Analysis of the Impact of Inflation on Angola's Economic Growth: An Empirical Study (2004–2024)

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ABSTRACT

This article examines the relationship between inflation and economic growth in Angola from 2004 to 2024, using Gross Domestic Product (GDP) as the dependent variable and inflation and consumption as explanatory variables. The study follows a quantitative time-series approach, based on annual data and an ordinary least squares estimation, complemented by unit-root, cointegration, Granger causality and model diagnostic tests. The reported equation is LNPIB = 66.0337 − 0.5263 INF + 1.3851 CONS, with an adjusted R-squared of 66%. The inflation coefficient is negative, but its reported probability (0.2883) does not indicate statistical significance at the 5% level. By contrast, the consumption coefficient is positive and statistically significant (p=0.000). The reported cointegration test does not identify a long-run equilibrium relationship at the 5% level. The findings therefore suggest a negative association between inflation and GDP in the estimated specification, but the available statistical evidence does not support the claim that the individual inflation coefficient is significant. Further model validation is required.

Keywords: Inflation; Economic growth; Gross Domestic Product; Consumption; Econometrics; Angola.

1. INTRODUCTION

Inflation is one of the macroeconomic phenomena with the greatest influence on the functioning of economies, as it changes the purchasing power of money, affects consumption and investment decisions and may make business planning more difficult. In developing economies, these effects can be particularly intense when the productive structure depends on imports and is exposed to external shocks.

In Angola, the historical dependence on oil exports makes economic activity vulnerable to fluctuations in international oil prices and their effects on public revenue, the foreign exchange market and foreign currency availability. Between 2004 and 2024, the Angolan economy went through periods of expansion, recession, adjustment and recovery, in a context in which inflation and GDP followed different paths.

The central research problem is to understand how inflation was related to Angola's economic growth during the period under consideration. The general objective is to empirically analyse this relationship, using GDP as an indicator of growth and also considering consumption as an explanatory variable.

2. THEORETICAL FRAMEWORK

2.1. Inflation and macroeconomic stability

Inflation is the general and persistent increase in the prices of goods and services, which reduces the purchasing power of money. It should be distinguished from disinflation, which is a reduction in the rate of price increases, and deflation, which is a general decline in the price level. Inflationary dynamics may result from demand pressures, higher production costs, exchange-rate shocks and structural factors.

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Macroeconomic theory assigns an important role to price stability in making economic decisions more predictable. Friedman (1968) emphasises the role of monetary policy in price dynamics, while Keynes (1936) highlights the interaction between aggregate demand, output and employment. The effects of inflation on growth, however, depend on the context, intensity and persistence of the phenomenon.

2.2. Economic growth and Gross Domestic Product

Economic growth refers to the sustained expansion of an economy's production of goods and services and is commonly measured by the change in real Gross Domestic Product. GDP makes it possible to monitor aggregate economic activity, although it does not, by itself, represent income distribution or improvements in every dimension of well-being.

Classical and neoclassical approaches emphasise the role of capital accumulation, labour, productivity and technological progress. In Angola, diversification of the productive structure and reduced vulnerability to oil cycles are important conditions for more stable growth.

2.3. Inflation, consumption and growth in Angola

Inflation can affect growth by reducing real income, increasing uncertainty about relative prices, raising costs and changing investment decisions. Consumption, in turn, is a central component of aggregate demand. Analysing these variables together makes it possible to observe the statistical association between price movements, consumption expenditure and GDP, without automatically assuming causality.

3. METHODOLOGY

The original study adopts a quantitative empirical approach based on annual time-series data for the period 2004–2024. GDP is treated as the dependent variable, while inflation (INF) and consumption (CONS) are considered explanatory variables. The dissertation reports an ordinary least squares estimation and a logarithmic specification for GDP.

The analysis includes Augmented Dickey-Fuller tests to assess stationarity, the Johansen cointegration test, Granger causality and diagnostic tests. The results were obtained using econometric software, as presented in the dissertation tables. The period 2004–2024 comprises 21 calendar years, but the estimation table reports N=20, while some cointegration procedures contain 19 observations after adjustments. This difference should be checked against the original dataset.

This article reproduces the coefficients and probabilities reported in the original study. The regression could not be recalculated without the complete dataset and original computational specification. For this reason, the interpretation distinguishes the economic sign, statistical significance and explanatory capacity of the model.

4. RESULTS AND DISCUSSION

4.1. Model specification and estimation

Element	Reported result
Estimated equation	LNPIB = 66.0337 − 0.5263 INF + 1.3851 CONS
Inflation coefficient	−0.5263
Inflation probability	0.2883
Consumption coefficient	1.3851
Consumption probability	0
Adjusted R-squared	66%
Durbin–Watson	1.8 (as reported in the dissertation)
Observations in estimation table	N = 20

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The estimated inflation coefficient has a negative sign, which is consistent with the hypothesis that increases in the price level may be associated with weaker economic performance. However, the probability of 0.2883 is above the conventional 5% significance level. Therefore, based on this result, the null hypothesis that the individual inflation coefficient is equal to zero cannot be rejected. The dissertation's statement that this effect is statistically significant should consequently be revised.

The consumption coefficient is positive and has a reported probability of 0.000, indicating statistical significance in the estimated specification. The adjusted R-squared of 66% suggests that the model explains a relevant share of the variation in the dependent variable in the sample. This indicator, however, does not by itself demonstrate causality or guarantee that the specification is correctly identified.

4.2. Stationarity and cointegration

The Augmented Dickey-Fuller results presented in the dissertation indicate that, in levels, the GDP, inflation and consumption series do not reject the unit-root hypothesis at the reported values. For GDP in first differences, the test reports a statistic of −3.6161 and a probability of 0.0163; for consumption in first differences, the statistic is −4.1793 and the probability is 0.0048. These results indicate stationarity in first differences for these two series, according to the tests presented.

In the Johansen cointegration test, the Trace statistic for the hypothesis of no cointegrating relationship is 23.7227, below the critical value of 29.7971, with a probability of 0.2124. The table itself concludes that there is no cointegration at the 5% level. This evidence calls for caution when interpreting a long-run relationship between the variables.

Test / hypothesis	Statistic or probability	Interpretation at 5%
ADF: GDP in first differences	t = −3.6161; p = 0.0163	Rejects unit root
ADF: consumption in first differences	t = −4.1793; p = 0.0048	Rejects unit root
Johansen Trace: no cointegrating vector	23.7227; critical 29.7971; p = 0.2124	No cointegration indicated

4.3. Granger causality and limits of inference

The Granger causality table reports a probability of 0.0563 for the hypothesis that inflation does not Granger-cause GDP. This value is close to, but above, the 5% threshold. For the reverse hypothesis, that GDP does not Granger-cause inflation, the probability is 0.5567. The remaining variable pairs have probabilities above 5%. These results do not allow statistical causality to be asserted at the conventional 5% level. The inflation–GDP result may be described as borderline evidence if a 10% significance level is adopted and justified in advance.

The overall interpretation also requires checking the consistency between the logarithmic transformation of the dependent variable, the integration order of the series and the reported absence of cointegration. The difference between the number of calendar years and the N reported in the regression should also be clarified. These issues do not remove the exploratory value of the exercise, but they limit the strength of its conclusions.

5. CONCLUSION

The study examined the relationship between inflation and economic growth in Angola from 2004 to 2024, using GDP, inflation and consumption. The reported estimation shows a negative coefficient for inflation and a positive coefficient for consumption, with an adjusted R-squared of 66%. However, the inflation coefficient is not statistically significant at the 5% level, since its reported probability is 0.2883. Consequently, the results support a negative association in the sample, but do not establish an individually statistically proven effect.

Consumption has a positive and statistically significant coefficient in the reported specification. On the other hand, the Johansen test does not identify cointegration at the 5% level, and the Granger results do not confirm

causality at the conventional level. The conclusion should therefore be expressed cautiously and not as definitive proof that inflation causes lower growth.

It is recommended that the annual dataset, measurement units and transformations be reviewed; the number of observations reconciled; the model re-estimated using a specification consistent with the time-series properties; and the full diagnostic tests presented. In economic policy terms, macroeconomic stability, price predictability and productive diversification remain relevant dimensions for growth that is less vulnerable to external shocks.

REFERENCES

1. Blanchard, O. (2007). Macroeconomics (4th ed.). Pearson Prentice Hall.
2. Fisher, I. (1930). The theory of interest. Macmillan.
3. Friedman, M. (1957). A theory of the consumption function. Princeton University Press.
4. Friedman, M. (1968). The role of monetary policy. American Economic Review.
5. Gujarati, D. N. (2011). Basic econometrics (5th ed.). McGraw-Hill.
6. Keynes, J. M. (1936). The general theory of employment, interest and money. Macmillan.
7. Mankiw, N. G. (2021). Principles of economics (9th ed.). Cengage Learning.
8. Nabais, C., & Ferreira, R. V. (2008). Macroeconomia. Lidel.
9. Samuelson, P. A., & Nordhaus, W. D. (2005). Economics (18th ed.). McGraw-Hill.
10. World Bank. (2025). Angola economic update.
11. International Monetary Fund. (2024/2025). Angola: Article IV consultation and country data.
12. Bernardo, J. C. (2025). Analysis of the impact of inflation on Angola's economic growth: An empirical study of the period 2004–2024 [Undergraduate dissertation, Private Higher Institute Nzenzu Estrela].