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The advanced proposed architecture of Eco-currency; technical analysis of West Africa single currency program.

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ABSTRACT

The different target of the time period has been established over the past two decades in the institutionalization of a single currency union in West Africa. Depending on varied reasons the proposed programs have always failed before the set timelines in respect of ECOWAS monetary unification and single currency adoption. As a result, the paper explored and developed its argument based on the existing studies of structured economic shocks, significant to the failure of the single currency union, and its major causal factors. And with observed structured analysis propose catalytic activator method as a theoretical guide to attain the single currency union within three (3) years ahead, if the necessary requirement as the commitment level of members' State is applied towards the single currency unification program. It then elaborates in the spirit of precision the process required to sustain the eco-currency program in other to elevate members State in an out-date of its domestic currencies struggling as a subservient economic bloc to the adoption of a new anticipated domineering currency in its own merit to shoulder with the global dominating hard currencies.

Key words: Eco-currency, Monetary Union, ECOWAS, Central Bank, Monetary Policy

Jel.Codes: E2, E3, E4, E5, E6

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A. HISTORY AND BACKGROUND OF ECO-CURRENCY INSTITUTIONALIZATION

Ever since the idea of establishing a single currency for the Economic Community of West African States (ECOWAS) was first launched in Conakry Guinea in 1983 after ECOWAS was founded in 1975 and operationalized from 1979 to bring together brothers of the Portuguese-speaking countries, French-speaking countries, and English Speaking countries together. There have been varied submitted intellectual works to argue for and against the success of a single currency union proposal, which hasn't find the daylight yet. With estimated evidence of 58% of quality papers on this subject matter from independent scholars based in Europe and USA, 30% of the independent scholars from the francophone countries within the ECOWAS region, 10% among the Anglophone countries within the ECOWAS region led by Nigerian authors and the remaining 2% from the Asian Universities led by China. When the single currency union was lunched, a monetary cooperation program was proposed, which was subsequently validated in July 1987 according to the account of (Amato & Nubukpo, 2020). In other to implement the idea of a single currency at the level of the entire ECOWAS, the new West Africa Monetary Agency (WAMA) was formed in 1996 to replace the Monetary Cooperation Program (MCP) tasked to accomplish the following;

[I] In the short term phase the agency was charged to strengthen the currency payment mechanism of the West Africa clearing house by removing outstanding payment arrears.

[II] Introduction of new payment instrument such as travelers' cheque

[III] The introduction of credit guarantees funds to support the clearing mechanism and remove all non-tariff barriers that limit the use of national currencies for payments of certain transactions, such as hotel bills, airline tickets, etc.

[IV] In the medium term, the agency was to oversee the limited conversion of national currencies, which must be eliminated to avoid restrictions in inter-currency exchange

[V] In the long term, it was the agency's focus to create a single ECOWAS currency monetary area that modifies the use of a single convertible currency.

The Political commitment to renewed monetary cooperation was carried out by Ghana and Nigeria after December 1999 and subsequently accepted by Guinea, the Gambia, Sierra Leone, and Liberia constituting a new league of Anglophone countries to transform the idea of an acceleration approach towards monetary integration into actualize actions in a realistic and achievable proposal and collaborate with the francophone counterpart to create a successful monetary union with a single currency agenda. The crystallization of this idea led to the formation of the West Africa Monetary Zone (WFMZ) on April 20, 2000, in Accra, Ghana. In the 2nd Summit of the African Conference of Heads of State and Government on the 15th December 2000; the statute of the future Central Bank of the West Africa Monetary Zone was drafted. The next effort was to be pooling of foreign reserves, as well as negotiate the convertibility of the foreign currency guarantee with an appropriate international agency. Which required members' State to implement economic reform programs to achieve macroeconomic convergence including political reform agenda.

On the 21st December 2019, this union defined its latest step of execution, which was to conclude the credibility of the monetary integration of the ECOWAS made up of 15 countries as a whole, instead of 16 countries. These countries are Sierra Leone, Ivory Coast, Nigeria, Benin, Ghana, Guinea-Conakry, Gambia, Burkina Faso, Niger, Liberia, Togo, Cape Verde, Senegal, Guinea-Bissau, Mali, and Togo. Which the 16th Country Mauritania with a minor misunderstand redrew from the membership of ECOWAS on 26th December 2000. With the paper holding a

strong conviction of her return soon as a founding member of this Union. With the community unanimous understanding that to attain credibility of the monetary integration of the ECOWAS area strictly depends not only on monetary stability but also on the implementation of a mechanism to support a strong, inclusive, and development centered growth. Which had monetary integration as the integral component of the ECOWAS vision 2020. The aim of this vision is the intensification of the integration process through the promotion of the West African identity and community, within the populations of the continent of Africa and the world as a whole. Therefore, the regional strategic plan of the ECOWAS was to see the intensification of economic and monetary integration as an important pillar for the development of the community. Meanwhile (Saxegaard, 2006: Buchs & Mathisen, 2005: Senzu, 2019), they were very pessimistic and argued that the success of single currency union of ECOWAS for vision 2020 was likely impossible because the community is having many monetary problems, in particular, the immediate non-convertibility between their currencies and poorly developed financial systems and payment channels as well as ineffective monetary policies transmission channels. To crown, it all was an observation of strong imbalances between the exchange rates of different currencies in play within the region including high national debt to GDP effect. Nevertheless, the single currency union was not a mission impossible beyond ECOWAS vision 2020.

B. LITERATURE AND THEORY OF OPTIMAL CURRENCY AREA

In the early works of the single currency union and monetary zone, Mundell (1961) argued, factors to define an optimal currency area was labour mobility and price flexibility. Subsequent studies in this area from (Mckinnon, 1963: Kenen, 1969) concluded, such criteria from Mundell, may not necessarily be the conditions towards the establishment of a monetary

union but the objectives to be achieved through the establishment of the optimal currency area, with new findings, which presented Static and Dynamic analysis of optimality of a currency area. The Static approach focuses on the analysis of exogenously given criteria of an optimal currency area, why the dynamic approach focuses on endogenous. (Mundell, 1961; McKinnon, 1963; Kenen, 1969) all hold to the simplest definition of an optimal currency area (OCA), as a geographic region in which the establishment of a single currency would be beneficial because the benefit for the area as a whole would be greater than the costs, for the simple reason that the operating conditions of the area are already given. Mundell (1961) studies, postulated specific trade-offs to measure costs and benefits. He stated, to form an optimal currency area, the area should not be too small to avoid the risk of speculation on the International monetary markets, but not also too large, because differences between countries increase with geographical extension, which inhibits the key criterion for a good optimal currency area, which demand a high degree of mobility of factors to production with special emphasis to labour. And believe is a means to nullify the effect of exogenous asymmetric shocks. And concluded in the absence of sufficient mobility, recommended the exchange rate flexibility regime as an adjustment channel. (Setsofia et. al, 2020) asserts, the current study focused in ECOWAS region complemented the earlier theories of the need of people within the optimal currency area to [i] Easily move across countries for trade, business and employment [ii] The OCA should be broad in production and experts structure [iii] Countries in the designated OCA should be self-sufficient and less dependent in terms of financial and economic planning as well as expenses [iv] The will of individual countries within the zone program to mutually compensate to each other during trade deficit difficulties among member countries. However, McKinnon (1963), had argued earlier, when a country is more open to trade, the more it wages and prices are influenced by the

exchange rate. Therefore to be able to solve for less changes in the exchange rate, did required external adjustment channel operation, through the improvement of 'terms of trade'. (Nubukpo, 2019: Giro, 2019) submitted from their studies, ECOWAS countries are very open economies, positioned in the lower part of the global value chain, with weak complementary index and a very low level of interchange. For this very reason (Amato & Nunokpo, 2020) submitted an empirical report of Trade Specialization Index of ECOWAS from 1995-2012, which was fluctuating between 0.75 and 0.95 for Coffee, Tea, Cocoa, Spices and derived commodities of an average of 0.87. In the ECOWAS region, it trade specialization index of Cocoa was 0.98 against 0.52 for Coffee. Fruit and Vegetable were 0.35, Cotton was (-0.70), Glass (-0.95), Iron and Steel (-0.88), and (-0.58) manufacturing products. And concluded the ECOWAS condition is characterized by a preponderance of significant coefficients for structural demand shocks compared to structural supply shocks. Kenen (1969) submitted, the desire of a given economy to join a monetary union should depend on the level of diversification, meaning internal specialization of prospective economies of the union. Which, he further argued, a more diversified economy is less exposed to the risk of being destabilized by the kind of shock, hence the exchange rate becomes less useful for obtaining macroeconomic adjustment and rather emphasize on the importance of fiscal integration as an adjustment tool. Since the ECOWAS region has a very weak trade specialization, then exchange rate regime will be a required criterion for the ECOWAS monetary union moving forward, as a result, Swinwaka (2010) proposed fixed exchange rate as the option for the ECOWAS proposed optimal currency area, then (Diop and Fall, 2011) complemented the earlier preposition with an empirical demonstration of ECOWAS optimal currency area to depend on fixed or intermediate exchange rate. With the new comprehensive approach to exchange rate proposed by (Amato & Nunokpo,

2020), which suggested, the approach to the exchange rate regime to the entering of the single currency program should depend on the following conditional factors prevailing as outlined below;

[i] A regime of fixed exchange rates with fiscal federalism

[ii] A flexible exchange rate regime with coordination of tax policies

[iii] A flexible exchange rate regime with fiscal federalism only in (Ideal scenario)

This conclusion was established from a theoretical proposition of ex-post argument of Sala-i-Martin and Sachs (1992), who indicated that 30-50% of income decreases caused by asymmetric shocks is subsequently compensated by Federal Budget in a form of transfers and tax reductions as an insurance mechanism in the proper functioning of the monetary union in the USA. In the following year Krugman (1993), did show that the establishment of a fixed exchange rate regime between economies of a currency area, and even more so the adoption of a single currency would lead to a specialization of individual countries and therefore to asymmetric shocks. And believe that integration allows for intensification of comparative advantages, which in turn results in a strong specialization in the production of goods. The high exchange rate has always lead to inflation in the domestic economy. Which the works of Fleming, 1971 submitted in favour of the traditional framework of optimal currency area focusing on the convergence of inflation rate argued, such problem is easier to solve when there is a synchronization of business cycles and the volume of trade of each member country. Beginning from 1994, theoreticians began to critique the validity of the whole theory of Optimal Currency Area (OCA), starting with (Tavlas, 1994), he said, OCA conditions do not offer a unifying analytical framework. And concluded the

boundaries of the optimality of an area change according to how different the working theories of the area are combined. (De Grauwe, 1996) posited his modern version of OCA theory, indicating that the convergence of inflation rates, interest rates, and fiscal policies is neither necessary nor sufficient for the construction of a well-established monetary union. And with his established findings concluded, the Institutional structure of the labour market should be a key factor in the analysis of OCAs with the reason that countries with different labour market risk, pay very high prices if they decide to proceed with a monetary unification. (Frankel and Rose, 1997; 1998), further, submit the intensification of economic integration favours the generation of symmetrical economic cycles. And cleverly concluded in their book (Frankel & Rose, 1997, p.101) commercial integration and synchronization of business cycles as a precondition for the success of a monetary union known as an ex-ante effort is impractical and can nevertheless become beneficial ex-post. And empirically demonstrated, if the greater commercialization integration implies a synchronization of business cycles and monetary union, which is to trigger greater trade integration between member countries, then it will imply a higher degree of business cycle synchronization. Then the formation of the monetary union could, therefore, generate on itself the conditions of its own optimality. But then Emerson et. al (1992), distinguished between common shocks, which affect all countries in the OCA in question and specific shocks which affect specific countries in the area. Hence termed the symmetric shocks as common shocks that have an identical impact for all countries within the OCA with different intensity and amplitude. Shocks that affect only a country in an OCA is termed as idiosyncratic shocks. Therefore the analysis of the asymmetry of shocks is very important for the endurance of a currency area, which (Be'nassy- Que're't.al, 2009) concluded in his shocks theory, that the

cost of monetary union proves to be increasing function of the degree of asymmetry of shocks between countries involved in the process.

C. THE THEORY OF APPROPRIATE EXCHANGE RATE REGIME FOR ECOWAS OPTIMAL CURRENCY AREA

In the emergence of International trading of currencies, it gave birth to international finance, which exchange rate programs became a specialized field of study with the reason to resolve problems associated with the currencies exchange among countries on a global scale. This resulted in the birth of different forms of exchange rate regimes in the school of international finance as follows;

- [i] Free-floating exchange regime
- [ii] Managed floating regime
- [iii] Fixed exchange regime (fixed nominal central parity)
- [iv] Fundamental equilibrium exchange regime
- [v] Crawling peg regime
- [vi] Basket peg regime
- [vii] Adjustable peg regime

Out of varied exchange rate regimes, OCAs theoreticians for the ECOWAS region has proposed different exchange rate application based on their stylish empirical reasons as the best option for the monetary union. However, considering the current submitted exchange rate approach to be adopted, which was proposed by (Amato & Nubukpo, 2020) for ECOWAS OCA, they gave a historic reference of IMF assessment of the Anglophone countries championing the single currency union from 2018, that IMF classified Guinea and Nigeria as a country with a stabilized arrangement with a monetary aggregate target (Managed floating regime) as a channel tool used

by its Central Bank, followed by Liberia with a managed (Fixed exchange regime) arrangement with the US-dollar as exchange rate anchor, then Sierra Leone and Gambia managed floating exchange rate (fundamental equilibrium) arrangement with a monetary aggregate target and finally, Ghana with floating exchange rate (fundamental equilibrium) arrangement with an inflation-targeting framework. Further argued that the 1960s orientation adopted by the Bretton Woods agreements consisted of maintaining fixed exchange rates to regulate capital movements, which arose an interest in economic areas characterized by the adoption of a single currency. However, Grier and Smallwood (2007) demonstrated that in the case of developing countries, the negative effects of exchange rate volatility on trade are much stronger. Which became evidenced, a system of flexible exchange rates would be conducive to the removal of controls on the movement of goods and capital among countries while promoting multilateral trade. This presented a question, what is the relationship between trade and exchange rate regime adoption of a country or a single currency union area at the global market. And this was succinctly argued in the work of Heller & Knight (1978), they said, what distinguishes the new international monetary system from the Bretton wood regime is the increased degree of exchange rate flexibility. And conclude, exchange rates are determined by the demands and supplies to arise from the interaction of the various market participants. This makes decisions on the size and composition of foreign-exchange balances more complicated for both private transactions and Central Banks. And concluded, two factors drive Central Bank's selection of its foreign exchange portfolio, which are; [i] The country choice of exchange rate regime and [ii] Pattern of its international trade. And finally justified empirically, Central Bank's demand for foreign exchange mostly depends on the interest rate holdings, which also depends primarily on the country's exchange rate arrangement and by its trade with reserve-currency countries. Further,

clarify the systematic difference between the Eurodollar portfolio behaviour of developed and less developed countries.

D. EX POST CASE ANALYSIS OF EUROPEAN MONETARY UNION

As it was submitted by (Kelly, 2003), the single currency proposition leading to the European Union, started with the Schuman Plan of 1950. So the setting-up of the European monetary system in two decades later was intended to be a move towards a monetary union, but it was not until the mid-1980s that the “Single Market” program gave the project a renewed life. Support gathered led to the signing of the European Act in 1986 with the single currency being seen as a logical complement to a market without frontiers. The action followed at the Hanover Summit in June 1988, when a committee under the chairmanship of Commission, Jacques Delors was established to propose concrete steps towards the realization of European monetary union. The Delors Report was endorsed by the Madrid Summit in June 1989. Which envisaged three stages on the path to the European Union. This was later given a legal basis in the Treaty on European Union (Maastricht Treaty) and formally signed in February 1992. The Treaty also specified the European Monetary Union convergence criteria and set dates for the achievement of the various steps along the way. With a well-defined benefit of forming and joining the union, which were listed as;

[i] Benefiting from a low-interest rate regime

[ii] An enabling environment for competitiveness effect as well as high inflow of investment

[iii] Benefiting from a minimized cost of foreign exchange transactions

E. ECOWAS SINGLE CURRENCY AND CONVERGENCE THEORY

The previous theoretical proposition as the absolute pre-condition economic criteria for convergence of ECOWAS members' State and single currency adoption were established as follows;

[1] Primary deficit to nominal GDP ratio should be greater than and equal to -3% of a Member State.

[2] The mean annual inflation rate of Members State should be less than and equal to 3%

[3] The public debt to nominal GDP ratio of Members State should be less than and equal to 70%

[4] The public sector wage bill to tax revenue of Members State should be less than and equal to 35%

[5] The tax revenue to nominal GDP ratio of Members State should be greater than and equal to 20%

(Senzu, 2019) submitted necessary conditions as a complementary to the stipulated rules for convergence by urging the West Africa Monetary Institute to carry on with the responsibility to undertake the following assignment;

[a] Design the policy framework to guide the individual members' State for quality management of fiscal deficits to ensure price stability for pre and post-convergence.

[b] Design a comprehensive zonal budget program towards the monetary convergence to address the burden of potential asymmetric shocks across members' State.

[c] Design a budget program to manage the rise of macroeconomic shocks of members' State during the complete switch from the domestic to the zonal currency.

However, under this heading, I therefore posit, the current theoretical argument of convergence criteria as outlined above and prescribed by the West Africa Monetary Institute should be structured into two main criteria, with this study making an addition to the criteria's on the basis of empirical justification. The two main classification of the criteria will be 'primary' and 'secondary'. The primary criteria going to be defined as the convergence criteria, which are prerequisites for convergence of the members' State economy. While the secondary criteria is a proposed convergence criteria, which are necessary to be realized at the post-convergence period of the members' State economy, in other words, the Statutory Central Bank of the Union to be established will drive on such theory as a policy guide in its monetary instrument implementation plan. Below is the deduced structured classification as a policy guide, which encompasses both the old accurately studied and developed policy plan including the currently established policy factor in section [1c] not captured in earlier studies to be included as a policy instrument for primary economic convergence:

[1] Primary Economic Convergence criteria:

- (a) Public debt to nominal GDP ratio of $\leq 70\%$
- (b) Tax revenue to nominal GDP ratio $\geq 20\%$
- (c) Public external debt to GNI ratio of $\leq 30\%$

[2] Secondary Economic Convergence criteria:

- (d) Mean annual inflation rate $\leq 3\%$
- (e) Public sector wage bill to tax revenue $\leq 35\%$
- (f) Primary deficit to nominal GDP ratio $\geq -3\%$

It is was simply defined in previous studies that the Government debt to GDP annually should not exceed 70%. However, this research study paid particular attention to the currency type, which is mostly soft-currencies in character managed by Members State and concludes with the kind of currencies managed in the ECOWAS bloc to uphold such a policy Instrument of (1a) above as a pre-convergence criterion, makes such policy instruction ambiguous for sound monetarist analysis. The paper, therefore, agree that the empirical basis to establish the government debt portfolio policy range to peg at 70% as the target for members State single currency union is reasonable but demand that the government debts portfolio should be structured into a basket of external and internal debts model for members State. Which the paper further submit that members State are not to exceed 30% external debt of GNI and 40% internal debt of GDP as the accurate recommended approach for the Single currency program of the ECOWAS monetary union. It is within this context that the asymmetric shocks across member States economy could be managed effectively to sustain the programmed value of the Eco-currency and its intent to the benefit of Members State.

At the current juncture, it has become the burden of empiricism in a form of theoretical justification to evaluate the status of the West Africa single currency union after ECOWAS vision 2020, whether the primary economic convergence criteria as defined above are possible in the shortest possible time among members' State, with consideration to the current state of Members economic performance. It further raises the question, if the submission of empirical deduction disagrees with positive convergence, is there an alternative theoretical proposal to stimulate and activate convergence as a catalyst? The answer to this question establishes the conceptual framework of this paper. Below is a table Labeled 'E1', which captures the convergence criteria factor analysis among the Sixteen (16) member states of ECOWAS in the

West Africa Region to examine the degree of current divergence of the members' State economic performance subjected to data analysis for the empirical deduction.

Table 'E1'

YR/2019 CONVERGENCE CONDITIONAL ANALYSIS

COUNTRIES	Public Debt% of GDP		Nominal GDP Billion (US\$)		Tax Revenue% of GDP (2018)		External Debt Billion (US\$)		External Debt % of GDP	
<i>Benine</i>	54.60%		14.37		-		2.80		19.49%	
<i>Burkina Faso</i>	38.10%		14.59		17.20		3.06		20.97%	
<i>Cape Verde</i>	125.80%		2.01		-		1.71		85.07%	
<i>Cote d'ivoire</i>	47.00%		44.44		15.90		13.07		29.41%	
<i>Gambia</i>	88.00%		1.77		-		0.59		33.33%	
<i>Ghana</i>	71.80%		67.08		12.60		22.14		33.01%	
<i>Guinea</i>	37.90%		13.37		-		1.46		10.91%	
<i>Guinea-Bissau</i>	53.90%		1.40		-		1.10		78.57%	
<i>Liberia</i>	34.40%		3.22		-		1.04		32.30%	
<i>Mali</i>	35.40%		17.65		11.60		4.19		23.74%	
<i>Mauritania</i>	96.60%		14.39		-		4.15		28.84%	
<i>Nigeria</i>	21.80%		446.54		-		40.96		9.17%	
<i>Niger</i>	45.30%		9.44		-		3.73		39.51%	
<i>Senegal</i>	48.30%		23.94		15.70		8.57		35.80%	
<i>Sierra Leone</i>	63.90%		4.23		-		1.62		38.30%	
<i>Togo</i>	75.70%		5.50		16.88		1.44		26.18%	

The Symbol (-) used in the data represent absence of country certified data report to IMF & World Bank

Above data is a World Bank extracted data subjected into computational analysis and tabled.

Senzu (2020)

The table 'E1' above suggests to us, none of the members' States have been successful to meet all the primary economic convergence criteria as of the 2018/2019 data report. At most 75% of the members' State met one of the mandatory primary convergence criteria consistently for the past 10 years and mostly found among member countries with intent or an honest drive for a single currency union. Furthermore, a critical study of the table 'E1' does conclude, the divergence of members State economy based on established primary macroeconomic convergence criteria is quite wide to build a hope of a possible future convergence naturally out of the State actors of member nations. And it was observed, the wide divergence of members State economy highly emanate from the following factors;

- [i] Very weak inter-trading index among members' State
- [ii] Poor management of fiscal deficit due to the degree of political expedience of members' State in favour of domestic politics
- [iii] Poor policy instrument in establishing interconnection involving public sector wage bill, economic production, and tax revenue collection framework.
- [iv] There is a lack of effective individual member nation approach to manage and safeguard the foreign exchange reserve account managed by their Central Banks.

Understanding and appreciating these challenges outlined among members' State of ECOWAS in varying degrees of macroeconomic shocks as a sovereign nation, dictates no hope of convergence in the near future if we are to count on the independent capacity of members' State actions. Then the question is, what should be an alternative approach to catalyze the effort of economic convergence among member nation, who still have the absolute desire and the will for single currency union within the shortest possible time? The

paper, therefore, proposes an alternative theoretical pathway for the single currency union program of the ECOWAS region and term it as Catalyst Theory of Economic Convergence.

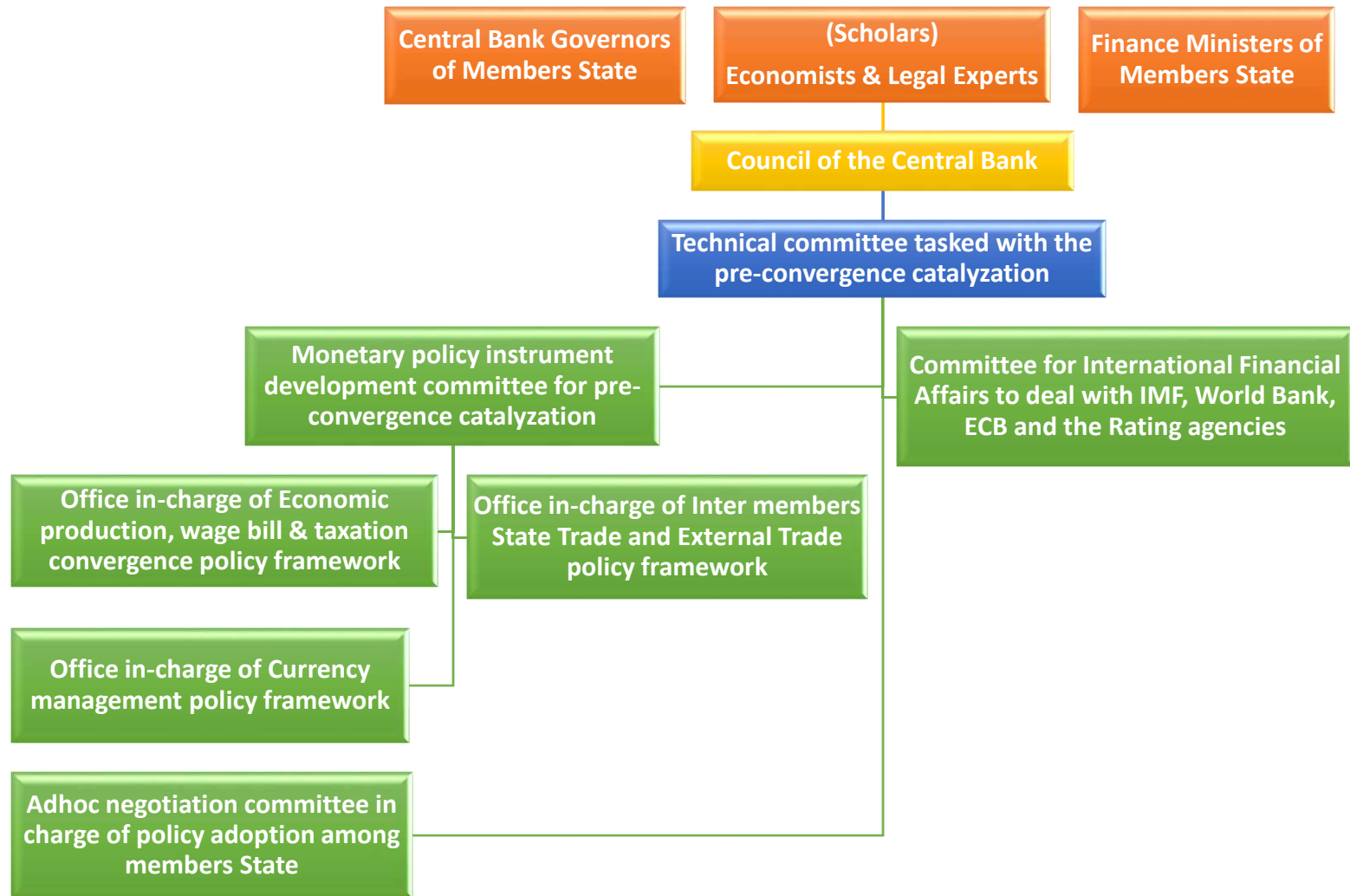
F. CATALYST THEORETICAL PROPOSITION FOR ECOWAS SINGLE CURRENCY PROGRAM

The paper does still holds the view that the primary macroeconomic convergence criteria are *must* meet prerequisite conditions towards the single currency union and it is inescapable as a road map to a quality monetary union with its associated benefit. However, the current approach to achieving such an objective of a single currency union is impossible to realize considering the communication of the historic data of members' State economic performance as an empirical basis to forecast the future. Hence, the paper propose, the needed action now to the future requires the old agencies, which were charged to expedite convergence action of members' State to initiate the fulfillment of ECOWAS 2020 vision of a single currency union, which has failed, to be dissolved immediately leading to an Institutionalization of a pre-convergence ECOWAS virtual Central Bank to be charged with a 3-year maximum pre-convergence catalyzation mandate to unionize the macroeconomic operating system of the members' State economy. With the structure of such pre-convergence ECOWAS virtual Central Bank label below as figure F1. With a clearly defined task of its departmental / committee level offices operations for the three (3) years period. After the three (3) year mandate, this virtual ECOWAS Central Bank should deliver the ECOWAS region into a single currency union, which will result to the transitioning of such a pre-convergence ECOWAS virtual Central Bank into a full backed legal instrument of a chartered ECOWAS Central Bank through the ECOWAS parliament with a newly proposed

structure of organizational operations labeled in this paper as Fig. F2. With the legal power to issue Eco-currency and managed it among and on behalf of members State.

Fig. 'F1'

Proposed Pre-Convergence ECOWAS virtual Central Bank Structure



For the detail and reasonable understanding of the organogram labeled as Fig. 'F1', the office under the technical committee of the pre-convergence virtual Central Bank must be assigned to the following special task below towards the accomplishment of the objective. In the proposed Catalyst theory the office of the 'Technical Committee' should have the following sub-structured department termed as;

[1] Monetary Policy Development Committee

[2] Committee for International Financial Affairs

[3] Ad hoc Negotiating Committee

The [1] and [2] committees will have within it certain structured and specialized office roles as outlined below;

[1] Monetary Policy Development Committee

This specialized office as the 'Monetary policy development committee' will be the first arm of the 'Technical Committee' according to the organogram from Fig. 'F1' with other sub-operating offices, to be established with special task focus as defined below;

i. The policy development office of labour, wage bill, and taxation convergence:

This office should be tasked to study the production level of members' economy, labour performance rate, wage bill, and taxation program variation of members' State, to establish the microeconomic factors that have the potential to cause asymmetric shocks across members' State towards convergence. And develop a proactive policy framework as a convergence instrument for the Union on behalf of the technical committee.

ii. The policy development office of Inter-members State trade

This office should be tasked to study beyond the members' State current international trade performance and focus on identifying production performance in relation to the competitive strengths and diversification of individual members' State at the international market as a trade specialization for the Union. Secondly, examine current members' State's data of trade importations to assess whether certain imported choices of products could be supplied effectively by members' State to encourage the boost of the relative value of the proposed Eco-currency at the global financial market. And finally, identify how the members' State primary sector economy could be progressively transformed in the shortest possible time to a mature secondary sector economy. And develop a comprehensive policy framework for the convergence economy on behalf of the proposed Central Bank and its associated technical committee.

iii. The Policy development office of Currency management:

This office has to be one of the permanent arms of the ECOWAS Central Bank when it formally receives the charter to operate. But prior to the economic convergence agenda under the Catalyst theory, their core responsibility should be a critical study into the foreign exchange market performance and external foreign exchange reserve management mechanism of members State Central Banks, taken a critical consideration of the politico-economic ecosystem of West Africa region as a basis to establish an appropriate exchange rate regime policy program for the Eco-currency environment. Secondly, identify effective monetary policy communication channels very friendly to

the monetary union as a means to minimize any macroeconomic shocks to the barest level at any point in time. And develop a policy framework towards the convergence including the procedure to manage the potential macroeconomic shocks likely to spring out when members' State are at the stage of switching from domestic currency to Eco-currency in the convergence period.

[2] Committee for International Financial Affairs:

This formidable office to be instituted under the pre-convergence ECOWAS virtual Central Bank as a requirement under the Catalyst theory is to become the second arm of the 'Technical Committee' from the organogram 'F1', it should hold a major task of acting as an international public relation and legal negotiator of the 'Technical committee' on the various stages of the single currency union of the ECOWAS region to the global financial community, engaging its leading agencies outlined as the World Bank, International Monetary Fund, European Central Bank, The Federal Reserve committee of the United States of America towards the economic convergence of the members' State. Not excluding the United Nations approved economic and credit rating agencies for data synchronization with the Bank.

[3] Ad hoc Negotiation Committee:

The formation of this office is to be used as a medium of technically communicating research findings of the 'Technical Committee' based on approved developed policies from the 'Monetary policy development committee' to members State and skilfully mediating between the Instituted 'Technical Committee' and members State appropriate public agencies in closed doors towards the exact considered date for the formal

institutionalization of the ECOWAS Central Bank and Eco-currency issuance for members State to adopt.

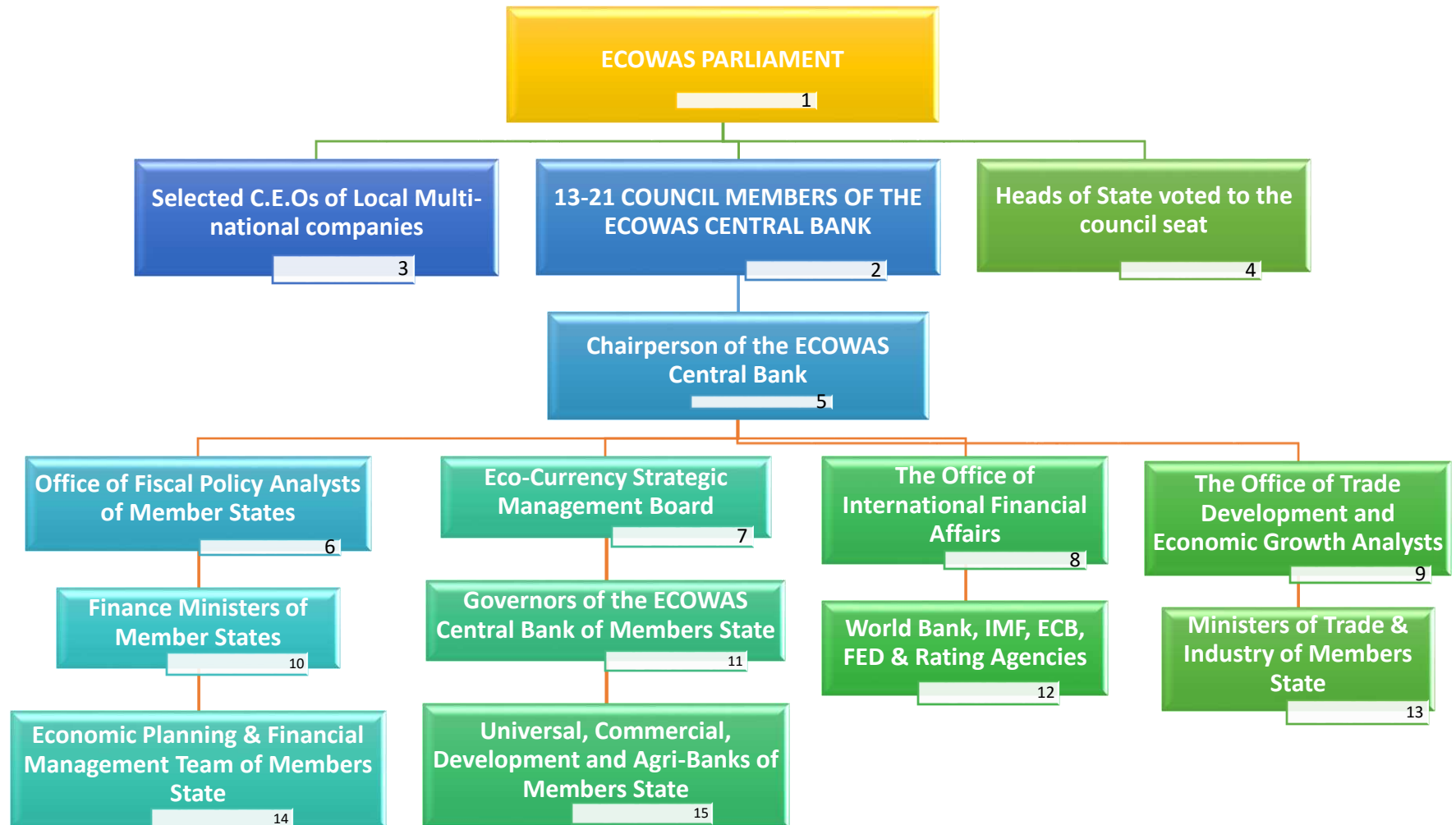
G. PROPOSED POST-CONVERGENCE ECOWAS CENTRAL BANK STRUCTURE

The paper believes that the pre-convergence operational performance of the Catalyst theory to usher the union into a single currency regime has to immediately have in it a model implementation archives towards a post established architecture framework of the ECOWAS Central Bank, which will receive a charter instrument from the ECOWAS Parliament to uphold the sovereign detect of the monetary administration of the members State with the mandatory authority to issue Eco-currency. The structured model organogram provided herein as label Fig.' G1' is expected to be subjected to modification depending on what the reality of the politico-economic climate may present to the Union in the post era. The paper upholds the view that the proposed organogram labeled as Fig. 'G1' below as the post-convergence ECOWAS Central Bank structural model holds the appropriate system that takes into consideration the politico-economic function of the West Africa region to dictate and manage a sustainable monetary economic stance of members State for a single currency union.

However, the Catalyst theory refuses to assign a strict proposed task to the listed offices in the organogram for the post-convergence Central Bank structural model unlike how it carefully ascribed operational roles to the offices at the pre-convergence virtual ECOWAS Central Bank with the reason that, the proposed model herein should be a foundational structure for the appointed catalysts 'Technical committee' who are to assure convergence in the shortest possible time. And further, uphold the belief that the research findings in the

period of three (3) years by the virtual Central Bank will identify new relevant economic factors to contribute to effective policy design framework for the post-convergence monetary union operations of the Central Bank for the ECOWAS region as a guide to inform the permanent pragmatic modeling structures of the offices and qualified task as an input to the below proposed Fig. 7 G1's organogram to effectively and efficiently champion the ECOWAS single currency union.

Fig. 'G1' Proposed Post-Convergence ECOWAS Central Bank Structure

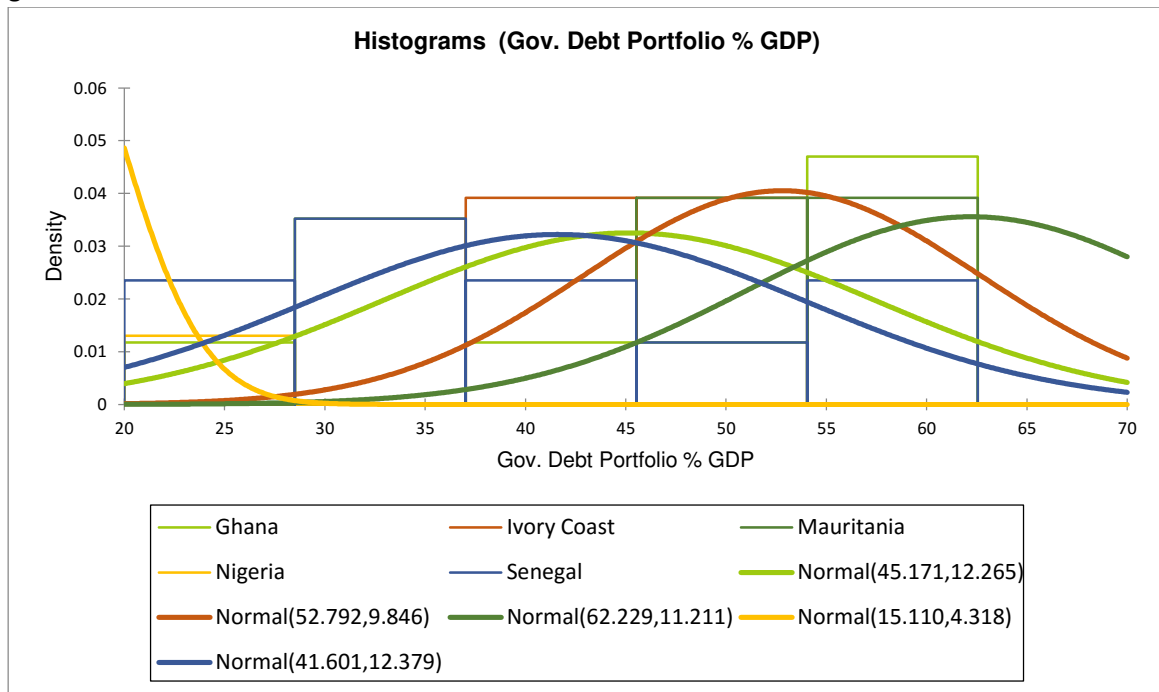


It became a previous theoretical admission and a persuasion that the centralized market to promote the single currency union should be advanced by a member country with a high weighted average economy, but the conclusion of this paper argue contrarily and posits the positioning of the centralized market in the advancement of this monetary union course should depend on a member State's with the independent capacity to meet all the primary convergence criteria, with certain infrastructures and in addition a critical skill in its debt portfolio management . That will confirm the discipline economic system run by such a member State to captain the single currency union agenda but must also have access to a quality shipping harbour and an Airport with an advanced institutionalize technology of running those sector facilities. As a result, the paper proposes the names of member nations of ECOWAS bloc from the 2019/2020 field study and observation, holding the optimum potential to compete in the request to serve as the locational base or the Centre market for the operation of the ECOWAS monetary zone based on the additional assessment criteria as follows; the economic structural system, the performance of national economy of Member State and the quality of the infrastructural facilities and amenities as earlier put forward in this paper. Hence, the qualified names as in 2020 are noted to be Nigeria, Senegal, Mauritania, Cote d'Ivoire, and Ghana. Based on such conclusion, these five listed countries were subjected to data analysis of their national debt portfolio from 2009 to 2018 with the study relying on a raw data extract from the United Nation Statistical office and the World Bank research team through a contracted agency of theglobeconomy.com and subjecting it to careful analysis.

Among the primary indicators as the criteria for the pre-convergence status, government debts of member nations are established to be having a great significant influence on the

weight of asymmetric shocks across members' economy. With proof that out of a certain debt threshold will expose the vulnerability of the ECOWAS Central Bank in its capacity to manage the value of the proposed Eco-currency to effectively attain the benefit intended for the single currency union.

Fig. 1 1.

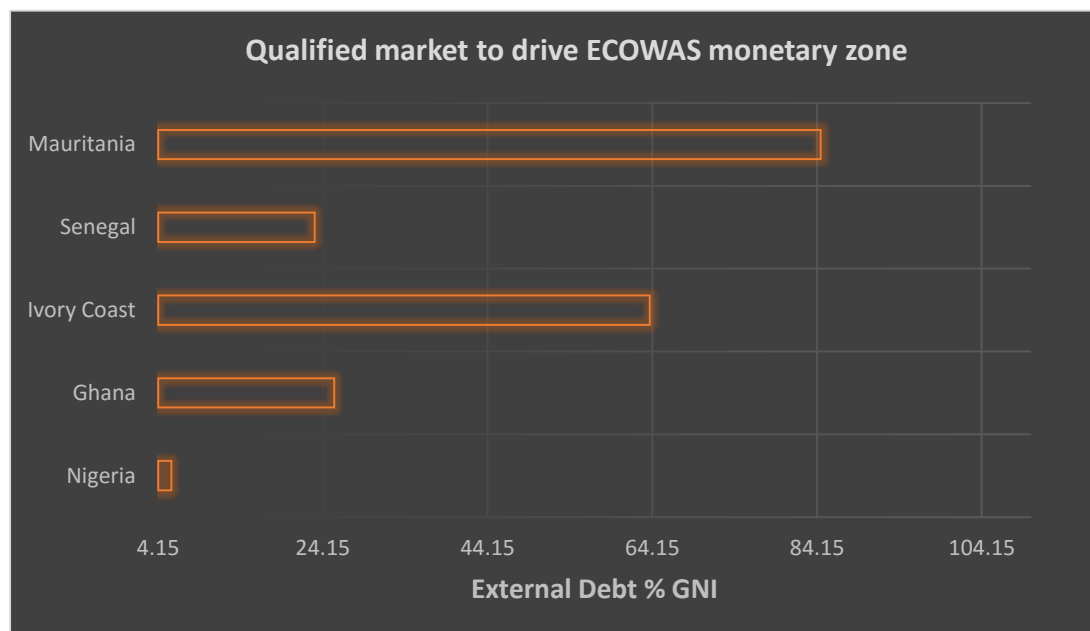


(Data Analysis from 2009-2018: Senzu, 2020.)

A very good analytical observation of the chart depicts Government Debts portfolio analysis as a percentage of GDP from 2009 to 2018 among the five listed member States, which is established to meet the assessment standards in housing the monetary zone or observed to be a suitable site to station the ECOWAS Central Bank. As a result, the study conducted a comparative analysis to establish the most suitable market among the Members State per their favourability in administrating the West Africa monetary union program. And the graphical deduction submits that Nigeria holds the lowest debt density comparable to other selected members State, then followed by Senegal, Ghana, Ivory Coast and Mauritania as the

least option to situate the proposed ECOWAS Central Bank to manage the Eco-currency. The second attempt was to examine and analyzed the external debts of these selected Members State that has the qualified potential to become the localize base for administering the ECOWAS monetary zone single currency program. Which the findings are graphically presented as Fig.I2 below;

Fig.I2.



(Data analysis from 2009-2018: Senzu, 2020)

The graphical representation of Fig.I2 examines the comparative external debt analysis of Members national economy as a policy requirement and the findings per the chart deduce that Nigeria is the best market option followed by Senegal, then Ghana as the most suitable site to establish the ECOWAS Central Bank as at the year 2020. With these three mention countries none of their bar graphs crosses a 30% limit as the approved pre-convergence criteria. And among these three countries, Nigeria is found to be having the lowest density of external debt portfolio in the percentage of Gross National Income comparable to the others.

H. CONCLUSION

The paper concludes the 'Technical Committee' of the virtual ECOWAS Central Bank needs to be inaugurated by the ECOWAS parliament to work from this centralized market as an administrative office under the certificate of urgency. With the agenda to resolve the factors below that contribute to asymmetric economic shocks across member countries. With the following as the study resolution focus;

[1] Policy instruction and models to facilitate the promotion of intra-trade among members' State based on comparative advantages.

[2] Structuring members' State into trade specialization and diversification as the new monetary union portfolio with careful consideration on the competitive strength of member countries as a policy direction.

[3] Re-designing and promoting labour market efficiency with corresponding wage bill management in reference to its GDP performance as member countries of the Union.

[4] Initiate an effective revenue mobilization method for both the formal and informal sectors, which will be universally applied method across members' State.

[5] Instituting exchange rate regime easily admissible and effective as a tool to manage a single currency union among the sixteen (16) member countries.

Despite there are proposed exchange rate mechanisms by certain authoritative papers on this subject matter. However, it has to be admitted to every tool of exchange rate employed by a Central Bank has its advantage and disadvantages.

And the best-proposed option should always be the method with a greater advantage in its application comparable to the expected disadvantages.

For Instance, the current exchange rate mechanism by the West Africa francophone monetary union in the use of CFA franc pegging to the Euro as the base currency is operating with a crawling peg exchange rate regime using France treasury as a guarantee. This will be a poorly adopted regime in managing Eco-currency considering the expected floating behaviour for the currency towards the economic benefit of individual member States and sterilization strategies in managing economic shocks. It must be noted that the catalytic institutionalization of the 'Eco-currency' is motivated to stretch the width of members' State to re-engineer their economic efficiency rate to join the global trade hub and facilitate easy access to investment with the lowest interest rate capital accessibility in favour of members State industrial production and scale-up of employment opportunities comparable to the current performance of individual members State in their national welfare obligations.

[6] To establish proven and effective communication channels for the ECOWAS Central Bank policy stance and macroeconomic shocks management.

REFERENCE

- [1] Amato M. and Nubukpo K. (2020), "A new currency for West African States: PSL Quarterly Review. 72(292):3-26
- [2] Be'nassy-Que're' A., Be'reau S. and Mignon V. (2009a), "Robust Estimations of Equilibrium Exchange Rates within the G20: A Panel BEER Approach." Scottish Journal of Political Economy 56(5), pp.608-633.
- [3] Buchs T. and Mathisen, J. (2005), "Competition and Efficiency in Banking; behavioural evidence from IMF. Working Paper, n.05/17, Washington (DC): International Monetary Fund.
- [4] Dellas H. and Tavlas G. S. (2009), "An optimum-currency area Odyssey", Journal of International monetary and Finance, 28(7), pp.1117-1137
- [5] De Grauwe P. (1996), "Monetary Union and Convergence Economics," European Economic Review, 40 (3-5), pp.1091-1101.
- [6] De Grauwe P. (2003), Economics of monetary union, (5th ed.) Oxford University Press.
- [7] Diop M. B. and Fall A. (2011), "La problematique du choix de re'gime de change dans les pays de la CEDEAO" Document d'E'TUDE, N.20 Dakar: Direction de la pre'vision et des E'tudes Economiques (DPEE), Ministe're de l'E'conomie et des Finances du Se'ne'gal.
- [8] Emerson M., Gross D., and Haliener A. (1992), One market, one money: An evaluation of the potential benefits and costs of forming an Economic and Monetary Union, Oxford University Press.
- [9] Fleming J. M. (1971), "On Exchange rate unification," Economic Journal, 81(323), pp.467-488.
- [10] Frankel J.A. and Rose A. K. (1997), "Is EMU more justifiable Ex-post than Ex-ante? European Economic Review, 41 (3-5), pp.753-760.
- [11] Frankel J. A. and Rose A. K. (1998), "The Endogeneity of the optimum currency area criteria," Economic Journal, 108 (449), pp.1009-1025.

- [12] Friedman M. (1953), "The case for flexible exchange rates," in essays in positive economics (pp.157-203)
- [13] Giro M. (2019) Global Africa. La nuova realtà delle migrazione: il volto di un continente in movimento, Milan: Guerini e Associati.
- [14] Grier K. B. and Small wood A. (2007), "Uncertainty and export performance: Evidence from 18 countries." Journal of Money, Credit and Banking, 39 (4), pp.965-979.
- [15] Heller, R. H. and Knight, M. (1978), "Reserve-currency preference of Central Banks." International Finance, Department of Economics. Princeton University. No.131 ISSN 0071-142x
- [16] IMF (2018), Annual Report on Exchange Arrangements and Exchange Restrictions. Washington (DC): International Monetary Fund.
- [17] Kelly J. (2003), "The Irish pound: from origins to EMU". Central Bank of Ireland. Spring Quarterly Bulletin.
- [18] Kenen P. B. (1969), "The theory of Optimum Currency Areas: An eclectic view." Mundell and Swoboda A. K. (Eds), Monetary problems of the International economy, Chicago and London. University of Chicago Press.
- [19] Krugman P. (1993), "What do we need to know about the International monetary system? "Essays in International Finance, n.190 Princeton (NJ): International Finance Section, Department of Economics, Princeton University.
- [20] McKinnon R.I. (1963), "Optimum Currency Areas", the American economic review, 53(4), pp.717-725.
- [21] Mongelli F. P. (2008), "European Economic and Monetary Integration, and the Optimum Currency Area theory". European Economic Papers, n.302, Bruxelles: Directorate-General for Economic and Financial Affairs, European Commission.
- [22] Mundell, R. A. (1961), "A theory of Optimum currency areas." American Economic Review, Vol.51.

- [23] Mundell, R. A. (2005), "The Euro, the dollar and the International monetary system". *Journal of Policy Modeling*, Vol.27, no.4, pp.465-475.
- [24] Nubukpo K. (2019), *L'urgence africaine: Changer le modèle de croissance!* Paris: Odile Jacob.
- [25] Sala-i-martin X. X. and Sachs J. D. (1992), "Fiscal federalism and Optimum Currency areas: Evidence for Europe from the United States", in canzoneri M.B., Grilli V. and Mason P.R. (Eds.), *Establishing a Central Bank: Issues in Europe and lessons from the U.S.* CPP.195-219), Cambridge University Press.
- [26] Saxegaard M. (2006), "Excess liquidity and effectiveness of monetary policy: Evidence from Sub-Saharan Africa", IMF working paper, n.06/115, Washington (DC): International Monetary Fund.
- [27] Senzu, T. E. (2019), *Eco-currency technical analysis*. Article published by Frederic Bastiat Institute, Africa. www.fbiresearchedu.org
- [28] Senzu, T. E. (2020b). *Modern currency exchange rate behaviour and proposed trend-like forecasting model*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3587550
- [29] Setsofia, D., Xuejun Du, and Cheng, F. (2020), "Evaluating the use of single currency by member States as medium of transaction-ECOWAS". *Journal of Economic and Sustainable Development*. ISSN: 2222-2855, Vol. 11, No.6
- [30] Simwaka K. (2010), "Choice of Exchange rate regime for African countries, Fixed or flexible exchange rate regime? MPRA paper, n.23129, Munich: Munich Personal RePEc Archive, University Library, Ludwig Maximilian University of Munich.
- [31] Tavlas G. S. (1993), "The new theory of Optimum Currency Area", *the World Economy*, 16(6), pp.663-685.
- [32] Tavlas G. S. (1994), "The theory of Monetary Integration". *Open Economies Review*, 5 (2), pp.211-230.

APPENDIX

PART 1

ABBREVIATION MEANING

- i. GNI.....Gross National Index
- ii. GDP.....Gross Domestic Products
- iii. ECOWAS..... Economic community of West Africa States
- iv. CFA franc..... Currency used by the francophone community of West Africa
- v. Gov.....Government

PART 2

Country	Code	Year	Government debt as percent of GDP
Ghana	GHA	2009	26.96
Ghana	GHA	2010	34.58
Ghana	GHA	2011	31.43
Ghana	GHA	2012	35.58
Ghana	GHA	2013	43.22
Ghana	GHA	2014	51.16
Ghana	GHA	2015	54.83
Ghana	GHA	2016	57.12
Ghana	GHA	2017	57.27
Ghana	GHA	2018	59.56
Ivory Coast	CIV	2009	64.24
Ivory Coast	CIV	2010	63.05
Ivory Coast	CIV	2011	69.15
Ivory Coast	CIV	2012	45.04
Ivory Coast	CIV	2013	43.36
Ivory Coast	CIV	2014	44.79
Ivory Coast	CIV	2015	47.27
Ivory Coast	CIV	2016	48.39
Ivory Coast	CIV	2017	49.84

Mauritania	MRT	2009	62.38
Mauritania	MRT	2010	57.03
Mauritania	MRT	2011	50.85
Mauritania	MRT	2012	50.57
Mauritania	MRT	2013	51.26
Mauritania	MRT	2014	59.48
Mauritania	MRT	2015	75.18
Mauritania	MRT	2016	77.42
Mauritania	MRT	2017	75.89
Nigeria	NGA	2009	15.1
Nigeria	NGA	2010	9.4
Nigeria	NGA	2011	10.2
Nigeria	NGA	2012	22.43
Nigeria	NGA	2013	12.65
Nigeria	NGA	2014	12.65
Nigeria	NGA	2015	13.02
Nigeria	NGA	2016	16.27
Nigeria	NGA	2017	18.2
Nigeria	NGA	2018	19.09
Senegal	SEN	2009	26.85
Senegal	SEN	2010	28.31
Senegal	SEN	2011	32.72
Senegal	SEN	2012	34.17
Senegal	SEN	2013	36.77
Senegal	SEN	2014	42.37
Senegal	SEN	2015	44.51
Senegal	SEN	2016	47.53
Senegal	SEN	2017	61.23
Senegal	SEN	2018	61.55

PART 3

Countries	Years	Gov. External Debt as % of GNI
Ghana	2009	25.51
Ivory Coast	2009	63.82
Mauritania	2009	84.59
Nigeria	2009	5.75
Senegal	2009	23.14
Ghana	2010	26.42
Ivory Coast	2010	48.82
Mauritania	2010	83.31
Nigeria	2010	4.5
Senegal	2010	24.34
Ghana	2011	27.15
Ivory Coast	2011	52.44
Mauritania	2011	74.69
Nigeria	2011	4.56
Senegal	2011	24.58
Ghana	2012	30.11
Ivory Coast	2012	36.81
Mauritania	2012	84.87
Nigeria	2012	4.15
Senegal	2012	27.9
Ghana	2013	26.01
Ivory Coast	2013	33.01
Mauritania	2013	83.03
Nigeria	2013	4.32
Senegal	2013	28.01
Ghana	2014	34.4
Ivory Coast	2014	28.5
Mauritania	2014	88.49
Nigeria	2014	4.6
Senegal	2014	29.04
Ghana	2015	41.43
Ivory Coast	2015	35.44
Mauritania	2015	107.33
Nigeria	2015	6.08
Senegal	2015	33.98
Ghana	2016	39.22
Ivory Coast	2016	32.53
Mauritania	2016	110.16
Nigeria	2016	7.89

Senegal	2016	36.1
Ghana	2017	38.92
Ivory Coast	2017	36.81
Mauritania	2017	106.88
Nigeria	2017	11.11
Senegal	2017	43.41
Ghana	2018	36.28
Ivory Coast	2018	37.92
Mauritania	2018	97.84
Nigeria	2018	12.42
Senegal	2018	52.37

