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The Impact of Inflation, Policy Rate and Government Consumption Expenditure on GDP Growth in Ghana: A Co-Integration Approach.

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Abstract

Macroeconomic variables such as Policy rate, government consumption expenditure, inflation etc. play vital roles in the economic performance of any country. The main objective of this paper was to investigate the effect that inflation, government consumption expenditure and Policy rate have on the real Gross Domestic Product (GDP) in Ghana. Data were taken from the World Bank's World Development Indicators 2004 CD Rom. Policy Rate data were obtained from publications and bulleting of the Bank of Ghana. Annual time series data covering the period from1980-2010 were used. In this paper we employed modern time series econometric methodology such as Unit Root Testing, Co-integration and Vector Error Correction Model (VECM) to model both the long run and short run relationships between inflation, government consumption expenditure and policy rate (independent variables) and Real GDP (dependent variable). The results of our estimates indicate positive long run relationships between inflation, and policy rate with real GDP. However government consumption expenditure has a negative impact on Real GDP in the long run. Also it was revealed that inflation and government consumption expenditure have a positive short run effect on Real GDP whereas Policy rate had an inverse relationship with Real GDP in the short run. Among the variables understudied in this paper, only inflation rate had a significant impact on the real GDP whiles Policy rate and government consumption expenditure have no significant impact on Real GDP in Ghana. It is recommended among others that the Government together with the Bank of Ghana should develop and pursue prudent monetary and fiscal policies that would aim at reducing and stabilizing both the micro and macroeconomic indicators especially inflation targeting so as to boast the growth of the economy.

Keywords: Unit Root, Co-integration, Vector Error Correction Model (VECM) Gross Domestic Product, General Government Consumption Expenditure.

1. Introduction

Relationships between monetary policy, fiscal policy and GDP have always been the core focus of monetary policy research. Policymakers, financial analysts and researchers are interested to know how effective monetary policy to stabilize business cycle fluctuations is.

Countries, all over the world, both developed and developing, have one fundamental objective of macroeconomic stability. In Ghana, monetary and fiscal policies are aimed at sustaining high growth rates in terms of Gross Domestic Product (GDP). The monetary policy committee (MPC) of Bank of Ghana on 15th may, 2011 reduced its policy rate from 13.5% to 13% as a result of improvement in the economy. This was expected to trigger a reduction in the interest rate of the commercial banks and consequently make the cost of borrowing cheaper. Boyd et al. (2001) examines five –year average data on bank credit extension to the private sector, the volume of bank liabilities outstanding, stock market capitalization and trading volume (all as ratios to GDP) and inflation for a cross section sample over 1960-1995, Boyd et al. (2001) finds that, at low to moderate rates of inflation, increases in the rate of inflation lead to markedly lower volumes of bank lending to the private sector, lower levels of bank liabilities outstanding and significantly reduced levels of stock market capitalization and trading volume. According to Frimpong and Oteng (2010), a high rate of inflation beyond 14% will always hurt GDP, the reason for Bank of Ghana monetary planning committee always targeting a single digit rate. Agalega and Antwi (2013) used ordinary least square regression methods to establish a positive relationship between inflation rate and GDP. They also observe a negative relationship between interest rate and GDP using annual time series data between the periods of 1980 to 2010. Their study could not however establish whether the relationships were short or long term. What we did differently in this paper was to add one more independent variable called government consumption expenditure and to employ the use of modern econometric models that enables us to establish both the short run and long run relationships between the independent variables and real

GDP which the earlier work suffered. An understanding of the dynamic relation between government consumption expenditure and GDP helps the comprehension of policy-relevant issues over a short-to medium term horizon. Disposing of a reliable measure of the structural relation between the non-cyclical component of government expenditure and potential output is key to obtain a benchmark against which to evaluate the stance of expenditure policy and then of overall fiscal policy. The size of government expenditures and its effect on long-run economic growth, and vice versa, has been an issue of sustained interest for decades. Macroeconomics, especially the Keynesian school of thought, suggests that government spending accelerates economic growth. Thus, government expenditure is regarded as an exogenous force that changes aggregate output. Singh and Sahni (1984) examined the causal link between government expenditure and national income. Subsequently, their work has generated many other studies, the results of which range the full continuum from no causality to bi-directional causality between the two variables.

1.1 Relationship between Inflation and GDP

Lupu D. V. (2007) established that there is a positive relationship between inflation and GDP growth in Romania in the short run. This implies that, as inflation increases GDP must also increase in the short run. However, when inflation decreases, GDP should also decrease. Drukker et al (2005) established that, if inflation rate is below 19.16%, increases in inflation do not have a statistically significant effect on growth, but, when inflation is above19.16%; further increases in inflation will decrease long run growth. This affirmation is in line with Lupu D. V. (2007) but only that, it establishes a threshold beyond which the assertion of Lupu D. V. (2007) will not hold. Mallik et al (2001) established a long run positive relationship between GDP growth rate and Inflation among four South Asian Countries. However, Kasim et al (2009) was able to establish the non-linearity between inflation rate and GDP growth rate in Malaysia. His study analysed the relationship between inflation rate and economic growth rate in the period 1970-2005 in Malaysia. A specific question that is addressed in this study is what the threshold inflation rate for Malaysia. The findings suggest that there is one inflation threshold value exist for Malaysia. This evidence strongly supports the view that the relationship between inflation rate and economic growth is nonlinear. The estimated threshold regression model suggests 3.89% as the threshold value of inflation rate above which inflation significantly retards growth rate of GDP.

1.1.1 *The Relationship between Interest Rate and GDP*

Obamuyi T.M. (2006) established that lending rates have significant effects on GDP; this implies that there exists a unique long run relationship between GDP growth and interest rates and that the relationship is negative. This means when interest rate reduces, GDP in the short run will increase, but when interest rate declines GDP will increase.

1.1.2 The Relationship between Government Consumption Expenditure and GDP

The theoretical relationship between government consumption expenditure and GDP is modeled by the equation; GDP = C + I + G + (X-M). Where C; represents household consumption expenditure, I; represents Firms expenditure, G; represents Government consumption expenditure and (X-M) represents net export. Thus, there exist a theoretically positive relationship between Government consumption expenditure and GDP (Bernanke and Robert, 2001)

2: Model Specification and Empirical Econometric Methodology

2.1 Model specification

$$Y = \beta_1 + \beta_2 LNX1 + \beta_3 LNX2 + \beta_4 LNX3 + \xi \ldots\ldots (1)$$

Where:

Y = Real GDP annual growth rate

X1 = Annual rate of inflation.

X_2 = Bank of Ghana Policy Rate

X3= Government general consumption expenditure

2.2 Definition of Variables

Gross Domestic Product (Y): is the annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2000 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. The GDP(Y) is the dependent variable in the model as specified above.

Annual Rate of Inflation (X_1): is as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.

Bank of Ghana Policy Rate (X_2): This refers to the minimum rate that the Central Bank of Ghana lends money to commercial banks. This rate influences the interest rate finally charged by the commercial banks to their customers.

General government final consumption expenditure(X_3) (formerly general government consumption): includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditure on national defense and security, but excludes government military expenditures that are part of government capital formation Publications.

2.3 Source of Data

The GDP growth(Y), Annual Rate of Inflation (X_1), and General Government Final Consumption Expenditure(X_3) data were taken from the World Bank's World Development Indicators 2004 CD Rom. Policy Rate (X_2) was obtained from publications and bulleting of the Bank of Ghana. Annual time series data covering the period 1980-2010 for which data was available was used. The natural logarithms of the variables with the exception of GDP(Y) were used for the estimations. This was done to reduce any possible effect of heterogeneity in the data set to the barest minimum.

2.4 Empirical Econometric Methodology: Unit Root Testing, Co-integration, and Vector Error Correction Model (VECM).

2.4.1 Unit Root Test Procedure

The stationarity properties of the time series variables are examined using the Augmented Dickey-fuller (ADF) approach. This is done to avoid spurious regressions if the variables in ordinary regressions are non-stationary. The ADF test follows the equation:

For intercept:

$$\delta_0 + \delta_1 \Delta X_{t-1} + \sum_{t1}^{n} = Y_t \Delta X_{t-i} + \varepsilon_{ti} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.. (2)$$

For Trend

$$\Delta X_t = \delta_0 + \delta_1 \Delta X_{t-1} + \delta_2 t + \sum_{t=1}^{n} Y_t \, \Delta X_{t-i} + \varepsilon_{t2} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots. (3)$$

For the purpose of this paper, we fall on the equation (3 for the ADF test.
The tau-statistic tests the null hypothesis of $\delta_1 = 0$ $(ie\ non\ stationary)$ against the alternative that, $\delta_1 < 0$ $(ie\ stationary)$. If the data series are non-stationary at levels i.e. I (0), it will be differenced d times to be stationary to determine its order of integration.

2.4.2 *Co-integration Test Procedure*

Co-integration test involves two steps which include testing for unit root and the likelihood ratio test. A co-integration test was carried out after running and ascertaining the stationarity properties of the data set. Since the time series variables are co-integrated of the same order, namely I (1), then the long run combination amongst the non-stationary variables can be established. We draw on Johansen and Juselius (1990) maximum likelihood (ML) procedure to test for the number of co-integrating vectors which also allows inferences on parameter restrictions. The Johansen Co-integration equation is modeled as follows:

$$\Delta X_T = \sum_{i=1}^{q-1} \Pi_i \, \Delta X_{t-i} + \Pi_q \Delta X_{t-q} + \mu + v_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots. (4)$$

Where: X_1 is an n x 1 vector of variables, Π_q is an n x n matrix of rank r $\leq$ n, μ is an n x1 vector of constant term and ν is an n x 1vector residuals.

The hypothesis is $H_0 = \Pi_q = \alpha\beta^!$, where α and $\beta^!$ are an n x r loading matrices and Eigen vectors. The aim of this procedure is to test the number of r co-integrating vectors β_1, β_2 ….. β_r which provide r stationary linear combinations of $\beta^! X_{t-q}$.

The linear likelihood ratio (LR) statistics for testing hypothesis $H_0 = \Pi_q = \alpha\beta^!$ is a test that there are at most r co-integrating vectors;

$\lambda_{max} = -T\ln(1 - X_{r+1})$

Versus an alternative,

$$\lambda_{trace} = -T\sum_{i=r+1}^{K}\ln(1-\lambda_i)$$

The linear restriction (LR) statistic for testing r against r+1 co-integrating vectors is given by:

$$-2\ln(Q) = T\sum_{i=1}^{r}\ln(\frac{1-\lambda!}{1-\lambda_i}).$$

This determines the significant Eigen values and the corresponding number of eigenvector.

2.4.3 ***Vector Error Correction Model (VECM).***

Once co-integrating relationship has been established, the next step is to estimate the error correction model. We choose VECM, a full information maximum likelihood estimation model, since it yields more efficient estimators of the co-integrating vectors ahead of other models which could have been used. VECM permits testing for co-integration in a whole system of equation in one step without requiring a specific variable to be normalized. Another advantage of VECM is the non-requirement for a prior assumption of endogeneity or exogeneity of the variables. In addition, VECM allows us to examine the causality in Granger-sense. The error correction term is evaluated using t-test whilst the lagged first-differenced term of each variable uses the *F*-test.

3: Empirical Results and Discussions.

3.1 Unit Root Test Results

Table 3.1: Results of Augmented Dickey Fuller (ADF) test

Variable	ADF at Levels	ADF at (first difference)
Y	(-3.199763) -4.296729 -3.568379 [0.1036]	(-5.561929) -4.339330 -3.587527 [0.0006]
LnX_1	(-5.171301) -4.296729* -3.568379** [0.0012]	
LnX_2	(-0.915120) -4.296729* -3.568379** [0.9410]	(-4.911412) -4.309824* -3.574244** [0.0024]
LnX_3	(-1.512099) -4.296729 -3.568379 [0.0598]	(-4.751060) -4.309824* -3.574244** [0.0035]

Note:
**** denotes critical value at 1% confidence levels***
***** denotes critical value at 5% confidence levels***
( ) ***ADF test statistics***
[ ] ***MacKinnon (1996) one-sided p-value***

Table 3.1 presents the results of ADF unit root tests. The ADF test indicates that all the data series with the exception of inflation (LNX1) are non-stationary at levels. Thus, the null hypothesis could not be rejected.

Statistically it could be observed from Table3.1 that the ADF test statistic at levels were smaller (in absolute terms) than the critical values at both 1% and 5% confidence levels (see second column). After first differencing, all the data series become stationary. This is also shown by the higher ADF test statistic as compared with the critical values at both 1% and 5% confidence levels (see third column).

3.2 Co –Integration Test Results

Trend assumption: Linear deterministic trend

Series: Y LNX1 LNX2 LNX3

Lags interval (in first differences): 1 to 1

Tale 3.2: Unrestricted Co-integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.619444	52.32496	47.85613	0.0179
At most 1	0.429436	24.30742	29.79707	0.1878
At most 2	0.236362	8.034634	15.49471	0.4617
At most 3	0.007368	0.214451	3.841466	0.6433

Trace test indicates 1 co-integrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 3.3: Unrestricted Co-integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.619444	28.01754	27.58434	0.0440
At most 1	0.429436	16.27278	21.13162	0.2093
At most 2	0.236362	7.820183	14.26460	0.3973
At most 3	0.007368	0.214451	3.841466	0.6433

Max-eigenvalue test indicates 1 co-integrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Co-integrating Coefficients (normalized by b'*S11*b=I):

Y	LNX1	LNX2	LNX3
0.228741	3.409808	-1.394241	0.173903
0.463921	0.571033	-0.014288	-0.136243
-0.235938	0.757183	1.325097	0.637316
0.014920	0.616539	-3.174374	0.216101

Tables 3.2 and 3.3 report the results of the Co-integration tests. Both the trace test and Rank Test (Maximum Eigenvalue) indicate that there exists at least one co-integrating equation among the data series. This test suggests two major contentions. First, the selected variables move along together in the long run and short terms deviations will be corrected towards equilibrium. Secondly, co-integration literally indicates causality in at least one direction.

3. 3 Vector Error Correction Model (VECM) Results.

Dependent Variable: D(Y)

Method: Least Squares

Date: 05/23/13 Time: 12:34

Sample (adjusted): 4 31

Included observations: 28 after adjustments

D(Y) = C(1)*(Y(-1) + **0.07837094026*LNX1(-1) + 1.76110497*LNX2(-1) - 0.2057328323*LNX3(-1)** - 6.397817454) + C(2)*D(Y(-1)) + C(3) *D(Y(-2)) + C(4)*D(LNX1(-1)) + C(5)*D(LNX1(-2)) + C(6)*D(LNX2(-1)) + C(7)*D(LNX2(-2)) + C(8)*D(LNX3(-1)) + C(9)*D(LNX3(-2)) + C(10)

Table 3.4 Short run estimates of the VECM

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.891004	0.143677	-6.201454	0.0000
C(2)	0.151535	0.180181	0.841017	0.4114
C(3)	0.310019	0.159757	1.940567	0.0681
C(4)	1.817767	0.701235	2.592237	0.0184
C(5)	0.011548	0.664191	0.017387	0.9863
C(6)	-2.512757	2.092296	-1.200957	0.2453
C(7)	1.191552	2.058569	0.578826	0.5699
C(8)	2.131148	3.249324	0.655874	0.5202
C(9)	-1.112566	2.654658	-0.419100	0.6801
C(10)	0.166353	1.049013	0.158581	0.8758

R-squared	0.813761	Mean dependent var	0.483705
Adjusted R-squared	0.720642	S.D. dependent var	2.885336
S.E. of regression	1.525024	Akaike info criterion	3.954351
Sum squared resid	41.86259	Schwarz criterion	4.430138
Log likelihood	-45.36091	Durbin-Watson stat	2.589882

3.3.1 Long-Run Relationship: Analysis and Discussions

The results presented in table3.4 above confirm the long run associationship among the variables used in this paper. This is evidenced by the value of (C1) which represents the error correction term in the VECM. For there to be a long-run relationship, the value of C1 must be negative and its P-value must also be significant at 5%

levels. From table 3.4, the value of C1 is -0.891004 and its P-value is 0.0000, at 5% level of significance. Thus, the variables in the model move together in the long-run, meaning also that in the long-run, the independent variables; Inflation, Policy rate and General Government consumption expenditure have impact on Real GDP annual growth rate. Specifically, the results as shown in the VECM equation above (see bold) indicates that a 1% increase in inflation (LNX1) will lead to a corresponding increase of 0.7% in Real GDP(Y) growth. Inflation and GDP move together because, during periods of inflation, especially, the demand pulls, inflation could lead to increase in demand for goods and services; this could lead to increase in productivity and for that matter increasing the GDP consequently. During the period of mild inflation or decrease in inflation, it could lead to decrease in demand for most goods and services and for that matter, a decrease in productivity of factors of production and consequently decrease in GDP. Also, in the presence of co-integration, in the long run, a 1% increase in Policy Rate (LNX2) will cause a corresponding increase of 1.7% in Real GDP. In the long run, businesses and individuals would look for other alternative sources of funding their business and consumption rather than going to the formal money market institutions for funds. Thus, they somewhat reduce the negative impact of increases in the policy rate on their business and are therefore able to undertake their normal activities to increase production and thus, real GDP. The results of the VECM also indicate that in the long run, General Government Consumption Expenditure (LNX3) has a negative impact on Real GDP growth. That is, a 1% increase in government general consumption expenditure will lead to a decrease of 0.2% in Real GDP in the long run. This could be possible if government spending are in the direction that do not directly put money in the pockets of individual but rather government spending are related to expenditure on goods and services that do not directly yield returns to the economy, such as, spending on military goods and services, community entertainment, and other wasteful projects. The real GDP in the long run could thus, fall.

The error correction term (C1) indicates the rate at which the disequilibrium between the long-run and the short-run estimates are corrected for. The results in table3.4 show that on annual basis, 89.1% of the disequilibrium between the long-run and short-run estimates are corrected and brought back to equilibrium. This value is highly significant with a p-value of 0.0000 at 5% confidence level and a corresponding standard error of 0.143677. Also the R^2 of this model is 81.4% which means that the independent variables in the model are able to explain more than 80% of the variations in the dependent variable. Furthermore, the Durbin Watson value (2.6) from the model is higher than the R^2 value (0.819). This also adds to the validity of the model.

3.3.2 Short-Run Relationship: Analysis and Discussions.

The first differenced results presented in table 3.4 (C2-C9) shows the short-term relationships among the selected variables and real GDP growth. One reason for the desirability of the VECM is that it allows for short run estimates for both one period and two period lags. But our analysis is basically on one period lag variables of the annual series. At one period lag, a 1% increase in annual inflation rate in Ghana will lead to a corresponding increase of 1.8% in real GDP growth rate in the short run (See C4). The one period lag co-efficient of Policy rate (LNX2) is negative (See C6). Specifically, a 1% increase in Policy rate will cause a decrease of 2.5% in real GDP in the short run. This result is at variance with the long term estimates as there exist a positive relationship between real GDP and policy rate in the long run. This means that interest rate and GDP move in opposite directions in the short run. This relationship is supported by literature since as inflation, rises in an economy, the central bank raises the interest rate, meaning that the cost of borrowing increases so the amount of money borrowed by individuals and companies decreases which in turn decreases the amount of money in the economy (money supply) resulting in low economic output and for that matter GDP. Moreover, general government final consumption expenditure has a short term positive but insignificant impact on real GDP annual growth rate of Ghana. This short run relationship is possible because in the short run, when government consumption expenditure increases, aggregate demand for goods and services also increases due to the fact that the majority of the government's consumption expenditure is in the payment of salaries of employees and since the government is the single largest employer in Ghana it means making more money available to the citizens of the country. This increase their purchasing power and the aggregate demand thus, encouraging producers and other service providers to supply more at improved prices and this would also impact positively on real GDP.

4. Conclusion

It can be concluded from the findings that there exist long run positive relationships between inflation, policy rate and GDP over the period under study. The study has also revealed that there exist a long run negative relationship between government consumption and real GDP. Further, we also establish a short run positive relationship between inflation, government consumption expenditure and real GDP and a negative relationship between policy rate and real GDP in the short run. Statistically, only inflation rate as an independent variable in the model has a significant impact on GDP and this might partly explain the government's strategy of inflation rate targeting. The R^2 of this model is 81.4% which means that the independent variables in the model are able to explain more than 80% of the variations in the dependent variable. Furthermore, the Durbin Watson value (2.6) from the model is higher than the R^2 value (0.819). This also adds to the validity of the model.

It is recommended that the Government together with the Bank of Ghana should develop and pursue prudent monetary and fiscal policies that would aim at reducing and stabilizing both the micro and macroeconomic indicators especially inflation targeting, so as to boast the growth of the economy.

References

Agalega E. & Antwi S. (2013), The Impact of Macroeconomic Variables on Gross Domestic Product:

Empirical Evidence from Ghana. International Business Research; Vol. 6, No. 5; 2013

ISSN 1913-9004 E-ISSN 1913-9012. Published by Canadian Center of Science and Education

Bank of Ghana. (2009). Financial Stability Reports: Monetary Policy Committee Statistical Releases,

2002-2008.

Bernanke B. and Robert F. (2001), Principles of Macroeconomics. Published by McGraw-Hill/Irwin. New York, America.

Dickey D. and Fuller, W. (1979). Distribution of the estimators for Autoregressive time series with unit root. Journal of American Statistical Association, Economic Review 84(5), 1310-1329.

Drukker, D., Hernandez-Verme, P., & Gomis-Porgueras, P. (2005). Threshold Effects in the relationship between Inflation and Growth: A new Panel-Data Approach. Retrieved from

http://ideas.repec.org/p/pra/mprapa/33494.html

Frimpong, J. M., & Oteng-Abayie, E. F. (2008). Bivariate Causality Analysis between FDI Inflows and Economic Growth in Ghana. *International Research Journal of Finance and Economics, 15*.

Frimpong, J. M., & Oteng-Abayie, E. F. (2010). When is Inflation Harmful? Estimating the Threshold Effect for Ghana. *Am. J. Econ. Bus. Admin., 2*, 232-239. http://dx.doi.org/10.3844/ajebasp.2010.232.239

Johansen S, Juselius K. (1990). Maximum Likelihood Estimation and Inference on Co-integration with Applications to the Demand for Money. Oxford Bulletin of Economics and Statistics. 52: 169-210.

Kassim, M., & Munir, Q. (2009). Non-Linearity between Inflation rate and GDP Growth in Malaysia. *Economic Bulletin*, *29*(3), 1555-1569.

Luppu, D. V. (2009). The Correlation between Inflation and Economic Growth in Romania. Luccrari Stiintifice – Vol. 53, Seria Zootechnie.

Mallik, G., & Chowdury, A. (2001). Inflation and Economic Growth: Evidence from Four South Asian Countriess. *Asia-Pacific Development Journal, 8*(1).

Singh, B. and Sahni B. S. (1984), "Causality between Public Expenditure and National Income," *The Review of Economics and Statistics* **66**: 630-44.

World Bank (2005) World Development Indicators CD-ROM, Washington D.C.: World Bank.