

## Impact of monetary policies on exchange rate and global trade Evidence from Ghana

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The impact of monetary policies and their implementation by exchange rate covered the economic condition of Ghana. The social inclusion and conversion factors change the implemented policies of nations, where the real price, trade, technology, a price rate and price level of ratio take an important part of growth. The reform of the financial sector favors the free floating of the exchange rate and global trade by under the premise of flexible exchange rates. The tragedy of country growth and exchange rate toward a trajectory of growth with the growth-enhancing effect through social inclusion, conversion factors, price level ratio, exchange rate, merchant rate, export and trade services. The research study is based on secondary study and social inclusion equity indicators with public resources, building human resources and social protection for economic development has determined. The monetary policies are classified by the different evidence and trade indicators. The significant influence of growth and internal policies has affected trade and exchange rates with growth and reserve policies. The results have computed by linear regression and it proved that social inclusion and alternative conversion factors impact on the global trade and create short term binary relationship.

*Keywords: Trade; conversion factors; price rate; economic growth*

### Introduction

The main aims of this study paper are to examine the importance of monetary policies and their implication on the growth level with exchange rate, which showed by the trade, conversion factor, a price rate, and the growth level of GDP. The economic growth in Ghana determines the two different policies of patents and promoting. 30% Ghanaians deal with the financial sectors and hold the big flow of financial circumstance, will this effect on monetary policies and or just creating the big gap in economic principle. There are two macroeconomic policies implemented to control government budgets and financial flow. Such as fiscal and metering policy, that can use economic manager to control the budgeting and fiancé.(Khanna, Greener, Straka, & Adams, 2019) The health of fiancé to manage by expanding economic growth (GDP). The monitoring and fiscal policies are complementary with each other in Ghana. The monitoring polices are being a work by a civil society along with the strengthen policy program and strategies.(Agusto& Khan, 2018; Ahmed et al., 2020) .

The insight policies and an agenda based on trade and fiscal policies. Its advance to understanding the policy agenda and trade sector pregame in Ghana. And also, to determine the agenda of sector programs which influenced by how the national income level use their sources of power to define the material of fiscal policies.(Adu, Marbuah, & Mensah, 2013) The power sources identified the structural authority; access by political influence, control, conversion factor, trade implementation, demographic change plan of trade,(Lin & Agyeman, 2019; Uddin, Sjö, & Shahbaz, 2013)The policies should not pursuit of transformative changes and improvement of economic system by low income countries. According to Rochefort the frame of label issues of economic decision has an influence on trade, a price rate in the economic development.(Kong & Khan, 2019) The policy agenda setting and planning the subsequent issues labeling and policy sector with particular problem.(Bond, Söderbom, & Wu, 2011; Mensah & Botchway, 2013)

The important of this research paper is showing the basic monetary policies under the state of social inclusion, conversion factors, economic growth and global trade. However, prior research papers discussed the issues of global trade in a term of long term but not directly classify the issues of monetary policies under the above indicators, therefore this research study based on novelty.(Murtazashvili, Murtazashvili, & Salahodjaev, 2019; Traoré, 2019) The research data based on World Bank indicators and also financial department of Ghana. 2<sup>nd</sup> section of a research paper is based on literature and expect theories. We base 3<sup>rd</sup> section on research method and 4<sup>th</sup> is an analysis and last one shows the recommendation and conclusion of the research paper.

## Literature

The prior work of research showed the financial development-economic growth with extensive attention in the development and also have analysed the finance-led growth hypothesis with a content of cal-innovation through the efficient allocation of resources from the trade and unproductivity sectors.(Adu et al., 2013) The development of robust financial factors can spur growth and services with non-financial sectors along a growth path. The content of this economics growth based on trade and implemented economic policies and financial sectors, and thus development financial sectors focuses on the efficiency of trade and monitoring policies.(Amri, 2017) The financial development and efficiency of investment is important for financial liberalisation in promoting domestic and hence investment. The works of foundation for liberalisation and developing countries including Ghana, as part of the IMF bank change program.(Herrerias, Cuadros, & Luo, 2016)

We must emphasize it that variant argument has been an advance in literature between economic growth and financial development.(Acheampong & Maryudi, 2020) The empirical studies in the literature have investigated the relationship

between financial depth and growth with the impact of causality. The most studies across on the panel data affirm the fact that financial development influence on growth and covariates of growth and the potential simultaneity, and unobserved country specific growth. Likewise, the 71 countries period 1960-1995 using indicators of financial development by regarding different expects of trade and monitoring policies.(Adom & Kwakwa, 2014) The conclude on the positive influence between financial development on the economic growth with trade and implication of a change in policies and strategies with global tradition change.

The non-tradable sector effect on the currency and different price issues similar to an export subsidy and import of tax by the foreign ministry of Ghana. We illustrate the literature from the great part of the exchange rate and the consequence of a different way of investment. There are several issues of relationship between exchange rate and export value with misalignment and international trade. Hence, the part of the undervaluation of the exchange rate is different investing from which do not fully adjust their price of evolution of the exchange rate. The vertical integration and importer currency network of large shape in trade and investment. The final issue of the relationship between exchange rate and investment with trade and explored the effects of exchange with decision foreign ministry, especially they influence the investment rate and trade value of international trade. The prior research study is also showed the limited and largely focused contingency in the long period of overvalued.

The trade policy may compensate for the different levels of currency and domestic firm exchange rate and lose competitiveness because of the exchange rate and an overvalued currency. The dispute of the exchange rate policies among trade partners creates the relationship between trade and investment. In more general, the countries use trade and substitute for the exchange rate with persistent disequilibria in a trade of business and investment. This paper main finding showed the exchange rate with a vitality which is does not affect international trade except in the occurrence of union and pegged exchange and trade rate in international market, the rate is not directly covert the country monitoring policy in the long term, its effect on the short term but the economy directly volatility the trade and investment for the long term. Second the currency directly flow the relationship of exchange rate and pegged the trade and investment in an international market by the misalignment which is directly effect on the cross of sustain issues. The currency undervaluation found and restrict import also effect on the investment policies with huge interaction of magnitude, and it across the currency and evidence of trade policy. Third, the fund evidence converts evidence of support and compensates for the overvalued currency policies. However, the policies seem to be anti-dumping intervention of international trade and investment.(Amoako, Cobbinah, & Mensah Darkwah, 2019) The recent persistent of the panel data affirm the fact that financial development influence on growth and covariates of growth and the potential simultaneity, and unobserved country specific growth. Hence, the above countries indicators of financial development by regarding different expects of trade and

monitoring policies and investment. (Frimpong Boamah & Sumberg, 2019)The conclude on the positive influence between financial development on the economic growth with trade and implication of change in policies and strategies with global tradition change. The recent imbalance in non-traditional trade and the effect of exchange rate restrictive measure the international trade.(Brobbey, Pouliot, Hansen, & Kyereh, 2019) the presumption of investment indirectly in different public and private sectors are also showed the presumption of exchange rate with theoretical literature and trade investment. (Ayanoore, 2019; Gad et al., 2019) .

We effect the volatility of the relationship of investment and trade and policy on the regression estimate on the panel datasets of these countries and also in-touch with other different countries whose policies only interact with misalignment affect trade policies decision.(Sovacool, 2019) we also discuss The method framework in next section with a linear relationship of social inclusion and conversion factors change the implemented policies of nations, where the real price, trade, a technology, a price rate and price level of ratio taking an important part of growth.

The international trade could have driven by the different causality, which directly related with trade and their flow of exchange because we base the investment and trade on the proper finance policies with a legal interaction of foreign affairs.(Mullineux & Murinde, 2014) Therefore, the exchange rate compelling the argument of risk association of forward contact and currency option. Another critique of related sunk cost in export and investment.(Alhassan & Fiador, 2014) The higher fixed cost of investment and export are the volatility issues of international trade where the exchange rate is a a critical issue of international trade. The cross-border transaction of the international firm in Ghana held and monitoring by under the private contract and the involvement of government also based on that private firms so international market the investment is a flow on inside and not given directly benefit to individually to state.

## **Methodology**

We base the paper method on World Bank indicators, which is undertaking in Ghana and focused on the critical issues of monitoring policies. In particular, the study sought to determine influence of exchange rate and global trade evidence by the Table 1, in which the trade policies has determine the social inclusion and equity with public resource, building human resources and social protection for economic development has determined. We have analysed the alternative DEC factors' annual exchange rate and also reported with IMF's international financial statistics by dollars. The exchange rate is determined by legal sanctioned and annual average income based. The purchasing power parity has been computed by a unit of the domestic market and the PPP conversion factor results got by the exchange rate of Ghana. The ratio also referred to the national level. The real price nominal effective

rate and weighting average of several exchange rates are divided by a price deflator or index of cost. The merchandise trade as a share of GDP and merchandise exports with imports divided by the value of GDP in all current US. dollars. The high technology export targets the monitoring policies with high R&D intensity. The travel service determined the service economy which is use during in one year and also include the good or services. Initially by the linear state we have computed the data in unit root and individually hypothesis each indicator.

Table 1: Indicators

Country Name	Indicator	Indicator Name	Indicator Code
Ghana	CPIA	CPIA policies for social inclusion/equity cluster average (1=low to 6=high)	IQ.CPA.SOCI.XQ
Ghana	DEC	DEC alternative conversion factor (LCU per US\$)	PA.NUS.ATLS
Ghana	LCU	Official exchange rate (LCU per US\$, period average)	PA.NUS.FCRF
Ghana	PLR	Price level ratio of PPP conversion factor (GDP) to market exchange rate	PA.NUS.PPPC.RF
Ghana	REX	Real effective exchange rate index (2010 = 100)	PX.REX.REER
Ghana	MT	Merchandise trade (% of GDP)	TG.VAL.TOTL.GD.ZS
Ghana	THE	High-technology exports (% of manufactured exports)	TX.VAL.TECH.MF.ZS
Ghana	TSC	Travel services (% of commercial service exports)	TX.VAL.TRVL.ZS.WT

## Results and Analysis

Table 2: Mean deviation

	CPIA	DEC	LCU	MT	PLR	REX	THE	TSC
Mean	3.878571	0.829691	0.829399	54.82708	0.333163	335.0439	4.566921	25.94839
Median	3.9	0.18415	0.184172	54.08051	0.323188	109.9112	4.443817	8.795014
Maximum	4	4.5853	4.585325	93.19641	0.608276	3549.286	8.259932	77.20946
Minimum	3.7	0.000188	0.000115	25.3466	0.146365	64.66527	1.698087	0.347222
Std. Dev.	0.10509	1.248766	1.248978	15.22207	0.124527	676.9838	2.657452	27.5994
Skewness	0.387414	1.795421	1.794974	0.372768	0.184021	3.574841	0.363313	0.63838
Kurtosis	2.050271	5.268294	5.267016	3.177636	1.971886	15.61889	1.594373	1.676852
Jarque-Bera	0.876367	33.07204	33.04967	1.076859	1.440906	341.8259	0.730267	6.057327
Probability	0.645208	0	0	0.583664	0.486532	0	0.694104	0.04838
Sum	54.3	36.50641	36.49354	2412.391	9.66173	13066.71	31.96845	1115.781
Sum Sq. Dev.	0.143571	67.05493	67.07769	9963.595	0.434196	17415670	42.3723	31992.53
Observations	14	44	44	44	29	39	7	43

They indicate table 2 the mean deviation with a standard deviation and shows the highest mean value of REX with CPIA, which shows a significant impact on monitoring policies. Table 3 analysed the indicator summary with the different code where the person test value shows 0. Table 4 is showing the test of equality. where the second highest deviation in MT.

Table 3: Tabulation summary of indicators

Tabulation Summary				
Variable	Categories			
CPIA	5			
DEC	5			
LCU	5			
MT	4			
PLR	6			
REX	5			
THE	8			
TSC	5			
Product of Categories	600000			
Test Statistics	df	Value	Prob	
Pearson X2	599964	6362469	0	
Likelihood Ratio G2	599964	420.7576	1	

Table 4: Test of equality

Test for Equality of Means Between Series

Sample: 1975 2018

Included observations: 44

Method	df	Value	Probability
Anova F-test	(7, 256)	7.279739	0
Welch F-test*	(7, 65.6711)	1364.163	0

\*Test allows for unequal cell variances

Source of Variation	df	Sum of Sq.	Mean Sq.
Between	7	3475070	496438.5
Within	256	17457804	68194.55
Total	263	20932873	79592.67

Category Statistics

Variable	Count	Mean	Std. Dev.	Std. Err. of Mean
CPIA	14	3.878571	0.10509	0.028087
DEC	44	0.829691	1.248766	0.188259
LCU	44	0.829399	1.248978	0.188291
MT	44	54.82708	15.22207	2.294814
PLR	29	0.333163	0.124527	0.023124
REX	39	335.0439	676.9838	108.4042
THE	7	4.566921	2.657452	1.004422
TSC	43	25.94839	27.5994	4.208869
All	264	63.4993	282.1217	17.36339

Table 5: Unit root test

Null Hypothesis: Unit root (common unit root process)

Series: CPIA, DEC, LCU, MT, PLR, REX, THE, TSC

Sample: 1975 2018

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 4

Newey-West automatic bandwidth selection and Bartlett kernel

Total number of observations: 237

Cross-sections included: 8

Method	Statistic	Prob.**
Levin, Lin & Chu t*	-6.41942	0

\*\* Probabilities are computed assuming asymptotic normality

Intermediate results on D(UNTITLED)

Series	2nd Stage Coefficient	Variance of Reg	HAC		Max Lag	Bandwidth	Obs
			of Dep.	Lag			
D(CPIA)	-0.86486	0.0046	0.0037		1	1	11
D(DEC)	0.54354	0.014	0.0148		4	9	38
D(LCU)	0.54367	0.014	0.0148		4	9	38
D(MT)	-1.19398	133.81	6.8088		0	9	42

D(PLR)	-1.08333	0.0036	0.0005	0	5	13	27
D(REX)	-1.22533	281967	46476	0	9	26	37
D(THE)	-2.31254	0.4467	15.284	0	0	2	3
D(TSC)	-1.0286	122.17	24.487	0	9	10	41

	Coefficient	t-Stat	SE Reg	mu*	sig*	Obs
Pooled	-1.13345	-13.579	1.318	-0.548	0.895	237

It indicates table 5 the unit root test for the stationary factor individual and with 2<sup>nd</sup> coefficient determined the variance of HAC. The least squares are shown in Table 6 with the dependent variable. The other two variables exclude a cause of a unit root. Fig 1 is showing the mean deviation of individual variables.

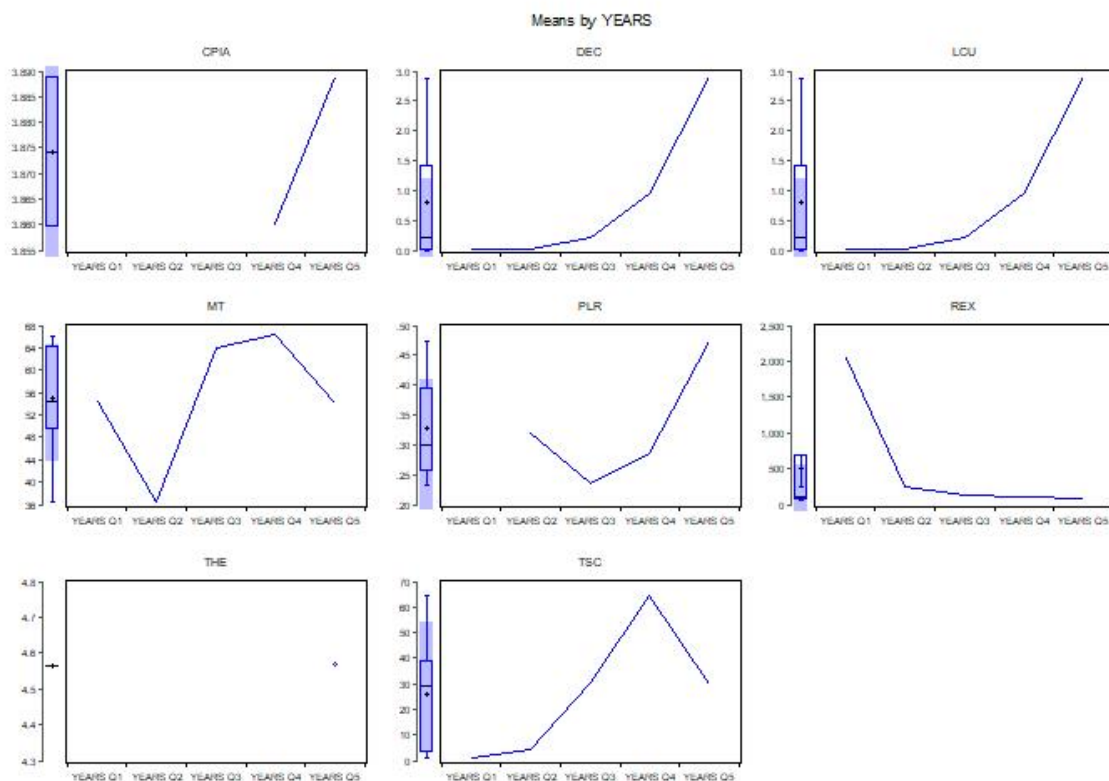


Figure 1: Mean deviation

Table 6: Least square

Dependent Variable: DEC

Method: Least Squares

Sample (adjusted): 1990 2017

Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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LCU	0.99996	1.35E-05	73956.32	0
MT	-1.71E-06	9.22E-07	-1.853493	0.0773
PLR	2.33E-05	9.32E-05	0.250096	0.8048
REX	-1.19E-06	6.30E-07	-1.886635	0.0725
TSC	4.07E-07	3.29E-07	1.238736	0.2285
C	0.000249	0.000138	1.80822	0.0843
R-squared	1	Mean dependent var		1.136611
Adjusted R-squared	1	S.D. dependent var		1.21936
S.E. of regression	3.61E-05	Akaike info criterion		-17.4304
Sum squared residue	2.87E-08	Schwarz criterion		-17.14493
Log likelihood	250.0257	Hannan-Quinn criter.		-17.34313
F-statistic	6.14E+09	Durbin-Watson stat		1.987947
Prob(F-statistic)	0			

Table 7: Ramsey Test

## Ramsey RESET Test

Equation: UNTITLED

Specification: DEC LCU MT PLR REX TSC C

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.836358	21	0.4124
F-statistic	0.699494	(1, 21)	0.4124
Likelihood ratio	0.917463	1	0.3381

## F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	9.27E-10	1	9.27E-10
Restricted SSR	2.87E-08	22	1.31E-09
Unrestricted SSR	2.78E-08	21	1.32E-09

## LR test summary:

	Value
Restricted LogL	250.0257
Unrestricted LogL	250.4844

Table 7 shows the test of restricted SSR and mean square with the 22 number of observation and tabulation of indicators has determined in Fig 2. T-test has computed in Table 8 and Table 9 is showing the ranger causality. The covariance relationship showing the relationship between indicators. Table 10 shows the residual factor individually determined in Fig 3.

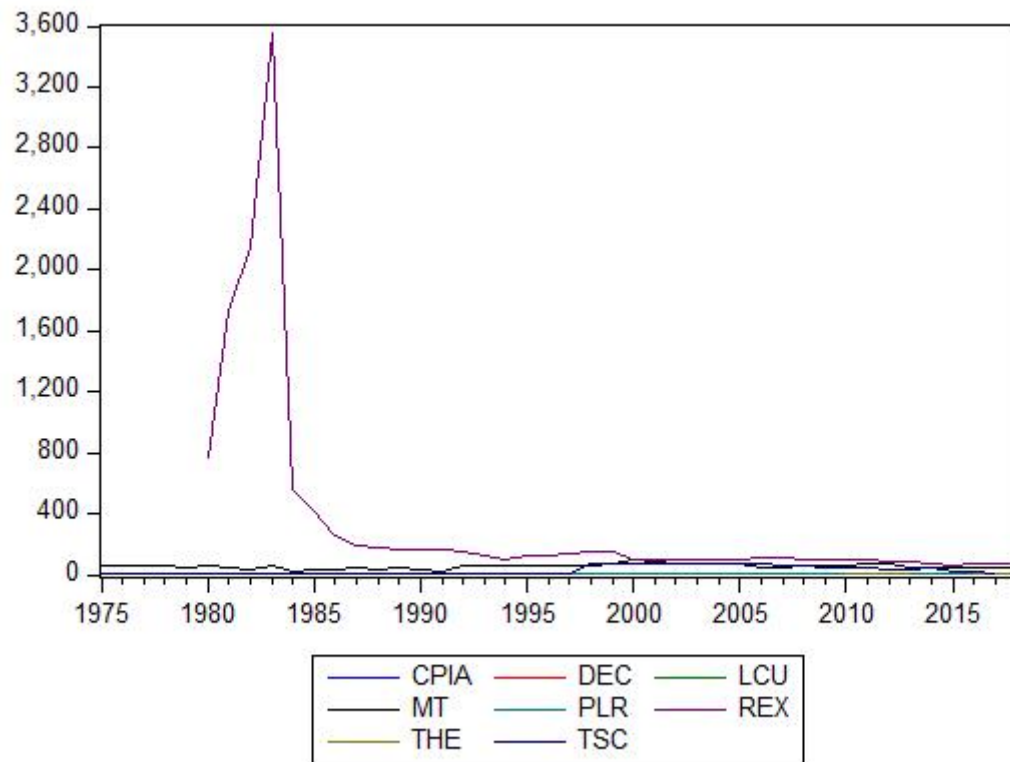


Figure 2: Tabulation of indicator

Table 8: t-test

Unrestricted Test Equation:

Dependent Variable: DEC

Method: Least Squares

Date: 11/23/19 Time: 17:01

Sample: 1990 2017

Included observations: 28

Variable	Coefficient	Std.Error	t-Statistic	Prob.
LCU	1.000011	6.24E-05	16020.65	0
MT	-1.88E-06	9.50E-07	1.976053	0.0614
PLR	-7.64E-05	0.000152	0.503698	0.6197



CPIA does not Cause PLR		0.46151		0.6482
REX does not Granger Cause CPIA	12	7.15632		0.0203
CPIA does not Granger Cause REX		1.32846		0.3243
THE does not Granger Cause CPIA	3	NA	NA	
CPIA does not Granger Cause THE		NA	NA	
TSC does not Granger Cause CPIA	11	2.14637		0.1981
CPIA does not Granger Cause TSC		1.40867		0.3151
LCU does not Granger Cause DEC	42	0.07055		0.932
DEC does not Granger Cause LCU		0.06758		0.9348
MT does not Granger Cause DEC	42	0.36388		0.6974
DEC does not Granger Cause MT		0.21054		0.8111
PLR does not Granger Cause DEC	27	6.6503		0.0055
DEC does not Granger Cause PLR		0.93937		0.406
REX does not Granger Cause DEC	37	0.06702		0.9353
DEC does not Granger Cause REX		0.0858		0.918
THE does not Granger Cause DEC	3	NA	NA	
DEC does not Granger Cause THE		NA	NA	
TSC does not Granger Cause DEC	41	2.30762		0.114
DEC does not Granger Cause TSC		1.88969		0.1658

MT does not Granger Cause LCU	42	0.35945		0.7005
LCU does not Granger Cause MT		0.20806		0.8131
PLR does not Granger Cause LCU	27	6.65019		0.0055
LCU does not Granger Cause PLR		0.93944		0.406
REX does not Granger Cause LCU	37	0.06546		0.9368
LCU does not Granger Cause REX		0.08564		0.9181
THE does not Granger Cause LCU	3	NA	NA	
LCU does not Granger Cause THE		NA	NA	
TSC does not Granger Cause LCU	41	2.31138		0.1137
LCU does not Granger Cause TSC		1.89108		0.1656
PLR does not Granger Cause MT	27	2.48218		0.1066
MT does not Granger Cause PLR		1.36785		0.2755
REX does not Granger Cause MT	37	2.15837		0.132
MT does not Granger Cause REX		1.70868		0.1972
THE does not Granger Cause MT	3	NA	NA	
MT does not Granger Cause THE		NA	NA	
TSC does not Granger Cause MT	41	2.24547		0.1205
MT does not Granger Cause TSC		0.97516		0.3869
REX does not Granger Cause PLR	27	2.37232		0.1167
PLR does not Granger Cause REX		3.24392		0.0583

THE does not Granger Cause PLR	3	NA	NA	
PLR does not Granger Cause THE		NA	NA	
TSC does not Granger Cause PLR	26	1.39125		0.2708
PLR does not Granger Cause TSC		2.49123		0.1069
THE does not Granger Cause REX	3	NA	NA	
REX does not Granger Cause THE		NA	NA	
TSC does not Granger Cause REX	36	0.20672		0.8144
REX does not Granger Cause TSC		0.0816		0.9218
TSC does not Granger Cause THE	2	NA	NA	
THE does not Granger Cause TSC		NA	NA	

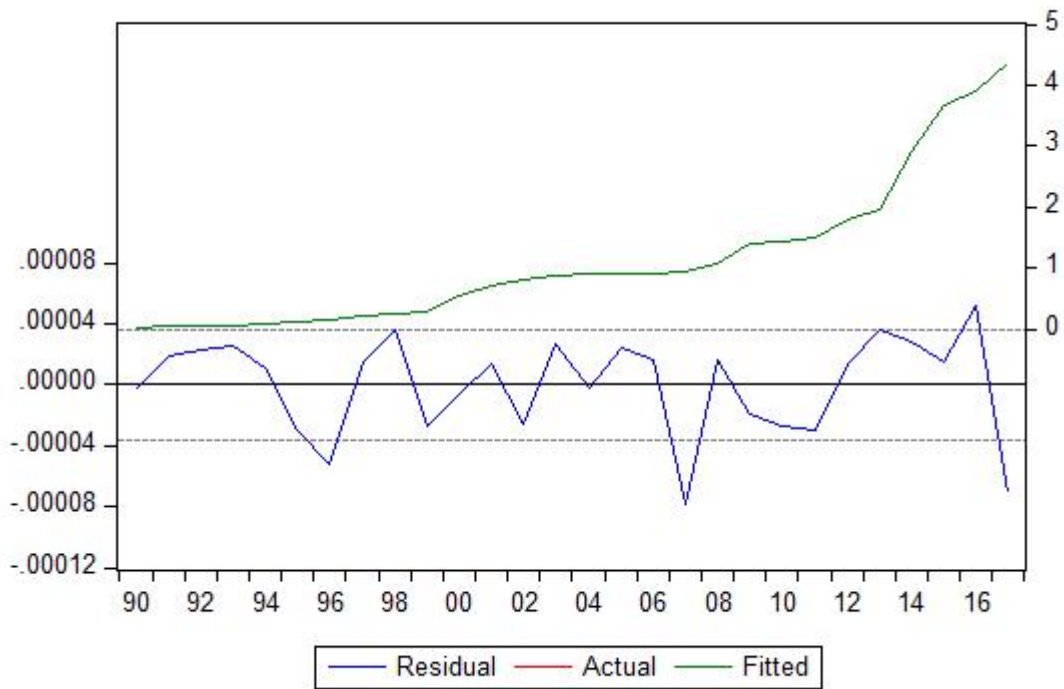


Figure 3: Residual

Table 10: Covariance

Covariance Analysis: Ordinary (uncentered)

Sample: 2010 2017

Included observations: 6

Balanced sample (listwise missing value deletion)

Covariance

SSCP

t-

Statistic	CPIA	DEC	LCU	MT	PLR	REX	THE	TSC
CPIA	15.34833 92.09 -----							
DEC	9.66819 58.00914 4.493159	7.598494 45.59096 -----						
LCU	9.668307 58.00984 4.493104	7.598604 45.59162 117827.1	7.598713 45.59228 -----					
MT	225.082 1350.492 10.92232	131.755 790.5298 3.145414	131.7567 790.54 3.145399	3439.153 20634.92 -----				
PLR	1.875342 11.25205 18.76971	1.184778 7.108668 4.402432	1.184791 7.108743 4.402349	27.16776 163.0065 7.769044	0.232391 1.394348 -----			
REX	337.3352 2024.011 22.86413	203.5599 1221.36 3.6633	203.5624 1221.374 3.663269	5006.151 30036.91 13.56715	41.08372 246.5023 12.78949	7485.076 44910.46 -----		
THE	15.55299 93.31795 4.299181	9.702807 58.21684 2.848676	9.702915 58.21749 2.848651	232.7672 1396.603 4.29513	1.908802 11.45281 4.247352	335.1828 2011.097 3.868671	20.02387 120.1432 -----	
TSC	117.712 706.2722 5.470541	60.10517 360.631 2.027712	60.10579 360.6348 2.027697	1801.242 10807.45 6.542025	14.37304 86.23826 5.195568	2685.906 16115.44 7.325082	112.8893 677.3357 2.761902	1053.608 6321.647 -----

**Conclusion.**

The results have been signifying the relationship and influence of monitoring policy on trade and foreign policies. We classify the above results in Table 5-7. Therefore, the highly effected PLR has been creating influence on THE, MT and TSC (Table 8) and showed a significant influence on the growth and internal policies of government issues. The method of the real price shows the nominal effective rate and weighting average of several exchange rates and it is divided by a price deflator or index of cost. Also, the monitoring policies monitoring policies with high R&D intensity. The travel service determined the service economy which used during in one year and also include the good or services. The expected outcomes of public policies and practice showed the influence of monitoring policies with comprehensive pioneering strategies of exchange rate, the non-linear and pass through effect the volatility of Ghana's. 2<sup>nd</sup> the economic growth and ramifications of global competitiveness is shows the significant effects on the poverty reduction and growing economic wealth. The relevance of this study is serve as powerful strategical tools which showing the practicality effect sluggish growth rate. However, the government has taken reserve, but the policies can change the magnitude of strength and policies. In we include last the exchange rate volatility to estimating growth under the control of endogenous and resulting of simulating lag dependency so, the yield estimation shows above the robustness and stability test by liner square and restricted with SSR and mean square. The tabulation of indicators determined T-test computed in granger causality. The prior most studies are showing the potential simultaneity, and unobserved country specific growth regarding the financial department and trade in monitoring policies. Therefore, the tragic policies of government control the inflation situation by proper monitoring policies in exchange rates.

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