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Effects of monetary policy on economic growth in the WAEMU zone

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Abstract

The objective of this study is to analyze the impact of monetary policy on economic growth in the WAEMU zone over the period 2000-2018. Using the GMM estimation model, the results show that monetary policy focused on nominal money aggregates (M2) and gross fixed capital formation (GFCF) have a positive and significant influence on economic growth in the zone. WAEMU. These results corroborate with the ideas of the monetarists. These authors have shown that changes in the money supply have an effect on the overall price level. On the other hand, the money supply must grow at a rate equal to the long-term growth rate of the economy in order to avoid inflationary pressures.

Keywords*: Monetary policy; Economic growth; WAEMU.*

Résumé

L'objectif de cette étude est d'analyser l'impact de la politique monétaire sur la croissance économique dans la zone UEMOA sur la période 2000-2018. En utilisant le modèle d'estimation GMM, les résultats montrent que la politique monétaire axée sur les agrégats monétaires nominaux (M2) et la formation brute de capital fixe (FBCF) a une influence positive et significative sur la croissance économique dans la zone. UEMOA. Ces résultats corroborent avec les idées des monétaristes. Ces auteurs ont montré que les variations de la masse monétaire ont un effet sur le niveau général des prix. D'autre part, la masse monétaire doit croître à un rythme égal au taux de croissance à long terme de l'économie afin d'éviter les pressions inflationnistes.

Mots clés : Politique monétaire ; Croissance économique ; UEMOA.

INTRODUCTION

Monetary policy is one of the engines of economic growth (Precious and Makhetha-Kosi, 2014). Monetary policy is a combination of measures intended to regulate the value, supply and cost of money in an economy, in accordance with the expected level of economic activity (Folawewo and Osinubi, 2006; Precious and Makhetha-Kosi , 2014). Monetary policy, as a

technique of economic management, aims to ensure sustainable economic growth and development. This is what nations are looking for, as observed by the work of Onyewu (2012), ie the formal articulation of money to affect economic aggregates.

For several years, the central banks of many countries have been pursuing a strategy of raising or lowering their key interest rate to prevent inflation due to the overheating of the economy, which presupposes or reflects an understanding of the transmission mechanisms of monetary policy to the economy. However, there is a clear opposition on the principles of monetary policy, namely the Keynesian approach, the monetarist approach and the new approaches to macroeconomics.

The Keynesian approach, which appeared in the wake of the 1929 crisis, considers that monetary policy is an instrument of short-term policy which sets as its final objective the arbitration between inflation and unemployment and retains interest rates as its intermediate objective. Ditto, the oil shock of 1973 undermined the short-term policies of Keynesian theories, which allowed leaders to listen to the theories of monetarists, also called the Chicago School, or even the neo-quantitative school whose leader (Friedman, 1968). Monetarism emerged as a reaction against the influence of Keynes and the Keynesian preference for fiscal policy over monetary policy. This school of thought, concerned with minimizing state intervention and rejecting Keynesian fiscal and budgetary policies, advocates the use of monetary policy.

In view of this problem, we can ask ourselves the question to what extent monetary policy can improve economic growth in the WAEMU zone. To achieve this, the article will present the following architecture: after the introduction, the first section describes the relationship between monetary policy and economic growth, the second section presents the methodological approach of the research and the sources of the data and the last section presents the main results and discussion.

1. Literature review

This section will provide an overview of the theoretical relationship between monetary policy and economic growth.

1.1.Theoretical approaches

Several streams of economic thought have discussed the effects of monetary policy on economic growth. On the fringes of these schools, we retain two currents of thought. Keynesians claim that money is neutral and therefore unable to impact economic growth. They believe that the link between the monetary sector and the real sector of the economy is very weak, and therefore suggest that there is an indirect link (Khabo, 2002; Precious and Makhetha-Kosi, 2014) . On the other hand, monetarists believe that money is an important factor, thus arguing for the use of monetary policy to influence economic growth. They claim that there is a direct link between the monetary sector and the real sector of the economy.

The relationship between monetary policy and the real economic sector is ensured by the transmission mechanism. The transmission mechanism has two stages. First, an increase in real balances generates a portfolio imbalance (Dornbusch et al, 1998). If the money supply increases, there will be an imbalance in the money market caused by the excess money supply. To correct this imbalance, consumers will buy other financial assets such as bonds, thereby driving up their price. Due to the negative relationship between bond prices and interest rates,

increases in bond prices will lead to decreases in interest rates. Therefore, the second stage of the transmission mechanism will be activated. Lower interest rates will have a positive effect on aggregate demand, which will increase production. Monetary policy, by modifying the money supply, therefore acts by stimulating the components of aggregate demand which react to interest rates, mainly investment expenditure.

The differing views between Keynesian and monetarist economists regarding the effects of monetary policy on economic growth stem from the explanation of the transmission mechanism presented above. Keynesians propose a situation in which the imbalance of the portfolio does not lead to a fall in interest rates. If increases in the money supply do not lead to a reduction in interest rates, a situation known as a liquidity trap will result (Khabo, 2002 ; EL HASSANI and OUALI, 2023). The liquidity trap occurs when prevailing interest rates are near or equal to zero and the monetary authorities are unable to stimulate the economy through monetary policy. The money supply can become insensitive to changes in interest rates if these are extremely low, so that further declines will not encourage investors to buy bonds since their rate of return will be low. Investors prefer to keep their money, which makes the demand for money insensitive to changes in interest rates. Keynesians therefore argue that monetary policy will be ineffective in influencing economic growth, but advocate fiscal policy to bring about changes in economic growth.

1.2.Empirical evidence

Beyond the theoretical debate, many empirical studies have focused on the impact of monetary policy on economic growth, in particular , (Andersen & Carlson, 1970)which have developed a model known as the St. LOUIS model, expressing the variation in expenditure current total as a function of changes in the money supply and public expenditure. The objective of this model was on the one hand, to test the relative effectiveness of monetary and budgetary policies on economic activity, and on the other hand to provide a tool for forecasting aggregate demand. The fundamental result that emerges from their study is that the impact of monetary policy is greater, faster and more predictable than that of fiscal policy.

Many studies have been conducted to measure the impact of monetary policy on growth and for this some authors consider that money is a desired good by the functions it performs while others consider money as a factor. of production.(Brayton, et al., 1997) studied from an equilibrium model on the US economy the consequences of a transitory monetary shock. Assuming that prices are sticky and output determined by aggregate demand while in the long run prices adjust perfectly and equilibrium is determined by factor supply, they conclude that the expected values of variables directly influence interest and exchange rates, various components of aggregate demand, wages and prices. Under these conditions, an increase in the nominal rate of the Federal Reserve generates an anticipation of a higher rate in the future, which increases the bond rate. As prices slowly adjust, the cost of capital for durable goods, construction and investment rises, as does the exchange rate causing aggregate demand and output to fall, and unemployment to rise. This increase in current and expected unemployment leads to a reduction in wages and prices. This " hump" -like reaction in production is a consequence of the interaction between the slow adjustment of the components of demand, the evolution of expectations on future prices and quantities and the endogenous response of monetary policy. to this initial shock. On this point, a major challenge for economists is to explain why the correlation observed between money and production is not entirely due to the endogenous reaction of the monetary aggregates to the product.

For this, (Coleman, et al., 1996)try to build and estimate a stochastic general equilibrium model in which money is neutral. Since monetary aggregates are unlikely to be determined exogenously to meet this challenge, one needs to understand at a quantitative level how the monetary base and broad money supply may react to economic phenomena. Two conclusions emerge from this study: even if the monetary authority reacts to all the information available in the economy, this is not sufficient to observe a high correlation between the product and the more or less long delay of the reactions of the cash. Second, even though banks produce most monetary assets, the foreign currency deposit ratio is more affected by phenomena that follow shocks to activity than by those that precede them. Although these results do not prove that money is significantly non-neutral, the mismatch between the observed correlation and the endogenous money model provides support for the view that money affects activity.

In 1978, Carlson concluded that, by mobilizing American data between the year 1953 and 1976 through the St LOUIS model that he developed with Andersen, the effects of the money supply on the real economy, in particular growth, are significant and positive. In other words, monetary actions provide a boost to real economic activity. This same model was used by Chowdury (1988) to assess the impact of monetary policy on economic activity in six European countries. The same conclusion as that of Carlson was retained, of which three countries presented more important results. In 1998, the report of Bruneau and De Bandt underlined the conclusions of the studies quoted previously by evoking that a monetary restriction involves a fall of the real product.

However, seven years before this last study raised, in the context of macroeconomic stabilization programs within developing countries, Kahn and Knight have seen that, by means of a macroeconometric model, imbalances in the money market rather explain the behavior of the inflation rate. This perspective is much more in line with the neoclassical and notably monetarist position. And this is the same conclusion reached by Mallaye (2009) when he studied the impact of monetary reforms on economic growth in the CEMAC zone: monetary policy rather generates an inflationary dynamic instead of an expansion of production. real.

Feldstein and Stock (1994) study the possibility of using a monetary aggregate to influence the trajectory of nominal GDP. The result obtained indicates that the Federal Reserve could probably determine M2 in such a way as to reduce not only the long-term inflation rate but also the variability of the annual GDP growth rate. This result thus contradicts those who argue that there is no stable relationship between nominal POE and M2, and those who like M. Friedman have argued that the relationship is so unstable in the short term that it cannot be used to reduce GDP variability. Despite a potentially useful relationship between the POE and the money supply, two problems can arise in the application of this strategy since the Federal Reserve does not directly control M2. First, the relationship between the monetary base that the federation controls and nominal GDP is too weak and erratic to allow a production target to be determined. Second, it is not certain that a modification of the policy of the Federal Reserve in the control of M2 would not change in this case the reduced form of the basic parameters linking M2 and nominal GDP. Moreover, central bankers oppose the strict rules of M2 because they do not want the resulting increase in the variability of short-term interest rates.

It is the effect of these rates that W. Whitesell (1997) attempts to assess using an error-correction macroeconomic model. It begins by verifying the theoretical prediction that the real interest rate explains spending decisions better than the nominal interest rate. The data seem to prove otherwise. In fact, a regression of the real growth rate based on American data between 1962 and 1991 in relation to the nominal and real interest rates of the Federal Reserve gives a greater

coefficient for the nominal rate. Whitesell then evaluates the IS - LM model and finds that GDP depends positively on money and negatively on the interest rate while the demand for money appears to be a positive function of output and negative on the nominal interest rate. Finally, this author shows using two-stage least squares that current income determines the demand for money for the period, the reciprocal not being verified.

In the case of the UEMOA, Kalulumia and Yourougou (1997) studied the causality money - activity and found the following results: The money supply in the broad sense is linked in a long term link to the GNP and this in all the countries while MI determines activity only in Ivory Coast in Senegal and Togo. By studying the neutrality of the currency from innovations on MI and M2, they come to the conclusion that M2 is a good predictor of activity for Côte d'Ivoire while for Senegal, it is Ml.

Also (Koné, 2000) empirically analyzes the relative effectiveness of monetary and budgetary policies on the economic activity of the countries of the West African Economic and Monetary Union (UEMOA), with the exception of Guinea Bissau. The results from its error-correction model of the variation in nominal Gross Domestic Product (GDP) in relation to the explanatory variables (money supply, public expenditure and exports) show that monetary and budgetary policies would positively influence nominal GDP. and real within WAEMU countries.

The approach developed by Niamkey (1991) is quite different, since it integrates money into a real growth model. For this, the author considers that real money balances are a factor of production alongside capital and labour. He develops a model with simultaneous equations which he estimates using double least squares and arrives at the result: “money (in the broad sense) plays a dual role in Ivorian industry. It is on the one hand an important factor of production and on the other hand its excess increase in relation to production is inflationary”. Another result is that in the presence of real money balances in the production function, the return to scale of labor becomes decreasing. One of the weaknesses of this approach is that it does not tell us why households hold money.

Brahim & Habib (2022) analyzed the relationship between economic growth and the effect of the financial liberalization policy taken by the Algerian government from the 1990s, which was concretized by the law of currency and credit 90- 10. Based on the exogenous variables such as: domestic credit, the interest rate on deposits and the money supply M3, and the endogenous variable: the rate of economic growth; From the estimation of an ARDL model, the study shows that there is a positive effect of the various exogenous variables on economic growth, and this in the short and long term.

More recently, El Hassani & Ouali (2023) examined the effectiveness of monetary policy instruments with regard to the objective of economic growth in Morocco over the period 1990 – 2021. The results obtained in their study by modeling and Granger causality tests reveal that monetary policy in Morocco is ineffective, it has no impact on the variation of real output, it rather generates an inflationary dynamic. To remedy this problem, the authors propose the development of infrastructure and investment in human capital, the coordination of monetary and fiscal policies within the framework of an effective policy mix and the need to integrate the informal sector by facilitating administrative procedures and access to financing.

In the same direction Gbaguidi (2023) examined the effectiveness of the monetary policy of the BCEAO in terms of financing the economy in Benin. The results of the estimates made using an error correction model (ECM) show that the increase in the money supply leads to an increase in both credit to the economy and credit to the government. It also emerges from the

results obtained in his study that credit to the economy has a positive and significant influence on real production while credit to the government affects negatively and significantly economic growth. Finally, in the long term, the broad money supply MM2 has no influence on economic growth. The same is true for reserve requirements, the effects of which are insignificant both in the short and long term.

2. Methodology and data sources

The objective of this section is to set up a methodology and present the origin of the data. After analyzing the data using stationarity tests, these results will allow us to decide on the use of the most suitable model in order to better study the effects of monetary policy on economic growth in the WAEMU space. The generalized estimator of moments (GMM) proposed by (Arellano & Bond, 1991)allows to have consistent estimators of the model and to avoid two of the causes of the inefficiency of the estimators of Anderson and Hsiao , namely the low number of instruments and the failure to take into account the autocorrelation of first-difference model disturbances. The estimator proposed by these authors refers to the GMM method in first difference in order to eliminate specific individual effects and the use of lagged values of the dependent variable as instruments. However, the frequently observed lack of robustness of the estimates obtained has raised questions about the reasons for this fragility. As shown by (Arellano & Bover, 1995), the lagged dependent variables are weak instruments in the first-difference model and the estimator obtained is biased with the use of a small sample. Blundell and Bond (1998) showed that this fragility comes from the lack of correlation between the variables of the model written in first differences (weak instruments).

We will use this method for the estimation of the different models. The two-step GMM approach is asymptotically efficient and robust for accounting for heteroscedasticity [1]. However, in the case of small or finite sample sizes, the two-step GMM estimator is biased. To eliminate this bias, (Windmeijer, 2005)proposes a variance-covariance matrix correction when using this finite sample estimator. Moreover, the in-system GMM estimator relies on two assumptions: (i) the instruments used are valid, ie not correlated to the error term $\varepsilon_{i,t}$. This hypothesis is tested using the Sargan test of over-identification, (ii) the absence of autocorrelation of order 2 (AR (2)) in the residuals and the negative autocorrelation of order 1 (AR1) are tested with the Arellano-Bond test.

Thus, for each estimate we test this hypothesis and verify the relevance of the instruments. We report the p-values associated with the autocorrelation tests and for the Sargan J test for the validity of the instruments. The various results obtained confirm the absence of autocorrelation and the validation of the instruments. However, this test loses its power and leads to biased results when the number of instruments i is relatively greater than the number of individuals.

2.1.Model Specification

The objective of this study is to examine the effect of monetary policy on economic growth, taking into account the OLS method. The advantages and limitations of this model were highlighted in the introduction to this section. Following the analysis of (Akalpler and Duhok, 2018), the model is specified; Thus :

[1]Blundell and Bond (1998) by Monte Carlo simulations show that the two-step estimation (GMM two-step) is more efficient than the one-step approach: the variance covariance matrix is more robust .

$$Y_{it} = \beta_0 + \beta_{1t}X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \mu_{it} \quad (1)$$

Where , Y_{it}= growth rate; X_{it} = inflation; X_{it}= interest rate; X_{it} =money supply growth; and μ_{it}= error term or control variable.

Essentially :

$$Y = \beta_0 + \beta_1 inf_{it} + \beta_2 int_{it} + \beta_3 m2_{it} + \mu_t \quad (2)$$

2.2.Description of variables

Monetary policy instruments: These are the variables that serve as monetary policy instruments whose results are used to examine the performance of the economy in terms of impact on growth.

Inflation

In this study, the deflator is used to represent the inflation parameter. The relationship between inflation and economic growth has attracted significant interest in theoretical and empirical studies. Nevertheless, it should be noted that there is still no simple explanation of the nature of the relationship between inflation and economic growth. While the general consensus is that a high rate of inflation will hinder economic growth, some scholars have argued that the effects of inflation on growth can be neutral or even positive, depending on the level of inflation.

Interest rate

Fisher (1930) said that the bridge or link between income and capital is the rate of interest. Interest rate adjustment is a major monetary policy instrument, consistent with most central banks, and the BNM is no exception. The Malaysian real interest rate is used in this study.

money supply

The total amount of money in circulation is the money supply; for this survey, M1 corresponds to cash deposits and check deposits, and M2, which covers M1 and savings deposits, money market securities and mutual funds, is taken into account. However, money supply (M2) growth was chosen as the monetary policy instrument. Indeed, it is the responsibility of the Central Bank to determine the amount of money in circulation, and their regulation of the money supply is evident by its growth.

The general consensus is that an increase in the money supply leads to an increase in economic growth.

3. Results and discussion

3.1.Descriptive analysis of variables

The analysis of Table 1 shows that over the period from 2000 to 2018, the economic growth rate varies between 6.624312 million Dollars and 8.231871 million Dollars with an average of 7.38957 million Dollars and that of FDI is of 21.78908 million. The average annual public debt amounts to 6.803638 million dollars. The average money supply is 9.417067 million dollars. The annual average of exports is 27.21001 million dollars. As for the inflation rate, we find that the average annual rate is 3.071389% and while the average interest rate (loan interest) is 5.254366%. Regarding trade openness, the average annual rate is 2.151918%. We also note that

the average annual private investment is 782.5859 million dollars and is much higher than that of the average annual public investment (GFCF) or 21.78908 million dollars.

Table N°1: Descriptive statistics of the variables

Variable	Obs	Average	Standard. Dev.	Minimum	Max
Economic growth rate	133	7.38957	.3883598	6.624312	8.231871
Public debt	133	6.803638	.8009563	4.907495	8.642715
Money supply 2	133	9.417067	10.06766	-18.46165	48.61032
Export	133	27.21001	11.34313	8.844717	53.81996
Inflation	133	3.071389	2.882227	-7.594284	12.18289
interest on loan	133	5.254366	2.313282	-6.174715	10.79417
Gross fixed capital formation	133	21.78908	6.893424	4.703723	39.95105
Private investment	133	782.5859	487.684	92.00001	2220.693
Foreign direct investment	133	2.761079	3.410235	-1.03206	21.49928
Commercial opening	133	2.151918	18.96892	-112.3073	111.3932

Source: Authors based on results with STATA 15

Table N°2 : Test de corrélation

Variables	1	2	3	4	5	6	7	8	9	10
1	1.000									
2	0.669***	1.000								
3	-0.38***	-0.180**	1.000							
4	0.507***	0.284***	-0.186**	1.000						
5	-0.113	-0.016	0.068	-0.102	1.000					
6	-0.23***	-0.32***	0.096	-0.102	-0.166*	1.000				
7	-0.33***	0.194**	0.258***	-0.36***	0.060	-0.130	1.000			
8	0.151*	0.369***	0.073	0.385***	-0.111	-0.062	0.280***	1.000		
9	-0.34***	0.040	0.238***	-0.044	0.118	-0.132	0.470***	0.193**	1.000	
10	0.111	0.081	-0.047	0.100	0.054	0.023	-0.153*	-0.002	-0.150*	1.000

* p<0.1, ** p<0.05, *** p<0.01
Source: Authors based on results with STATA 15

List of variables: *Economic growth rate (1); Public debt (2); Money supply (3); Exports (4); Inflation (5); Interest rate on loans (6); Gross fixed capital formation (7); Private investment (8); Foreign direct investment (9); Trade openness (10).*

3.2.Result of the effect of monetary policy on economic growth

In this section we proceed to an analysis of the effect of monetary policies on economic growth using the GMM system in two stages. In general, the Sargan/Hansen tests and the AR tests (2) confirm the validity of the instruments. The results obtained from the estimation using the GMM system.

We estimate a specification for our model specified above. The specification is simple, the results obtained, following the estimation using the GMM system methodology on the dynamic panel, generally respect the trend of the results of the OLS estimations. The Wald test for the joint significance of the explanatory variables is statistically significant at the 1% level for the

model. The Sargan test does not allow us to reject the validity hypothesis of the instruments used in the regression for the model (0.082). Moreover, we notice that there is no second-order autocorrelation of the errors of the difference equation AR(2), because, Arellano's second-order autocorrelation test and Bond cannot reject the hypothesis of no first-order autocorrelation because AR(1) = 0.000 and AR(2) = 0.108. The result of our model of economic growth with key variable inflation, interest rate and money supply is reliable because it passes all the diagnostic tests.

It appears from the table below summarizing the results of the estimation of the model by the system GMM.

Table N° 3: Estimation of the effect of monetary policy on economic growth

Economic growth rate	Coefficients	Probability
Economic growth rate lagged one year	1.005848***	0.000
Public debt	.0059957	0.161
money supply	.0006939***	0.001
export	.0000689	0.769
Inflation	-.0009615	0.170
Interest rate	-.0000948	0.918
Gross Fixed Capital Formation	.0014791***	0.001
Private investment	-8.39e-06*	0.090
Foreign direct investment	-.0011597*	0.093
Trade opening	.0001308	0.246
Constant	-.0979008	0.114
Number of observations	133	
Number of instruments	126	
Arellano-Bond test for AR (1)		0.0108
Arellano-Bond test for AR (2)		0.082
Sargan		0.059

Source: Authors based on results with STATA 15

The results appear interesting and show the existence of a negative but insignificant link between GDP and the money supply on the one hand provided by the banking sector on the other hand. This goes against the results of Romer (1989) who emphasizes that a restrictive monetary policy expresses economic activity; of Sarr and Dingui (2000) who show that monetary impulses are transmitted to the real sphere by the real lending rate of banks. But these results go in the same direction as those of King (2000) which leads to the existence of a correlation between growth of the quantity of money and inflation and the non-existence of a link between monetary growth and growth of the real product. . In general, the existence of a statistical link between two variables does not tell us about the nature and direction of this causality. It is quite likely that the causality between the money supply and the GDP is not unequivocal: the increase in the money supply is often a consequence of economic growth.

Unfortunately, it remains difficult from a methodological point of view to carry out the search for causality in panel data. It is only possible to cite the work of Reinhold (1996). The results

of the estimation of our growth equation show that this equation explains the variation in the GDP growth rate. It appears that monetary policy based on the role played by nominal monetary aggregates positively influences GDP. Thus an increase in the growth rate of money supply by one unit leads to an increase in the growth rate of GDP by 0.0006939 as well as an increase in the share in GDP.

The annual growth rate of public debt (as a percentage of money supply in the M2 sense) has a positive influence on economic growth. This can be explained by the fact that public debt has a crowding-out effect on private investment, which is the engine of economic growth. An increase in the annual growth rate of public debt by one unit leads to a fall in GDP of 0.059957 times this unit. The borrowing interest rate negatively influences economic growth contrary to our expectations. Indeed, an increase in this rate of one unit leads to an increase in GDP of 0.0000948 times this unit, however, this result is not significant. This is corroborated with economic theory and is undoubtedly linked to the situation of excess liquidity of banks in the sub-region.

Investment has a positive and very significant effect on economic growth. It is also the most contributory variable in explaining economic growth in the WAEMU zone, as shown by the significance tests. An increase in the share of investment in GDP by one unit leads to an increase in the latter by 0.014791 times this unit. For monetary policy to have a positive effect on economic growth under these conditions, it must encourage investment, in particular by promoting a stable macroeconomic framework and maintaining interest rates at levels likely to attract Investors.

Exports have a non-significant positive effect on GDP, this is in agreement with economic theory. An increase in the share of exports in GDP by one unit leads to an increase in the latter by 0.0000689 times this unit. Indeed, the countries of the WAEMU zone are largely dependent for their income on exports of agricultural and mining raw materials. Overall, these results raise several implications. As regards budgetary policy (public expenditure, tax rates, etc.), it will be conducted in such a way as to promote what gives impetus to economic growth, for example by tax exemptions to encourage local private companies. Convergence of macroeconomic indicators should be effective with regard to public debt in order to limit its negative impact on economic growth. However, it is not possible to affirm that the same rate of growth leads to the same benefits in the eight countries of the sub-region. It is necessary to take into account, for example, problems of redistribution, governance, population size, socio-cultural criteria specific to each country, government aspirations and other uncertainties.

Theoretically, these results present several perspectives. First of all, it is a confirmation of the theoretical results obtained by other authors, on the subject of other countries direction or method. We can therefore note the presence of missing data which can have an influence on the results which nevertheless remain quite precise if we are to believe the inference method. Other variables can be added to the model; this is the case for data referring to the formation of human capital; to the population and institutional etc.

Another perspective would be to carry out the estimations with the new methods which make it possible to determine the breakpoints of the constancy of the coefficients and to determine the dates of occurrence of the said points.

Conclusion

This study aimed to analyze the effects of monetary policy on economic growth through an econometric study. To this end, we used panel data econometrics to estimate the growth equation for the WAEMU zone over a period of nineteen years. It emerges from this study that monetary policy focused on monetary aggregates has a positive and very significant effect on economic growth. This is justified by the under-liquidity situation of the banking system in the WAEMU zone. Moreover, this state of affairs is not likely to confirm the fact that price stability is at the center of central bank concerns in most countries, because by maintaining price stability, the central bank guarantees a stable macroeconomic framework, essential for any sustained economic growth. The case of the WAEMU zone reviewed shows sufficiently that monetary integration is not enough but it must go hand in hand with economic integration. Another question raised by this study is whether the effects of monetary policy on activity do not rather go through the control of inflation, in other words, it is a question of questioning the relationship between price stability and economic growth.

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