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Full Length Research Paper

Insurance Contribution to Economic Growth in Countries of the West African Economic Monetary Union (WAEMU): A Dynamic Panel Data Approach

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This communication is intended to analyze the contribution of insurance to economic growth in WAEMU countries using panel data over the period 1999-2009. Indeed, few studies have investigated the contribution of this sector to economic growth in the WAEMU. The LSDVC's method proposed by Bruno (2005), adopted in this study is better than the Generalized Method of Moments (GMM) for estimating dynamic panels when the sample size is small. It appears that the stimulation of insurance including life ensures a level of growth in the WAEMU. In addition, comparative analysis with the Economic Community and Monetary of Central Africa (ECMCA) shows that life insurance has a positive and insignificant in WAEMU and ECMCA, while non-life insurance has the opposite effect in both areas. With this result, some actions be undertaken to improve this sector's contribution to economic growth in the WAEMU. Thus, the study suggests: i) draw lessons from the best South African experience to offer new products tailored to the needs of populations in terms of guarantees, distribution or ease of access and price tailored ii) develop strategies to increase market shares of countries in the WAEMU countries, with action for the progressive conquest of part of the population that has not yet subscribed to insurance other than the service "car insurance" and iii) help the actors to work towards the promotion of life insurance guarantee for the future development of the insurance on the one hand and the outbreak of insurance companies in the agricultural sector because this sector contributes much Economic growth in EU countries.

Keywords: Growth, dynamic panels, Insurance, market, financial intermediation

JEL Classification: E23, C33, G22, G21

INTRODUCTION

Everywhere in the world, the insurance because of its releases from the fear of financing on own capital stocks of possible material and immaterial losses, supports the investment and, consequently, the economic growth and employment. Thus, the sector of the insurance, since its liberalization which has occurred by place and to differing

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degree became a significant sector and is expanding in almost all the economies, which they are developed or in the process of development. Its growth is particularly strong in the economies in fast modernization (or emergent). Indeed, the importance of this sector is much more significant than does not let suppose its direct share in the economy and constitutes in fact the backbone of the modern economy. The economic literature showed that the economic growth and the development of the insurance were interdependent and that an economy without services of insurance much would develop and stable.

The first session of the United Nations Conference for Trade And Development (UNCTAD) in 1964 had to admit that a strong sector of the insurance is an essential characteristic of a powerful economic system, because it contributes to the economic growth and supports employment (ECA, 2006). This report obliges the authorities and the actors of the market of the insurance to take best decision for better framing and developing this sector more. The insurance not only facilitates the economic transactions by the means of the transfers of risk and the compensation, but also has to promote the financial intermediation (Zurbruegg and Ward, 2000).

The insurers of share their interventions in the economy, play the role of institutional investors (FFSA, 2009). Indeed part of their intervention in the economy, they gather dispersed financial resources and redirect them towards investments, thus facilitating the access of the companies to the capital. By this act one can then retain that the insurers mobilize the saving, create liquidity and improve the financial intermediation.

The insurance should have a positive impact doubles on the level of the saving of an economy. Firstly, it would increase the general rate of saving (in particular thanks to the products of insurance life), from where wider financial markets and easier financing of the investments. Secondly, it lowers the level of precautionary saving become inappropriate if the risks considered covered by insurance services (saving seldom invested on the capital markets) and stimulates the investments and consumption by reducing the level of unproductive or unutilised funds.

This sector is highly developed in northern countries and exported to developing countries (PVD) during colonization does not cease taking importance, that it is by the significant sums that it drains or numbers it jobs which it creates or fields that it covers (production, health, life, etc).

Owing to the fact that the requirements in terms for investment are enormous there in Africa, the insurance is, more than elsewhere, a need. One can say, without risk to be mistaken, that in Africa, the performance of this sector remains much mitigated. After the «difficult» years where the insurance companies evolved/moved within an obsolete legal framework (heritage of the code of the French insurances, which goes back to 1938), the sector is far from taking its take-off for a real development. Africa accounted for only 1.2% (market life and not life) of the world market in 2009 against 1.3% in 2008. This fall was also observed on the level of Europa and America between 2008 and 2009. The share of the market of Europa passed from 41.1% to 39.6% and that of America from 34% to 33.2 between 2008 and 2009. This situation can be justified by the economic and financial crisis, which shook these areas during this period. As for Asia, one noted an increase in his share of market, which passed from 21.9% into 2008 to 24.3% into 2009. One notes as well as the share of the market of Africa remains very weak.

With regard to the share of the market of the 16 African countries of the Federation of the Insurance companies African of National law (Fanaf) together taken on the African market, one can announce that the 16 countries of Fanaf account for only 2% of the African market. South Africa to it only represents more than 81% of the market of the insurance in Africa. Worse still on the level of the countries of Fanaf, the insurance not life accounts for 74% of the market into 2009. This situation remained rather stable since 2000. This situation does not favour an improvement of the growth in the sense that it is the insurance life which according to empirical work's, contributes more to the growth and to ensure a better growth of the investments, it would be necessary to set up strategies for a development of this sector. Consequently it is significant, taking into account the importance of this sector in a general way and especially the branch life in a particular way for the mobilization of the interior saving, the investment through its contribution to the financing of the economy, to appreciate its real contribution to the growth in the countries of the WAEMU in spite of all the development known by this sector these last years. It is the object of this study. In addition, through this study a comparative analysis between the countries of area WAEMU and those of the ECMCA made.

The choice of the countries of these two zones is justified by the fact that these countries have the same policy of reforms of insurances markets during these two last decades. Therefore, the countries of each zone have common reforms with regarding to their budget policy.

After the presentation of the empirical literature of the importance of this sector on the growth and of the direction of the relation between these two variables (section 2), it was presented in session 3 the methodology used within the framework of this study, then the results obtained and their interpretation (section 4).

Literature review

Importance of insurance in the economic and social development

Several works completed in order to show the importance of the sector of the insurance in the economic development of a nation. The majority of these studies lead to the fact

that this sector is essential for the development of an economy and that a solid sector of the insurance is one of the essential characteristics of a powerful economic system from where its installation and its diversification especially for the Countries in the process of Development (UNCTAD, 1964). Thus Ripoll (1973) through an analysis of the strategies which can facilitate the installation of the national institutions of insurance within the framework international trade tried to show that even after the decolonization, the developing countries did not have the easy task with regard to the creation of the national institutions of insurance. Indeed, resistances appeared for a long time, and the report was that the expansion of the businesses in the countries in the process of development, related to the process of their economic growth, was absorbed overall by the international insurers. The tendency towards the expansion of the great multinationals in this sector thus constitutes an essential part of their strategy and, in addition, this tendency can still be stimulated by their government for which, the businesses carried out abroad by the insurers can have very favorable repercussions in their balance of payment. Thus, Ripoll recalled that the United Kingdom recorded in 1971 a surplus net of receipts, in this sector, of 381 million books with, since 1963, a rate of average cumulative growth of 25% per annum. Switzerland does still better, in relative terms, and in 1968, the positive balance in this sector reached per capita of inhabitant, once and half the level obtained by the United Kingdom. Elsewhere, in Western Europa, the results are relatively more modest. But, even if the expansion of their insurers could not develop in the proportions which one has just mentioned, this expansion remains not only one top priority of the companies, but also a concern of the States.

With an aim of appreciating the importance of the sector of the insurance, the majority of the authors use by convention, like tool for appreciation, the rate of penetration, which makes it possible to analyze the contribution of this sector to the GDP and to make comparisons between States or group of country.

This approach used particularly in a study carried out by the ECA (2006) to analyze the contribution of the sector of the insurance to the economic growth and employment within the European Union (UE). The results of this study made it possible to identify disparities between the various markets of the insurance of Europa of the twenty five (25). Whereas certain countries post raised rates, others have low rates of penetration. The comparison between this rate and that of the United States makes it possible to affirm that the European sector of the insurances is developed less than in the United States where this rate is higher than 10%, whereas the balanced average ratio of the twenty five Convention countries amounts only to 8,5%. There is also a difference even more significant if this comparison made on the level of each type of insurance. Thus, the rate of penetration of the indemnity insurance is higher than 6% in the United States compared with less than 3.5% on average in Europa of the twenty-five. Lastly, one can retain that the various tendencies observed do not modify of anything the conclusion which the sector of the insurance conceals a growth potential in Europa.

Moustassie (2006) notes through a study on the countries of Africa that the relative share of the insurance in the GDP is still embryonic and that the market is equipped however, with enormous potentialities of growth, which it is advisable to explore effectively. With that, it adds that the existence of a single code of the insurances and a supranational body of control constitutes a major asset, not only for the controllers, but also for the insurers and the policyholders, in particular the economic operators who intervene today indifferently in the majority of the African States. He noted also that for 5 years, the market, has carried out overall significant benefit which account for 3 to 4 % of the premiums of the emissions in the area, (what was not the case before the institution of the CIMA) and releases a surplus of solvency which is equivalent today to 2,5 times the necessary minimal margin.

For Thierry (2005), the appreciation of the place of the insurance in a national economy can be done according to two relevant approaches: the contribution per capita (density) and the ratio contributions /GDP. For this last, if one considers the distribution of the financial saving, one observes that among the various operators, the insurance companies occupy a relatively restricted place, representing a limited fraction of the total of engagements of the financial sector of the countries considered. If the ratio contributions/GDP examined, criterion generally used to evaluate the importance of the insurance in an economy, the relative weakness of the sector of the insurance is obvious within the economies of the developing countries. As for Mohamed (2009), it appreciates the importance of the sector starting from a descriptive analysis by stressing the dominating place, which it occupies in the process of development. This, because of the diversity of its interventions in the various economic, financial and social fields. In addition, it underlines required it to install a legislative and lawful framework adequate in order to modernize this sector, to increase its output and to improve its contribution to the development. It also mentions the question of the insurances in the agricultural field, and underlines its need because of the agricultural potential several countries in the process of development. Mohamed (2009) proposes the reinforcement of partnerships with the companies having a sufficient expertise in the agricultural field.

The situation of the sector of the insurance appreciated through the analysis of certain variables as the number of companies developing in the sector, the various covered fields, the number of created jobs, the volume of the emitted premiums, the institutions regulating the sector, etc. This approach used in the majority of the studies that

seek to appreciate the importance of the sector in the economy. It was adopted in several studies of which particularly the report/ratio of the ECA (2006), which made it possible to note that more than one million qualified people in this sector on the level of the twenty-five European Convention countries.

Liedtke (2006) as for him shows that the insurance plays a dominating role in the financial field and that its impact, other that purely financial on the economic growth is primarily related to the operating mode of the modern economies. It notes that there is a strong correlation between the existence of the insurance in certain markets and the profusion of preventive measures and that the insurance affects not only the behaviors ex handle by an effective prevention, but also the behaviors ex post. Lastly, Liedtke (2006) concludes that unfortunately, a certain number of constructive and effective impacts neglected or not studied in detail when it is a question of making political decisions.

Analysis of the determinants of insurance demand and the relationship between economic growth and the insurance sector

By using the data, SHARE (2005) in order to estimate the determinants of the probability of holding the insurance dependence in France, Christophe Courbage (2007), shows that the request for insurance dependence before is very justified by behaviors of altruism. It would asked at the same time to preserve the heritage to be transmitted and to protect the close relations in the event of dependence financially, but also to reduce the load, which weighs or could weigh on suppliers of abstract assistance. The experiments of the disease as well as the behaviors at the risk also have a significant impact on the request.

Celine Blondeau (2002) in the determinants of the cycle of the insurance of damage in France shows that in insurances damage, the result comes from the premiums and the financial incomes, made deduction of the cost of the disasters and the operating costs. However, three of these four elements know fluctuations. Intuitively, the financial results depend on the trends of the interest rates and the markets (for the product of the placements), and the disaster is related to the economic situation (phenomenon of moral risk). The application of the financial theories (like the MEDAF or the options) to the insurance makes it possible isolated from the elements being able to influence the premium. The empirical study carried out on the French insurance of damage of 1963 to 1999 makes it possible to check this intuitive reasoning, and to test the factors influencing the premium. It also allows, by the intermediary of an analysis of multivariate cointegration (VCAr), to analyze the interactions between the premiums, the disasters, the costs operating, the stockholders' equity, the GDP, the long-term interest rates, and the yield of the Paris Bourse.

According to a transnational empirical analysis carried out by Ian Webb (International Insurance Foundation), Martin Grace and Harold Skipper (Georgia State University, 2001), the development of the sectors of the insurance and the financial intermediation increases the total productivity of the factors by facilitating an effective allowance of the capital.

Therefore, of other authors tried to measure the causal relation between the macroeconomic performance and the size of the sector of the insurance.

Outreville (1990) was one of the first to examine the econometric relation between development of the insurance and economic growth of the developing countries. According to its conclusions, the services of insurance life and damage "cause" a significant economic growth.

Kugler and Ofoghi (2005), are based on an analysis based on the existence of relation of cointegration to show by using the data of the United Kingdom, that an increase in the size (represented by the sales turnover) of the various "branches damage" has a positive and statistically significant negotiable instrument on the economic growth. The negotiable instrument of a development of the sector of the insurance on the economic growth appeared more significant than the opposite influence of the economic growth on the sector of the insurance, proof of the prevalence of a positive negotiable instrument on the long term rather than cyclic.

Data and empirical methodology

METHODOLOGY OF ANALYSIS

In our empirical test, we used in respect of the majority of studies in the literature, the usual indicators for analyzing the contribution of insurance to economic growth (the rate of penetration and density). Also, in this paper, we relied on standard growth models of Mankiw, Romer and Weil (1992) and Barro and Sala-I-Martin (1995) to analyze the contribution of insurance to economic growth. Initially, the panel data model is written as:

$$\log y_{i,t} - \log y_{i,t-1} = (\beta_0 - 1)\log y_{i,t-1} + \eta_i + \zeta_t + \mu_{i,t} \quad (1)$$

with y_i, t is the per capita GDP of country i in t, $y_{i,\,t-1}$ GDP per capita of country i delayed, η_i is the specific effect of country i, is the constant ζ_t general μ_i, t represent the hazards.

In fact, this model is a priori to control the convergence according to the neoclassical theory. Thus, if the coefficient is significantly negative β0, countries were relatively close to their steady states in level of production that is to say there is conditional convergence. In addition, we include in the model of growth indicators measuring the contribution

of insurance to GDP. The aim is thus to assess the contribution of insurance to economic growth in countries of the Franc Zone (, ECMCA) in the presence of other possible determinants of economic growth.

Let xi, t denotes the variable of interest for country i at date t, z, t the control variable. The empirical model is:

$$\log y_{i,t} - \log y_{i,t-1} = (\beta_0 - 1)\log y_{i,t-1} + \beta_1 \log x_{i,t} + \beta_2 \log z_{i,t} + \eta_i + \zeta_t + \mu_{i,t} \quad (2)$$

To estimate the growth model, we use the approach of the dynamic panel model to exploit the dimensions inter-individual and inter-temporal data. On the other hand, this approach solves the endogeneity problem caused by the correlation between the lagged endogenous variable yi, t-1 and the error term μi, t specification 2 (Nickell (1981)). To address this endogeneity problem, the economic literature suggests two possible estimation methods: the Generalized Method of Moments (GMM) method and the Least Square Dummy Variable Corrector (LSDVC). The effectiveness of each of these methods depends on the sample size. Indeed, Bruno (2005), shows that the estimator Least Square Dummy Variable (LSDV) fixed (LSDVC) is more efficient than the GMM estimator when the sample is small. For all the countries on one side and those of the ECMCA, LSDVC'method lends itself best. Indeed, the principle of Least Square Dummy Variable method Corrector (LSDVC) is as follows:

If we consider the standard dynamic panel model as follows:

$$y_{it} = \gamma y_{i,t-1} + x'_{it} + \eta_i + \varepsilon_{it} \quad , \quad |\gamma| < 1, i = 1, \dots, N \quad \text{et} \quad t = 1, \dots, T \quad (3)$$

y_it which is the dependent variable, x_it is a vector ((k-1) × 1) of exogenous variables, ηi is the unobservable individual effect and ε_it unobservable white noise. By stacking the observations over time and across individuals, we obtain the matrix form of model 3:

$$y = D\eta + W\delta + \varepsilon$$

where y and W=$[y_{-1}: X]$ are matrices of observations of order (NT × 1) and (NT × k) respectively, D is the matrix of individual dummies, η is the vector of individual effects , white noise vector ε and $\delta = [\gamma: \beta']$ is the vector of coefficients. LSDV estimators of model 3 are not converging and generally biased (Nickel (1981)). As Bruno (2005), he relied on the approach and Kiviet Bun (2003) to provide corrected LSDV estimators. The approach and Keviet Bun (2003) is described below: LSDV estimator of δ is given by $\delta_{LSDV} = (W'MW)^{-1}W'My$ where M = ID (D 'D)$^{-1}$D is a symmetric matrix to cancel the individual effects. The approximate bias is given by:

$c_1(T^{-1}) = \sigma_\varepsilon^2 tr(\Lambda) q_1$ (4)

$c_2(N^{-1}T^{-1}) = -\sigma_\varepsilon^2[Q\bar{\bar{W}}'\Lambda M\bar{\bar{W}} + tr(Q\bar{\bar{W}}'\Lambda M\bar{\bar{W}})I_{k+1}] + 2\sigma_\varepsilon^2 q_{11} tr(\Lambda'\Lambda\Lambda) I_{k+1} q_1$ (5)

$c_3(N^{-1}T^{-2}) = \sigma_\varepsilon^4\{2q_{11}Q\bar{\bar{W}}'\Lambda\Lambda'\bar{\bar{W}} q_1 + [(q'_1\bar{\bar{W}}'\Lambda\Lambda'\bar{\bar{W}}q_1) + q_{11}tr(Q\bar{\bar{W}}'\Lambda\Lambda'\bar{\bar{W}}) + 2tr(\Lambda'\Lambda\Lambda'\Lambda)q^2_{11}]q_1\}$ (6)

where Q=[E $(\bar{\bar{W}}'MW)]^{-1}$ et $\bar{\bar{W}} = E(W)$

With an increase in the level of accuracy, the three approximations are possible through:

$B_1=c_1(T^{-1})$, $B_2=B_1+ c_2 (N^{-1}T^{-1})$ et $B_3=B_2+ c_3(N^{-1}T^{-2})$ (7)

Corrected LSDV estimators of bias are obtained by subtracting any term in equation 7 of the LSDV estimator. In practice, the bias corrected estimators are obtained by searching consist estimators consist of σε2 and γ. This allows for: LSDVC$_i$=LSDV-$\hat{B}_i$ with i = 1, 2, 3.

Consistent estimators γ can be is the estimator of Anderson and Hsiao (1982) (AH), the estimator Arellano and Blonde (1991) and Blundell and Bond (1998) (BB). Depending on the choice of γ (one of three proposed earlier), an estimator consisting of σ_ε^2 is given by:

$\sigma_h^2 = \frac{e'_h M e_h}{N-k-T}$ (8) où eh =y-Wδ$_h$ et h=AH, AB et BB

3.2 Data

Indicators of the size of the insurance industry included in the scope of this work are:
txCAMAR: represents the size of the insurance market captured by the sales of all insurance companies, all branches (IARD and VIE);
txCAIARD: represents the size of the branch IARD apprehended by the sales structures operating in the branch IARD only;
txCAVIE: is the size of the life insurance and capitalization apprehended by the sales structures operating in the life insurance and capitalization only;

Two categories of control variables are used. The first includes macroeconomic variables representing the inflation rate (deflator) measured by the GDP deflator and the second represents the level of investment (**FBCF_GDP**) measured by the ratio of gross fixed capital formation to GDP, openness trade (***ouv***) measured by the ratio of exports plus imports to GDP. The second category, the indicators of the banking system, including the private sector credit (**priv__m2**) (percentage of GDP) and money supply (**M2**) to GDP (**m2_gdp**).

Our sample covers 12 African countries in the franc zone during the period covering 1999 to 2009. The series used are from the database of the World Bank "World Development Indicators 2010," the site of the ICMA Inter-African Conference on Insurance Markets and the FANAF Federation of Insurance Law African National and the BCEAO Central Bank of the States of West Africa. Indeed, the choice of countries and the period of study is dictated by data availability. Thus, the countries selected for this study are: Benin, Burkina Faso, Ivory Coast, Mali, Niger, Senegal, Togo, Cameroon, Congo, Gabon, Central African Republic, and Chad.

EMPIRICAL RESULTS

Analysis of the rate of insurance penetration in the economy

Although the share of the insurance not life is a majority in

Table 1. Correlation matrix between variables of the banking system, the variables related to the contribution of insurance to the economy and economic growth

	gdp_hbt	txvie	txiard	txassu	m2_gdp	priv__m2
gdp_hbt	1					
txvie	0,531	1				
txiard	0,724	0,355	1			
txassu	0,711	0,862	0,993	1		
m2_gdp	0,436	0,460	0,372	0,403	1	
priv__m2	0,091	0,198	0,094	0,118	0,123	1

all the countries of Fanaf, of great disparities exist according to countries' (in 2009 for example, 59% in Ivory Cost, 99% in Central Africa). One of the objectives of the WAEMU is to make of this area the most competitive market.

The relative importance of the sector of the insurance measured by convention by the annual ratio of the contributions cashed on the GDP (penetration of the insurance), is more significant in the WAEMU than in the ECMCA. While in the WAEMU this rate is higher than 1%, it is 0.85% in the ECMCA (graphic 1).

Contrary to sector IARD (various fire, accident and risks), we notes significant differences on the level of the life sector. The penetration rate of the insurance life in the WAEMU was 0.35% against 0.14% in the ECMCA. One can thus then note that the sector of the insurance conceals a growth potential in the WAEMU.

In spite of the performance of the WAEMU compared to the ECMCA, one notes significant differences between the various markets of the insurance in the WAEMU. In certain countries, the rates of penetration of the insurance are comparable with those observed in the ECMCA whereas other countries post very low rates (see graphic 2). This tendency remained the same one between the two periods.

The strongest rates of penetration are observed in Togo, Ivory Cost, Gabon, Senegal. These ratios are higher than 1% whereas the majority of the countries post rates lower than 1%. Heterogeneity is a reality between the members of the WAEMU and the ECMCA.

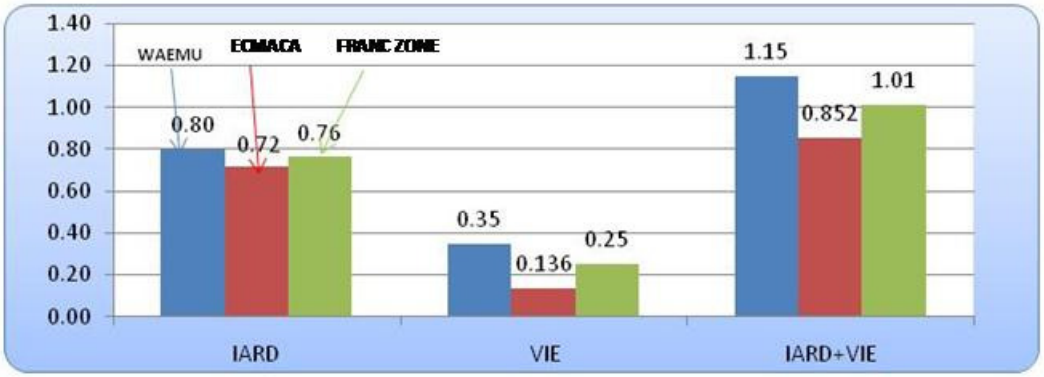
The analysis of the dispersion of the rate of penetration within the WAEMU in 2009 makes it possible to note that as regards rate of penetration of the insurance life in the GDP, the efforts noted on the level of the Ivory Cost followed by Togo. It is also interesting to announce the performance of Togo with regard to the penetration of the sector of insurance to the GDP in this country. In spite of the weak share of market held by this country, the contribution of its branch «damage" to the growth is higher than that of all the other Convention countries. The weak contributions noted to the level of Mali (graphic 3).

Even if disparities are noted between the countries of the WAEMU with regard to their rate of penetration to the economy, it is significant to announce that a comparison with the ECMCA clarifies the potential of development of area WAEMU of the sector of the insurance.

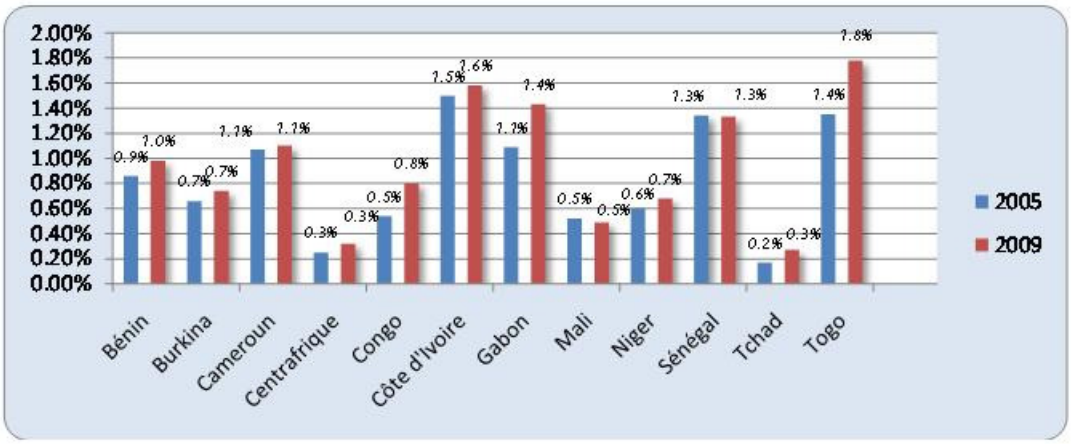
Econometric analysis of the insurance contribution to growth

In order to study the contribution of insurance sector to economic growth, we have built our growth model, in addition to the traditional determinants, other microeconomic indicators showing the robustness of the banking sector. Table 1 provides the empirical correlations between economic growth and the set of variables related to the contribution of insurance to the economy and indicators of the banking system. These correlations have also a very good sign. There are strong correlations between economic variables and the contribution of insurance to the economy. However there is little correlation between the indicators of the banking system and economic growth within the WAEMU (Table 1) but with signs consistent with economic intuition.

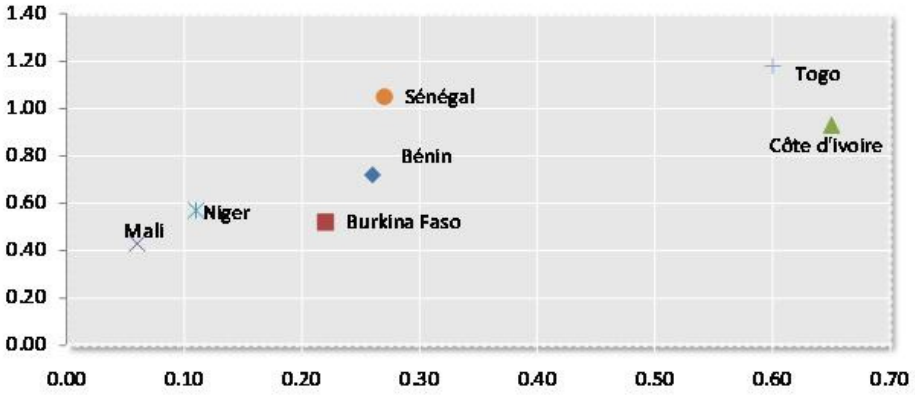
Table 1 also provides the empirical correlations between indicators of the banking system and the variables related to the contribution of insurance to the economy, introduced as explanatory variables in our growth model. However, we note a low correlation (0.1227) between the two indicators of the banking system (m2_gdp, priv__m2) on the one hand and between the indicators related to the contribution of the life and non life on the other. Also, the correlation between indicators of the banking system and those related to the contribution of insurance to the economy it also seems low. The correlation between insurance market (txassu) and markets life insurance and non-life seems



Graph 1: Average rate of penetration in the WAEMU, ECMCA and FRANC ZONE from 2005 to 2009



Graph 2: rate of penetration of the countries of the WAEMU and the ECMCA between 2005 and 2009



Graph 3: Dispersion of the rates of penetration of the insurances life (horizontal axis) and damage (vertical axis) in area WAEMU in 2009

high. Which could arouse suspicion of the presence of a multicollinearity problem. This led us to disregard this indicator (txassu) in the model was estimated. This specification of our dynamic panel model is estimated using the econometric methodology presented above.

Table 2 presents the results of estimates from the data of the WAEMU and ECMCA LSDVC This method applies in STATA 11 with the command Xtlsdvc teen whose file exists on the site : http://fmwww.bc.edu/repec/bocode/x/xtlsdvc.ado with the

method proposed by Bruno (2005). This method has been used as we said above because of the insufficient number of observations (N = 7 and T = 11 for the and N = 5 and T = 11 for the ECMCA). This method requires for its implementation using one of the estimators of Anderson and Hsiao (1982) (AH), Arellano and Blonde (1991) (AB) and Blundell and Bond (1998) (BB). As Blundell and Bond (1998) showed that the presence of a small sample size, we will interpret the results obtained with the estimators Blundell and Bond (1998).

In addition, the null hypothesis significance tests overall Fisher (p-value = 0.000), which allows to say that the estimated models are globally significant.

In light of the results reported in Table 2, as expected initial per capita GDP has a positive and significant impact on economic growth for the countries of the WAEMU and ECMCA.

Compared with other variables, it appears in the in the presence of other growth determinants whose coefficients are not statistically significant, variables related to insurance even if they have the expected signs, are not statistically significant. Thus, while life insurance have a positive effect, non-life insurance have a negative effect on economic growth. This could be explained by the fact that this type of insurance non-life insurance) because of its nature, cannot mobilize savings for financing of the economy. The contribution obtained from this type of insurance shall in no case be used to finance the economy through the financial market. As for life insurance, represented by the variable ***txcavie***, its significance could not be explained by the low capacity of this sector to mobilize savings in the WAEMU countries. Its market share is still low in this union, contrary to what is observed in South Africa and in European countries (FANAF 2009). Credit to the private sector is positive in accordance with economic intuition as well as the money supply in circulation. This result is logical given that the massive settlement banks in the region has made in recent years. In addition, it is clear that the investment rate, used to emphasize the effects of complementarity between foreign capital and national capital, has a negative but not statistically significant impact on economic growth.

As for the ECMCA, the trend is not entirely the same as in the. It turns out that the money in circulation has a positive and statistically significant in the area while this is not the case in the . Inflation measured by the GDP deflator was also a statistically significant and negative in the ECMCA while the impact is negative but not statistically significant in the WAEMU. While trade openness has a positive and not statistically significant in the , it is negative and not statistically significant in the ECMCA. Finally, the comparative analysis of two areas shows that life insurance has a positive and not significant in the countries of the WAEMU and ECMCA, while non-life insurance have the opposite effect. While the banking system plays an important role in the economies, this role appears to be much in the WAEMU and ECMCA.

CONCLUSION

This article analyzed the relationship between the insurance sector and economic growth in the countries of WAEMU. It also enabled a comparative analysis between the results of the WAEMU countries and those of the ECMCA zone to make recommendations in terms of economic policies. Descriptive analysis, the conclusion is that the sector still suffers from several shortcomings, mainly the low penetration in national economies and the modest role in savings's mobilisation. The development of life insurance is still weak. This branch makes the happiness of some countries in financing the economy is still very low at the WAEMU countries. We tested two measures of the contribution of the insurance industry in a growth model. The first indicator is the penetration rate of fire insurance and casualty (P & C). The second is the penetration of life insurance that is supposed to have a positive impact on economic growth because of its potential to mobilize household savings for financing the economy. Estimating a dynamic panel model using all the countries did not provide clear results on the contribution of insurance sector to economic growth in countries. The results suggest concluded that the stimulation of the sector of insurance (and especially life insurance) will ensure a certain level of growth in WAEMU. There is thus a positive relationship between life insurance and economic growth. Comparative analysis with the ECMCA zone leads us to conclude that life insurance has a positive and not significant in the countries of the WAEMU and ECMCA, while that non-life insurance has the opposite effect.

Given these results, it is appropriate that measures be taken to improve significantly the contribution of this sector to economic growth. They are:

- Draw lessons from the best South African experience to offer new products tailored to the needs of populations in terms of security, distribution and ease of access and better pricing;
- Develop strategies to increase market share in the countries of the WAEMU zone through actions for the gradual conquest of part of the population that has not subscribed to insurance services other than service "insurance vehicle);
- To help players work on the promotion of life insurance guarantee for the future development of the insurance on the one hand and the emergence of insurance companies in the agricultural sector as this sector contributes a large part to growth Economic Union countries.

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ANNEXES

Table A1: Contributions expressed as a percentage of the GDP by continent and in the world

Contributions in % of the GDP	Total	which	
		Life	No life
America	6,9%	3,00%	3,90%
Europa	7,6%	4,50%	3,10%
Asia	6,1%	4,50%	1,60%
Africa	3,3%	2,20%	1,10%
Oceania	6,2%	3,10%	3,10%
World	7,0%	4,00%	3,00%

Source : FANAF (2009)

Table A2: Average contributions per capita by continent and in the world

Average contributions per capita in US dollar	Total	which	
		Life	No life
America	1 470	632	839
Europa	1 862	1 111	751
Asia	243	180	63
Africa	49	32	17
Oceania	1 863	931	932
World	595	341	254

Source : FANAF (2009)

Table A3: The South-African market of the insurance in 2009 (in million $ US)

	Clear premium accounts	Share of the national market	Share of the world market	African Row	World row
Life	28 773	77,8%	1,23%	1er	16ème
No Life	8 215	22,2%	0,47%	1er	23ème
Total	36 988	100%	0,91%	1er	20ème

Source : FANAF(2009)

Table A4: Density of insurance (total contributions / population) (in US dollar) and penetration of the insurance from 2005 to 2009 in South Africa

Année	2005	2006	2007	2008	2009
Density of insurance	714,6	855,8	878,5	870,6	738,1
penetration	13,87%	16,00%	15,30%	15,30%	12,90%

Source : FANAF (2009)

Table A6: Sales turnover of the market of the insurance, life insurance and IARD in the countries of the WAEMU and the ECMCA (in million FCFA)

Countries	Year	2005	2006	2007	2008	2009
Benin	iard	160439	174355	191879	216103	22503
	Life	39501	47042	59249	77802	81551
	insurance	19994	221397	251128	293905	306581
Burkina Faso	iard	149136	150538	166681	174152	204398
	Life	45105	50082	83455	85204	88646
	insurance	194241	20062	250136	259356	293044
ivory Cost	iard	788179	82146	886626	1006117	1009677
	Life	507132	553891	603124	667082	710479
	insurance	1295311	1375351	148975	1673199	1720156
Mali	iard	133931	144373	152238	179212	179776
	Life	14535	17621	22554	25123	25401
	insurance	148466	161994	174792	204335	205177
Niger	iard	95409	107149	114746	120721	141685
	Life	9431	11321	1796	22795	27813
	insurance	10484	11847	132706	143516	169498
Senegal	iard	506246	521302	576355	578486	63131
	Life	105804	120524	133086	206502	163766
	insurance	61205	641826	709441	784988	795076
Togo	iard	118179	129127	146663	147307	159236
	Life	32428	34254	41877	65865	80849
	insurance	150607	163381	18854	213172	240085
Cameroun	iard	773289	763183	846363	847058	872825
	Life	158732	183397	222724	252226	281859
	insurance	932021	94658	1069087	1099284	1154684
Central Africa	iard	17088	18435	23285	2754	29556
	Life	476	492	447	6	41
	insurance	17564	18927	23732	2814	29966
Congo	iard	171707	219983	258465	258465	341801
	Life	795	71	2526	5023	15092
	insurance	172502	220693	260991	263488	356893
Gabon	iard	4388	48081	5436	571109	620294
	Life	59831	7703	9035	103055	121051
	insurance	498631	55784	63395	674164	741345
Chad	iard	52147	50604	65952	58072	79063
	Life	2024	2296	3489	4246	7346
	insurance	54171	529	69441	62318	86409

Source : FANAF (2009)