

Intra-Regional Exchanges and Economic Growth in Central African Economic and Monetary Community Countries (CAEMC)

James Pavel NGALEBAYE

National School of Administration and Judiciary
Marien Ngouabi University
B.P. 69, Brazzaville, Congo

DOI: 10.29322/IJSRP.8.12.2018.p8405

<http://dx.doi.org/10.29322/IJSRP.8.12.2018.p8405>

ABSTRACT

The aim of this paper is to find the link between intra regional exchanges and the economic growth of the CAEMC area. To achieve this aim, the temporal series of econometric was applied in consideration of the foreign direct investment, human capital, demography and the quality of the institutions as variables of control. Afterwards, the Johansen Test of cointegration had been applied to avoid a kind of deceptive regression backed by a model of errors adjustment. Contrary to common ideas broadly shared on the positive incidence of the integration on growth, the study concludes that the exchanges among CAEMC countries have a weak negative impact on the economic growth within the area. Two major reasons could explain this situation: the weaknesses of these exchanges due to bad quality of the institutions and mostly their broken structure.

Key words: economic growth, intra regional exchanges, regional integration, CAEMC, model of growth.

INTRODUCTION

In a world marked by globalization, the CAEMC countries suffer from the narrowness of their national markets, the weakness of regional and sub-regional institutions, insufficient human development, and the deterioration of their terms of trade, permanent conflicts and a poor business climate. In this context, strengthening regional integration is seen as a vehicle for economic growth. In the economic literature, the authors agree to say that sub-regional integration, and thus liberalization of trade between member countries of a sub-regional organization, when it is designed and implemented in an appropriate manner, is a powerful engine of economic growth. However, sub-regional trade agreements are at odds with the WTO principle of non-discrimination, as participants liberalize trade between themselves by excluding non-members from markets of interest. These agreements are mainly motivated by the willingness of member countries to keep market opportunities for themselves and to gain competitive advantages in comparison to non-members.

Trade between member countries of the CAEMC area represents only less than 2% of their foreign trade. As a result, this area remains the least integrated of the African continent in terms of intra-community trade flows, despite its economic potential. (NouwoueNjofang G., 2013).

International institutions (IMF and World Bank) most often advise countries to open their economies for a higher growth rate. This view is supported by several reports on global development (World Bank, 1987, 1991, 1999-2000) that have tried to demonstrate that outward-oriented trade policies have been more successful in achieving growth than autarkic policies. Some authors, however, have expressed doubts about the scientific validity of this statement (Singer and Gray, 1988) hence the existence of a debate on the effects of foreign trade, including intra-regional trade, on economic growth.

In the same vein, African Development Bank views regional integration as the driving force behind inclusive growth in Africa. However, they recognize that the contribution of regional integration to the continent's economic growth remains weak. This is mainly due to the weakness of intra-regional trade, the lack of quality infrastructure and the lack of skilled labor (AbebeShimeles, 2013).

On the other hand, a study based on econometric modeling using the VAR model specified on panel data shows that the overall contribution of a Central African country to integration explains in the long term 16.96% of the variation of its economic growth (Baricako J., DagbaNdongo GX, 2014).

The idea that international trade would be beneficial for all is now unanimous among economists. With regard to the CAEMC countries, the impact of the current drop in oil prices (all CAEMC member countries are oil producers, except CAR) have highlighted the dependence of CAEMC countries on trade with Western countries as well as the weakness of intra-regional trade. A priori the last impact on economic growth in the region is assumed to be weak. But the problem is to see in which direction an increase of intra-regional trade influences the economic growth of the sub-region.

In this context, the present article seeks to answer the following questions: has trade between CAEMC member countries significantly influenced the economic growth of this area? If this is not the case, what are the measures likely to boost the impact of intra-regional trade on the economic growth of the CAEMC countries?

The two main assumptions on which the article is based are:

- As the degree of openness to intra-regional trade increases, the rate of economic growth also increases. Any measure implemented to reduce the barriers to trade between CAEMC countries contributes positively to the economic growth of the area;
- The second working hypothesis is that improving the quality of CAEMC institutions increases the positive impact of intra-regional trade on the economic growth of this area.

The purpose of this study is to determine the impact of intra-regional trade on the economic growth of the CAEMC member countries.

The study is structured, in addition to the introduction and conclusion, in three sections. The first section is devoted to the review of the literature. The second section links the growth dynamics to the regional integration of the CAEMC countries. The third section presents the econometric model and the results of the study.

I. REVIEW OF THE LITERATURE

Adam Smith (1776) and David Ricardo (1819) are the first to lay the foundations for a growth theory, based on the integration. For Adam Smith, the wealth of nations, that is, economic growth comes from specialization and therefore the division of labor that improves productivity. For him, any country has an interest in specializing in production or productions for which it has an absolute advantage, that is to say, with which it has relatively lower production costs. For his part, David Ricardo speaks in terms of comparative advantages and believes that each country must specialize in the production in which it has the highest comparative advantage or comparative disadvantage. In this case, even a country that has absolute disadvantage, producing all goods at higher production costs than its partner, can profit from free trade, provided that it specializes in the production of the good of which the relative internal cost is lower than that of his partner.

In the same vein, John Maynard Keynes (1936) assumes that intra-regional trade affects the economic growth of each country and the entire sub-region through foreign trade, so exports and imports between member countries of the economic area. For this reason, Keynes considers that imports cannot be considered as fixed. They vary according to the level of activity. Periods of strong growth correspond to important imports. In the short term, the relationship between intra-regional trade and growth depends on the multiplier mechanisms. The use of the foreign trade multiplier reveals the relationship between community trade and growth. The idea of export-led growth has been reinforced by the demonstration of a possible "virtuous circle" between increased productivity and export competitiveness.

Other authors have developed econometric models to find the link between integration and growth. Thus, the Heckscher-Olin-Samuelson model demonstrates that integration promotes growth if and only if each country specializes in the production and export of the good for which it has abundant factors of production and, consequently, low production costs. It must therefore import the good which production requires a rare factor. This form of specialization leads to equal factor costs in different countries, since in each country the cost of the abundant factor will increase, while that of the rare factor will decrease.

Krugman (1991) used a model in which all nations and exogenous trade blocs were symmetrical to show that the level of global economic welfare was decreasing. Conversely, if there are initially only a few trading blocs, with limited exchanges between them, most of the growth being linked to trade within the blocks, the consolidation into a small number of blocks can increase trade, and therefore growth

In the same vein, Michael Porter believes that integration promotes growth provided it is based on specialization based on the principle of competitive (or comparative) advantage. Free trade is a source of competitiveness by allowing companies to improve their quality / price ratio.

Other studies are less enthusiastic about intra-regional trade. Levy (1997) used the Heckscher-ohlin model to show that sub-regional trade agreements could undermine the political support for further liberalization of multilateral trade.

According to the study by Levine and Renelt (1992), the causal relationship between openness and growth is through investment. If openness to international trade provides access to capital goods, this will lead to long-term growth. A country liberalizing its trade will attract foreign investment flows. However, this may lead to a decline in domestic investment due to stronger international competition and the net effect remains ambiguous.

The authors, who are interested in the link between regional trade and growth in Africa, and particularly in the CAEMC area, are unanimous on the positive link between these two variables. This is how Frankel et al. (1995) consider that the establishment of many preferential trade agreements (PCAs) at the sub-regional level on each continent is likely to decrease the economic value of CPAs.

According to a study by UNCTAD (2013), intra-African trade can contribute to Africa's growth and sustained development by making it less vulnerable to global shocks, helping it to diversify its economy, improving competitiveness of its exports and creating jobs. To take full advantage of this trade, states should strengthen their productive capacities and support

entrepreneurship in order to stimulate intra-regional trade. For the authors of this report, there are several reasons which explain the Africa's poor regional trade performance, including the fact that regional mainstreaming efforts at the continental level have so far focused more on eliminating poverty.

Other researchers have shown that Africa does "too little" trade and focuses on intra-regional rather than global trade. Fouratan and Pritchett (1993) indicate that trade between African countries is not below expectations. The share of sub-Saharan Africa in intra-regional trade is 8.1% on average, while the gravity model predicts a slightly lower average to 7.5%.

FoudaEkobena S.Y. (2014) used the generalized moments method (GMM) to assess the impact of CAEMC intra-regional trade on the economic growth of this area and its implications for food security during the period 1990-2010. This study led, among other things, to the conclusion that, although it represents only a small part of its foreign trade, intra-regional trade has a positive impact on the economic growth of the CAEMC area.

Ferdinand Bakoup and David Tarr (2000) quantitatively evaluated the impact of CAEMC on the Cameroonian economy. The two authors came to the conclusion that the Cameroonian economy is growing between 0.41% and 0.62% of its GDP thanks to trade with other CAEMC countries. Also these authors consider that the deepening of the tariff barriers has a negative influence on the economic growth, even if, considering the low level of imports, its quantitative impact seems rather weak. However, Cameroon's access to regional partner markets accounts for about a quarter of the contribution of exports to its growth, with the remaining three-quarters accounting for exports to the rest of the world. In the opinion of these authors, Cameroon would gain more from unilateral liberalization than from implementation of the CAEMC agreements.

II. SITUATION OF INTRA-REGIONAL TRADE AND ECONOMIC GROWTH OF CAEMC COUNTRIES

The purpose here is to present the intra-regional trade situation and analyze the economic growth of the CAEMC zone over the period 1992-2016.

1. Intra-regional trade situation

It is often acknowledged that the most reliable form of regional trade agreement is that which establishes a free trade area. To the extent that this free trade area can have a protectionist (if not a protectionist) effect for third countries, this can have a positive effect on growth. For example, garments produced in Cameroon will be able to benefit from duty-free access to the Chadian market provided that Cameroonian textile companies (or companies based in Cameroon) producing cotton-based fabrics bring this input from Chad. Thus, these textile companies are obliged to buy cotton in Chad to be entitled to the treatment reserved to the CAEMC member countries. As a result, Chadian and Cameroonian production of cotton and clothing has increased (A. Ngakosso, 2005).

However, if we compare the intra-community trade of the CAEMC member countries with those of the other African economic groupings, we notice that the commercial effectiveness remains weak. To appreciate the intra-CAEMC exchanges, our analysis was based on a comparative study of intra-regional trade of CAEMC and six (6) other Regional Economic Communities (RECs) targeted (ECOWAS, CASEC, ECCAS, COMESA, SADC, UMA, WAEMU).

Comparing ECCAS trade with other RECs means asking the question: what is the level of shares (absolute or relative) of intra-CAEMC trade in the RECs' sphere and what their relative impact on regional integration is?

The table below gives us an overview of the low level of intra- CAEMC trade.

Table 1: Comparison of CAEMC trade with other RECs

Zones	x				y				z			
	%		Rank		%		Rank		%		Rank	
	E	I	E	I	E	I	E	I	E	I	E	I
ECCAS	1,6	3,1	6 th	6 th	3,4	13,2	6 th	6 th	1,5	3	6 th	6 th
ECOWAS	7,5	10,4	3 rd	2 nd	13,3	14,2	4 th	5 th	6,8	5,7	4 th	4 th
CASEC	0,8	2,4	7 th	7 th	3,2	15	7 th	3 rd	0,7	1,9	7 th	7 th
COMESA	6,9	5,8	4 th	4 th	16,1	14,8	1 ^e	4 th	7,5	10,4	2 ^e	2 ^e
SADC	11,7	14,8	2 nd	1 st	14	17,8	2 nd	2 nd	11,6	14,8	1 st	1 st
WAEMU	13,5	10	1 st	3 rd	13,5	28,4	3 rd	1 st	3,8	9,9	3 rd	3 rd
UMA	3,3	3,9	5 th	5 th	5,2	6,7	5 th	7 th	0,1	3,9	5 th	5 th

Source : www.croset-td.org/Echanges commerciaux et intégration économique régionale des pays de la CEMAC

E: Exports; I: Imports X: Percentage of individual exports and imports in relation to total intra-Community exports and imports
Y: Percentage of intra-EU exports and imports in relation to total exports and imports of Africa; Z: Percentage of intra-EU exports and imports in relation to all world exports and imports.

More generally, in view of this table, CAEMC and ECCAS are in the last positions both from the point of view of imports and exports.

This situation can be attributed to the total lack of coordination of "commercial" policies, and of harmonization with other economic policies, which has generated dysfunctions that are incompatible with the objectives of regionalization. Added to this is the lack of will to improve the communication channels necessary for exchanges. To consolidate the adjustment process underway in the CAEMC countries, a regional reform program (RRP) has been put in place, which includes three components:

- tax and customs policy;

- the transport and transit policy;
- financial policy.

As a result, new tax instruments have been put in place, namely: turnover tax (TCA), excise duties (DA), generalized preferential tax (GPT), tax Common Market (TCM) with its four categories of products. These measures include, among others:

- the relaxation of the instruments of the tariff policy and the indirect taxation;
- the uniform distribution of the tax burden;
- the simplification of structures;
- improving yields.

All these measures are aimed at eliminating tariff barriers to intra-Community trade and harmonizing policies on exemptions or taxation of products in order to offset the complexity of the tax system decried by the IMF and the World Bank.

The tax and customs component of the CAEMC Regional Reform Program (PRR) was approved in Libreville in December 1991. But, more than three decades later, one wonders whether the reforms have made it possible to new impetus to intra-regional trade. In the opinion of some experts (Bell Jacques Eugène, 2012, for example) tax and customs reforms have not allowed a new impetus for intra-community trade in CAEMC, because the temporary surcharges have not disappeared. They continue to apply (even today) to certain products such as cigarettes in Gabon and Congo, cement, soap, oils and sugar in Gabon, wheat flour, concrete reinforcing bar and polypropylene bag in Cameroon.

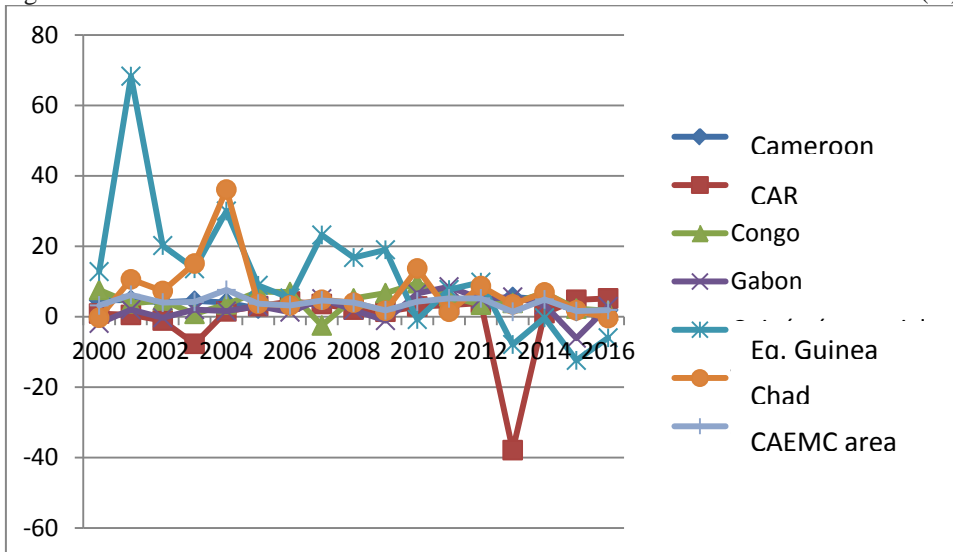
Imports of certain products are still subject to restrictions, as is the case in Gabon with sugar and in Cameroon with ferment flour and sugar. Cameroon submits subsidized imports of sugar and flour at reference prices.

Moreover, according to Bell Jacques Eugène the evolution of the yields of the various taxes in relation to the total customs receipts remains compromised by exemptions and the recourse to the safeguarding measures. The shortfalls resulting from exemptions and tariff changes remain significant, which greatly compromises the productivity of the new instruments and certainly the intra-community trade and economic growth of the States of the sub-region.

2. Analysis of the economic growth of CAEMC.

The six CAEMC country member economic activities are naturally linked to the evolution of oil prices on the world market, even if other parameters such as the dollar exchange rate and the country's production volume also influence production value. Indeed, oil occupies the largest share of GDP in all CAEMC countries, except for the CAR. The figure below traces the fluctuations observed in the evolution of the economic growth of each of the six CAEMC member countries from 2000 to 2016.

Figure 1: Evolution of the GDP of the CAEMC member countries from 2000 to 2016 (%)



Source: IMF (2014), Report on Common Policies of StateMembers

This graph shows that during this period Equatorial Guinea grew faster than other countries in the region. This growth, which peaked in 2001 (69%), is explained by the rise of this country in oil production, becoming the third producing country in sub-Saharan Africa. However, this growth has shown a downward trend until becoming negative from 2014. Chad is the second most dynamic economy in the zone because, again, of the oil discovery realized during the period in study. But since 2012 this country is experiencing a slowdown in growth due to the decline in oil prices.

The three oldest oil producing countries of Cameroon, Congo and Gabon have experienced relatively low growth rates and economic activity fluctuations. Gabon has suffered mainly from the decline in oil production, while the Congo was plagued in the early 2000s by an armed conflict. For its part, Cameroon, which is the main economy of the sub-region (40% of the CAEMC GDP), was more successful in dampening the shock generated by the fall in oil prices because of the relatively diversified economy.

The CAR, the weakest economy in the CAEMC area (2% of GDP), is the only country whose average growth has been negative during this period. In particular, there is a drop in national production of 40% between 2012 and 2013 due to recurrent armed conflicts.

III. THE ECONOMETRIC MODEL

The degree of openness to intra-regional trade is measured over the period 1992-2016. This is the sum of intra-Community imports and exports to GDP. We consider this index as our variable of interest, the other variables, namely investments, foreign direct investment, human capital, demography and quality of institutions will be considered as control variables.

1. The growth model and the methodology analysis

This is to present in turn the model of growth and the methodology of analysis of the study data.

a) Growth model

In 1992, Mankiw, Romer and Weil estimated for a panel of countries the following empirical equation, directly derived from the Solow-Swam model.

$$\ln \frac{Y_i}{L_i} = a + b[\ln(\sigma_i) - \ln(n + g + \delta)] + u_i \quad \text{avec } b = \frac{a}{1-a} \quad (4)$$

Where i denotes the country index and u_i the residual of the estimate. They use y_i / L_i , the real GDP per capita of working age population; σ_i the average share of private investment in GDP; n , the growth rate of the working-age population over the same period; finally, $g + \delta$ was set at 0.05 for all countries.

The equation would be correct but would be only the reduced form of a more complex model in which PGF depended on a second accumulative factor H , which the authors call human capital, for example in the form of the following production function:

$$Y = AK^\alpha H^\gamma L^{1-\alpha-\gamma} \quad (5)$$

We assume that $\alpha + \gamma < 1$ and that K and H depreciate at the same rate δ . Physical capital and human capital are accumulated according to the respective savings rates σ_k , σ_h and σ . The model works exactly like the Solow model, but with an additional factor. The stationary levels of per capita production, capital per capita and savings per capita are deduced from them:

$$Y^* = \left[\sigma_k^\alpha \sigma_h^\gamma \right]^{\frac{1}{1-\alpha-\gamma}} (n + g + \delta)^{\frac{\alpha+\gamma}{1-\alpha-\gamma}} \quad \text{and} \quad k^* = \left[\frac{\sigma_k^{1-\gamma} \sigma_h^\gamma}{n+g+\gamma} \right] \quad (6)$$

The empirical equation deduced from the model is now:

$$\ln \frac{Y_1}{L_1} = a + b_k \ln(\sigma_{k1}) + b_h \ln(\sigma_{h1}) - (b_k - b_h) \ln(n_1 + g + \delta) + u_i \quad (7)$$

$$\text{with } b_k = \frac{a}{1-\alpha-\gamma} \quad \text{and} \quad b_h = \frac{\gamma}{1-\alpha-\gamma}$$

b) Methodology of analysis

We use time series econometrics. The adopted methodology is a two-step approach. The unit root tests will be performed first, then we will perform Johansen cointegration tests to avoid spurious regressions followed by error correction model.

We use cointegration to estimate our model which is of the following form:

$$\text{Log}_{i,t} = \alpha_i + \beta \log X_{i,t} + \varepsilon_{i,t}$$

The dependent variable represents the logarithm of the GDP for the country i at the date t , $X_{i,t}$ represents the set of explanatory variables of our model. It is first the variable of openness to intra-community trade, then the other variables, namely investment, foreign direct investment, demography, human capital and the quality of institutions.

For econometric estimation, we used the Eviews software.

2. Analysis of control variables

a) Investment and Foreign Direct Investment (FDI)

The investment is the acquisition of fixed capital. All economic theories consider it as a major factor of growth. On the other hand, they oppose its determinants and how it affects growth (Bouloud, 2013).

Adam Smith (1776) and David Ricardo (1819) are the first to lay the groundwork for a theory of growth. Both show growth as a result of the accumulation of capital, that is to say, the quantity of instruments available to workers. Adam Smith believed, moreover, that the mechanism that tends to propel the economy towards indefinite growth rests on the division of labor, that is to say the primary international specialization.

In the middle of the 20th century, Domar E. (1946) shows in an article that developing countries have low growth because of an insufficient stock of capital. This low level of capital means that the level of investment is low. What makes Lewis W. Arthur (1954) say that the central fact of economic development lies in the rapid capital accumulation.

It is in this context that Rostow (1960), in the stages of growth, describes the take-off stage as proceeding from an increase in investment of 5 to 10% of income. It shows that a \$ 4 billion increase would be required to drive steady growth in Asia, Africa and Latin America.

For Keynes and his followers, investment is an essential component of aggregate demand, and it is mainly through aggregate demand that it is a growth factor. Since 1931, Kahn has demonstrated that investment has a multiplier effect on growth.

As for foreign direct investment (FDI), several authors, including Borensztein and De Gregorio (1995) have shown that they have a positive impact on growth. For these authors, investments made by foreign multinational firms can improve the overall efficiency of an economy through the availability of technological and organizational knowledge transferable to the rest of the economy.

It is therefore necessary, in this study devoted to the link between intra-regional trade and growth, to test the hypothesis of a positive effect of investment and foreign direct investment (FDI) on growth.

b) Human capital

By the early 1960s, Becker had articulated his theory of human capital that presented education and vocational training as investments that rational individuals sought to optimize. In this line, Lucas considers that the stock of knowledge (that is human capital) is a growth factor. That is why we will test the effect of school enrollment on economic growth.

c) Demography

The population has a positive effect on economic growth. It determines the size of the market and the level of consumption. The latter, as a component of aggregate demand, has a multiplier effect on the level of production (J.M. Keynes, 1936).

By the years 1950-1960 there was a strong demographic growth which is explained by the combination of two phenomena: an increase in life expectancy (and thus the decline in mortality) and the maintenance of high fertility. With the exception of Africa, this demographic surge has had a positive effect on economic growth by playing on labor, consumption and investment. We will also test the hypothesis of a positive effect of demography on economic growth.

d) Quality of institutions

Easterly William (2001) points out that bad public policies can be at the root of a poverty trap if they lower the returns that the private sector is entitled to expect. The latter, if faced with catastrophic policies, will not invest in the knowledge and skills that the nation needs to grow production. The nature of the African state is such that it compromises productive activity. Thus, in CAEMC countries, there are unproductive and rent-seeking activities that undermine economic growth (L. Mayeko, 2013).

The quality of the institutions appears in this study alongside the traditional variables that influence growth because institutions play a key role in the integration of the CAEMC economies.

3. Empirical results

The unit root test used is that of Dickey-Fuller augmented. The results of the test on the different variables are summarized in Table 2.

Table 2: Dickey and Enhanced Fuller Test (ADF)

Variables	test condition	Without constant and trend	Constancy	Constant and trend	Stat ADF	Critical values	Decision
GDP	1st influence factor	yes	No	No	3,436863	-1,9498	I (1)
Investment	1st influence factor	yes	No	No	4,372591	-1,94995	I (1)
Human capital	1st influence factor	yes	No	No	4,036181	-1,9501	I (1)
Demography	1st influence factor	yes	No	No	6,000000	-1,9501	I (1)
Quality of institutions	1st influence factor	yes	No	No	7,631976	-1,9501	I (1)
Degree of openness	1st influence factor	yes	No	No	5,643361	-1,9503	I (1)
Foreign direct investment	1st influence factor	yes	No	No	4,191944	-2,4462	I (1)

Source: Author from the results of the Eviews software.

Concerning the Johansen cointegration test, the summary of the cointegration test, as well as the estimates of the short-term coefficients of the various variables, are presented in the tables 3 and 4 estimations.

Table 3: Summary of the Johansen cointegration test

Value	Trace statistics	Critical value	probability
0,795513	152, 1323	111,7805	0,0005

Source: The author from the results of Table 1

Table 4: Error Correction Model (Short Term Model)

Endogenous variable: Logarithm of GDP		
Exogenous variables	Elasticité	T-Student
D [Logarithm of GDP (-1)]	0,454568	2,503005
D [Logarithm of the investment rate]	0,359069**	3,821240
D [Logarithm of human capital]	-0,214309	-1,003267
D [Logarithm of demography]	-0,208039	1,013948
D [Logarithm of openness degree]	-0,215180	-1,528416
D [Logarithm of the quality of institutions]	0,217181	0,205312
D [Logarithm of FDI]	0,006098	0,688039
Residue delayed by one period	-0,756513*	-1,868594
Constant	0,025518	0,964759
R ² global quality indicator	0,677698	0,964759
Fisher's statistics	4,993873	4,056712
Probability (Fisher)	0,001914	0,006491
ARCH (1 delay)	0,766809*	0,718936
Probability associated with ARCH test	0,390260	0,406526
Number of observations	22	21

* denotes significant coefficients at the 10% threshold

** indicates significant coefficients at the 5% level

Source: The author, from the results obtained by the software Eviews

The R squared shows that 96, 47% of the GDP variability is explained by the variability of the exogenous variables. The explanatory power of the model is very satisfactory taking in a count the nature of the variables.

The diagnostic tests show that the model is not tainted by an autocorrelation and autoscedasticity bias, as shown by the ARCH test performed by admitting a shift of orders one in the variables.

The short-term results show that three variables have a significant impact on the economic growth of the CAEMC countries at about 5% threshold. This is the investment and lagged GDP of a period and the quality of the institutions. So, when investment increases by 1%, economic growth increases by 0.35%. When GDP lagged by one period increases by 1%, economic growth increases by 0.45%. Also, an increase in the institutional quality index of 1% results in an increase in growth of 0.21%. These results are consistent with the existing literature as these variables are necessary conditions for economic growth.

Human capital and demography also negatively explain the rate of economic growth. Thus, likewise an increase of the population of 1% sweeps a decline along the growth of 0.20%. The variable of interest, the rate of opening to the intra-regional trade explains negatively the economic growth of the CAEMC zone. An increase in the intra-regional trade openness rate of 1% results in a GDP decrease of 0.21%. This situation can be explained by the fact that five of the six CAEMC member countries export mainly oil and that trade between countries in the zone consists almost exclusively of agricultural products whose prices have trended downwards over the long term. There was no link between the exporting enclave between countries of the region and human capital. This situation did not allow a rise in the value chain in intra-regional exports. As a result, the increase in exports did not generate additional revenue.

Other studies have yielded similar results (Sarkar, 2005 and Bouloud, 2013). As a result, we believe that improving the quality of institutions, increasing human capital and the additional investment generated by improving the overall business climate are key variables for the qualitative growth of trade between countries in the CAEMC region. These variables will make intra-regional trade a powerful factor of economic growth.

So, the econometric results of our article do not confirm our first hypothesis. In fact, the increase in trade between CAEMC countries did not have a positive impact on the economic growth of this area because, on the one hand, of the small volume of these exchanges and, on the other hand, part of their disastrous structure. This contrasts with economic theory and the generally accepted view of financial institutions (IMF and World Bank) of a positive relationship between economic integration and growth. However, some empirical studies support the results we have obtained (Harrison 1996, Rodrick 1999, Bouloud 2013).

The results of the econometric application confirm our second working hypothesis, namely that the quality of the CAEMC institutions has a positive effect on the impact that intra-regional trade could have on economic growth. In fact, the higher the index of the quality of institutions, the higher the rate of economic growth.

CONCLUSION

This article feeds the debate on the effects of intra-regional trade on economic growth. In the present study, the variable intra-regional trade (import plus export in the region on overall GDP) is used as a variable of interest, investment rate, human capital, demography, quality of institutions and FDI as control variables.

Trend analysis shows that the control variable has not significantly changed. Trade between CAEMC member countries hardly exceeded 2% of their foreign trade over the study period.

The cointegration test reveals that the variable of interest had a negative impact on the economic growth of the CAEMC area. The origin of this negative trend is to be found in the obstacles to regional integration and, in particular, the predominance of oil production in the economy of the region. To this must be added the lack of sub-regional integration infrastructure and a business climate that is not conducive to the development of private initiative. On the other hand, certain control variables have had a positive effect on economic growth. These are, in order, the following factors: GDP lagged by one period, investment, and the quality of institutions.

BIBLIOGRAPHY

1. Adda J. (2002), *La mondialisation de l'économie*, Tomes 1 et 2, Paris : La Découverte.
2. Bakoup F. et Tarr D. (2000), The effect of integration in the central african economic and monetary community : some general equilibrium estimates for Cameroon, *African development review*, vol. 12, n°2, December
3. Bouloud G.B. (2013), *Libéralisation des échanges et croissance économique : les expériences du Congo et du Cameroun*, *Annales de l'université Marien Ngouabi*, vol. 14-N°2
4. Domar E., (1946), Capital expansion , rate of growth and employment, *Econometrica*
5. Foroutan F. et Pritchett L.(1993), Intra-sub-saharan Africa trade : Is it too little ?, *Journal of African Economies*, 2 (1): 74-105
6. FoudaEkobena S.Y., (2014), Commerce intra-régional et croissance économique : quels enjeux pour la sécurité alimentaire dans l'espace CEMAC ?, *Conférence annuelle du Projet d'analyse du commerce mondial*, Dakar.
7. Frankel J.A. et Rose A.K. (2002), "An estimate of effect of common currencies on trade and income", *Quarterly journal of economics*, 117 (2): 437-66
8. Harrison A. (1996). Openness and growth: A time series, cross-country analysis for developing countries, *Journal of Development economics*; 48: 419-447.
9. Krugman P. (1996) "Is Bilateralism Bad? In international trade policy, published by Elhanan Helpman and Assaf Razin, Cambridge, Mass: MIT, p. 9-23
10. Levine, R. et Renelt, D.(1991), « Cross-Country Studies of Growth and Policy, Methodological, Conceptual and Statistical Problems », *World Bank Working Papers Series*, n°608.
11. Levy P.I. (1997), "A political-economic analysis of free trade agreements", *American Economic review*, 87(4): 506-519
12. Mata J.(2008), Effet de la CEMAC sur l'intégration sous régionale : cas du Cameroun, du Congo et du Gabon, *Université de Yaoundé II*
13. Mata J.E. (2007), Causalité entre exportations, croissance économique et emploi : cas du Congo Brazzaville, *Annales de l'université Marien Ngouabi*, 8 (2) :31-44
14. Mayeko L. (2013), Les obstacles à l'émergence économique des pays africains de la zone franc, *Annales de l'université Marien Ngouabi*, vol. 14-N°2
15. Nouwoue Njofang G.(2013), Similarité, commerce et intégration régionale au sein de la CEMAC: une application de l'approche économétrique spécial sur données de panel, *Université de Yaoundé II*
16. Sarkar P. (2005). India's macroeconomic performance since 1970: Is there any change under the regime of "liberalization"? Forthcoming in volume of DSA center for regional economic studies, Department of economics, Jadavpur university.
17. www.afbd.org/ 8^e conférence économique africaine, Johannesburg, 28 novembre 2013 (consulté le 22 avril 2018).
18. www.croset-td.org/Echanges commerciaux et intégration économique régionale des pays de la CEMAC (consulté le 3 mai 2018).