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DOES INFLATION CONTRIBUTE TO ECONOMIC GROWTH: THE CASE OF CEMAC (CENTRAL AFRICAN ECONOMIC AND MONETARY COMMUNITY)

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ABSTRACT

This paper focuses on the influence of inflation on economic growth to determine the extent to which the fight against inflation can contribute to the economic growth of a country or a regional zone such as CEMAC. We identify the effects of inflation on the CEMAC zone and use a multiple linear regression model to test the relationship between the two economic quantities: inflation and economic growth. We mainly used Stata 13 software to obtain the results and a sample of panel data, including six CEMAC member states, namely Congo, Cameroon, Gabon, Equatorial Guinea, Central African Republic, and Chad, from 2000 to 2018. The results were found to show a positive relationship between inflation and economic growth. These results indicate that the coefficients of the explanatory variables have the expected signs. However, other coefficients, up to 10%, are insignificant, notably GDP growth and consumer price inflation. The estimated values of all variables are in %, so we can say that if consumer price inflation increases by 10%, GDP growth will decrease by 10%. Then the value of GDP deflator inflation is positive, so if GDP deflator inflation increases by 1%, GDP will decrease by 0.11%. Its probability value is insignificant, and the money supply has a statistically insignificant effect on GDP growth. Finally, the results of the descriptive analysis show that GDP, consumer price inflation, the inflation deflator, the money supply, and foreign direct investment move in the same direction and the regression shows that there is a positive and significant link between the degree of openness to inflation and economic growth in the CEMAC zone. The econometric analysis allowed us to show that price increases (inflation) have a significant influence on growth.

Keywords: *Inflation, Economic Growth, CEMAC*

ABSTRAK

Penelitian ini berfokus pada pengaruh inflasi terhadap pertumbuhan ekonomi untuk mengetahui sejauh mana inflasi dapat berkontribusi pada pertumbuhan ekonomi suatu negara atau zona regional seperti CEMAC. Kami mengidentifikasi pengaruh inflasi pada zona CEMAC dan menggunakan model regresi linier berganda untuk menguji hubungan antara dua besaran ekonomi: inflasi dan pertumbuhan ekonomi. Kami menggunakan perangkat lunak Stata 13 untuk mendapatkan hasil dan sampel data panel, termasuk enam negara anggota CEMAC, yaitu Kongo, Kamerun, Gabon, Guinea Khatulistiwa, Republik Afrika Tengah, dan Chad, dari tahun 2000 hingga 2018. Hasilnya ditemukan menunjukkan hubungan positif antara inflasi dan pertumbuhan ekonomi. Hasil ini menunjukkan bahwa koefisien variabel penjelas memiliki tanda yang diharapkan. Namun, koefisien lainnya, tidak signifikan hingga 10%,

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terutama pertumbuhan PDB dan inflasi harga konsumen. Nilai perkiraan semua variabel dalam %, sehingga dapat dikatakan bahwa jika inflasi harga konsumen meningkat sebesar 10%, maka pertumbuhan PDB akan turun sebesar 10%. Maka nilai inflasi GDP deflator adalah positif, sehingga jika inflasi GDP deflator meningkat sebesar 1% maka GDP akan turun sebesar 0,11%. Nilai probabilitas menunjukan angka yang tidak signifikan, dan jumlah uang beredar memiliki pengaruh yang secara statistik tidak signifikan terhadap pertumbuhan PDB. Terakhir, hasil analisis deskriptif menunjukkan bahwa PDB, inflasi harga konsumen, deflator inflasi, jumlah uang beredar, dan investasi asing langsung bergerak searah dan regresi menunjukkan bahwa ada hubungan positif dan signifikan antara derajat keterbukaan. terhadap inflasi dan pertumbuhan ekonomi di zona CEMAC. Analisis ekonometrika memungkinkan kami untuk menunjukkan bahwa kenaikan harga (inflasi) memiliki pengaruh yang signifikan terhadap pertumbuhan.

Kata Kunci: *Inflasi, Pertumbuhan Ekonomi, CEMAC*

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Introduction

Inflation and economic growth have been the subject of considerable interest in recent decades among countries' economists, policymakers, and central banks. Inflation is a loss of purchasing power of money caused by an increase in the general price level. Indeed, the level of imported inflation and the price of financial assets play a macroeconomic role unrelated to localized national or regional growth. Moreover, the management of macroeconomic performance in developing countries, particularly those of the Central African Economic and Monetary Community (CEMAC), remains subject to constraints linked to the speed of inflation. This debate has given rise to certain schools of thought, such as the classics and the monetarists. Classicalists argue, whereas monetarists contend that inflation is damaging to the advancement of economic growth, inflation is necessary for economic growth. Extremely high inflation significantly negatively impacts the economy, but there is confirmation that moderate inflation also slows economic expansion (Vinayagathasan, 2013). Several interventions have highlighted the mechanisms that link the fight against inflation to the fundamental part of the economy. First, the negative influence of inflation on economic growth has been sought to be explained (Sequeira, 2021). From an economic point of view, inflation occurs when demand exceeds supply in the market for goods and services (Nyanda, 2021). Several studies on the determinants of inflation in the African countries of the CEMAC zone show that price increases are also linked to phenomena related to aggregate supply shocks.

The CEMAC is an economic and monetary community of Central Africa, signed on 16 March 1994 in Ndjamena and entered into force in 1999. It comprises six (6) countries that share the same currency called the FCFA; countries are Cameroon, the Central African Republic, the Republic of Congo, Gabon, Chad, and Equatorial Guinea, and they use a common currency called the FCFA. Indeed, it is made up of several bodies, including COBAC (Banking Commission of Central Africa); BEAC (Bank of Central African States); UMAC (Monetary Union of Central Africa); COSUMAF (Central African financial market supervisory commission). In the CEMAC zone, inflation is assessed by the growth rate of the consumer price index. The CEMAC zone also contains the following bodies: the EC MAC Commission, the Bank of Central African States (BEAC), the Development Bank of Central African States, the Central African Banking Commission (COBAC), the Central African Financial Market Supervisory Commission, and the Central African Monetary Union. Although, on average, the inflation rate of countries is the Central Bank's 2% norm, inflation levels are very high. Therefore, understanding the sources of inflation is critical to understanding monetary policy strategies and directions (Bikai et al., 2016).

If the control of inflation causes economic growth, the economy's productive capacity can expand at the same pace as total demand. As a result, inflation-free economic growth is possible. Other authors suggest that for an economy to experience high economic growth, inflation control is considerably more crucial than the degree of inflation (Baharumshah et al., 2016), and Inflation is related to economic growth because it affects the interest rate, aggregate demand, and the exchange rate. High inflation will affect the competitiveness of investment and the future profitability of projects (Gokal & Hanif, 2004). With the reform of monetary policy in 1990, the monetary authorities followed a monetarist policy, i.e., monetary policy was only aimed at price stability.

Two intriguing policy challenges occur in monetary unions. First, considerable differences in inflation memory levels between nations or areas within a currency region will make developing policies particularly challenging (Coleman, 2010). Thus, the multilateral framework requires that the inflation rate of the member countries of a currency area be no more tha3 to sustain economic growth in the sub-region. Therefore, this paper argues that the central bank can still be a key determinant of inflation for CEMAC countries (Strong, 2021). For this to happen, CEMAC countries must take a good policy of fighting inflation for good growth. In terms of growth, economic growth is defined as a sustained increase over one or more extended periods period peridomestic in real terms. According to 2013 statistics, CEMAC's strengths are population (estimate): 46,572,000; growth: 4.08; population growth rate (average): 2.8; real growth rate: 1.3%; inflation: 2%, With under-exploited natural resources, the economy of CEMAC member states remains very undiversified (Crepin, 2016). CEMAC member countries want to follow a path that leads them to become emerging economies in the sub-region (Toguem & Gil-Alana, 2020). The main objective of this paper is to show that inflation targeting is a source of economic growth in CEMAC countries and the impact of inflation on economic growth in CEMAC member countries. The methodology is based on a multiple linear regression model with "Stata" software to provide insights into inflation and growth issues in CEMAC.

Research on inflation dynamics in the CEMAC region is limited. However, recent studies provide helpful insights for the CEMAC region by analyzing the determinants of inflation and economic growth in the Central African Economic and Monetary Community (CEMAC). The question that can then be asked is the following: Does inflation contribute to economic growth? While the literature suggests several approaches to answering this question, an inflation-based approach will be adopted in this article. This article is organized as follows: Section 2 presents the literature review; Section 3 describes the data; Section 4 presents the methodology and results; and Section 5 provides the discussion and conclusions drawn.

Literature Review

Inflation and growth go back as far as classical and modern economic theories. The inflation rate is calculated from the consumer price index; this index objectively measures the prices of the basket of goods and services purchased by households over time and represents economic growth. The literature on inflation and economic growth on economic activity in developing country economies is notably the CEMAC countries. The work on inflation in Central Africa can be grouped into two main areas, the first of which deals with the dynamics of inflation and its determinants. In contrast, the second focuses on the fundamental indicators often followed by monetary policy, such as the target, the threshold, and the horizon (Mvondo, 2018).

Inflation can be caused by several factors, either on the supply or demand side, influencing inflation and growth. The economic literature shows that inflation negatively influences growth because a rise in prices leads to a decrease in demand and supply. The expected sign is negative (Raymond & Augustin, 2016). Macroeconomic stability requires considering other economic policy objectives, including full employment, trade balance, and economic growth (Kaldor's magic square). Historically, early theories of inflation and growth

were based on cyclical observations (Gokal & Hanif, 2004). Economic analysis tells us that there are three sources of inflation on growth. The first results from an increase in demand on supply, the second from an increase in the costs of factors of production and, therefore, growth, and the third is the result of socioeconomic structures (Robert et al., 2017).In sub-Saharan African countries, specifically developing countries, inflation can be driven by several factors, including the fiscal deficit, money supply, and external shocks. This is why monetary economists are particularly well placed to analyze inflation and economic growth, as they understand how it arises and develops (Bagus et al., 2014). Understanding the process by which it arises and then propagates through the economy. This gives a more linear inflation-growth effect, with the decrease in the growth rate due to an increase in inflation remaining significant even when inflation rates are high (Gillman et al., 2004).

For Goridko & Nizhegorodtsev (2016), economic growth does not decline when an inflation rate is below this extreme point. The Phillips curve highlights that substantial employment looks sustainable with an elevated inflation rate, even though specific empirical research disagrees with it. The point about inflation is that inflation should not be too high but should be controlled and stable to foster economic growth (Akinsola & Odhiambo, 2017).

Indeed, inflation and growth are not linear, and a certain inflection point changes the impact from favorable to unfavorable (Pypko et al., 2009). Inspired by monetarism, money inflation suggests that the rise in the general price level results from too much money being issued. Milton Friedman, leader of the monetarist school and winner of the 1972 Nobel Prize, said that inflation is always and everywhere a monetary problem, a rapid increase in the quantity of money relative to the theme of output. Inflation makes economic growth unbalanced and causes stagflation, where inflation and unemployment coexist (Gomis-Porqueras et al., 2020). Furthermore, there is no unanimity on inflation's negative/positive effect on economic growth. The fight against inflation should be seen as an intermediate objective of monetary policy because economic activities do not significantly favor inflation in the CEMAC (Nyanda, 2021).

The effects of inflation

High inflation can cause employment to worsen, the economy to grow more slowly, and to produce less overall. Chronic inflation has a variety of implications, including:

1. Inflation makes economic growth unbalanced and causes stagflation, where inflation and unemployment coexist (Gokal & Hanif, 2004). This is the point that W. Phillips made in the 1950s, namely the negative relationship between inflation and unemployment.

2. Forecasting the economy is more complex and chaotic when inflation occurs.

3. Inflation can benefit a country, promote debt savings, and be a source of economic growth and a means of forced savings. Economic theory and good governance institutions emphasize that inflation control is a prerequisite for economic growth. Moreover, CEMAC member countries want to follow a path toward becoming an emerging economy. To achieve this, they must attain an acceptable level of sustainable economics over time. Developing countries such as the Central African Economic and Monetary Community (CEMAC) face the favor problems in the quest for a better level of economic growth to promote development. However, in our present study, while knowing that a relationship between economic growth and inflation exists, knowledge of the latter's origins remains crucial. Indeed, the countries of Central Africa, specifically those of CEMAC, have very quickly understood the value of economic cooperation and regional integration as factors that can contribute to accelerating their growth (Toguem & Gil-Alana, 2020). Growth in the general price level, which reflects inflation, can be driven either by excess aggregate demand or the costs determining supply prices.

Methodology

Our estimations were primarily based on data from the World Development Indicators. Using the data from these sources, we created a dataset with six countries, all CEMAC member states. The dataset can be considered annual cylindrical data covering 2010 to 2018. The accessibility of data and this period's relative stability support the selection. The six CEMAC Member States included in the dataset are Congo, Cameroon, Gabon, Equatorial Guinea, Central African Republic, and Chad. To analyze the above objectives, we used five (5) significant macroeconomic variables, namely GDP growth as an independent variable, consumer price inflation, GDP deflator inflation, money supply (GDP), and foreign direct investment (FDI) as dependent variables.

This paper uses multiple linear regression and random effect models to assess the relationship between the above variables: GDP growth, consumer price inflation and inflation deflator, money supply GDP, and foreign direct investment GDP. This model consists of an equation in which k exogenous variables explain an endogenous variable y.

Model of Significance

The linear regression model was adopted to analyze whether inflation can contribute to economic growth in the CEMAC zone. To assess the objective of this study, we considered that the growth of gross domestic product (GDP) is at the same level as economic growth. Gross domestic product (GDP) is controlled by M2 (broad money) and natural factors. Inflation (P) is a monetary instrument. An increase in prices can also increase economic activity. To test the hypothesis that inflation influences economic growth in the CEMAC zone negatively or positively, we used the neoclassical growth model that has been used as a reference for estimating the growth of countries and even communities and that is based on Mankiw et al. (1992) and Akilou (2006).

It is specified as follows: $Y_i = \beta_0 + \beta_1 X_t + \beta_2 X_t + \varepsilon_t$

$$Y_t = \beta y_{t-1} + \alpha_1 INFCP_t + \alpha_2 INF.GDP\ DEFL_t + \alpha_3 MSU_t + \alpha_4 FDI_t + \varepsilon_t$$

Where Y is GDP growth, INFCP is consumer price inflation and INF.GDP DEFL is GDP deflator inflation, MS is GDP money supply, and FDI is foreign direct investment.

β,X_1,X_2,X_3,X_4 Are the parameters to be estimated. β measures the convergence of the economies. If it is negative and significant, the hypothesis of convergence is verified and is not verified in other cases. GDP growth: It is an economic indicator that measures the domestic economic production achieved by a country. Consumer price inflation (Inf. cons. price): It is usually measured by taking into account the final consumption prices of households. Intermediate prices (transfer prices within a production chain, sales prices from producer to retailer, etc.) are excluded. The economic literature shows that inflation can influence growth negatively or positively in that a rise in prices leads to a decrease in demand and, therefore, in supply.

The study finds a negative relationship between the two in the short run. In contrast, an econometric series detected a unidirectional negative effect of inflation on economic growth in the long run (Korkmaz, 2015).

Money supply (MSU) is a quantity of money in circulation issued by the central bank. Money supply (M2) = M1+Money in the broad sense, deposit as seen. Foreign Investment (FDI) Net investment as a percentage of GDP is assessed from net FDI inflows. These improve the overall efficiency of an economy through the availability of technological and organizational knowledge that can be transferred to the rest of the economy. UNCTAD statistics show that FDI flows to CEMAC countries increased sharply during the 1990s and 2000s.

Then we can write y=f (X_(1,) X_(2,) X_(3...) X_k), where f(.) is a particular functional relationship. The multiple linear models postulates that the variable to be explained is a linear expression of the selected explanatory variables, perturbed by a random factor.

In relation (1) to (3), the exogenous variables can influence the endogenous variables at time t. Relation (3) specifies a regression model that can be represented by equations (1 to 3).

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + .. + \beta_k X_{ki} + \varepsilon_i$$
$$GDP_t = \beta_0 + Consumer\ price\ \inf lation_t\ X_{1t} + GDP\ Deflator_t X_{2t} + Money\ \sup ply_t X_{3t} + DFI_t X_{4t} \quad (1)$$

$$Consumer\ price\ \inf lation_t = \beta_0 + GDP_t X_{1t} + GDP\ Deflator_t X_{2t} + Money\ \sup ply_t X_{3t} + DFI_t X_{4t} \quad (2)$$

$$GDP\ Deflator_t = \beta_0 + GDP_t X_{1t} + Consumer\ price\ \inf lation_t X_{2t} + Money\ \sup ply_t X_{3t} + DFI_t X_{4t} \quad (3)$$

$$Money\ \sup ply_t = \beta_0 + GDP_t X_{1t} + Consumer\ price\ \inf lation_t X_{2t} + GDP\ Deflator_t X_{3t} + DFI_t X_{4t} \quad (4)$$

$$DFI_t = \beta_0 + GDP_t X_{1t} + Consumer\ price\ \inf lation_t X_{2t} + GDP\ Deflator_t X_{3t} + Money\ \sup ply_t X_{4t} \quad (5)$$

Table 1: Descriptive Statistics

Variable	Observation	Mean	Standard. Deviation	Min	Max
GDP growth	54	1.461159	7.513615	-36.39198	13.5501
Inflation Consumer price.	54	2.650124	2.698787	-2.077866	14.89868
Inflation GDP deflator	54	3.278559	9.12995	-20.19275	29.41768
Money supply	54	19.5726	5.600399	9.020461	31.87552
Foreign direct	54	3.284657	3.1026	-4.84583	16.75816

The table of descriptive statistics on specification tests above informs us that among the models, the best model for estimating economic growth and inflation determinants in the CEMAC is the random effects model.

Random Effects Model

The random effects model admits that the individual specificity is each CEMAC country, i.e., the constant term for each country is random. It is decomposed into a fixed term and a random term. It assumes that each CEMAC country has its random disturbance, which is constant over time.

Based on Figure 1, the coefficients of the explanatory variables (consumer price inflation, GDP deflator inflation, GDP money supply, and foreign direct investment) have the expected signs. Other coefficients, however, are insignificant, up to 10%, notably GDP growth and consumer price inflation. The estimated values of all variables are in %, so we can say that if consumer price inflation increases by 10%, GDP growth will decrease by 10%. The value of consumer price inflation is -0.5386, and its probability is 0.17%. This result means that it

is significant at the 1% level. All else being equal, a percentage increase in consumer price inflation can increase growth in the CEMAC zone. Indeed, CEMAC countries are characterized by low inflation, which encourages even risk-averse investors and consequently leads to increased investment, which is a key to growth performance. In other words, the lower the level of GDP growth, the higher the expected growth. This result reflects the conditional convergence conditions Barro and Sala-I-Martin (1992) and Mankiw et al. (1992).

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Random-effects GLS regression                   Number of obs      =        54
Group variable: ID                              Number of groups   =         6

R-sq:  within  = 0.0552                         Obs per group: min =         9
       between = 0.0774                                        avg =       9.0
       overall = 0.0574                                        max =         9

                                                Wald chi2(4)       =      2.98
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.5607
```

GDP	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Inflationconsumerprice	-.5386454	.4005339	-1.34	0.179	-1.323677	.2463866
InflationGDPDeflator	.1119871	.1225029	0.91	0.361	-.1281141	.3520883
Moneysupply	-.0793277	.1930179	-0.41	0.681	-.4576358	.2989805
Foreigndirectinvestmentnetin	-.0919219	.3564732	-0.26	0.797	-.7905966	.6067528
_cons	4.376061	4.178888	1.05	0.295	-3.81441	12.56653
sigma_u	0					
sigma_e	7.137951					
rho	0	(fraction of variance due to u_i)				

Figure 1: Random Effect Model

For GDP Deflator Inflation

The value of GDP deflator inflation is positive, so if GDP deflator inflation increases by 1%, then GDP will decrease by 0.11%, and its probability value is not significant, i.e., P>0.05 value, so we can say that GDP deflator inflation does not significantly affect GDP growth.

For The Money Supply

Its value is negative; when the money supply increases by 1%, it will decrease the GDP growth by -0.09%, and the value of its probability plus value is 0.68%; this means that the money supply is not significant by 5%. The coefficient of the money supply is negative and insignificant, with a value of -0.09%; a decrease in the amount of money in circulation decreases investment and consumption and decreases growth. So we can conclude that the money supply has a statistically insignificant effect on GDP growth because its coefficient value is negative.

For Foreign Direct Investment

The coefficient value is negative; if Foreign direct investment increases by 1%, GDP growth will decrease by -0.53%, and its surplus value is 0.79%. So its value is not significant at 5%, so foreign direct investment does not significantly affect GDP growth and hurts GDP growth since its coefficient is negative.

Table 2: Correlation Matrix

Variable	GDP	Inflation.c.p	GDP deflator	Money supply	Foreign direct
GDP	1				
Inflation	-0.1846	1			
Inflation GDPD	0.1067	0.1610	1		
Money supply	-0.1021	0.09557	-0.2139	1	
Foreign direct investment	-0.0292	0.1945	0.2872	-0.1232	1

We find the correlation coefficient between the different variables in the correlation matrix. The value -0.1846 measures the correlation coefficient between the variable inflation, consumer prices, and the variable GDP, and this coefficient is less than 10%. Therefore, there is a low correlation between the variable GDP and the variable inflation and consumer prices. 0.1067 represents the correlation coefficient between the variable GDP and the variable GDP deflator inflation, and this coefficient is higher than 5%. Therefore, there is a low correlation between the variable GDP and the variable GDP deflator inflation. The value 0.1617 represents the correlation coefficient between the consumer price inflation variable and the GDP deflator inflation variable; this value is greater than 5%; therefore, there is a high correlation between these two variables. The value -0.1021 represents the correlation between the variable GDP growth and the money supply; this value is lower than 5%, so there is a weak correlation between these two variables. The value 0.09557 represents the correlation between the variable consumer price inflation and money supply, and this variable is less than 5%. Therefore there is a low correlation between money supply and consumer price inflation. The value -0.2139 represents the correlation between the variable GDP deflator inflation and money supply, and this value is less than 5%, so there is a low correlation between the two variables. The value -0.092 represents the correlation between GDP growth and foreign direct investment, and this value is less than 5%, so there is a low correlation between these two variables.

The value 0.1945 represents the correlation between consumer price inflation and foreign direct investment, and this value is higher than 5%, so there is a strong correlation between these two variables. The value 0.2872 represents the correlation between GDP deflator inflation and foreign direct investment, and this value is higher than 5%, so there is a strong correlation between these two variables.

Table 3: Normality Test [Skewness/Kurtosis Tests for Normality]

Variable	Observation	Pr (Skewness)	Pr (Kurtosis)	Adj chi2(2)	Prob
GDP growth	54	0.0000	0.0000	36.56	0.0000
Inflation consumer price	54	0.0000	0.0001	26.82	0.0000
Inflation GDP	54	0.2014	0.0575	5.12	0.0773
Money supply	54	0.5654	0.0814	3.55	0.1692
Foreign direct investment	54	0.0001	0.0001	23.10	0.0000

The normality test yields probabilities greater than zero at 5% and others less than 5%.(GDP=0.000;Consumer price inflation=0.0000; Foreign direct investment =0.000) all of these variables have probabilities less than 5%, so the null hypothesis of normality (H0) is insignificant at the 5% level. For the variables (GDP deflator inflation=0.0773; money supply=0.1692), the probabilities of the variables are greater than 10%, so we conclude that the null hypothesis of normality (H1) is significant at the 10% level.

Table 1A shows that among the variables, GDP growth, consumer price inflation, GDP deflator inflation, money supply, and foreign direct investment are the main dispersed series with a high standard deviation. Despite the dispersion shown for these variables, a high standard deviation level is detected for all variables. We also find negative values in the minimums. It is, therefore, not appropriate to perform a log transformation to normalize the series. The CEMAC countries offer a GDP growth of 3% in 2018 and a GDP of 45% in 2021.

Graph 1 shows a consistent pattern of GDP and economic growth in the CEMAC region from 2010 to 2018. Furthermore, a breakdown by country shows that the high average growth of GDP per capita in the CEMAC is mainly attributable to the oil boom in Equatorial Guinea.

Graph 2, There is controlled inflation in the CEMAC zone. Still, each country has experienced some internal inflation from 2010 to 2018, a slight increase in the money supply in 2014, which led to a drop in GDP in 2012; this caused inflation to rise slightly, the GDP

deflator from 2010 to 2018, and we see a steady appreciation of foreign direct investment.

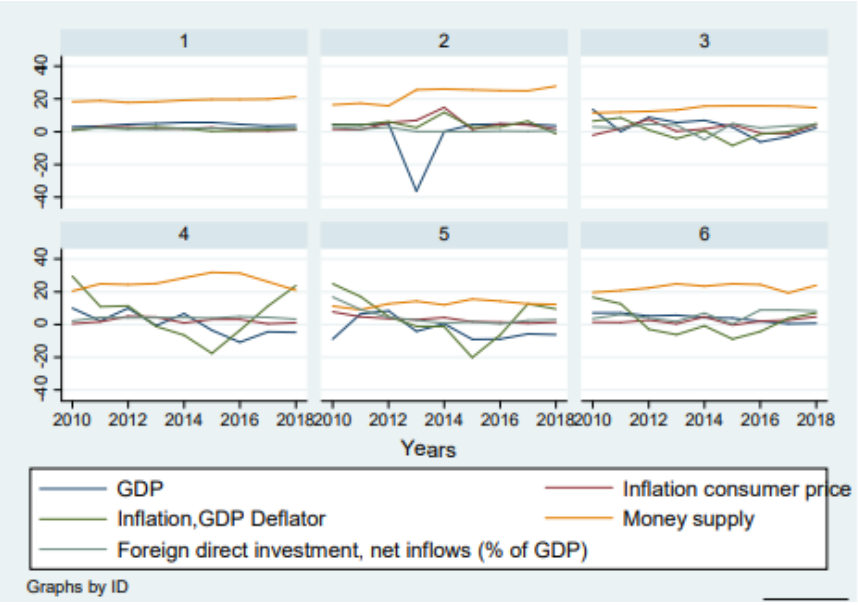

Figure 2: Graph of the curves of all selected variables

Graph 3, There is a steady appreciation in the quantity of money in circulation from 2010 to 2018, and we see good GDP growth from the beginning of the year to the end. We see a slight decline in the inflation deflator of GDP, which tends to recover towards 2018. Subsequently, we saw substantial foreign direct investment in 2010 and a decline from 2011 to 2012, followed by an appreciation in 2014 which led to a deterioration in early 2015 and an increase in 2018. This suggests that the convergence was mainly due to the oil sector.

Graph 4, We see an increase in the quantity of money supply from 2010 to 2018, due to unemployment, within the CEMAC, a decrease in GDP deflator inflation from 2010 to 2015, and a substantial increase from 2016 to 2018. For consumer price inflation, we see a constant from 2010 to 2018, and this is due to the pegging of the FCFA to the Euro. There are decreases and increases in foreign direct investment from 2012 to 2018.

Graph 5, for GDP, shows a drop at the beginning of 2010, followed by an increase at the peak in 2012, a drop in 2013, and an appreciation from 2014 to 2018. For consumer price inflation, we observe good inflation in the CEMAC zone, and the level of inflation is less than 3%. We observe a low level of foreign direct investment at the beginning of the year and an increase towards 2018. For the money supply, we note a sound momentum of the money supply from the year 2010 to 2018; this is due to the single currency used in the CEMAC zone.

Graph 6 shows a good growth of GDP from 2010 to 2018; the CEMAC economy remains mainly driven by the oil sector, which explains the higher volatility than the growth of GDP. We also see a good balance of money supply and consumer price inflation from 2010 to 2018.

Discussion

The main lesson we draw from these results is that above 5% inflation for CEMAC countries, any expansionary monetary policy that generates inflationary surges is likely to hurt economic activity. First, our use of multiple linear regression shows that this specification is better suited to linear regression models while finding that the alternative linear specification is biased. The linear specification is biased. Second, all the above studies find significant inflation and growth results for rates above their chosen cut-off values for all samples. All three report a positive but insignificant effect of inflation on growth for the CEMAC country samples and a negative effect on growth for the CEMAC country subsamples. The analysis also shows that

some variables stand out; these variables significantly impact the economic growth of CEMAC member states, including GDP growth, consumer price inflation, GDP inflation, deflator inflation, money supply, and foreign direct investment. These variables significantly impact the economic growth of CEMAC member states. Inflation appears to be the only variable with a significant impact on economic growth in all CEMAC countries. This trend confirms some of the results obtained.

It can be seen that the probabilities for all variables are more significant than 0.05. Thus, these variables are overall insignificant at the 5% level. Thus, these variables are globally insignificant at the 5% level. It can be seen that strong GDP growth can contribute to an increase in the price level of the economy. Estimating the multiple regression models by OLS methods yields biased and non-convergent estimators due to the correlation between the endogenous variable and the error term. The joint probability values are all significant (GDP= 0.0000, consumer price inflation =0.0000, GDP deflator inflation 0.0773; Money supply =0.1692; Foreign direct investment =0.0000), indicating that inflation in the CEMAC zone has a significant impact on economic growth and that this inflation is controlled concerning the pegging of the CFAF to the Euro.

Regarding economic policy, these results indicate that the CEMAC monetary authorities still have room for maneuvering on monetary policy in the sub-region. They could have an accommodative monetary policy by relaxing the community rule of an inflation rate of < 3%. This also means that inflation in the CEMAC zone reacts significantly to shocks (Tanka & Eze, 2022).

Conclusion and Recommendation

This paper aimed to estimate a threshold level of inflation in the relationship between inflation and growth in the Economic and Monetary Community of Central Africa. The paper aimed to measure, using time series data from 2010 to 2018, on an OLS model, whether an increase in prices contributes to economic growth in the CEMAC zone. The results of the descriptive analysis show that GDP, consumer price inflation, the inflation deflator, money supply, and foreign direct investment do not move in the same direction; a price increase can be a promising therapy for economic growth.

The effect of FDI on economic growth in the CEMAC countries is justified by the effectiveness of the various policies implemented in these six countries to attract foreign investors. OLS was used to estimate a multiple linear regression model, one for inflation and the other for growth.

This study allowed us to analyze the effect of openness to inflation on growth in the CEMAC zone. The regression results show a positive and significant link between the degree of openness to inflation and economic growth in the CEMAC zone. The econometric analysis allowed us to show that price increases (inflation) have a significant influence on growth. In other words, there is a relationship between inflation and economic growth. Thus, inflation and economic growth are both positive and negative, positive in that inflation can have beneficial impacts on economic growth and negative in the sense that too much inflation can have consequences on economic growth. As a result, we find that inflation and landlocked variables do not influence the economic growth observed in the CEMAC. Based on the linear regression model, the analysis used showed a relationship between inflation and economic growth in the Central African Economic and Monetary Community, which is respectively 5% and 10% below any measure. It will be more relevant if CEMAC countries respect Mundell's incompatibility triangle, which states that a country cannot simultaneously achieve three economic objectives: a fixed exchange rate regime, an independent monetary policy, and the free movement of capital. This review differs from other reviews in that it critically assesses the impact of anti-inflationary policies on economic growth in developed and developing countries (Akinsola & Odhiambo, 2017). This suggests that the community or regional rules

applied by the Bank of Central African States in CEMAC countries can be relaxed as these countries still have room for man oeuvre of monetary policies. This paper also presents a way to comprehensively explain the inflation and growth data using a theoretical model. In particular, the inflation tax leads to substitution towards leisure at a decreasing rate as the inflation rate increases (Gillman et al., 2004).

From the results obtained, we can conclude that the different countries of the CEMAC zone after the year 2000 suffered from the economic costs of maintaining inflation at the level of the threshold set by the central bank (Tanka & Eze, 2022). Therefore, the rate of GDP growth favors inflation in the CEMAC. However, this relationship is not significant; it reveals that it would be awkward to encourage higher consumer price inflation to improve economic activity.

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