PUBLIC EXPENDITURE AND STRATEGIC FINANCIAL MANAGEMENT ARCHITECTURE IN NIGERIA: FISCAL CAUSALITY ANALYSIS

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ABSTRACT: Public expenditure management as it presently prevails in many developing economies is still predominantly characterized by operational orthodoxy. This tends to result in dissatisfactory fiscal aggregations that fall quite short of critical macroeconomic expectations of these nations, including Nigeria. In this study, therefore, the focal predictor variable is public expenditure, while gross domestic product (GDP) and inflation rate are the criterion variables. The related financial time series (secondary data) required for analysis are contained in publications of the Central Bank of Nigeria (CBN). They are extracted, tabulated and subsequently subjected to regression analysis and Granger - causality test. Thereafter, the statistical outcomes logically highlighted and precisely discussed. Essentially, the study reveals divergent public expenditure tendencies with respect to GDP and inflation rate during the specified study period. The time frame spanning 37 years critically captures the vicissitudes of economic regulation and deregulation in Nigeria. The much-needed harmony and consistency in public expenditure efficiency, thus, call for strategic financial management (SFM) architecture since conventional/orthodox frameworks are often overwhelmed by peculiar economic circumstances, and Nigeria has got her fair share of these. With the corporate governance ideals of SFM, governmental authorities should ensure more transparent funds generation and more innovative funds utilization in the Nigerian economy. Public and private sector active players should partner to drive the SFM process in order to synergize funds deployment, infrastructure development in Nigeria, for greater global relevance and prominence.

KEYWORDS: Nigerian economic architecture, Public expenditure, Strategic financial synergy

INTRODUCTION

Over the years, defective public expenditure management has aggravated the economic woes of many less developed countries (LDCs). With respect to key economic indicators, including gross domestic product (GDP), Nigeria has been ranked among low income economies of the world for so long. Nigeria and Malaysia have relatively similar political history as they are characterized by multi-cultural societies and several years of colonial subjugation. However, from mid-1960s, Malaysia overtook Nigeria as the world's leading exporter of palm oil and progressed rapidly with external trade in electronic goods, thus raising the standard of living of her people a great deal (Anyanwu, 1997). In the light of this, economy watchers argue that one age-long challenge in the Nigerian nation has no reason to complain, given her enormous human, material and allied economic resource endowment. Accordingly, stakeholders expect the

Published by European Centre for Research Training and Development UK (www.ea-journals.org) accruing huge revenues to be properly and pragmatically expended, especially in well thought-out projects, in line with ideals of strategic financial management (SFM).

In the midst of plenty, the people of Nigeria should no longer be counted among the world's poorest bracket. This was the challenge many years ago, that informed the Keynesian advocacy of government intervention in the affairs of the economy. Government, in many dissatisfactory economic circumstances, may be compelled to employ deliberate discretionary macroeconomic policies to fix the limits/gray areas of the market mechanism. Some of such interventionist measures would involve raising tariffs, prescribing import quota, or proscribing (placing outright ban on) selected items in order to protect home industries and improve balance of payments (Ogbole, 2008; Onoh, 2007; Stanlake and Grant, 1995). In times past, some institutional adjustments introduced by the Nigerian government in the past were quite decisive, such as the abolition in 1995 of the indigenization (*Nigerianization*) policy, deregulation of the Nigerian economy in 1986, deepening/internationalization of the capital market between 1997 and 2000, and recapitalization/consolidation of banks in 2004. To further buttress the relationship between policy instruments and macroeconomic performance, reference is made to collaborative studies particularly those of the International Bank for Reconstruction and Development (1998) and Overseas Development Institute (2003). They clearly established:

- Link between undisciplined fiscal policy and poor macroeconomic performance,
- Link between increased public expenditure and government effectiveness in combating poverty, and
- Link between decisive government intervention and enhanced macroeconomic growth.

In the Nigerian setting, many studies have rather identified inefficiencies in fiscal management and these pertain mainly to the period 1980-2004. Furthermore, expansionary fiscal policy measures exerted inflationary pressure on the economy and raised interest rates quite high in the period 1980-2006 (Tom-Ekine, 2006; Onuchukwu, Ofoeze & Nteegah, 2006). However, public expenditure exerted positive impact on macroeconomic stabilization in the period 1970-2006 (Ogwuru, 2007). This exceptionality informed our choice of 1970-2006 as time frame for this study. It encapsulates both regulation and deregulation regimes in the Nigerian economy. The critical research variables, therefore, are public expenditure, GDP, and inflation rate. Accordingly, the pertinent research questions are:

- To what extent is public expenditure effect on GDP different under regulation and deregulation periods in Nigeria? and
- To what extent is public expenditure effect on inflation rate different under regulation and deregulation periods in Nigeria?

Related to the above research questions, are the following hypotheses, formulated in null form:

Ho₁: There is no significant difference in public expenditure effect on GDP under regulation and deregulation periods in Nigeria; and

Ho₂: There is no significant difference in public expenditure effect on inflation rate under regulation and deregulation periods in Nigeria.

LITERATURE REVIEW

Classical economics was dominant before the 1930s when adherents saw inherent ability of economies to equilibrate and maintain full employment. They, thus, argued that economies have built-in capacity to attain and sustain full employment level of output. Where temporary disruptions occur, over the long run, economies still gravitate towards full employment levels of output. In so doing, they remain inherently stable while deviations from full employment equilibrium are automatically corrected by adjustment in prices, wages and interest rates. Other economic challenges such as inflation and unemployment naturally also sort themselves out through the interplay of the forces of demand and supply; but where they persist, they are blamed on overbearing trade unions and laws that hamper labour and wage dynamics. By this traditional reasoning, if barriers to price and wage flexibility are removed, there would be no unemployment and inflation since prices always rise to the level required to maintain full employment output. There will be no deficiency in aggregate demand because output automatically creates the income and supply creates its own demand (Gbosi, 2008).

This hard classical stance notwithstanding, many economies still became soft spots and flashpoints of macroeconomic dysfunctions traceable to weak institutional/systemic frameworks. The concept of strategy, therefore, becomes vitally important in taking an economy from where it is to where it ought to be. For the economic sector, in particular, SFM is expected to provide the needed architecture for systemic financial synergy (Agundu, 2012; Agundu, 2008; Andabai, 2011). Characteristically:

- An orthodox economic architecture involves traditional planning, organizing and controlling, all of which culminate in conventional energy; whereas,
- A vantage economic architecture involves strategic planning, organizing and controlling, all of which culminate in strategic synergy.

Besides classical submissions, there are also monetarist contentions which are equally skeptical about the ability of the government to effectively influence economic activities. The latter adherents argue that when discretionary policies of government achieve desired objectives, they bring very high costs in their trail. Thus, instead of correcting cyclical fluctuations, they generate and intensify the tendencies. For instance, attempts to correct irregular growth in money supply may cause more fluctuations in economic activities. They, therefore, suggest gradual (2%-4%) rise in money supply annually in order to foster economic stability. This is without prejudice to quintessential formulation and implementation of *contractionary* or *expansionary* policy (lyoha, Oyefusi & Oriakhi, 2003). They also contend that inflation and unemployment are monetary phenomena, as *ipso facto*, too much supply of money in the economy results in inflation, while

too little supply of money coupled with regulations (such as minimum wage legislations) and union-enforced wages, undermine market dynamics and cause unemployment.

They, however, admit that unemployment and welfare benefits as well as possible frequent change of jobs by people cause structural unemployment, hence, it unemployment is not usually completely wiped out in an economy. By this, governmental authorities are required to pursue inflation reduction rather than unemployment reduction. Taking exception to these, the Keynesian economics adherents contend that lingering unemployment and economic depression are sufficient proofs of government's failure to manage the economy (Iyoha, Oyefusi & Oriakhi, 2003; Bhatia, 2003). In this light, a capitalist economy lacks inherent stability and needs to be properly guarded and guided for sustainability. They also argue that supply will not create its own demand because some households may prefer not to spend part of their income in buying supplied goods. When this happens aggregate demand falls below the level required to exhaust existing supply. This consequently causes resource unemployment as producers become unwilling to continue producing and supplying goods while unsold stocks last. Accordingly, unemployment is caused by low aggregate spending and the economy is not self-correcting. Where it encounters resource unemployment, wages and prices may only adjust after long periods of recessions or depressions (lags).

Furthermore, since inflation prevails as a demand problem, appropriate macroeconomic policies directed at reducing aggregate demand (spending) could serve as needed to remediate. Unfortunately, those who see inflation and unemployment purely as short-run macroeconomic challenges tend to welcome only short-run stabilization policies but more is needed to attract systemic synergy for sustainable development. This is what makes the SFM architecture uniquely imperative (Agundu, 2012; The Institute of Chartered Accountants of Nigeria, 2006; Aborode, 2005). The problem of unemployment particularly requires the reconstructive application of discretionary macroeconomic policies anchored on SFM ideals, so that critical institutions will functionally stimulate and redefine aggregate demand to measure up to full employment level.

RESEARCH METHODOLOGY

This study recognizes that regression analysis addresses dependency of one variable on another variable, but that does not necessarily imply causation. The involvement of financial time series equally suggests unidirectional possibility, because time does not tick backwards (Ogbole, 2010; Gujarati, 2003). Illustratively, if event A occurs before event B, then event A could cause event B, but the reverse order is not tenable. Past events could cause future events but future events do not cause past events. This peculiarity further elicits the conduct Granger causality test, the assumption being that information relevant to determining the criterion variable is embedded in the time series. Consequently, a criterion variable (y) is Granger - caused by an explanatory variable (x) if variable x helps in the prediction of variable y, and more so, the lagged values of variable x must be statistically significant (Kareem, 2007). In this analytical vein:

- If the analysis involves unidirectional causality, then variable x causes variable y or variable y causes variable x but not the reverse order. This causality runs from variable x to variable y only or from variable y to variable x only;
- If the analysis involves bilateral causality (feedback), where sets of variable x and variable y coefficients have significant difference, then a variable x to variable y situation as well as a variable y to variable x situation will both hold; and
- If a situation of independence holds, where sets of variable x and variable y coefficients have no significant difference, then neither a variable x to variable y situation nor a variable y to variable x situation holds.

The null hypothetical statements then become *x does not Granger - cause y* on the one hand, and *y does not Granger - cause x* on the other hand (Kareem, 2007). For this study, conceptualization and model specification are similar to what obtains in the works of Adeoye (2006) on fiscal policy and growth of the Nigerian economy, and Ekpo (2003) on issues and challenges in fiscal management in Nigeria.

While many researchers regress only economic growth, this study goes deeper to complement GDP with inflation rate as proxy of price stability. These are very fundamental macroeconomic criterion variables. Two models are, therefore, provided to functionalize the relationships between public expenditure and gross domestic product and inflation rate respectively. The dummy variables in the models have values of 0 (zero) for the regulation period and 1 (one) for the deregulation period. Analysis of the difference in public expenditure efficiency under the two periods is then undertaken, using ordinary least squares regression and Granger causality test. The functional details are as follows:

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Model 1: GDP Criterion
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GDP = f (GE, PI, IFR, CIF, X) GDP = $a_0 + a_1$ GE + a_2 PI + a_3 IFR + a_4 CIF + a_5 X + a_6 DUM + U₁ a' priori Expectation (a_1 , a_2 , a_4 , $a_5 > 0$; $a_3 < 0$)

Where:

GDP = Gross domestic product

GE = Government expenditure

IFR = Inflation rate

CIF = Capital inflow

X = Export

PI =Private investment

DUM = Dummy variable

 $U_1 = Random error term$

Model 2: Inflation Criterion

IFR = f(GE, BOP, EXR, COF, CIF)

 $IFR = b_0 + b_2GE + b_2BOP + b_3EXR + b_4COF + b_5CIF + b_6DUM + U_2$

a' priori expectation $(b_3, b_4 > 0; b_1, b_2, b_5 < 0)$

Where:

GE = Government expenditure

BOP = Balance of payment

EXR = Exchange rate

COF = Capital outflow

CIF = Capital flow

 $U_2 = Random error term$

DUM = Dummy variable

The financial time series (secondary data) for the study are drawn from publications of the Central Bank of Nigeria (CBN), and presented in Table 1, particularly as they relate to critical fundamentals of the Nigerian economy for 37 years (1970-2006). For analytical purposes, Period 1 (1970-1985) pertains to regulation dispensation while Period 2 (1986-2006) pertains to deregulation dispensation.

Table 1: Economic Aggregates in Nigeria (N' billion or %)

Foreign	Gross	Balance of	Foreign
Exchange	Domestic	Payments	Private
	Product		Capital Inflow
13.80000	54.20000	0.100000	0.300000
16.00000	65.70000	0.100000	0.500000
3.200000	69.30000	0.100000	0.400000
5.400000	78.80000	0.200000	0.600000
13.40000	82.40000	3.100000	0.500000
33.90000	80. 00000	0.200000	0.800000
21.20000	88.90000	-0.300000	0.500000
15.40000	96.10000	-0.500000	0.700000
16.60000	89. 00000	1.300000	0.700000
11.60000	91.20000	1.900000	0.700000
9.900000	96.20000	2.400000	0.800000
20.90000	70.40000	-3.000000	0.600000
7.700000	70.20000	-1.400000	2.200000
23.20000	66. 00000	-3.000000	1.700000
39.50000	62.50000	0.400000	1.400000
5.500000	68.30000	0.400000	1.400000
5.400000	70.80000	0.200000	4.000000
10.20000	71.20000	-0.800000	5.100000
38.30000	77.70000	-2.300000	6.200000
40.90000	83.20000	8.700000	4.700000
7.500000	92.20000	18.50000	10.50000
13,0000	94.20000	6.6000000	5.600000
44.50000	97.00000	-65.30000	11.70000
57.20000	99.60000	13.60000	42.60000
57.20000	100.9000	8.200000	7.800000
72.80000	103.1000	-15.30000	56.00000
29.30000	106.6000	184.0000	55.700000
8.500000	110.0000	251.6000	10.00000
10.00000	113.5000	-37.00000	32.40000
6.500000	116.7000	-152.4000	4. 000000
6.800000	121.2000	-453.4000	16.50000
18.90000	126.3000	56.60000	5. 000000
12.90000	131,5000	-330.8000	9. 000000
14.00000	136.5000	-27.60000	13.50000
15. 00000	145.4000	1266.600	20.10000
17.90000	152.3500	1490.900	26.10000
8.200000	160.2800	2868.700	32.50000
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Source: Central Bank of Nigeria Publications (various years)

FINDINGS & DISCUSSION

The statistical results of data analysis are presented in Tables 2 to Tables 6 below:

Table 2: GDP Criterion Estimation Highlights

Dependent Variable: GDP				
Method: Least Squares				
Sample: 1970-2006				
Included observations: 37				
Variables	Coefficient	Std. Error	t-Statistic	Prob.
С	3.918911	0.106974	36.63432	0.0000
GE	0.131468	0.072379	1.816379	0.0793
PI	-0.127102	00-49737	-2.555498	0.0159
IFR	-0.020253	0.022984	-0.881175	0.3852
CIF	-0.013331	0.029553	-0.451091	0.6552
X	0.117253	0.042376	2.766931	0.0096
DUM	0.141159	0.074285	1.900249	0.0670
R-squared	0.889229	Mean dependent var. 4.523136		
Adjusted R-squared	0.867074	S.D. dependent var. 0.270978		
S.E. of regression	0.098796	Akaike info criterion -1.6228		-1.622870
Sum squared resid.	0.292817	Schwarz criterion -1.31810		-1.318101
Log likelihood	37.02309	F-Statistic 40.13803		
Durbin-Watson stat.	0.826452	Prob. (F-Statistic) 0.000000		

Source: Research Data (Eview – aided)

Table 3: IFR Criterion Estimation Highlights

Dependent Variable: IFR				
Method: Least Squares				
Sample: 1970-2006				
Included observations: 37				
Variables	Coefficient	Std. Error	t-Statistic	Prob.
С	32.07682	6.565352	4.885773	0.0000
GE	-0.072670	0.021737	-3.343120	0.0022
BOP	0.001452	0.001223	1.187340	0.2444
EXR	0.477077	0.204537	2.332474	0.0266
COF	-3.005140	1.070151	-2.808145	0.0087
CIF	1.247421	0.251418	4.961541	0.0000
DUM	-15.39022	6.912546	-2.226418	0.0336
R-squared	0.551803	Mean dependent var. 20.33243		
Adjusted R-squared	0.462184	S.D. dependent var.		16.74918
S.E. of regression	12.28340	Akaike info criterion 8.0230		8.023032
Sum squared resid.	4526.457	Schwarz criterion 8.32780		8.327801
Log likelihood	-141.4261	F-Statistic 6.155813		
Durbin-Watson stat.	1.810284	Prob. (F-Statistic) 0.000271		

Source: Research Data (Eview – aided)

Table 4: Granger Causality Highlights (GDP Criterion)

Pairwise Granger Causality Test Sample: 1970-2006

Null Hypothesis Obs. F-Statistic Probability GE does not Granger Cause GDP 37 1.33694 0.27785 GDP does not Granger Cause GDP 37 0.74525 0.12199 PI does not Granger Cause GDP 37 0.74525 0.48320 GDP does not Granger Cause GDP 37 0.30397 0.74013 GDP does not Granger Cause GDP 37 0.30397 0.74013 GDP does not Granger Cause GDP 37 1.12004 0.33953 GDP does not Granger Cause GDP 37 1.48112 0.24281 GDP does not Granger Cause GDP 37 1.48112 0.24281 GDP does not Granger Cause GDP 37 1.48112 0.24281 GDP does not Granger Cause GE 37 0.59431 0.55831 GE does not Granger Cause GE 37 1.75639 0.47787 GE does not Granger Cause GE 37 2.64060 0.08784 GE does not Granger Cause GE 37 2.64060 0.08784 X does not Granger Cause CIF 37 4.65030 0.01741 <	Lags: 2					
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PI does not Granger Cause GE 37 0.59431 0.55831 GE does not Granger Cause PI 1.40669 0.26065 IFR does not Granger Cause GE 37 1.75639 0.47787 GE does not Granger Cause IFR 1.59171 055971 CIF does not Granger Cause GE 37 2.64060 0.08784 GE does not Granger Cause CIF 0.61474 0.54745 X does not Granger Cause GE 37 4.65030 0.01741 GE does not Granger Cause X 0.96370 0.39297 IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause CIF 37 0.37988 0.68719 PI does not Granger Cause CIF 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause CIF 37 0.45350 0.63969	X does not Granger Cause GDP	37	1.48112	0.24281		
GE does not Granger Cause PI 1.40669 0.26065 IFR does not Granger Cause GE 37 1.75639 0.47787 GE does not Granger Cause IFR 1.59171 055971 CIF does not Granger Cause GE 37 2.64060 0.08784 GE does not Granger Cause CIF 0.61474 0.54745 X does not Granger Cause GE 37 4.65030 0.01741 GE does not Granger Cause X 0.96370 0.39297 IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause CIF 37 0.37988 0.68719 PI does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 37 0.31807 0.72998 IFR does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause CIF 37 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	GDP does not Granger Cause X		0.19112	0.82458		
IFR does not Granger Cause GE 37 1.75639 0.47787 GE does not Granger Cause IFR 1.59171 055971 CIF does not Granger Cause GE 37 2.64060 0.08784 GE does not Granger Cause CIF 0.61474 0.54745 X does not Granger Cause GE 37 4.65030 0.01741 GE does not Granger Cause X 0.96370 0.39297 IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	PI does not Granger Cause GE	37	0.59431	0.55831		
GE does not Granger Cause IFR 1.59171 055971 CIF does not Granger Cause GE 37 2.64060 0.08784 GE does not Granger Cause CIF 0.61474 0.54745 X does not Granger Cause GE 37 4.65030 0.01741 GE does not Granger Cause X 0.96370 0.39297 IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause CIF 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	GE does not Granger Cause PI		1.40669	0.26065		
CIF does not Granger Cause GE 37 2.64060 0.08784 GE does not Granger Cause GE 37 4.65030 0.01741 X does not Granger Cause GE 37 4.65030 0.39297 IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	IFR does not Granger Cause GE	37	1.75639	0.47787		
GE does not Granger Cause CIF 0.61474 0.54745 X does not Granger Cause GE 37 4.65030 0.01741 GE does not Granger Cause X 0.96370 0.39297 IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	GE does not Granger Cause IFR		1.59171	055971		
X does not Granger Cause GE 37 4.65030 0.01741 GE does not Granger Cause X 0.96370 0.39297 IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause CIF 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	CIF does not Granger Cause GE	37	2.64060	0.08784		
GE does not Granger Cause X 0.96370 0.39297 IFR does not Granger Cause PI PI does not Granger Cause IFR 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR IFR does not Granger Cause CIF 37 1.08259 0.35158 IFR does not Granger Cause IFR IFR does not Granger Cause IFR IFR does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause CIF 37 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	GE does not Granger Cause CIF		0.61474	0.54745		
IFR does not Granger Cause PI 37 1.69072 0.20149 PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	X does not Granger Cause GE	37	4.65030	0.01741		
PI does not Granger Cause IFR 0.89144 0.42065 CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause CIF 37 0.53182 0.59297	GE does not Granger Cause X		0.96370	0.39297		
CIF does not Granger Cause PI 37 0.37988 0.68719 PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	IFR does not Granger Cause PI	37	1.69072	0.20149		
PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	PI does not Granger Cause IFR		0.89144	0.42065		
PI does not Granger Cause CIF 1.57059 0.22452 X does not Granger Cause PI 37 2.40311 0.10764 PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	CIF does not Granger Cause PI	37	0.37988	0.68719		
PI does not Granger Cause X 1.13870 0.33369 CIF does not Granger Cause IFR IFR does not Granger Cause CIF 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR IFR does not Granger Cause X 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297			1.57059	0.22452		
CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	X does not Granger Cause PI	37	2.40311	0.10764		
CIF does not Granger Cause IFR 37 1.08259 0.35158 IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297			1.13870	0.33369		
IFR does not Granger Cause CIF 0.39052 0.68010 X does not Granger Cause IFR 37 0.31807 0.72998 IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297		37	1.08259	0.35158		
IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297			0.39052	0.68010		
IFR does not Granger Cause X 0.45350 0.63969 X does not Granger Cause CIF 37 0.53182 0.59297	X does not Granger Cause IFR	37	0.31807	0.72998		
X does not Granger Cause CIF 37 0.53182 0.59297			0.45350	0.63969		
		37	0.53182	0.59297		
0.01020	CIF does not Granger Cause X		3.55403	0.04020		

Source: Research Data (Eview – aided)

Table 5: Granger Causality Highlights (IFR Criterion)

Pairwise Granger Causality Test

Sample: 1970 2006

Lags: 2

GE does not Granger Cause IFR 37 0.81386 0.45269 IFR does not Granger Cause GE 0.20816 0.81324 BOP does not Granger Cause IFR 37 0.39249 0.67879 IFR does not Granger Cause BOP 0.04915 0.95212 EXR does not Granger Cause IFR 37 0.19879 0.82079 IFR does not Granger Cause EXR 0.50354 0.60940 COF does not Granger Cause IFR 37 1.34747 0.27518 IFR does not Granger Cause GEF 0.28607 0.75324 CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause GIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause GE 37 2.37335	Lags: 2	Oha	E Ctatiati-	Duch chilit-
IFR does not Granger Cause IFR 37 0.39249 0.67879 IFR does not Granger Cause IFR 37 0.39249 0.67879 IFR does not Granger Cause IFR 37 0.19879 0.82079 IFR does not Granger Cause IFR 37 0.19879 0.82079 IFR does not Granger Cause IFR 37 1.34747 0.27518 IFR does not Granger Cause COF 0.28607 0.75324 CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause IFR 37 0.59897 0.55581 GE does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause EXR	Null Hypothesis	Obs	F-Statistic	Probability
BOP does not Granger Cause IFR 37 0.39249 0.67879 IFR does not Granger Cause BOP 0.04915 0.95212 EXR does not Granger Cause IFR 37 0.19879 0.82079 IFR does not Granger Cause EXR 0,50354 0.60940 COF does not Granger Cause IFR 37 1.34747 0.27518 IFR does not Granger Cause COF 0.28607 0.75324 CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause CIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause GE 37 1.36331 0.27121 EXR does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00		37		
IFR does not Granger Cause BOP 0.04915 0.95212 EXR does not Granger Cause IFR 37 0.19879 0.82079 IFR does not Granger Cause EXR 0,50354 0.60940 COF does not Granger Cause IFR 37 1.34747 0.27518 IFR does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2.48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331<				
EXR does not Granger Cause IFR 37 0.19879 0.82079 IFR does not Granger Cause EXR 0,50354 0.60940 COF does not Granger Cause IFR 37 1.34747 0.27518 IFR does not Granger Cause COF 0.28607 0.75324 CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause CIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 0.04714 CIF does not Granger Cause CIF 1.36331 0.27121 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause COF 1.29609 0.28848 <td></td> <td>37</td> <td></td> <td></td>		37		
IFR does not Granger Cause EXR 0,50354 0.60940 COF does not Granger Cause IFR 37 1.34747 0.27518 IFR does not Granger Cause COF 0.28607 0.75324 CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause CIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause GE 37 4.48682 0.01974 BOP does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 <td< td=""><td></td><td></td><td></td><td></td></td<>				
COF does not Granger Cause IFR 37 1.34747 0.27518 IFR does not Granger Cause COF 0.28607 0.75324 CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause CIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause EXR 37 2.40000 0.10793		37		
IFR does not Granger Cause COF 0.28607 0.75324 CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause CIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause GIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause EXR 37 2.40000 0.10793 <td< td=""><td>IFR does not Granger Cause EXR</td><td></td><td></td><td></td></td<>	IFR does not Granger Cause EXR			
CIF does not Granger Cause IFR 37 0.64109 0.53378 IFR does not Granger Cause CIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause EXR 37 2.40000 0.1	COF does not Granger Cause IFR	37	1.34747	0.27518
IFR does not Granger Cause CIF 0.88248 0.42422 BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause EXR 37 1.39215 0.2	IFR does not Granger Cause COF		0.28607	0.75324
BOP does not Granger Cause GE 37 0.59897 0.55581 GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 <td< td=""><td>CIF does not Granger Cause IFR</td><td>37</td><td>0.64109</td><td>0.53378</td></td<>	CIF does not Granger Cause IFR	37	0.64109	0.53378
GE does not Granger Cause BOP 3.87483 0.03185 EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause EXR 37 0.42124 0.66005 BOP does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	IFR does not Granger Cause CIF		0.88248	0.42422
EXR does not Granger Cause GE 37 4.51326 0.01934 GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	BOP does not Granger Cause GE	37	0.59897	0.55581
GE does not Granger Cause EXR 2,48202 0.10058 COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	GE does not Granger Cause BOP		3.87483	0.03185
COF does not Granger Cause GE 37 1.63535 0.21178 GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	EXR does not Granger Cause GE	37	4.51326	0.01934
GE does not Granger Cause COF 3.38776 0.04714 CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	GE does not Granger Cause EXR		2,48202	0.10058
CIF does not Granger Cause GE 37 2.37335 0.11044 GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	COF does not Granger Cause GE	37	1.63535	0.21178
GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	GE does not Granger Cause COF		3.38776	0.04714
GE does not Granger Cause CIF 1.36331 0.27121 EXR does not Granger Cause BOP 37 4.48682 0.01974 BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	CIF does not Granger Cause GE	37	2.37335	0.11044
BOP does not Granger Cause EXR 7.12159 0.00295 COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981			1.36331	0.27121
COF does not Granger Cause BOP 37 0.69251 0.50814 BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	EXR does not Granger Cause BOP	37	4.48682	0.01974
BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	BOP does not Granger Cause EXR		7.12159	0.00295
BOP does not Granger Cause COF 1.29609 0.28848 CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981	COF does not Granger Cause BOP	37	0.69251	0.50814
CIF does not Granger Cause BOP 37 0.42124 0.66005 BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981			1.29609	0.28848
BOP does not Granger Cause CIF 1.10598 0.34400 COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981		37	0.42124	0.66005
COF does not Granger Cause EXR 37 2.40000 0.10793 EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981			1.10598	0.34400
EXR does not Granger Cause COF 7.80865 0.00186 CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981		37	2.40000	0.10793
CIF does not Granger Cause EXR 37 1.39215 0.26414 EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981			7.80865	0.00186
EXR does not Granger Cause CIF 1.56108 0.22649 CIF does not Granger Cause COF 37 1.00001 0.37981		37	1.39215	0.26414
CIF does not Granger Cause COF 37 1.00001 0.37981			1.56108	0.22649
		37	1.00001	0.37981
COF does not Granger Cause CIF 0.26189 0.77134	COF does not Granger Cause CIF		0.26189	0.77134

Source: Research Data (Eview – aided)

Table 6: Comparative Public Expenditure Analytical Highlights

Criterion	Coefficient/	Regulation	Deregulation	Differential
Specification	(p-value)	Period	Period	Extent
GDP	0.14	Base	Slight	Not
	(0.067)		improvement	Significant
			(positive)	
IFR	-15.39	Base	Decline	Significant
	(0.034)		(negative)	

Source: Research Data (Eview – aided)

The above analytical results, on the one hand, establish no significant difference in public expenditure effect on GDP. On the other hand, there is significant difference in public expenditure effect on inflation. The outcomes could be illustrated using the performance of two students in an examination. If they scored 40% and 42% respectively, then there is difference in their performance and specifically, the latter is better than the former. Nonetheless, working with a minimum pass mark of 50% makes their performance of no real (significant) difference, since none of them is good enough to attract a pass verdict. In the context of this study:

- With respect to GDP, public expenditure exerts slight effect; and on account of the coefficient of 0.14 and p-value of 0.067, the null hypothesis is upheld. This indicates that there is no significant difference in public expenditure effect under the two regimes; and
- With respect to inflation, public expenditure exerts tight effect; and on account of the coefficient of 15.4 and p-value of 0.034, the null hypothesis is not upheld. This indicates that there is significant difference in public expenditure effect under the two regimes.

This discordant (divergent) public expenditure effect, particularly the low potency/efficacy regarding GDP has critical implications of governmental authorities and economy watchers in Nigeria. Essentially, the comparative analytical revelations regarding GDP and inflation rate under the two dispensations are veritable research contributions. Responsively, this understanding critically elicits a more coordinating macroeconomic framework to positively redefine key fundamentals in the Nigerian economy. The impending conceptual gap finds respite in the SFM architecture, as it promises to holistically address limiting factors often associated with orthodox economic architecture, especially:

- Government spending odds,
- Policy mix odds,
- Budget deficit odds,
- Financial appropriation/application odds, and
- Timing odds.

With SFM fiscal authorities could foster even economic development in the midst of these odds.

CONCLUSION

In the Nigerian economy, many studies appear to have concentrated on the relationship between fiscal policy and economic growth. This study went deeper to also examine the inflation rate, particularly comparing public expenditure efficiency under regulation and deregulation periods. The level of efficiency in the final analysis differed with respect to GDP and inflation rate under the two periods. Essentially, the policy instruments that could shape these tendencies should go beyond straight-jacketed orthodoxy and take into consideration the nation's peculiar economic circumstances, as they vary from one economic sector/period to another. Governmental authorities, by harnessing the SFM architecture, would strike the needed synergy in critical macroeconomic fundamentals.

As contemporary fiscal policy is anchored on Keynesian economics of government intervention, the process should underscore quality government spending as directed at stimulation of economic growth, raising employment level and control of inflation. According to Nordhaus (2005), in the United States, for instance, the principles of Keynesian economics successfully helped to fight economic recession and inflation in 1961; pull the American economy out of the deep recession of 1981-1982; lower America's federal deficit by about 2% of gross domestic product in 1993 (and record budget surplus in 1998). Despite these resounding affirmatives, there are still some reservations concerning public expenditure efficiency relative to economic stabilization (Eluwa, 2008; Saunders, 2006).

Real investment portfolios anchored on SFM architecture will be better coordinated to translate to increased production and consequent enhanced GDP and allied fundamentals in the economy. It will accentuate well thought-out economic targets for various tiers of government, with emphasis on technological capacity building, agricultural production, and local products manufacturing (Owunary, 2008; Ladan, 2007; Agundu & Akaninwor, 2007). The built-in checks and balances of corporate governance in the SFM architecture will prevent concentration of public funds in *sentimentally preferred* economic units which hitherto created grounds for diversion, misappropriation and misapplication of funds to the detriment of *fundamentally critical* economic units (Agundu, 2012, Ajadi, 2006). The imperativeness of giving a big boost to critical infrastructure transformation in Nigeria, especially in the areas of human (intellectual) capital development, power (energy), and transportation/communication, cannot be overemphasized. All these anchored on SFM and working in synergy will afford more productive and innovative systems for global competitiveness.

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