-digit inflation rate at the end of each year,
- a fiscal deficit of no more than four per cent of GDP,
- a central bank deficit-financing of no more than 10% of the previous year's tax revenue,
- and gross external reserves that can give import cover for a minimum of three months.

Secondary Criteria:

- prohibition of new domestic default payments and liquidation of existing ones,
- tax revenue should be equal to or greater than 20% of GDP,
- wage bill to tax revenue equal to or less than 35%,
- public investment to tax revenue equal to or greater than 20%
- a stable real exchange rate
- a positive real interest rate.

Source: WAMI Website

Appendix 2: ECOWAS member's Correlation to shocks in US, UK and France

US price shocks	UK price shocks	French price shocks
significantly affects GDP growth in		
Benin	Benin	Benin
Burkina Faso	Burkina Faso	Burkina Faso
Cote d'Ivoire	Cote d'Ivoire	Cote d'Ivoire
Niger	Gambia	Niger
Togo	Niger	Togo
	Togo	
significantly affects real money demand in		
Benin	Guinea Bissau	Benin
Guinea Bissau	Niger	Cote d'Ivoire
Niger		Guinea Bissau
		Niger
significantly affects counsumer prices in		
Benin	Benin	Benin
Burkina Faso	Burkina Faso	Burkina Faso
Gambia	Nigeria	Nigeria
Nigeria	Niger	Niger
Niger	Togo	Togo
Togo		

Appendix 3: Co-integration between ECOWAS currencies

Exchange Rate	Countries	Number of Cointegrating	
		Trace test	Max-eigen value test
CFA/Dalasi	Senegal-Gambia	2	2
CFA/Cedi	Senegal-Ghana	2	2
CFA/Naira	Senegal-Nigeria	1	1
Dalasi/Cedi	Gambia-Ghana	2	2
Dalasi/Naira	Gambia-Nigeria	2	2
Cedi/Naira	Ghana-Nigeria	2	2

Source: Jallow (2013) using World Bank Data