Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.7, No.7, 2016

Financial Development, Currency Union and Dynamic Growth in West Africa: A Panel Investigation

Kevin Odulukwe, ONWUKA, Tobechi F., AGBANIKE and Michael Eyoghasim
Department of Economics and Development Studies, Faculty of Humanities and Social Sciences, Federal University Ndufu-Alike, Ikwo, Ebonyi State, Nigeria

Abstract
The objectives of this paper are to investigate the effect of financial development and currency union on the growth of West African economies and to determine if the financial development is necessary for currency union to be more beneficial to growth in West African region. A modified model of Alfaro et al, (2004) was adopted. The sample was drawn from 12 West African countries - five from West African Monetary zone and seven from West African Economic and Monetary Union countries. System GMM was employed to estimate the parameters. The results indicate that the effect of the currency union on West African economies is consistently negative except when interacting with market based financial system. The level of financial development is low. This implies that forming currency union will not be a good policy option at this level of financial development in West Africa as asymmetry shocks and monetary policies across countries differ. Harmonization of financial system is desired for common currency to yield intended effects.
Keywords: financial development, currency union, West Africa, growth
JEL Classification: F4, F360, G2

1. Introduction

The growth performance of Sub-Saharan Africa over the past decades has been mixed and characterized by a degree of volatility despite the abundant natural resources and inflows of foreign direct investment to the region. This growth pattern in the region is linked to several characteristics which include, amongst others, the over dependence on primary exports, political instability, weak economic base, high population growth and unemployment rates, low rates of return on investment in physical and human capital (Makdis *et al.* 2000) and underdeveloped financial market and institutions and absence of a common currency and on a wider front by turbulences in the world financial markets. Recent research has found that an important reason why many developing countries experience very low rates of growth is that their financial systems are underdeveloped- a situation referred to as *financial repression*[1]. The economic analysis of financial structure helps explain how an underdeveloped financial system leads to a low rate of economic development, financial inclusion and economic growth. As a result of economic globalization or integrated world economy, whether the financial system is developed or underdeveloped, changes in the world financial market will no doubt affect the emerging economies' financial markets and thus economic growth. That is, a down turn in the financial market will lead to decline in the growth of Sub-Saharan African economies and consequently to low savings and domestic investments.

Good financial intermediaries are crucial to promoting greater economic efficiency by channeling funds from people who do not have a productive use for them to those who do. The best financial systems limit, quantify, gather, and negotiate all operation risks and incite the savers to invest by offering them a payment proportional to the scale of the incurred risks. Efficient financial intermediaries mobilize savings from diverse sources and allocate it to more productive activities which benefits not only investors and beneficiaries of the investments but also the whole economy (Gulde *et al* 2006). Indeed, well-functioning financial markets are a key factor in producing high economic growth and poorly performing financial markets are one reason that many developing countries in the world remain poor. The activities of financial markets have direct effects on personal wealth, the behaviour of business and consumers and the cyclical performance of the economy (Mishkin 2004). The emergence of financial instruments, institutions and markets has played a crucial role in promoting trade, commerce and industrialization.

Over the years, a popular view among economists and policymakers in West Africa is the need to have a common currency in the region. Common currency adoption will increase the volume of trade (Rose 2000) which has some implications for the potential welfare of countries since increased international trade has a positive effect on the level of real income. Common currency strengthens economic growth by promoting international trade and tourism (Santana-Gallego *et al*. 2010). The trend for single currency has been increasing. In 1999, twelve European countries have formally abandoned their national currencies and adopted a new currency, the euro. In 2000 Ecuador unilaterally abandoned its national currency and dollarized. In 2001, ElSalvador followed suit (Frankel and Rose 2002). A number of countries have adopted strict monetary regimes without literally abandoning their domestic currency, Hong Kong in 1984 and Argentina in 1991 tied their currencies tightly to American dollar through currency board schemes which came to an end ten years later, Estonia, Lithuania, Bulgaria and Bosnia

[1] See Caprio and Honohan, 2001 for more survey, Online at http://mpra.ub.uni-muenchen.de/9929/

employed currency board also. Why this trend in adoption of single currency? A currency union or board is most frequently thought of as a time-consistent monetary policy rule that countries use to achieve low inflation. When the central bank lacks credibility the high inflation resulting from monetary discretion is reduced by means of an extreme monetary regime. Many economists think that the primary effect of currency unions and boards is via reduced inflation, with all its beneficial consequences. Of course, although lower inflation has many benefits, these regimes also have their costs in terms of macroeconomic stability.

Six countries within the Economic Community of West African States (ECOWAS) that have planned to introduce a common currency called West African monetary zone (WAMZ) scheduled to take effect in 2015. These countries include Ghana, Nigeria, Sierra Leone, Guinea, Liberia and the Gambia. However, in 1962, some ECOWAS members signed a treaty that established West African Monetary Union (WAMU) which came into force on November 2, 1962. It established the basis for issuing and managing the common currency, the Communaute Financiere Africaine (CFA) franc (Seck 2013). The CFA remained pegged to the French franc more or less unchanged for nearly 50 years. New Central Bank was created for the WAMU region that acted in the interest of the economies of the monetary union. WAMU initially consisted of seven countries – Cote d'Ivoire, Benin, Mauritania, Niger, Senegal, Togo and Burkina Faso. Mauritania withdrew from treaty in 1973 and Mali joined in 1984. WAMU was generally seen as a success and for many years it was defined and driven by strong economy of Cote d'Ivoire which accounted for about 40% of the region's economic output (Seck, 2013). However, in the mid- 1980s, WAMU started to disintegrate as a result of serious economic pressure from a structural decline in commodity prices and nominal appreciation of the French franc against U.S dollar. Both resulted in a serious deterioration of the WAMU economies and in 1994 the CFA franc was devalued by a factor of 50%. In response to the financial crisis and devaluation of the CFA franc WAMU members dissolved the union and on 10 January 1994 founded West African Economic and Monetary Union (WAEMU). The monetary policy of WAEMU was intended to favour with preferential interest rates, the main sectors that were supposed to lead to economic growth. The policy did not yield the expected results; on the contrary, it led to crisis in banking industry (Kablan 2009). About 27 bank failures were identified during the period in the zone (Kablan 2009 and Powo Fosso 2000).

Against this background, we formulated the following questions to investigate the role of financial development and the proposed common currency in the growth process of the West African economies. 1) Does financial development enhance growth or not? The country's capacity to take advantage of these externalities like foreign direct investments might be limited by lack of well-developed local financial markets. 2) Will the common currency promote economic growth? This leads to the third question. 3) Is common currency necessary for financial development (FD) to be more beneficial to growth in West African sub-region? 4) Is financial development necessary for a common currency beneficial to growth? That is, is the interaction between financial development and common currency necessary to promote economic growth? These are the focal objectives of this study and analyzing them is a first step toward identifying what needs to be done to make growth more sustainable in West African economies. Common currency leads to less transaction costs. Elimination of exchange markets within the union eliminates cost of exchanging one currency into another and exchange risk. It also leads to cost reduction. Full cost reduction can only be achieved when the payment systems are fully integrated. Another benefit of common currency is price transparency and less uncertainty. One common unit of account facilitates price comparison, improves competition and leads to price decline. Price stability means that citizens' purchasing power and value of their savings and wealth are protected. Also it will make shopping online much easier and more transparent thus boosting competition and keeping consumer prices down. It will promote convergence in West African economies.

A single currency will create more wealth, as it boosts the free movement of goods and services for trade, capital for investments and people for leisure and work. The benefits for enterprise are also significant- stable interest rates encourage companies to invest more to create wealth and jobs; and with no currency exchange costs, more capital is released for productive investments. Stability also gives companies the security to make longer-term plans and investments that improve competitiveness- particularly important in view of the globalization of markets. The contribution of this paper to empirical literature is of twofold. Firstly it sheds some light on the ongoing debate whether financial development enhances growth. It has been a subject of debate that economies with well developed financial markets perform much better in growth process than economies with poor financial development. Studying West African countries will provide more useful information on the link between financial development and growth. Secondly on the policy front, it gives an insight to policymakers of whether the common currency is an option to facilitate sustainable growth in West Africa or enhance financial development effect on growth process.

The paper is organized as follows. Next section discusses the theoretical and empirical evidence of the effect of financial development and common currency on growth as well as channels through which financial development can influence growth. Section three outlines the model used to investigate the hypothesis that financial markets enhance growth. Section four discusses the results and the policy implications of the empirical findings. Fifth section gives the concluding remarks.

2. Literature Review

2.1. Financial development and Growth

In this section we focus on the link between financial markets and economic growth drawing from theoretical and empirical evidence that may support the link. The economic motivation for proceeding with financial integration hinges on the link between financial development and economic performance. This link between financial development and economic growth is not a recent discovery. The works of Bagheot (1873), Schumpeter (1911) and Gurley and Shaw (1955) motivated this relationship. The Schumpeterian view of finance and growth has received a lot of empirical support. Economic historians such as Davis (1965), Cameron (1967 and Sylla (1969) among others give empirical content to the idea. These scholars used the historical experiences of England and United States to illustrate the role of the financial system in the path to market leadership. A recent historical support of the link between finance and growth is that of Rousseau (2002) that used historic time series of Dutch Republic (1600 – 1794), England (1700 – 1850), the United States (1790 – 1850) and Japan (1880 – 1913). The result from this historical evidence suggests that the emergence of financial instruments, institutions and markets played a central role in promoting trade, commerce and industrialization.

Theoretically, there are two possible relationships between financial development and economic growth. First, as the economy grows, it generates demand for financial services, which is termed "a demand-following phenomenon". According to this view, lack of financial institutions in developing countries is an indication of lack of demand for their services. This supports the Robinson (1952) who contends that financial development simply follows economic growth. Meltzer (1969) and Stein (1970) observe that only countries with high per capita incomes can experience rapid growth in financial assets. Such countries are none other than the developed countries. What is crucial here is what constitutes the financial assets that wealth holders must have as a result of high per capita income. Levine *et al.* (2000) enumerated the composition of financial assets as follows; bank credit which includes credit to private and the public sectors, and stock market developments which include all instruments, long run or short run that are traded in the stock markets. Only when such financial assets are identified in a country will such country be able to approximate financial deepening/development adequately.

Second strand suggests that the establishment and the expansion of financial institutions in an economy may promote growth, and this is termed "supply leading phenomenon" or 'finance-led' growth hypothesis" (Patrick 1966). This latter view has been popular among governments in developing countries as a means to promoting economic growth and development (Habibullah and Eng 2006). Financial institutions are the main intermediation channels between savings and investment in a country and financial sector plays an important role in the economic development process. The best financial systems limit, quantify, gather and negotiate all operation risks and incite the savers to invest, by offering them a payment proportional to the scale of the incurred risks. Efficient financial intermediaries mobilize saving from diverse sources and allocate it to more productive activities, which benefits not only investors and beneficiaries of investment, but also the whole economy (Gulde *et al* 2006). Indeed, a banking system that efficiently channels financial resources to productive use is a powerful mechanism for economic growth (Levin 1997; Maduka and Onwuka 2013).

The early 1990s saw a new strand of literature emerging that tried to explain the channels through which an efficient financial system can influence the two fundamental sources of economic growth: capital accumulation and technical progress

The design of the financial system is thought to improve investment performance in the following three ways. a) *Enhanced quality of investment*: Financial intermediaries may have more expertise and resources to devote to the evaluation and selection of projects, thus raising the profitability of investment (Greenwood and Jovanovic 1990).

b) *More long-term projects*: A liquid financial market allows for a larger proportion of savings to be invested in projects of a longer duration, which are typically more productive than shorter-term projects (Diamond and Dybvig 1983). c) *Portfolio diversification*: If risk-averse savers can share risks through the financial system, they may be willing to allocate a higher fraction of savings to riskier projects, which stimulates specialization and thus benefits the economy's division of labour and growth (Saint-Paul 1992, Kalemli-Ozcan, Sørensen, and Yosha 2001). Thus, efficient financial markets can improve investment performance not only by increasing the amount of available capital through a reduction in transactions costs but by raising their average productivity. Thiel (2001) conducts a comprehensive survey of the available empirical evidence on the above described finance-growth link. While there seems to be consensus about a strong impact of financial development on growth for developing countries (see Bailliu 2000).

On the empirical side, financial development has been shown to play an important role in dampening the impact of external shocks on the domestic economy (Beck, Lundaberge and Majnoni 2006 and Raddatz 2006), although financial crises do occur in developed and developing countries alike (Dermirguc and Detragiache 1998 and 1999; Kaminsky and Reinhart 1999). Indeed, deeper financial system without necessary institutional development has been shown to lead to a poor handling or even magnification of risk rather than its mitigation. More generally, some political economy theorists also suggest that better functioning financial systems make

financial services available to a wider segment of the population, rather than restricting them to politically connected incumbents (Rajan and Zingales 2003; Morck, Wolfenzen and Young 2005). Yet others argue that financial access, especially credit, only benefits the rich and the connected, particularly, at early stages of economic development and therefore, while financial development may promote growth, its impact on income distribution is not clear (Lamoreaux 1994) Finally, if access to credit improves with aggregate economic growth and more people can afford to join the formal financial system, the relationship between financial development and income distribution may be non-linear, with adverse effects at early stages, but a positive impact after a certain point. Investigating income levels rather than growth rates, Honohan (2004) showed that even at the same average income, economies with deeper financial system have fewer poor people. Zhang et al (2012) investigated the relationship between financial development and economic growth at city level in China. Their results showed that the financial indicators are positively associated with economic growth. The results ran contrary to the existing conclusion that a state-ruled banking sector such as that in China hindered economic growth because of the distorting nature of government.

In Africa, Ndebbio (2004) studied the relationship between financial deepening and economic growth and development using selected sub-Saharan African countries for just one decade (from 1980-1989). He showed that financial deepening does not positively affect per capita growth of output in these selected SSA countries. This he attributed to shallow finance and absence of well functioning capital market in most SSA countries. Also, Akinlo and Egbetunde (2010) examined the long and causal relationship between financial development and economic growth for ten countries in Sub-Saharan Africa and found that financial development Granger causes economic growth in four countries – Central Africa Republic, Congo republic, Gabon, and Nigeria while economic growth granger causes financial development in Zambia. They dictated bi-directional relationship in Kenya, Chad, South Africa, Sierra Leone and Swaziland. The result agrees with the finance-led-growth–hypothesis and growth-led- financial development hypothesis and feedback theory. Most of financial sector variables granger-cause output in Nigeria except the ratio of broad money to GDP (Odeniran and Udeaja 2010). Domestic credit is driven by growth in output.

2.2. Currency union and Growth

The benefits of monetary union are likely to be larger for relatively open economies. In the absence of monetary union, transaction costs and exchange risk are large for firms in open economies than in countries with monetary union. Monetary union increases the income of a country via trade (Frankel and Rose 2002). Currency union, through reduction in the cost of international transactions, promotes trade and openness and such trade has beneficial effect on income. The magnitude of the influence of currency union on trade remains controversial. Rose and Stanley (2005) reviewed thirty four papers and found that currency unions increased trade by 30% to 90% worldwide. For a shock in IS-curve, monetary union increases variability in output while a shock in LM-curve monetary union reduce variability in output. The main cost of a common currency is the loss of independence over monetary and exchange rate policy. In a full monetary union the national central banks of the individual member countries either stop to exist or have no real power. When a country gives up its national currency and joins a monetary union it loses an instrument of economic policy. Thus, the adoption of common currency and tying it to an international anchor currency may enhance the credibility of anti-inflation policy but will require the loss of flexibility in monetary and exchange rate policy (Chow and Kim 2003). This is the fear of most countries for not joining regional monetary unions. According to European Commission (2012) a well functioning economic and monetary union is the foundation for a stable and growth-friendly economic environment. Preserving a strong and stable euro is critical as it directly affects economic growth, people's jobs and the success of euro enterprises. It also influences availability of investment capital, the sustainability of public finances and pensions and the ability of fund welfare and social protection system in Europe. Cost reductions amount to 0.25 to 0.5% of GDP. Full cost reduction will be achieved when payment systems are fully integrated. Monetary union by eliminating exchange risk and reducing systems risk leads to decline in real interest rate and increase in per capita income. However, Frankel and Rose (2002) found the effect of currency union regime on income to be negative. We could conclude that currency union does not raise income as one would expect if it improved monetary credibility and stability. Capital accumulation can lead to dynamic effects leading to technological innovations. Production functions then shifts outwards raising economic growth. This can be achieved through increase in firms' productivity as the common currency reduces the transaction costs and interest rate spread.

However, for market participants in the securities industry the costs of making the transition to a single currency, in terms of staff-training, information-technology adjustment, note-handling costs etc may be high or moderate. In European area, the estimates of direct costs ranged between European currency unit (EUC) 110,000 and ECU 8 million per firm (Karlinger, 2002). This was about 0.058 percent on the average, of the total operating costs of financial institutions. In banking sector, the cost of conversion including the above noted securities firms conversion costs, were found to range between ECU 8 million and 10 million. This may be low because of the fact that banks have to keep accounts on both national currencies and the euro during the transition period. While

currency union had important direct implications in decreasing transaction costs it may also highlight the heterogeneities that may obstruct cross-border investment activities within the area. In particular cross-border clearing and settlement are substantially more expensive and risky than domestic clearing and settlement.

2.3. Common currency and Financial Development

The effect of currency union on trade and growth varies across levels of financial development. Higher levels of financial development offer firms the ability to trade more by channelling savings to the private sector. Well developed financial systems will allow firms to capitalize on economies of scale and take advantage of opportunities in the international market leading to increase in trade (Messer, 2014) and thus growth. The common currency is not a random process but a deliberate policy that comes with radical monetary reforms and increased political and economic integration between trading partners, all of which could generate international trade growth. Some argue that this endogeneity nullifies the Rose effect as it is impossible to separate the growth in trade caused by the aforementioned reforms and trade growth resulting from the common currency effect.

There are two main principles regarding the long run macroeconomic implications of monetary union operating through financial markets. The underlying assumption is that multiple currencies prevent national financial markets from integrating more deeply, thus depriving agents of the potential benefits of financial market integration (Karlinger, 2002). The benefit of risk-sharing through asset markets is that risk-averse agents can insure against income shocks by diversifying their portfolio across the whole unified currency area, rather than being restricted to the smaller national asset markets.

From the result of general-equilibrium theory, it is known that if asset markets are complete, risk averse individuals can and will fully insure against consumption fluctuations across states. In an environment that has neutral money and multiple currencies, this implies that the choice of an exchange rate regime will not have any impact on social welfare (Helpman 1981, Kareken and Wallace 1982, Lucas 1982). In practice, however, asset markets will be incomplete and risk cannot be completely hedged, in particular at the more aggregate level, and so the exchange rate regime may indeed matter. There are two approaches to considering the impact of the exchange rate in the context of region-specific shocks hitting the economy.

First, flexible exchange rates may substitute for other adjustment mechanisms (like price and wage adjustments or central fiscal transfers) if the latter are not available. This important insight, by Mundell (1961), underlies most of what has become known as the Theory of Optimum Currency Areas. What is perhaps less known is that, several years later, Mundell presented a new view of common currencies as a means of smoothing shocks by better reserve pooling and portfolio diversification. According to this approach, which has recently been "rediscovered" by McKinnon (2000), countries sharing a single currency can mitigate the effects of asymmetric shocks among themselves by diversifying their income source and adjusting their wealth portfolio. The international diversification of income source can operate through income insurance when residents of a country hold claims to dividends, interests, and rental revenue in other countries. Such ex-ante insurance allows the smoothing of both temporary and permanent shocks as long as output is imperfectly correlated. A country's residents can adjust their wealth portfolio in response to income fluctuations by buying and selling assets and borrowing and lending on international credit markets. Such ex-post adjustment allows the smoothing of transitory shocks (Mongelli 2002).

By emphasizing the foreign exchange market's forward-looking nature, Mundell (1973) shows how future exchange rate uncertainty could disrupt the capital market by inhibiting international portfolio diversification and risk-sharing. As McKinnon (1996) demonstrates, the gains from proper risk-sharing through a common currency should show up as a net reduction in risk premia on interest rates for the system as a whole. The possibility of international risk-sharing implies that similarity of shocks is not a strict prerequisite for sharing a single currency if all members of the currency area are financially integrated and hold claims on each others' output. This point has important implications for a debate about the size of a single currency area. A common currency could be shared by countries subject to idiosyncratic shocks as long as they can help insure one another through private financial markets (Mongelli 2002).

The empirical literature on risk-sharing has focused on the role of net transfers through central governments (Karlinger 2002). The issue of decentralized risk-sharing through private markets has received much less attention. In an early attempt to quantify the degree of risk-sharing provided by private capital markets for both the United States and Europe, Atkeson and Bayoumi (1993) find that capital flows among regions are significantly larger than those across countries, and private markets still provide a relatively limited degree of insurance against regional fluctuations. Asdrubali, Sørensen, and Yosha (1996) try to evaluate the importance of decentralized mechanisms in relation to public aid in attenuating regional shocks for the United States. They identify two channels of risk-sharing: the insurance channel - holding of claims against the output of other regions and the credit channel - borrowing from other regions. Their main conclusion is that, for the United States, insurance is far more important than credit for smoothing regional shocks, and credit itself is nearly twice as important as net transfers from the central government.

Melitz and Zumer (1999) revise the method developed by Asdrubali, Sørensen, and Yosha (1996), and apply it to interregional risk-sharing in the United States and Canada as well as international risk-sharing within the European Union (EU). For the United States, Melitz and Zumer (1999) qualify the results of Asdrubali, Sørensen, and Yosha (1996), claiming that insurance and credit contribute evenly to shock smoothing. They also show that interregional risk-sharing in Canada closely resembles that in the United States.

Moreover, Melitz and Zumer (1999) find that idiosyncratic shocks are larger and smoothing lower, among EU countries than among states in the United States or provinces in Canada. More than half of the smoothing comes from risk-sharing, and all of this risk-sharing concerns insurance (diversified property holding) rather than credit. As a methodological innovation, Melitz and Zumer (1999) distinguish between insurance through income flows and through depreciation (these two channels are summarized as "insurance" in Asdrubali, Sørensen, and Yosha 1996), and find that capital gains and losses are of much greater importance for intra-EU risk-sharing than are income flows. Moreover, openness seems to lead to more cross-ownership of resources, thus promoting risk-sharing via insurance relative to credit.

.3. Model and Estimation Technique

The objective of this study is to examine the impact of financial development and currency unions on economic growth in West African countries. For this purpose we follow the model of Alfaro *et al.* (2004), which is similar to Mankiw *et al.* (1992) model derived based on the assumption that countries are unlikely to be at their steady states and therefore transitional dynamics are more important. The model has been used in empirical analysis by Onwuka and Chaiechi (2013). Our preferred models are as follows:

$$Gy_{it} = \beta_0 + \beta_1 Gy_{it-1} + \beta_2 FD_{it} + \beta_3 CC_{it} + \beta_4 CTR_{it} + u_{it} \quad 1$$

$$Gy_{it} = \alpha_0 + \alpha_1 Gy_{it-1} + \alpha_2 FD_{it} + \alpha_3 (FDxCC)_{it} + \alpha_4 CC_{it} + \alpha_5 CTR_{it} + v_{it} \quad 2$$

where Gy_{it} is the GDP per capita growth rate of country i; Gy_{it-1} is lagged GDP per capita; CC is the common currency variable which is proxied by dummy variable, one if the country belongs to monetary union and zero otherwise. The effect of currency unions on income is through their effect on financial openness and trade. But perhaps currency unions have growth effect via a completely different channel. In most of the literature on currency union, the advantage that is emphasized is not the convenience to importers and exporters of abolishing currency distortions. Rather the emphasis is on the credibility benefits derived when the central bank ties its hands with a rigid institutional commitment to monetary stability. We look for possible non-trade effects by including measures of currency unions directly in the growth equation. CTR is the control variables like trade openness (exports + imports/GDP), human capital proxied by average years of schooling (SCH), inflation rate (consumer price index), and real exchange rate. Also included the controls are political instability, population growth and exports over GDP. FD is financial development measures which is divided into two – Banking based and Market based. Banking based includes liquid liabilities over GDP (LLY), Commercial-central banks assets ratio (BTOT), private sector credit over GDP (PRIVCR) and Bank credit over GDP (BCR), while market based includes market capitalization (MC) which is the ratio of stock turnover to GDP. Both the banking based and market based measures are used in the analysis and the measures of the banking based are collapsed into a single variable using principal component analysis. $FDxCC$ is the interaction term between CC and financial market indicator (FD). u_{it} and v_{it} are the error terms.

The implications of the relations in Eqns 1 and 2 as they relate to β_2, α_3 α_4 and α_5 are as: If $\beta_2 > 0$ then FD financial development has a positive effect on growth. While if $\alpha_3 > 0$ and $\alpha_4 > 0$, then the FD has a positive effect on growth through its interaction with monetary union which is an enabling condition and the interaction simply implies that effect is higher with the enabling conditions. If $\alpha_2 > 0$ and $\alpha_4 > 0$ then FD (financial development) and common currency (CC) have independent positive effects on growth. Therefore there is need for adoption of common currency and well-developed financial market to create enabling conditions for economic growth. Currency union is not a precondition for financial development but rather it establishes a macroeconomic stable environment. It eliminates or reduces exchange rate risks due to multiple currencies.

3.1. Data and Estimation Techniques

We draw data from twelve West African countries – five countries (Nigeria, Ghana, Gambia, Sierra Leone, and Liberia) that formed West African Monetary Zone and seven from members of WAEMU which includes Benin Republic, Mali, Cote d'Ivoire, Burkina Faso, Niger, Senegal, and Togo. The data cover the period, 1980 – 2012. Guinea, Guinea Bissau and Cape Verde were not included due to unavailable data on some important variables. Data series were collected from World Development Indicator database, 2012 and financial institution data base.

Political instability data were collected from Center for systemic Peace (2014).

In estimating the models (1) and (2), there are several problems that may arise. Financial development variables in FD_{it} are assumed to be endogenous. Because causality may run both directions – from financial development to growth and vice versa - these regressors may be correlated with the error term. Secondly, the time-invariant country characteristics (fixed effects), such as geography and demographics, may be correlated with the explanatory variables. The fixed effects are contained in the error term in equations (1) and (2) which consists of the unobserved country-specific effects, v_t and the observation-specific errors, e_{it} ($u_{it} = v_t + e_{it}$). Thirdly, the presence of lagged dependent variable gives rise to autocorrelation and finally, the panel dataset has a short country dimension $(N = 12)$ and a short time dimension $(T = 32)$. The use of fixed effects instrumental variable estimation (two stage least squares) may not solve these problems as the first-stage statistics of the 2SLS regressions showed that instruments might be weak. With weak instruments the fixed-effects IV estimators are likely to be biased in the way of the OLS estimators. The use of linear dynamic panel-data models which include p lags of the dependent variable as covariates and contain unobserved panel-level effects, fixed or random offers solution to this problem. However, by construction, the unobserved panel-level effects are correlated with the lagged dependent variables, making standard estimators inconsistent. Arellano and Bond (1991) derived a consistent generalized method of moments (GMM) estimator for this model. Blundell and Bond (1998) show that the lagged-level instruments in the Arellano–Bond estimator become weak as the autoregressive process becomes too persistent or the ratio of the variance of the panel-level effects v_i to the variance of the idiosyncratic error e_{it} becomes too large. Building on the work of Arellano and Bover (1995), Blundell and Bond (1998) proposed a system estimator which uses additional moment conditions in which lagged differences are used as instruments for the level equation in addition to the moment conditions of lagged levels as instruments for the differenced equation, the additional moment conditions are valid only if the initial condition $E[v_i \Delta y_{i2}] = 0$ holds for all i. For these reasons, we rely on the Arrelano-Bover/Blundell-Bond linear dynamic panel data estimation to estimate the parameters of models (1) and (2). The Arellano-Bover/Blundell-Bond estimator augments Arellano-Bond by making an additional assumption, that first differences of instrumenting variables are uncorrelated with the fixed effects. This allows the introduction of more instruments, and can dramatically improve efficiency. This method also assumes that there is no autocorrelation in the idiosyncratic errors and requires the initial condition that the panel-level effects be uncorrelated with the first difference of the first observation of the dependent variable. It builds a system of two equations—the original equation as well as the transformed one - and is known as the system GMM.

4. Results and Discussion

To begin the analysis we need to know whether our data are stationary or not. For this we utilize two tests – Levin Lin and Chu and Im, Peseara and Shin panel unit root tests. In both tests only one lag is used. The results of these tests are reported in Tables 1.

Table 1: Panel Unit Tests

	Level		First Difference	
	LLC			
Variables	No Trend	With Trend	No Trend	With Trend
ln *gdp*	0.982 [0.8370]	-0.543 [0.2935]	-5.370 [0.0000]	-4.739 [0.0000]
ln inf	-3.772 [0.0001]	-3.549[0.0002]	-8.925 [0.0000]	-6.879 [0.0000]
ln *rexc*	-3.654 [0.0001]	-2.157 [0.0155]	-4.310 [0.0000]	-4.258 [0.0000]
ln *pop*	-6.429[0.0000]	-7.120[0.0000]	-9.054[0.0000]	-9.007[0.0000]
ln *ex*	-2.898[0.0019]	-1.490[0.0681]	-9.784[0.0000]	-7.735[0.0000]
ln *fdb*	-0.028 [0.4890]	-0.016 [0.4936]	-5.553 [0.0000]	-4.714 [0.0000]
ln *fdm*	-1.488[0.0683]	1.0458[0.8522]	-9.137[0.0000]	-6.790[0.0000]
ln *opn*	-2.010 [0.0222]	-1.439 [0.0750]	-6.057 [0.0000]	-6.654 [0.0000]
ln *hc*	3.397[0.9997]	0.691 [0.7552]	-4.400 [0.0000]	-4.167 [0.0000]
	IPS			
ln *gdp*	0.670 [0.7486]	1.107 [0.8658]	-5.230 [0.0000]	-4.879 [0.0000]
ln inf	-4.427 [0.0000]	-4.471 [0.0000]	-0.668 [0.0000]	-9.311 [0.0000]
ln *rexc*	-1.655 [0.0489]	-0.152 [0.4397]	-4.852 [0.0000]	-4.923 [0.0000]
ln *pop*	-8.099[0.0000]	-10.544[0.0000]	-11.222[0.0000]	-10.304[0.0000]
ln *ex*	-2.059[0.0197]	-2.228[0.0129]	-12.516[0.0000]	-10.823[0.0000]
ln *fdb*	1.025 [0.8472]	1.601 [0.9453]	-5.946 [0.0000]	-5.311 [0.0000]
ln *fdm*	-1.394[0.0817]	0.670[0.7487]	-10.651[0.0000]	-8.508[0.0000]
ln *opn*	-0.268[0.3944]	0.305 [0.3801]	-6.297 [0.0000]	-6.403 [0.0000]
ln *hc*	2.557 [0.9947]	0.679 [0.7514]	-5.228 [0.0000]	-4.804 [0.0000]

Note: the figures in brackets are the p-values.

From the Table 1, it is seen that inflation rate, population growth rate, and export are stationary at level while the real exchange rate appears to be stationary at level but weak. All other variables are stationary at first difference (i.e. integrated of order one (I (1)). The summary statistics are reported in Table 1 in appendix.

4.1. Effect of Financial development and currency union on economic growth

To gauge out the effect financial development and currency union on economic growth of West African economies, we utilize the Arellano-Bover/Blundel-Bond linear dynamic panel data estimation (GMM-type) to estimate parameters of models (1) and (2). The maximum lag for predetermined and exogenous variables is three and one for dependent variable. In finite samples, the asymptotic standard errors associated with the two-step GMM estimators can be seriously biased downwards, and thus form an unreliable guide for inference. With this in mind, we report the results for the one-step GMM estimators, with standard errors that are not only asymptotically robust to heteroskedasticity but have also been found to be more reliable for finite sample inference (see Blundell and Bond, 1998). Financial development is divided into two – bank based and market based. The results reported in Table 2 are for bank based financial system. Column two reports the results for the interaction between financial development and the currency union.

Table 2: System Dynamic Panel-data estimation results (dependent: $\ln gdp$)

Variables	1	2
$\ln gdp_{t-1}$	0.8920* 25.47[0.000]	0.8931* 26.63[0.000]
$\ln fdb$	-0.0354 -1.23 [0.219]	0.0126 0.88 [0.379]
$\ln fdb_{t-1}$	0.0554** 2.39[0.017]	0.0616* 2.78[0.005]
$\ln inf$	-0.0108 -1.45 [0.148]	-0.00102 -1.32 [0.185]
$\ln ex$	-0.0975** -2.25 [0.025]	-0.1083** -2.54 [0.011]
$\ln pop$	0.0409** 2.14 [0.032]	0.0421** 2.33 [0.020]
$\ln rexc$	0.0085 1.17 [0.242]	0.01427** 2.02 [0.043]
$\ln opn$	0.0440* 3.93 [0.000]	0.0428* 3.97 [0.000]
$\ln hc$	0.0296 1.39 [0.65]	0.0316 1.37 [0.172]
pol	-0.0127** -2.21 [0.027]	-0.0145* -2.61 [0.009]
cc	-0.0031 -0.03 [0.976]	-0.1612 -1.31 [0.190]
$fdbcc$		-0.0403** -2.47 [0.013]
$const$	0.5321*** 1.90 [0.057]	0.5650*** 2.03 [0.043]
Wald $\chi^2(10)$	44812.62 [0.000]	35537.38 [0.0000]
Observations	372	372
Group	12	12
Serial correlation (estat abond)	[0.3460] (1) [0.4264] (2)	0.1459 (1) 0.4084 (2)

Note: * indicates 1%, ** 5% and *** 10% level of significance, the figures for serial correlation are p-values
Instruments for differenced Equation

GMM-type: L(2/3).loggdp L(2/4).logfdb; Standard: D.Loginf D.logex D. logpop D.logrexc D.logfdb D. loghc D.pol D.fdbc;Instruments for level equation;GMM-type: LD.loggdp L2D.logfdb; Standard: _cons, CC is omitted because of multi-collinearity

The Arellano-Bond test for serial autocorrelation in first-difference error is conducted and it is found that there is no evidence of first order autocorrelation in the errors. The major objective of this paper is to examine the impact of financial development and currency union on economic growth of West African countries. From the Table 2, the coefficients of financial development and currency union are negative and not significant (column1). However, when the two variables interacted the coefficient of financial development becomes positive and not significant and currency union still negatively affects the economic growth (column 2) though not significant. This is an indication that currency union is enabling environment for financial development as it helps to reduce exchange rate risks due to multiple currencies. The coefficients of currency union in columns 1 and 2 are low, implying that it will take a longer period for the effect to be seen. With low financial development in West African countries the currency union may not be the best policy option for the sub-region for the meanwhile. As most countries involved in the monetary union have not met the conditions for monetary integration, the common currency could not provide the stable environment for financial development. Some countries have two-digit inflation and their currencies fluctuate more often (e.g. Nigerian Naira is now 205 per USD and inflation is 8.7%). Thus, banking system in West Africa provides a relatively limited degree of insurance against regional fluctuations. For this reason it may not be able to smooth the regional shocks.

The past value of GDP per capita has a positive effect on the current GDP per capita growth. The real exchange rate is positive in both cases but significant at 5% in column 2 and the past value of financial development index has positive signs in in both cases and significant showing that the past value of financial development improves the economic performance in the region. The human capital has a positive but marginal effect on economic growth in columns 1 and 2 and not significant. The human capital in West African countries is low or

that the productivity per worker is low. The most remarkable issue about West African economies is that restrictions to trade and investments are less as indicated by the coefficient of openness in both cases. The coefficient is positive and highly significant at 1% level. The political instability depresses growth in West African economies. The wars or violent change in government or ethnic crises or power tousles among the politicians in West African region which resulted into loss of lives and properties lead to low growth. Besides, the trade from the region is low as indicated by negative coefficient of exports. Where the financial development is low and the economies have not met the conditions for convergence or common market, we are not surprised about the outcome of the interaction variable ($fdbcc$) as shown by our results here (column 2).

Next we replaced the bank based with the market based financial system. The results are reported in Table 3. The system GMM parameter estimates appear to be reasonable. The coefficient of lagged value of GDP per capita is consistent in both cases (Table 3 columns 1 and 2). The coefficients are similar in magnitude. The variable openness gives consistent results in Table 3 columns 1 and 2. Comparing the market based financial system with bank based most of the variables (like inflation rate, exports, political instability, population growth rate, financial development and currency union) do not differ in signs (Table 3 column 1). However, with interaction between currency union and market based financial system, the coefficient of the currency union becomes positive and significant while that of the financial development index is negative and not significant. This result implies that the efficiency of financial institutions is very important in determining the impact of currency union formation on growth. Also it implies that the size of a country's financial sector has very little impact on currency union effect on growth.

Table 3: System Dynamic Panel-data estimation results (dependent: $\ln gdp$)

Variables	1	2
$\ln gdp_{t-1}$	0.8874* 26.51[0.000]	0.8922* 29.22[0.000]
$\ln fdm$	-0.0246 -0.87[0.217]	-0.0060 -0.32[0.750]
$\ln fdm_{t-1}$	0.0272 0.87[0.383]	0.0295 0.93[0.350]
$\ln \inf$	-0.0086 -1.32[0.187]	-0.0099 -1.54[0.124]
$\ln ex$	-0.1025** -2.41[0.016]	-0.1032* -2.62[0.009]
$\ln pop$	0.0466 1.52[0.128]	0.0415 1.25[0.211]
$\ln rexc$	0.0094 0.78[0.343]	0.0100 0.85[0.397]
$\ln opn$	0.0305* 3.92[0.000]	0.0343* 4.94[0.000]
$\ln hc$	0.0545** 2.21[0.027]	0.0563** 2.09[0.037]
pol	-0.0070 -0.77[0.443]	-0.0091 -0.99[0.321]
cc	-0.0655 -0.70[0.483]	0.1960** 2.03[0.042]
$fdmcc$		-0.0876** -2.01[0.044]
$const$	0.4600** 2.05[0.041]	0.3827*** 1.87[0.062]
Wald $\chi^2(11)$	17000000[0.0000]	16019.16[0.0000]
Observations	372	372
Group	12	12
Serial correlation(estat abond)	[0.0493](1) [0.2333](2)	[0.0483](1) [0.2559](2)

Note: * indicates 1%, ** 5% and *** 10% level of significance; the figures for serial correlation are p-values.
Instruments for differenced Equation

GMM-type: L(2/3).lngdp L(1/2) L.lnfdm; Standard: D.lninf D.lnex D. lnpop D.lnrexc D.lnfdm D. lnhc D.pol D.fdmcc; Instruments for level equation; GMM-type: LD.lngdp, LD.lnfdm; Standard: _cons, CC is omitted because of multi-collinearity

From the results in Tables 2 and 3, if we assume that multiple currencies prevent national financial markets from integrating, a currency union formation can improve welfare by encouraging international risk diversion through private portfolio diversification and growth performance by allowing for riskier higher-quality, more long-run investment. We expect the gain from the currency union formation to be higher in West Africa because low levels of financial development or fragmented financial markets. Financial markets allow firms to hedge exchange rate risks, eliminate hysteresis and overcome the large fixed costs of international commerce; thus countries with less financial development may work to eliminate these barriers to trade by undergoing common currency formation.

4.2. The net effect of currency union and financial development on growth

The impact currency union on growth will be measured using the following equation.

$$Net\ currency\ union\ effect = \alpha_4 + \alpha_3(*mean\ of\ financial\ development)$$

α_4 captures the growth impact of countries using the same currency and α_3 predicts the change in log of growth for unit change in financial development for countries using a common currency. Together α_4 and α_3 capture the net effect of currency union accounting for levels of financial development. The net effect of currency union formation at the mean level of financial development (bank based) is (-0.01791) and for financial market based is (-0.07254). These results are limited in that they focus on the cumulative level of financial development of countries in West Africa.

5. Policy Implications and Conclusion

Our results do not differ from the Frankel and Rose (2002) results. Some useful implications emerge from the results. First, the currency union regime does not improve per capita income in West African economies except when interacting with financial development. Thus, the financial institutions play an important role in determining the impact of currency union formation on growth. This implies that the effect of currency union depends on the size of financial development and as the coefficients are negative except when interacting with market based financial development, the levels of financial development in West Africa are low. At present level of financial development in West Africa, the currency union formation could not smooth regional shocks through private portfolio diversification and allowing riskier higher-quality more long-run investments. The positive effect we obtained in Table 3 column 2, has suggested that the benefits come through the central bank credibility and monetary stability.

Second, trade within West Africa region is low as indicated by negative coefficients of exports in both Tables 2 and 3. The currency union formation will be more welfare improving if the union member states trade more among themselves than they trade with non members. Another fact is that these economies depend on primary resource exports to generate revenue rather than on manufactured goods (not diversified). For example, Nigeria depends on crude oil exports for her revenue generation; Ghana depends on gold and Sierra Leone on diamond.

One fact remains clear that these economies have not met the conditions for convergence. Some economies still experience two–digit- inflation rate - Burkina Faso 15.1%; Ghana 16.6%; Sierra Leone 20.14%) and exchange rates fluctuate more often and have low GDP per capita. Exchange rate volatility still is very useful for explaining the development of financial market integration. Higher exchange rate volatility among West African currencies will lead to a lower degree of integration. It is important to emphasize that at low levels of financial development financial stability risks are still present. Therefore the policymakers need to ensure that sufficient buffers are maintained to reduce the risk of a financial crisis.

Opening or integrating West African economies to world economy and getting rid of obstacles between themselves are vital to improve economic growth. Free movement of goods, labour and capital may reduce the cost of transactions within the region. Companies will start to enjoy economies of scale as they expand their market across West African States. At the same time inefficient firms would be exposed to more border competition, either forcing them out or forcing them to improve their efficiency.

The fact that the currency union in West Africa consistently affects growth negatively (Table 2 and Table 3 column 1) is an indication of the divergent monetary policies existing among the economies trying to have a single market like EU. Also, the composition of a currency union may be critical to effect of a common currency on growth even if the anchor currency is strong and stable. Harmonization of monetary policies is needed for currency union to have desired effect. The banking systems need to be strengthened and harmonized among the economies. Divergent monetary policies and banking systems will hamper a single market, trade and investments and thus growth in West Africa sub-region. Emphasis needs to be placed on market based financial system as its interaction with currency union enhances the impact of currency union on economic growth.

References

Alfaro, L., Chanda, A., Kalemi-Ozcan, S., and Sayek, S. 2004. "FDI and economic growth: the role local financial markets." Journal of International Economics, vol 64 (1), pp. 89 – 112.

Akinlo, A. E. and Egbetunde, T. 2010. "Financial Development and Economic growth: the Experience of 10 Sub-Saharan African Countries Revisited." The review of Finance and Banking, vol. 2 (1), pp. 17 – 28.

Arellano, M., and Bond, S. 1991. "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations." Review of Economic Studies 58: 277–297.

Arellano, M., and Bover, O. 1995. "Another look at the instrumental variable estimation of error-components models". *Journal of Econometrics* 68: 29–51.

Atkeson, A. and T. Bayoumi. 1993. "Do Private Capital Markets Insure Regional Risk? Evidence from the United States and Europe." *Open Economies Review* 4 (3): 303–24.

Asdrubali, P., B. Sørensen, and O. Yosha. 1996. "Channels of Interstate Risk-Sharing: United States 1963–1990." *Quarterly Journal of Economics* 111: 1081–1110.

Bagehot, Walter. 1873. *Lombard Street: A Description of the Money Market*. New York: Scribner, Armstrong & Co.

Bailliu, J.N. 2000. "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries." Bank of Canada Working Paper No. 2000-15.

Beck, T., Lundberg M., and Majnoni, G. 2006. "Financial intermediary development and growth volatility: Do intermediaries dampen or magnify shocks?" *Journal of International Money and Finance,* 25(7): 1146-1167.

Blundell, R., and Bond, S. 1998. "Initial conditions and moment restrictions in dynamic panel data models." *Journal of Econometrics* 87: 115–143.

Cameron, R. 1967. "England, 1750-1844," in R. Cameron, O. Crisp, H. T. Patrick, and R. Tilly, eds., *Banking in the Early Stages of Industrialization: A Study in Comparative Economic History.* New York: Oxford University Press, pp. 15 - 59.

Caprio, G. and Honohan, P. 2001. Finance for growth: Policy choices in a volatile World, A World Bank Policy Research Report, Oxford University Press, New York.

Center for Systemic Peace .2014. Major Episodes of Political Violence 1946 – 2014 data base, www.systemic peace.org (accessed on 8 May 2015).

Chow, H. K. and Kim Y. 2003. "A common currency Peg in East Asia? Perspective from Western Europe." *Journal of Macroeconomics*, vol. 25, pp. 331 -350.

Davis, Lance E. 1965. "The Investment Market, 1870-1914: The Evolution of a National Market." *Journal of Economic History*, September 1965, 25 (3), pp. 355 - 399.

De Grauwe, P. 1997. The Economics of Monetary Integration, third ed. Oxford University Press, Oxford.

Demirguc, K., A. and Detragiache, E. 1998. "The determinants of banking crises: Evidence from developing and developed countries." *IMF Staff papers*: pp: 81-109.

Demirguc, K.A. and Detragiache, E. (Ed.), (1999). Financial liberalization and financial fragility. The World Bank.

Diamond, D.W. and P.H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity." *Journal of Political Economy* 91 (3): 401–19.

European Commission. 2012. The European Union Explained: Economic and Monetary Union and the euro, European commission, Brusel, htt://europa.eu/pol/index_en.ht (Accessed on 25 May, 2014).

Frankel J. and Rose A. 2002. An estimate of the effect of common currencies on trade and income. *Quarterly Journal of Economics*, vol. 117 (2), pp. 437 – 466.

Greenwood, J. and B. Jovanovic. 1990 "Financial Distribution, Growth, and the Distribution of Income." *Journal of Political Economy* Part 1, 98 (5): 1076–1107.

Gulde A.M., Patillo C. and Christensen J. 2006. "Bankable assets, Africa faces many obstacles in developing financial systems." *Finance and Development, December*

Gurley, John G. and Edward S. 1955. "Financial Aspects of Economic Development." *American Economic Review*, 45 (3), pp. 515 - 538.

Habibullah, M. S. and Eng, Y. 2006 "Does Financial Development Cause Economic Growth: A panel Data Dynamic Analysis for the Asian Developing Counties." *Journal of the Asian Pacific Economy* Vol.11, pp.377-393.

Helpman, E. 1981. "An Exploration in the Theory of Exchange-Rate Regimes." *Journal of Political Economy* 89 (5): 865–90.

Honohan, P. (Ed.). 2004. Financial development, growth, and poverty: How close are the links? , London Palgrave

Kablan, S. 2009. African Economic and Monetary Union (WAEMU). AERC *Research Paper 192*

Kalemli-Ozcan, S., B. Sørensen, and O. Yosha. 2001. "Economic Integration, Industrial Specialization, and the Asymmetry of Macroeconomic Fluctuations." *Journal of International Economics* 55 (1): 107–37.

Kaminsky, G. and Reihnart, C.M. 1999. "The twin crises: The causes of banking and balance of problem."

American Economics Review 89: 473-500.
Kareken, J.H. and N. Wallace. 1982. "On the Indeterminacy of Equilibrium Exchange Rates." *Quarterly Journal of Economics* 96 (2): 207–22.
Karlinger, L. (2002). The Impact of common currencies on financial markets: A literature review and evidence from the Euro Area. Working Paper 2002-35, Bank of Canada
Kenen, P. 1969. The theory of optimum currency area: An eclectic view. In: Mundell, R., Swoboda, A. (Eds.), Monetary Problems in the International Economy. University of Chicago Press, Chicago.
Lamoreaux, N. 1994. Insider lending: Banks, personal connections, and economics development in industrial new England. New York: Cambridge University Press
Levine, R, Loayza, N, and Beck, T. 2000. "Financial Intermediation and Growth: Causality and causes." *Journal of Monetary Economics* Vol.46, pp.31-77
Levine, Ross. 1997. "Financial development and economic growth: Views and agenda." *Journal of Economic Literature,* 35 (June): 688–726.
Lucas, R.E. 1982. "Interest Rates and Currency Prices in a Two-Country World." *Journal of Monetary Economics* 10: 335–59.
Makdis, S., Fattah Z., and Liman I. 2000 . "Determinants of Growth in the MENA Countries." A paper presented in the Workshop on the Global Development Network held in Prague during the period June 9-11.
Mankiw, N.G., Romer, D. and Weil, D.N. 1992 "A contribution to the empirics of economic growth." *The Quarterly Journal of Economics*, 107(2): 407-437.
McKinnon, R.I. 1963. "Optimum currency areas." *American Economic Review*, pp. 717– 724.
McKinnon, R.I. 1996. "The Rules of the Game: International Money and Exchange Rates." Cambridge, MA: MIT Press.
McKinnon, R.I. 2000. "Mundell, the Euro, and the World Dollar Standard." *Journal of Policy Modelling* 22 (3): 311–24.
Melitz, J. and F. Zumer. 1999. "Interregional and International Risk Sharing and Lessons for EMU." CEPR Discussion Paper No. 2154.
Meltzer, A. H. 1969. "Money, intermediation and growth." *Journal of Economic Literature*, VI1
Messer, W. L.(2014). The Currency Union Effect on trade: the role of financial development (unpublished Bachelor of Arts degree in Interantional Studies, Croft Institute for International Studies, the University of Mississippi)
Mishkin, F. S. 2004. The Economics of Money, Banking and Financial Markets. 7th Edition, Pearson Addison Wesley, Boston, USA, pp. 187.
Mongelli, F.P. 2002. "'New' Views on the Optimum Currency Area Theory: What Is EMU Telling Us?" ECB Working Paper No. 138
Morck, R., Wolfenzon, D. and Yeung, B. 2005 "Corporate governance, economic entrenchment and growth." *Journal of Economic Literature*, vol 43 (3): 655 -720.
Mundell, R. 1961. "A theory of optimum currency areas." *American Economic Review,* 51, pp. 657–665.
Mundell, R.A. 1973. "Uncommon Arguments for Common Currencies." In *The Economics of Common Currencies*, edited by H.G. Johnson and A.K. Swoboda, 114–132.
Ndebbio, J.E. 2004. " Financial deepening, economic growth and development: Evidence from selected sub-saharan african countries." *AERC Working papers*, 142.
Odeniran, S. O. and Udeaja, E. A. 2010. "Financial Sector Development and Economic Growth: Empirical Evidence from Nigeria." *Central Bank of Nigeria Economic and Financial Review*, vol. 48 (3), pp. 91 – 124
Onwuka, K. O. and Chaiechi, T. 2013. "Foreign Direct Investment, Financial Markets and Growth Dynamics in MENA Oil Producing Countries: A Panel Investigation." *Journal of Finance and Investment Analysis*, vol. 2, No.2, 2013, 135-159
Patrick, H. 1966. "Financial Development and Economic Growth in underdeveloped countries." *Journal of Economic Development and Culture Change* Vol. 14. No.2, pp. 174 -189
Powo- Fosso, B. 2000. "*Les déterminants des faillites bancaires dans les pays en Développement: le cas des pays de l'UEMOA*".Cahier 02-2000. Centre de recherché et de développement économique, Université de Montréal, Montréal.
Raddatz, C. 2006. "Liquidity needs and vulnerability to financial underdevelopment." *Journal of Financial Economics*, 80(3): 677-722.
Rajan, R.G. and Zingales, L. 2003. Saving capitalism from the capitalist. New York: Random House
Robinson, J. 1952. The Generalization of the Capital theory in the Rates of Interest and Other Essays, London, Macmillan
Rose A. K. 2000. "The Effect of common currencies on international trade: where do we stand?" *MAS Occasional Paper* No. 22.

Rose, A. K. And Stanley, T. D. 2005. "A meta-analysis of the effect of common currencies on international trade." *Journal of Economic Survey*, 19 (3), pp. 347 – 365.

Rouseau, Peter L 2002. "Historical Perspective on Financial Development and Economic Growth." *NBER working Paper* No. 9333.

Thiel, M. 2001. "Finance and Economic Growth—A Review of Theory and the Available Evidence." European Commission, DG ECFIN Economic Paper No. 158

Saint-Paul, G. 1992. "Technological Choice, Financial Markets and Economic Development." *European Economic Review* 36 (4): 763–81.

Santana-Gallego, M, Ledesma-rodriguez, F. J., Rodriguez, J. V. P, Jimenez. I. C. 2010. "Does common currency promote growth via trade and tourism?" *World Economy,* vol, 33 (12), pp. 1811 – 1835.

Seck, D. 2013. Fifteen Years of WAEMU: Results and Strategies for Future. In E.T Ayuk and S. T. Kabore (eds). Wealth Through Integration, Insight and Innovation in International Development 4, Doi 10.1007/978-1-4614-4415-2-2 (accessed on 21 June, 2014).

Stein, J.L. 1970. "Monetary growth theory in perspective." *American Economic Review* Vol.60, No.1, pp.85 -105

Sylla, R. 1969. "Federal Policy, Banking Market Structure, and Capital Mobilization in the United States, 1863-1913." *Journal of Economic History*, 29 (4), pp. 657 - 686.

Wooldridge, J. M. 2002. Econometric Analysis for Cross Section and Panel Data, Cambridge, Massachusetts: The MIT Press.

Zhang, J., Wang, L. and Wang, S. 2012. "Financial development and Economic growth: Recent Evidence from China." *Journal of Comparative Economics*, vol. 40 (3), pp. 393 – 412.

Table 1a: Summary of descriptive statistics

variable	observations	Mean	Std. Dev.	Min	Max
ln *gdp*	384	5.723607	0.503377	3.998296	6.812347
ln inf	384	0.9591376	1.996384	-4.614033	5.481175
ln *ex*	384	-1.412393	0.5986126	-3.399706	-0.0886788
ln *pop*	384	1.037041	0.429741	-1.746123	2.236602
ln *rexc*	384	4.6463675	2.436053	-3.103113	7.627027
ln *fdb*	384	-3.555575	0.7644976	-5.562456	-0.8462406
ln *opn*	384	-1.412842	1.913012	-5.771323	0.5821152
ln *hc*	384	0.5542705	1.490279	-1.410587	3.663406
ln *fdm*	384	3.0655	0.394418	1.939023	4.618834
ln *cc*	384	0.5833333	0.4936498	0	1
ln *pol*	384	0.4583333	1.000435	0	4