

# Is West African Monetary Zone (WAMZ) a common currency area?

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## Abstract

In this paper, we test whether the West African Monetary Zone (WAMZ) is a common currency area by using a structural vector autoregressive model to study the variance decomposition, impulse responses of key economic variables and linear dependence of the underlying structural shocks of the countries in the zone. The variance decomposition shows that the zone as a whole does not have common sources of shock, which is expected because of the diverse economic structures of these countries. The correlation of the structural shocks also shows that these countries respond asymmetrically to common supply, demand and monetary shocks and will therefore respond differently to a common monetary policy. It is therefore not in the interest of the individual countries to go into a monetary union now or in the near future unless the economies of these countries converge further.

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## 1. Introduction

The quest for monetary union within Economic Community of West African States (ECOWAS) began with the establishment of the regional body in May 1975. This quest reflects in the objectives, as stated in article 2 section 2h of the 1975 Treaty of Lagos, a treaty that establishes the community, that the community shall ensure “harmonization, required for the proper functioning of the community, of the monetary policies of the member states.” This is restated in article 3 section 2e of the July 1991 treaty as “the establishment of an economic union through the adoption of common policies in the economic, financial, social and cultural sectors, and the creation of a monetary union.” The 15 member states that ratified the Treaty of Lagos are Benin, Burkina Faso, Côte d’Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo. Cape Verde joined the community in 1976 and Mauritania left in 2000, leaving the current membership still at 15 states. The

community is made up of English, French and Portuguese speaking countries.

At the time of establishment of ECOWAS, there was one monetary zone in West Africa West Africa Economic and Monetary Union (WAEMU) which is composed of Francophone West African countries. The CFA, which is the single currency in the West Africa Economic and Monetary Union (WAEMU), circulates among the member countries. Anglophone West African countries, however, have their independent currencies. The idea of introducing a single currency for ECOWAS as a whole was re-enforced in the July 1991 Treaty ratified by all member states. It has been proposed to implement the monetary integration process in two stages by forming a second monetary zone, the West African Monetary Zone (WAMZ) for the Anglophone West Africa, which will later merge with the existing zone, the West Africa Economic and Monetary Union (WAEMU). Since the introduction of the proposed single currency is in two stages, i.e. forming a monetary union among the non-CFA countries and later merge with the CFA countries, we think that analyzing the convergence of non-CFA countries alone will draw a better picture of what is needed now by ECOWAS.

In this paper, we test whether the West African Monetary Zone (WAMZ) is a optimum currency area by using a vector autoregressive model to study the variance decomposition,

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impulse responses of key economic variables and by analyzing linear dependence of and feedback between the structural shocks recovered from a structural vector autoregressive (SVAR) model of key economic variables in the region. Countries with symmetric shocks are expected to have linearly dependent shocks and exhibit some level of feedback between these shocks. Also, if the sources of shock to the region are common, then the structure of the variance decomposition should be similar across the zone.

Apart from contributing to the academic literature on monetary integration in West Africa, the approach used in this paper adds value to the previous studies in West Africa by measuring the level of integration achieved by the participating countries in terms of their response to common shocks. The methodologies used in the previous studies do not allow for the direct measurement of supply, demand and monetary shocks to the economies of the individual countries and their response to common shocks. This will also inform policy on the adoption of the single currency, the *eco*, in the zone and also to have an idea of how the economies of the zone converge *ex-ante* or will converge *ex-post* after the introduction of the *eco*.

The question of what constitutes an optimum currency area is pioneered by Mundell (1961) who defines an optimum currency area as a domain within which exchange rates are fixed. Within this domain, a single currency can be introduced under a single central bank with the power to issue and redeem currency and conduct monetary policy. The issue of an appropriate domain is addressed by Mundell (1961) by suggesting that the domain is a region that is defined such that there is internal factor mobility and external factor immobility and “if factors are mobile across national boundaries, then a flexible exchange system becomes unnecessary and may even be positively harmful”.

The work of Mundell (1961) inspired a series of papers. In particular, McKinnon (1963) describes the optimum currency area as an area within which there is a single currency and within which the same monetary and fiscal policies and flexible external exchange rates can be used to address the objectives of employment, international payments and price stability which are sometimes in conflict. McKinnon emphasizes the need for price stability within the region and the openness of the economies that should be considered optimum for a single currency. McKinnon (1963) also added the importance of factor mobility across industries to Mundell’s argument for factor mobility across countries in determining an optimum currency area.

The issue of factor mobility is further examined by Kenen (1969). He asserts that “when regions are defined by their activities, not geographically or politically, perfect interregional labor mobility requires perfect occupational mobility and this can only come about when labor is homogeneous” (Kenen, 1969). Kenen (1969) also advances product diversification and fiscal integration of a region as major criteria for an optimum currency area. Kenen (1969) argues that diversity in a region’s product mix may be a more relevant criterion than labor mobility and that well diversified economy is more likely to have a well-diversified export sector, which can mitigate external shocks by positive and negative shocks canceling out without resulting to exchange

rate changes in response to the shock. Fiscal integration also ensures that weaker economies within the region are supported during recovery from external shocks. Eichengreen (1991) also defines an optimum currency area as “an economic unit composed of regions affected symmetrically by disturbances and between which labor and other factors production flow freely.”

These characterizations of the optimal currency area in the literature usually lead to categorization of all the criteria into three. Firstly, the region should be subject to common sources of shocks and symmetric response to shocks. This means that shocks that are external to the region should induce the similar responses across the region, that is, the response of the states in the region to external shocks must be similar to ensure that the same monetary and fiscal policies can address shock recovery similarly across the region. Since the introduction of a single currency in a region means that the countries that form the region give up their autonomy over monetary policy, their individual ability to respond to external shocks by using monetary policy is also surrendered, therefore shock symmetry in the region ensures that common monetary policy is feasible for the region. “The loss of monetary flexibility has cost and benefit. One hand, a country that gives up its currency loses a stabilization device targeted to domestic shocks, on the other hand, the country may gain credibility and thereby reduce undesired inflation” (Alesina and Barro, 2002). Alesina et al. (2002) also argue that the costs of losing monetary autonomy are lower when shocks are symmetric across that region.

Secondly, factor mobility within the region ensures that shocks to the region dissipates quickly and similarly across. Factors must be easily movable from surplus members states to deficit member states in the region in times where shocks to the region have asymmetric effects. This ensures full employment and price stability in the region. Lastly, fiscal integration is needed in the region to redistribute resources among the member state. This is a system where fiscal policies of the different states in the region are coordinated by a common federal institution like the IRS and congress of the United States. By this arrangement, collection and disbursement of certain taxes are done by federal institution and in time economic downturn, weak states can easily be bailed out through these arrangements.

As summarized by Bayoumi (1994), “the choice of a currency union depends upon the size of the underlying disturbances, the correlation between these disturbances, the costs of transactions across currencies, factor mobility across regions, and the interrelationships between demand for different goods.” So the obvious question to ask is whether ECOWAS is an optimum currency area, that is, does the region satisfy the criteria for the introduction of a common currency? This is the question this study sets to investigate.

## 2. Evolution of the West African Monetary Union and West African Monetary Zone

According to Soyibo (1998) before ECOWAS was established in 1975, there were two monetary unions in West Africa. Under British colonial rule, Anglophone West Africa made up of Gambia, Ghana, British Cameroon, Nigeria and Sierra Leone

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