Financial Development and Economic Growth in Cemac Countries Strictly as per the compliance and regulations of

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Abstract

The main aim of this research work is to determine the relationship that exists between financial development and the growth rate of per capita real GDP in CEMAC countries using panel data estimation techniques. It emphasises the reciprocal impact of financial development on growth in order to determine the type of relationship that exist and make policy recommendations.To do this, we measured financial development and economic growth with the liquidity rate and the growth rate of per capita real GDP respectively.We tested these two measures in a static panel model using Ordinary Least Squares (OLS) for the first model and Feasible Generalised Least Squares (FGLS) for the second. Based on the results obtained from data on these countries for the period from 1980 to 2006, we established that financial developmentnegatively affects economic growth and that the inverse positive relationship is not significant.These results, coupled with those of Granger causality test, allow us to show that there exists a unidirectional causality running from economic growth to financial development in CEMAC countries. We concluded by making policy recommendations in order to ameliorate this relationship.

Index terms— CEMAC, financial development, economic growth, panel data, direction of relationship.

1 INTRODUCTION

he debate on the role of the financial sector in economic development has been going on for over a century now. Schumpeter (1912) explains that the financial system plays an important role in economic growth by favouring innovation through financial services. Initially, this literature was centralised on the following question: does the financial sector play a causal role in economic growth or is it simply financial intermediaries that promote the rapid industrialisation of countries? (Eschenbach, 2004). The problem of causality remains an important issue in the literature. It is as such that four schools of thought emerged: 1. those who supported the thesis of bidirectional causality (Patrick, 1966 ; **??**ertelemy et Varoudakis, 1994), 2. those who held that causality is unidirectional, going from financial development to economic growth **??**Pagano,1993 ;Spears, 1992 ;Mckinnon, 1973), 3. those who believed that causality is unidirectional going from the real to the financial sector **??**Gurley et al, 1995 ; **??**ensink et al,1998 ; Levine, 1997), 4. and finally those who admitted that finance had no effect on economic growth (Stiglitz, 1991 ; **??**kyu, 1993).

In the mid 80s, the commercial bank dominated financial system of the Central African Economic and Monetary Community better known by its French acronym (CEMAC), witnessed a situation of generalised crisis. In fact, out of forty banks that existed in the zone, nine of them ceased their activities. Of all the banks that remained in activity, only one complied with existing norms, twenty others had precarious equilibriums and the remaining ten were insolvent **??**BEAC, 2004). This crisis forced CEMAC2 Also, the coefficient of liquidity (M2/GDP) changed from 20,8% in 1983 to 54.9% in 2005 according to BEAC Report **??**2007). The investment rate also improved from 5.2% to 6% between 2001 and 2008 countries to undertake the reform of their financial sectors

under the prism of financial liberalisation. This liberalisation led to the growth of banking activity that should lead to the amelioration of economic and financial indicators. It is as such that the annual growth rate of the GDP of CEMAC countries moved from -2,3% in 1993 to 4,1% in 2001,Inflation from 3% to 2,2% between 2001 and 2008 (BEAC, 2009). 3 2 CEMAC is made up of six countries: Cameroon, Gabon, Chad, Equatorial Guinea, Central African Republic, and Congo. 3 http/www.beac/conjontureprevcemac2007-2009 . Considering all these improvements, one could question the direction of the relationship that could exist between the development of the bank dominated financial system and economic growth in CEMAC countries. What is the impact of financial development on the economic growth of CEMAC countries? What is the effect of per capita real GDP growth on the development of the financial sector of CEMAC countries? This study based on CEMAC countries covers the period from 1990 to 2006. Panel data techniques are used for the estimations. The rate of liquidity is used to measure financial development meanwhile economic growth is measured by the growth rate of GDP per capita. This first section is followed by a literature review (II), which is followed by the T .

2 Global Journal of Management and Business Research Volume XII Issue I Version I methodology (III). Section (IV) presents the results, while

Abstract -section (V) concludes by giving some policy recommendations.

3 II. LITERATURE REVIEW

The relationship between financial development and economic growth has been the object of many empirical and theoretical studies. It has attracted much attention in the modern history of economics. In this section, we review the theories that form the base of this study (II.1), as well as the empirical investigations of certain authors (II.2). a) Theoretical literature review This sub-section reviews the theories of endogenous growth and financial development. Even though this theory of economic growth has evolved much over time, we are particularly interested in the new theory of endogenous growth. Furthermore, we also deemed it necessary to present the theoretical link between financial development and economic growth. (1)

In order to capture the important effects that can exist between economic growth and financial development, he introduces an equation for gross investment I t to obtain the following equation:t t t K I K) 1 (1 (2)

Where Y t represent the level of production, I t is investment, K t capital, and A are respectively the rate of depreciation and productivity of capital for a given period. He also supposes that a given fraction (1-) of total savings is lost or is not totally invested in the intermediation process (this represent intermediation cost and prudential norms such as obligatory reserves or information asymmetry). The amount of savings available is therefore:t t

4 S I

(3) With S t = sY t , 0 1 and s is the savings rate. Also, in case of perfect information, investors would be directly in contact with savers and the intermediation system would not exist and all savings would be invested. The growth rate in year t+1 is written considering equation (1) as follows:t t t Y Y Y g) (1 1 (4) 1 1 1 t t t Y Y g (5) 1 1 1 t t t K K g (6)

By introducing the capital equation (2) and the investment equation (3), we obtain the following stationary state growth rate (g) 5 :

1. The proportion of national savings ( ) allocated to productive investment projects; since according to Pagano, the increase of the latter might be due to lack of efficiency of the financial sector. The more efficient the financial sector, the lower the proportion (1-) of savings consumed. 2. The productivity of capital (A): due to information collection and the incitation of investors to invest in more risky projects because of risk sharing with intermediaries. 3. The savings rate (s): the financial system influences economic growth through the savings rate of the economy.

From the above model, financial development can positively influence economic growth through three channels: the savings rate, technological development and the share of savings allocated to the financing of the economy. Globally, the model of Pagano establishes a direct positive relationship between economic growth and financial development. This model has inspired many studies which have established various theoretical links between financial development and economic growth.

It is as such that King and Levine (1993) show that the prime function of a financial system is to facilitate the efficient allocation of resources both in space and in time, and their putting into place in an uncertain environment. By reducing various costs, the financial system fulfils a primary function which is subdivided into five basic functions, each contributing to the development of the real sector of the economy, Levine (1997): 1. It facilitates the mobilisation of domestic savings: also called pooling, the mobilisation of savings entails the putting together of the savings of small savers for investment purposes. As a primary market, the financial market permits the raising of capital and the direct transformation of household savings into long term resources for private and public collectivities. According to **??**ing and Levine (1993a), it can be considered at both the level of enterprises and households. 2. It allows the collection of information on enterprises and an optimal allocation

of resources: according to Grossman and Stiglitz (1995), financial markets represent a source of information for, and on enterprises since financial markets can seek information concerning firms. The ability in using this information will stimulate investors to seek this information and to monitor firms. This information is useful to both enterprises and investors what ever their sector of activity. Also, through information transfer, the financial market facilitates the coordination of decentralised decision making in the different sectors of the economy. In fact, out of all firms and entrepreneurs seeking for financing, financial markets and intermediaries select the most promising ones. As such, we obtain a more efficient allocation of capital and by that an acceleration of the growth process according to Greenwood and Jovanovic (1990). 3. It allows a better monitoring of managers and enterprises by equity holders: the development of the stock market can affect the control of enterprises. In fact, D Diamond and Verrachia (1982), and Gerschenkron (1962), show that efficient financial markets help to reconcile the interests of managers to those of shareholders. Financial markets help in the transformation of productive structures. This is done either through the acquisition of assets or through take-overs. Such operations can be financed either through the issue of new financial assets, without necessarily affecting the portfolio of the enterprise. The reduction of information asymmetry facilitates external financing and a better allocation of resources according to Sharpe (1990).

4. The presence of a developed financial sector facilitates the trade of goods and services: as such, when a financial system does not increase liquidity, high return projects will have difficulties of being financed. Liquid markets allow shareholders to easily sell their shares while firms have permanent access to capital. Therefore, by facilitating transactions, financial markets reduce credit risk. 5. Finally, financial systems facilitate the protection against and the sharing of risk: except of the reduction in credit risk, the financial sector can attenuate idiosyncratic risk, that is, risk linked to individual's projects, to enterprises, industries, regions, and countries. This reduction in idiosyncratic risk is done through diversification.

Concerning the diversification of risk, it could favour the accumulation of capital risk (Bencivenga et Smith, 1991). Meanwhile, according to King et Levine (1993), financial systems that facilitate diversification can accelerate technological changes and economic growth. These functions affect economic growth through the following channels: the accumulation of capital and technological innovation.

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6 Economic growth

The financial system influences the accumulation of capital by affecting the rate of savings and the reallocation of this savings as shown in the "AK" model of Pagano. Theory therefore provides us with conceptual bases to ascertain that a large, liquid and efficient financial system favours economic growth.

ii. The effects of economic growth on financial development: the theoretical model of Berthelemy et Varoudakis

One of the main models linking economic growth to financial development is that of Levine (1997). This endogenous growth model, which remains an extension of the endogenous growth theory developed by Romer, modelises the link existing between financial development and economic growth and shows that there exists a feedback effect of economic growth on financial development. These two possible effects between financial development and economic growth have been grouped by Patrick, who distinguishes two different stages. In the first stage, it is financial development that leads to economic growth (supplyled) and in the second, it is economic growth that leads financial development (demand-led). The supply -led stage entails a unidirectional causality from financial development to economic growth. This means that the deliberate creation of financial institutions and markets supply financial services that facilitates real economic growth. The model of Levine (1997) and Patrick (1966) formalises as such the analyses of the supporters of the existence of bidirectional causality. As such, Berthelemy and Varoudakis, (1994) using the theory of endogenous growth develop a two sector (real and financial) model that put to evidence the interdependence between the two spheres. Their model demonstrates the existence of multiple equilibrium of endogenous growth, associated with different levels of long term financial development of the financial sector. Each household is endowed with one unit of efficient labour (uE) that is put at the disposal of the firm or the bank (L F + L B = 1 where L= uE). Each firm produces a unique good, which can be used for consumption or investment, using a technology with constant returns to scale with respect to capital stock (K) and efficient units of labour

The aggregate production function is of the following form:Y= F(k,L)= uE* f(K,L)**(8)**

Where F(K,L) is the production function in its intensive form, with F' and F" greater than zero. The usual profit maximisation condition of the representative enterprise imposes the following conditions:W= (f (1 u) -1/u f'(1/u))*K (9) Et R = f'(1/u)**(10)**

W is the real wage rate which, under the hypothesis of perfect mobility of labour, is the same in the real and financial sector. R represents bank credit market interest rate such that R = (1+i).r, where I stands for the intermediation margin charged by banks and r stands for real interest rate which is equal to the marginal productivity of capital less net financial intermediation costs. Since the authors limit financial intermediation to banks, they consider a financial system with n identical banks in a situation of monopolistic competition, with

the objective of collecting household savings. These banks use a technology that is modelled in a stylised manner. The amount of investment intermediated by each bank (j) represent a fraction j of current savings. They suppose that this fraction j is positively linked to the quantity of labour employed by the bank (noted, Lj for j), therefore: j = j (Lj), with j ' > 0.

By hypothesis, the n banks are all identical, we therefore have in equilibrium: L j = L B = 1-u/n, where L B is total labour of the banking sector. The investment of the bank is given by:I = K ' = (L B). S = (1-u/n). S

Where Sj is the amount of savings collected by the bank(S=Y-C)

During each period, the representative bank maximises its profit (holding constant the amount of savings collected by other banks), which has the following equation:B = (1+i) (L B). S -L B w -S (12)

Furthermore, this equality implies the equalisation of the marginal productivity of labour to real wage (common to both sectors). In equilibrium, this condition is expressed as follows: w = (1+i) ' (L B). S/n (14) From theses results, the authors conclude that the real sector exerts an important externality on the financial sector through the determination of the flow of savings S. The larger the size of the financial sector (that is the higher the amount of household savings) the higher is the productivity of labour in banks and the more developed is the financial sector. In other words, any increase in savings allows an increase, for a given level of labour L B , in the level of investment and income received by banks. The idea is that, economic growth leads to increase in savings meanwhile the treatment costs of savings is constant. Thanks to these returns to scale, growth exerts a "natural externality" on financial development. Economic growth, through its positive effect on savings, reduces the marginal cost of intermediation, and enhances financial development.

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The following figure illustrates the causality link between the two phenomena. i. From financial development to economic growth Empirically, Goldsmith (1969) is one of the first economists to investigate the interrelationship between financial development and economic growth using data on 35 countries (both developed and underdeveloped) for the period 1898 to 1969. Measuring financial development with the ratio total financial asset/GDP, he shows that this ratio is positively correlated with economic growth. However, the study did not consider other factors that could influence growth. Later, the study of King and Levine (1993) based on a sample of 80 countries (developed and underdeveloped) for the period 1960-1989 showed, on the one hand, that a bivariate analysis reveals a strong positive correlation between financial development and economic growth 6 . On the other hand, using a multivariate analysis, the results remained significant even after considering control variables that influence economic growth. Also, king and Levine (1993) used M2/GDP, the ratio of bank internal assets, the ratio of bank credit to the private sector and the ratio of credit to the private sector on total domestic credit to study the link between financial development and economic growth 7 .The results they arrived at show that there exist a close link between financial development and economic growth and that the indicators of financial development used are good predictors of economic growth. They explain their results by the existence of multiple equilibriums that induce scale effects. Spears (1992) also used these indicators in his study of the relationship between financial development and economic growth in ten countries in sub-Saharan Africa. The study, based on the granger causality test, arrives at the conclusion that there exists (11) 6 King and Levine(1993a) used the following four indicators: M2/GDP, (M2-M1)/GDP, credit to the private sector/total domestic credit and credit to the private sector/GDP 7 The two authors used three indicators of economic growth: the growth rate of per capita GDP, growth rate of the global productivity of factors, growth rate of capital per head. On each of these indicators, they ran a strong causality going from M2/GDP to economic growth. Berthelemy and Varoudakis (1998) on their part used panel data techniques in their study of the relationship between financial development and economic growth in 82 countries during six five-year periods starting from the early sixties to the nineties. These authors include a binary variable to differentiate periods of financial repression from those of financial liberalization.

The found a minimal influence of economic growth on the financial system during times of financial repression. The coefficient associated to this indicative variable multiplied by (M2/GDP) is negative and significant. From this, the two authors conclude that a repressed financial sector has a negative impact on economic growth. They explain this situation by the possibility of the existence of multiple equilibriums according to the level of financial development as pointed out by King and Levine. A "high equilibrium" associated with a high growth rate and a normal level of development of the financial sector and a "low equilibrium", associated with low economic growth, where the economy is unable to develop its financial sector. In between the two, there is an unstable equilibrium that defines an optimum effect of the development of the financial sector on growth. Above regressions with each of the four indicators of financial development.

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this optimum, the economy converges towards the equilibrium with high growth, while below this optimum; the economy is tied up in a poverty trap. From these analyses, they conclude that the impact of financial development on growth is felt only from a certain level; (M2/GDP) should be at least equal to 36.5%. Finally, Aka Brou (2008) moves from a study of 22 Sub-Saharan African countries to show that: 1. The results obtained on the direction of causality between financial development and growth are mitigated, and that in certain countries it is bidirectional, and in others unidirectional going from finance to growth. 2. The results suggest cases of inverse causality and non causality even if they are less than the latter.

9 The results indicate that the direction of causality between financial development and the productivity of factors is either unidirectional or bidirectional and that very few cases of inverse causality and non causality exists.

agents reduces intermediation costs that tend to increase with bank margins in order to promote innovation and ameliorate the efficiency of the banking sector. It is important to note that increase in revenue (growth) leads to an increase in savings meanwhile the costs of treating savings are fixed. Due to these returns to scale, growth exerts a "natural externality" on financial development. Economic growth, through its positive effects on savings, reduces the costs of intermediation and promotes economic growth. Also, legal and regulatory aspects play an important role in the supply of financial services in order to boost economic growth. Legal laws and their mechanisms of application favour efficient allocation by the market and facilitate financial operations 8 . A recent study by OCDE (2006) 9 followed the same line of reasoning by looking at the importance of efficient financial regulation as a factor of economic progress. Even though we have many studies on 4. It is evidenced that in countries where financial development granger causes economic growth, it also granger causes technological progress. 5. The results are country specific and vary with the indicator of financial development used ??Demetriades and Hussein, 1996) ii. From economic growth to financial development Beck et al. ??2000), empirically put to evidence the importance of the level of income in financial development. According to them, countries with high income levels have more developed financial sectors than those with low income. Some of these authors hold that factors at the origin of financial and banking crises are constraints to the development of the financial sector. These factors include among others: volatility of the macroeconomic environment (shocks of terms of trade, real exchange rate, interest rate, economic growth, and inflation rate), the poor management of the financial liberalization process and the legal and institutional environment. In fact, an adverse macroeconomic environment is a serious break to financial development.

More so, a high inflation rate or high fluctuations of prices tend to increase the number of financial transactions and thus, the costs of financial intermediation. This then increases the amount of resources lost in the financial system (costs of operations) and hence a fall in the efficiency of the system. Also, it is admitted that large deficits are usually associated to the phenomenon of disintermediation. As such, cross sectional studies have put to evidence the importance of market structure on the development of the financial sector (Beck et al, 2000, Loayza et Levine, 1999). The structure of the market also has an important impact on the development of the financial sector. Likewise, the increase in the incomes of economic financial development and economic growth, very few III.

10 METHODOLOGY a) Equations and variables used

To verify the type of relationship that exists between financial development and economic growth in CEMAC countries, the endogenous growth econometric model of Levine (1997) and De Gregorio et al. (1995) is estimated using panel data techniques. The model specification is the following: G= 0 + 1 F(i) + 2 X + ?

In which we introduce the subscripts it to obtain the following form: G it = 0 + 1 F(i) it + 2 X it + ? it equation 1 F(i) it = 0 + 1 G it + 2 X it + it equation 2

Where, G it is the endogenous variable which represents the growth rate of per capita real GDP of country i at period t. F(i) it stands for the exogenous financial variable for country i in the period t. X it is the matrix of control variables associated to the economic growth of country i at period t. we have two econometric equations where the first measures the effect of financial development on economic growth and the second the inverse effect. The first has as endogenous variable G G it and the second M M2/PIB it . We should recall that these 8 Ross Levine, op.cit p.39 9 OCDE "regulation of the financial system and economic growth", in Réforme économique, pp. [13][14] ??15] Financial Development and Economic Growth in Cemac Countries concentrated on the inverse relationship between economic development and financial development and it is therefore important to study the case of CEMAC countries. two endogenous variables would become exogenous depending on whether we are dealing with equation one or equation two. The explanatory variables are the following: PRIV it : Credits distributed to the private sector measured as the amount of credit distributed to the private sector divided by GDP of country i and period t. M2/PIB it : The liquidity rate (M2/GDP) that is measured by the level of

financial development or deepening of country i during period t. TOT it : The terms of trade measured by the ratio price of exports to those of imports of country i at period t. INF it : Measures macroeconmic stability, which is represented essentially by the stability of the general price level. It is measured by the general consumption price level of country i during period t. DETEX it : External debt that is obtained by dividing external debt by GDP of country i at period t. Inv ite : The investment rate that is defined as the volume of investment divided by GDP of counry i at time t. HUM it : human capital that is measured by secondary school attendance rate of country i at period t. OPEN it : The level of trade openness captured by the ratio (Exports + Imports) / GDP of country i at period t. the estimations. To do this, the heteroscedasticity test of Breusch-Pagan indicates that the two models are heteroscedastic since the results of the test gives Prob > chi2 = 0.0000 0,05. Given that both models are heteroscedastic, they can be corrected by the method of White. In order to be able to conclude on the existence of individual fixed effects, one must estimate the fixed effect model.

But due to the fact that the models can also be affected by autocorrelation, it is important to run an appropriate test in order to choose a method of estimation that solves these problems eventually.

Concerning the test of autocorrelation for the growth rate of per capita real GDP, we have used the test of Wooldridge in the case of panel data shown in the table below:

. DOMS it : Domestic credit that represents the percentage of domestic credit in GDP of country i at period t. DEF it : Public deficit which is captured by the budget balance divided by GDP of country i at period t G it : The growth rate of per capita GDP of country i at period t. TIR it : Real interest rate is given by the difference between nominal interest rates and inflation of counrty i at period t.

11   b) Regression techniques used

The estimation of the two models are carried out using panel data techniques. Panel data regressions have the advantage that they take into consideration at least two dimensions, over individuals and over time. They contain data on many individuals over a long period of time. Data collected for each of the 6 countries come from secondary sources. They have been collected from the World Bank data set (2007) and from BEAC annual reports. They are all quantitative and cover the period from 1980 to 2006. This gives us 154 observations, being at least 26 per country. The models are first estimated under the hypothesis of uniformity in behaviour through time and countries. This implies that the coefficients of the models do not vary over time and across countries. We estimate the model using ordinary least squares (OLS) method considering that we have a homogenous panel or a model with common effects. That is, there are no country specific effects. The fisher test indicates that the model is globally significant at the 1% level (Prob > F = 0.0000) (see table 1.1. and 1.2. of appendix1). It is now important to determine which of the OLS or GLS methods of estimation is appropriate for Whereas for the equation of financial development, the fact that Prob > F = 0.0005 < 0.05 as shown in the table below leads to the rejection of the null hypothesis. Therefore, there exist a first order (AR1) autocorrelation that can be corrected during the estimation of the fixed effects model.

It is therefore appropriate as such to run the regression of the fixed effects model. The problem at this level is to know whether country specific effects are significantly different. In order words, is the hypothesis of heterogeneity amongst countries as concerns the growth rate of capita GDP or financial development accepted or rejected? To test this hypothesis, we use the fisher test constructed as follows:

Under the hypothesis of homogeneity of countries (Ho : 1= 2=?= 10), the estimated model corresponds to the common effects model meanwhile, under the hypothesis of the presence of heterogeneity (H1 : i,j i j), the model estimated is that of individual effects. The individual effect i is considered to be of the form i = 0 + u -i ; the test of homogeneity then boils down to state as null hypothesis that all u -i are zero. The software STATA directly performs the Fisher Financial Development and Economic Growth in Cemac Countries test when estimating the fixed effects model (see table ??.1. of appendix 2) for the case of the equation for per capita real GDP. The second fisher statistic, found at the bottom of table 1 of appendix 2 giving the estimation results of the fixed effects model, test the joint significance of introduced fixed effects. Since Prob > F =0.0799> 0.05, we accept the Ho hypothesis. Therefore, the fixed effects are all zero. In this case, we retain the model estimated using OLS (common effects)(see table 3.1 of appendix 3). Since we have a homogenous panel, this means that there does not exist between the six CEMAC countries individual effects peculiar to each country and that explains the growth rate of its real GDP per capita.

Concerning the financial development equation, the second fisher statistic given in table 2.2 of appendix 2 leads to the rejection of the hypothesis that all the u -I IV.

12   RESULTS AND DISCUSSIONS

The results of tables 3.1 and 3.3 of appendix 3 show that: firstly, concerning equation 1, financial development negatively and significantly affects the growth rate of per capita real GDP. This can be explained by the slackness in the putting in place of financial liberalization in the countries of CEMAC. This can also be justified by information asymmetry between economic agents and the financial system without forgetting the scale effects explained by certain authors who demonstrate that for financial development to positively influence growth, the liquidity rate (M2/GDP) are equal to zero (Prob > F =0.0000 is less than 0.05). Therefore, the fixed effects are not all equal to zero. In this case we reject the model estimated using OLS (common effects) since the panel

is heterogenous. There exist between the six countries of CEMAC individual effects peculiar to each country that explains its financial development. The problem that arises is to determine whether these individual effects are deterministic or stochastic. To answer this question, we need to estimate the random effects model and run the Hausman specification test. To elaborate the test of Hausman, we require the fixed effects model to be homoscedastic and that there be absence of autocorrelation between explanatory variables and individual effects. If this is not the case, we employ the method of Feasible Generalized Least Squares (FGLS) to estimate the model. This verification is done using the test of Breusch-Pagan that consist of regressing the squared residuals (r2) of the fixed effects regression on the independent variables of the original regression.

From the results of table 3.2 of appendix 3, we accept the presence of heteroscedasticity in the fixed effects model given that Prob > F = 0.0000 5 %. For this reason, there is no need to run the Hausman test since the model suffers from both heteroscedasticity and autocorrelation of order (AR1). The best method, considering the correction for heteroscedasticity and autocorrelation, is that of FGLS on the panel data so as to guarantee the reliability of results shown in table 4 of appendix 3.

Finally, concerning the causality test, we first of all carried unit root tests which showed that the variables growth rate of real GDP and financial development are stationary at levels. This permitted us to run the causality test between these two variables and the results are presented in appendix 4. should be at least 36.5%. For CEMAC countries, this rate is very low. Many studies have shown that for financial development to have a positive impact on growth there is need for a favourable macroeconomic environment. This has not been the case for CEMAC countries during the 1980s and the 1990s. The other variables that are positively correlated with the growth rate of per capita GDP are: the investment rate, human capital, the rate of inflation, and trade openness. The result of the variable investment rate is significant and positive with respect to the growth rate of per capita GDP. This is not surprising since investment is the engine of growth. Also, the variable human capital is significant and this can be explained by the fact that for many years now, the secondary school attendance rate has considerably increased and continuous to increase nowadays and this exerts a positive externality on growth.

We can also notice a negative correlation between certain variables such as credit to the private sector, external debt, terms of trade, savings, and real interest rate with the growth rate of per capita real GDP. The result of the variable credit to the private sector can be explained by the low amount of credit allocated to the private sector due to the high cost of bank credits. The result of the variable external debt shows that the high indebtedness of a country is a hindrance to its growth. However, we know that most countries of the CEMAC zone have been admitted to the decision point of the Highly Indebted Poor Countries (HIPC) initiative due to the heavy weight of their debts.

Concerning the results of the second equation, there is a positive and non significant effect of economic growth on financial development in CEMAC countries. In fact, this non significant positive contribution of growth to financial development can be explained by low household incomes. Due to this fact, most of household income is used for consumption than for savings. Actually, bank deposits are dominated by demand deposits whereas long term deposits (loanable funds) which are a prerequisite for productive investment are very low.

The results of the variables external debt and inflation rate are similar to those of the variable per Financial Development and Economic Growth in Cemac Countries capita real GDP. These results are interesting since CEMAC countries regained macroeconomic and financial stability. Nonetheless, the coefficients of variables such as trade openness and public deficit have a negative correlation with financial development. The results of deficit indicate that an increase of public deficit leads to a degradation of the financial sector. This result is logical since an increase in public deficits push the state to repress the financial sector in view of obtaining cheap resources to meet its social needs.

Finally, the results of figure **??** V.

13 CONCLUSION AND RECOMMENDATIONS

The main objective followed in this study was to appreciate the type of relationship that exists between financial development and economic growth in CEMAC countries. Panel data regression techniques were used for the analysis. The results show that there exists a unidirectional causality running from economic growth to financial development. These results call for a number of recommendations:

It has been shown both theoretically and empirically that financial development promotes economic growth. As such, policy makers of CEMAC countries should take dispositions to increase the efficiency of their financial sectors so that they can contribute to economic growth. Therefore, they should implement measures that would allow financial institutions to efficiently allocate resources to the most productive opportunities. In fact, banks of the zone are characterized by excess liquidity meanwhile investment financing needs are not met. Many banks still show their lack of confidence to investors that do not have sufficient guarantees. This is why the creation of a guarantee fund in CEMAC countries is imperative. Surplus agents should also be encouraged to save by raising the minimum deposit rate of the central bank.

To backup the banking sector, there is need for the effective functioning of the two stock exchanges (Douala stock exchange and the Libreville stock exchange) of the zone to allow investors to dispose of long term resources that are indispensable for the financing of medium and long term projects.

14 REFERENCES RÉFÉRENCES REFERENCIAS

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Figure 1:

$$_1 g = A\beta S - \alpha$$

Figure 2: Figure 1 :

$$\mathbf{2}^{<}$$

Figure 3: Figure 2 :

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[1] © 2012 Global Journals Inc. (US)

[2] see R. LEVINE Financial Development and Economic Growth, p.40-45

[3] If we suppose that capital grows at the pace of investment (change in K t =I t)

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[6] January 2012© 2012 Global Journals Inc. (US)
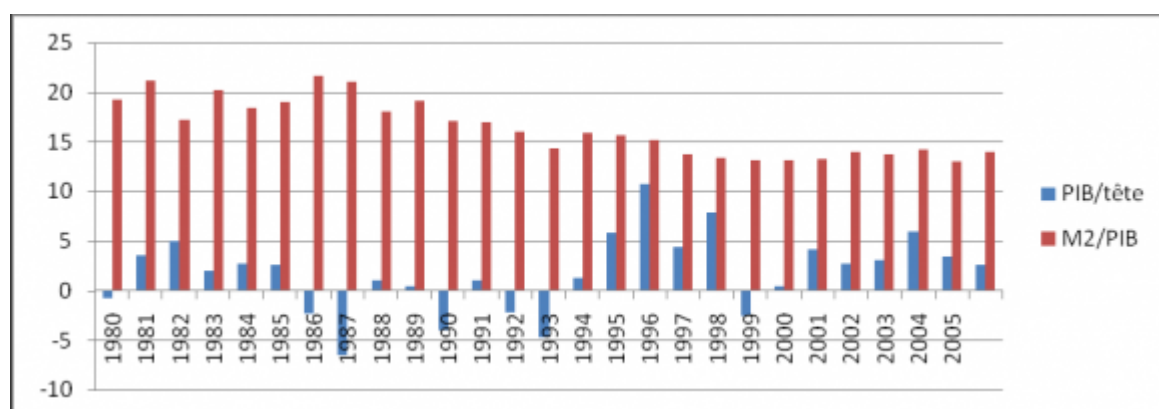
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Figure 4:

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Figure 5:

Figure 6:

Figure 7:

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