MILITARISM, CIVILIANISM, INFLATION AND OUTPUT GROWTH IN NIGERIA: AN ECONOMETRIC STUDY

Chinedu B. Ezirim, University of Port Harcourt
Enyinna Okpara, Wellspring University
Umaru Mohammed, Nigerian Army Signal Corp Headquarters

Abstract

The study investigates the impact of military and democratic systems of government on the output growth and inflation conditions of the Nigerian economy. The study utilized relevant econometric modeling and estimation of hypothesized relations, employing causality and cointegration procedure. The results indicate that in the short-run, both military and democratic regimes that ruled Nigeria reserved the capacity to cause real growth in the country's GDP. The observed short-run causally significant relationship between GDP growths and the economic policies and activities of the two regimes are equally sustainable in the long-run. Notwithstanding, whereas in the long-run democracy was found to cause positive growth, militarism was observed to cause negative growth. In the case of inflation, the short-run results indicated that both military and civilian regimes associated remarkably with inflation in the economy, however, the observed significant relationships were not causal. In the long-run however, both regimes were observed to have long-run equilibrium relationship with inflation during the period under study. For the military rule, the observed long-run relationship with inflation was negative, while it was positive for democratic regimes. This implies that the policies and activities implemented in Nigeria by democratic regimes were inflationary as opposed to those of the military which were anti-inflationary in the course of time. Based on the findings of this study, it is recommended that Nigeria should continue to uphold democracy and its ideals instead of authoritarianism.

Key Terms: Militarism, Civilianism, Inflation, Output Growth, Nigeria

BACKGROUND OF THE STUDY

Theoretical Framework

The mass of social, political, economic and even business is awash with issues regarding the contribution of different political regimes to the growth and development of concerned economics, where they thrived. Three schools of thought are particularly relevant for the purposes of our analysis in this study. They are authoritarianism, democracy, and middle – of – the road approaches. Authoritarianism school represents the collection of opinions that support the use of force to acquire political power and to administer rule in the same manner. The rulers in this system are not elected by the people nor do they respect the constitution or public opinion that is contrary to their thinking or interests. On the other hand, democratic school represents the shades of opinion that supports the rule of a people or country according to the dictates of the constitution and wishes of the people who elected them. Democracy as a system of government respects of the law and administration of justice. The leaders in this type of regime are meant to serve the people unlike the authoritarian that dictates for the people. The middle – of – road school represents the body of opinions that de-emphasizes regime types and focuses only on good governance. Our primary concern in this study is how these regimes affect the economy in which they reigned. Before that, it is pertinent to distinguish the two critical concepts implicated in the study, namely democracy and authoritarianism.

Democracy and Authoritarianism Distinguished

Conceptually, for the purposes of this study, it is important to clarify that the term authoritarianism is defined for military dictatorship, while democracy is used interchangeably with civilian administration. As in Anyiwe and Aigbokhaevbolo (2006), a plethora of features distinguish democracy from authoritarianism. First, democracy is said to be at home with decentralization while authoritarianism is a highly centralized system. .This makes democracy to be a system that is nearer to the people in terms of responding to their needs, aspirations and tapping local initiatives that can assist in gingering growth and development at all levels. A highly centralize system does not find it easy to respond to such local needs and initiatives. Democracy imbibes the virtues of market mechanism that is believed to be congruent with the dictates of economic growth and development. A highly centralized system does not favor market precepts but on the contrary relies on state interventions in economic causes. Being people oriented, democracy is said to involve participatory leadership approach to management, decision making, economic/public planning, and or agenda - setting. Military rule is said to favor exclusionism, domination, marginalization, alienation and discrimination. These are believed to be inconsistent with growth and development.

The Authoritarian School

A notable school of thought maintained that authoritarian regimes caused desirable growth and development for the countries they 'served' and in such periods they reigned, especially where the countries were still at the cradle of development. Park (2008) substantiated that "authoritarian regimes were widespread among countries of low economic development and per capita income". This school of thought believed that the role of authoritarian regimes in promoting development has not been documented as extensively as that of development under democratic regimes. To them, democratic institutions have enjoyed robust documentation and pride of place in comparative polities, while authoritarian institutions remained poorly conceptualized, theorized and investigated. Accordingly, military rule and its impact on the economy should not be treated as anathema, even when such a regimes is considered anachronistic. Evidently, it should be remembered that some countries which are developed today actually profited from its discipline, managerial and administrative efficiencies. Studying economic development under authoritarian regimes is not only valuable on its own merit but also in view of the light it sheds when contrasted with development under democratic regimes (Park, 2008; Slater, 2003).

The authoritarian school posited that even when the military rule is seen as the old order which should not be re-invoked, it should however not be easily forgotten that it posted on the landscape of history a number of indisputable accomplishments along the lines of economic transformation. For instance, as argued in Park (2008), the 1961 political revolt that resulted in power seizure by President Park Chung Hee initiated economic development in South Korea. The military regime that suppressed civil liberty ended up contributing to the rapid economic transformation of South Korea (Park, 2008). Koo (1996) was more general when he affirmed that East Asian countries have gone through authoritarian power and achieved remarkable economic growth, political development and globalization. With these regimes at play in respective periods in history, the East Asian Model (EAM) concept gave rise to a miracle – like growth in these countries. The East Asian development magic evolved in four stages: 1) Establishment of 'hard' states with development – oriented leadership, 2) Export-oriented industrialization through government intervention, 3) Democratization by the middle-class, built up by economic development and 4) Deregulation, market opening and in roads into overseas markets. This suggests that an economic development journey started, as it were, by the military got perfected and crystallized by the democratic order (Park, 2008; Koo, 1996).

The experience of some countries have shown situation of authoritarian foundations but democratic approaches to economic management. For instance, in the case of Chile, Pinochet's military regime implemented economic reform after the order of free market ideals. The reforms followed the prescriptions of the economic theory suggested by the Chicago Economists led by Milton

Friedman, and which has been described as a reform based on neo-liberalism with monetarism as the critical macroeconomic policy approach to curb the spread of stagflation in advanced industrialized economies; a liberalism that pursued deregulation and privatization policies aimed at reducing government intervention to barest minimum (Park, 2008; Lee, 2006). The Chilean case needs to be amplified to highlight some important points that provide foundation for our ensuing analysis.

As reported in Wikipedia (2015), the free encyclopedia, the military dictatorship of Chile, headed by General Augusto Pinochet, overthrew the democratically elected government of Salvador Allende on 11 September 1973 and ruled Chile between 1973 and 1990. Perceived breakdown of democracy and the economic crisis that took place during Allende's presidency were presented as justifications by the military to seize power. The dictatorship presented its mission as that of "national reconstruction" that heralded long-lasting neoliberal reforms in collaboration with various economists dubbed the "Chicago Boys". The era can be divided into two periods. The first, from 1973 to 1982, corresponds to the period when most of the reforms were implemented. The period that undertook the monetarist experiment ended with the international debt crisis and the collapse of the Chilean economy. At that point, unemployment was above 20 percent, and a large proportion of the banking sector went bankrupt and the initial growth in GDP per capita did not have a long lasting effect on the Chilean economy. Noteworthy, however, is that this corresponded with a worldwide crisis, which would make an objective analyst not to be too quick to judge the efficacy of the administration or policy framework of the first period. During that first period, an economic policy that emphasized export expansion and growth was also implemented, which ordinarily would have spurred economic growth, if all was well (Wikipedia, 2015; Petras and Vieux, 1990).

However, a hasty contrary evaluation would argued that the economic recovery of the second period, from 1982 to 1990, was due to a total turn-around of Pinochet's free market policy and the fact that, in 1982, he nationalized many of the same industries that were nationalized under Allende and removed the ‘Chicago Boys’ from the government quarters. After the economic crisis, the government introduced a more pragmatic economic policy that allowed the peso to float. Restrictions on the movement of capital in and out of the country were reinstated. Bank regulations, simplified and reduced the company income tax policy were introduced. Chile continued with privatizations, including public utilities plus the re-privatization of companies that had returned to the government during the 1982–83 crises. From 1984 to 1990, Chile's gross domestic product grew by an annual average of 5.9%, the fastest on the continent. Chile developed a good export economy. Pinochet's plans failed in his bid to remain in power in 1988 when the regime admitted defeat in a referendum that gave birth to a new democracy in 1990. With this development, and with the advent of successive administrations that followed Pinochet, the Chilean

economy has prospered, such that the country was tagged a Latin American success story. In 2007 for instance, unemployment stood at 7%, while poverty rate was estimated at 18.2%., both relatively low for the region. The Chilean experiment of authoritarianism followed by democracy can be seen as a progressive route to and in fact a potential model for nations of dual political extractions that desired to achieve significant economic growth. The other lesson to be learned from the Chile's case is that as far as economic growth is concerned, what mattered is good governance with good policy implementation and not necessarily whether government is authoritarian or democratic (Wikipedia, 2015; Petras and Vieux, 1990;The World Fact Book, 2014).

The Middle-of-the-Road School

This Chile's lesson perhaps agree with the contention of the middle-of-the-road school of thought, which argues that regime as ideologies are not the causes of growth and the development, per se, but the rightness of the managing actor, their commitment to progress and patriotism. Some commentaries seem to support this position. For instance, Przeworski, Adam (2015) examined causal relation between political regimes and economic development and document that contrary to long-standing arguments, political regimes do not affect the rate of investment and of the growth of total income. Regimes have no impact on the rate of growth of capital stock (or the investment share), while labor force grows faster under dictatorships. In turn, democracies enjoy faster technical progress and use labor somewhat more effectively, while dictatorships exploit somewhat better their capital stock. As a result, the rate of growth of total output is almost identical under the two regimes.

Yet the Pakistan's case appears to support the middle-of-the-road argument. Khan (2011) in his work on "The military and economic development in Pakistan" asked the critical research question: "Is the military's economic management in Pakistan more efficient?" He noted there is a universal assumption among the rank of the authoritarians that they can much more competently manage the economy than the civilians. He, however, argued that the administrative and managerial capacity that the military parades in executing its activities does not necessarily redound in success in private sector activities, management of public corporations, or in running civil society organizations. Using Pakistan as a test case, the supposed lack of civilian competence in economic management was averred as one of the reasons by General Musharraf for assuming power. This same reason was also given by the three other intervening generals before him. The evidence however showed that serving generals were not appointed in key economic positions. Instead the expert civilians were charged with the responsibility of economic management. May be the true statement would have been that the military administration had the judgment to appoint competent people to improve economic performance. The civilian administrations that are committed to economic progress would do the same. As revealed in the study, "based on economic, social and human condition

variables, the assumption of overwhelming superiority of the management of the economy and society under military rule is called into question". To this effect, Khan (2011) volunteered that there is, perhaps, no simple way to test the economic performance of a military administration and compare that with that of a civilian administration. This appears to restate that it is not necessarily the types of regime that counts; regime superiority is not the main issue at stake.

The Democratic School

The third school of Thought, on the other hand, argued that real and sustainable growth and development of any economy rests on the invocation and adoption of democratic ideals and order. To them, democracy causes economic growth and development more than any other political structure or institution. The bases of this argument are not unconnected with the liberalized, free enterprise, and market-oriented features that characterize the democratic rule. In their contention countries that have climbed the ladder growth and development had embraced democracy at one point in time or the other. And continuing with the attendant democratic ideals is consistent with dictates of growth, development, and modernization. Lipset (1969) for instance attempted to measure modernization of European and Latin American countries during the 1960s using such indicators as industrialization, urbanization, education and wealth. It was his observation was that more industrialized countries were found in more democratic countries in Europe and less dictatorial countries in Latin America. The data suggests that authoritarianism is more associated with developing countries than developed ones. Thus, is his argument, he maintained that well-to-do nations retain higher chances of sustaining democracy than their poorer, developing counterparts.

The democratic school further argues that even when democracy is well instituted in any country, there should be care in not allowing the military to rule through the back door. This, they believed can happen when spending on the military arm of the society becomes too burdensome, that this will surely hamper growth. Some studies back up this position. For instance, Mintz and Huang (1990) found defense expenditure to be negatively related to investment and hence growth. Chowdhury (1991) utilized Granger causality procedure to investigate the relationship between defense expenditure and growth for 55 LDCs. The results indicated that there was positive causality flowed from defense to growth for seven countries, flowed from growth to defense spending for 15 countries, no causality for 30 countries and bi-directional causality for three countries. This would true undermine the avowed importance of military spending. Adams, Behrman and Boldin (1991) also found that defense spending had no effect on growth, whereas exports had positive effects. Gerace (2002) investigated movements in US military expenditure, US nonmilitary expenditure and US GDP and found that non-military expenditure is used as a counter-cyclical stabilization tool, but that military expenditure is not. Galvin (2003) found evidence that defense spending had negative effects for both economic growth and the savings income ratio.

Furthermore, it is argued that civilianism is a regime that is usually associated with legitimacy, respect for constitution, legislature, and judiciary, the rule of law and human rights. The authoritarian system lacks the above ideals and would strictly be only accountable to itself and not the people. Even if a civilian regime breaches the above ideals, it would have to answer to the people at the polls. In the light of these, it is thought by the democratic school that the civilianism is more amenable to economic growth and development than authoritarianism. A further study by Edame and Nwankwo (2003) lends credence to the thesis of the democratic school. Thus, in their study on the interaction between defense spending, debt service obligation and economic growth in Nigeria argued that more development could be achieved during the civilian rule than during the military and as such government should spend more money on human capital development which is the bedrock of every society, rather than on the military. However, the authoritarian school has a ready answer that had been summarized thus: The feature of 'strong or hard State' and its capacity to maintain 'stability' and impose sacrifice and discipline needed for economic growth is the hallmark of authoritarianism rather than democracy (Anyiwe and Aigbokhaevbolo, 2006). This point was also underscores by Park (2008) and Koo (1996) in their description of the contribution of authoritarianism to the East Asian 'miracle'.

The African Experience

Most African countries equally passed through the same experiences recorded by Asian countries. There were periods, in their history, when authoritarianism prevailed, while at other times, democracy 'ruled the roast'. Examples include Nigeria, Ghana, Cote D'voire, Sierra Leone, Egypt, Benin Republic and Liberia. What can empirically be said about the impact of the different regimes on the economic growth and development of these African countries? What was the situation with inflationary pressures during the respective periods? A recent study by Havi, et al (2013) on the Macroeconomic Determinants of Economic Growth in Ghana using cointegration approach revealed that military rule had negative impact on growth in real GDP per capita, which led them to suggest that the current Civilian Government must put in place strategies to protect and sustain democratic rule in Ghana. Can we say the same about Nigeria? Chete and Roberts (1996) would not however agree with the above submissions and in fact were more emphatic to posit in their analysis of the Nigerian experience that, "Unlike the western characterization of governance that associates authoritarianism with dismal growth and democracy with ebullient performance, Nigeria boasts of dogged military and civilian regimes with equal or at least shifting intensities". Unlike in Havi, et al (2013), the claims of Chete and Roberts (1996) were not substantiated with empirical evidence.

The Nigeria Experience

The Nigerian political experience exemplifies the political picture represented by developing countries of Asia, Africa, and Latin America. Two political regimes have also been in place in its history at different times. By virtue of independence in 1960, the Country took-off with a democratic rule which continued till 1966. By 1966, the military took over leadership and instituted dictatorial, authoritarian political order which continued interrupted till October 1979. From October 1979 the civilian (democratic) rule came into power and continued till 1984 when the military usurped power once again. The military did not release power until 1999 when it was thought unfashionable and outmoded to continue with dictatorship. Many reasons were given by the military regimes that came 'on board' during these periods. These included corruption, tribalism, nepotism, lack of fairness and patriotism, bad management of the abundant resources, and unnecessary wastes of recourses. Quite strangely, these accusations against the civilian administrations were fingered by some commentaries to also prevail during the military rule. They changed the mood of the country and, in fact, the entire populace to begin to think along the line of sustainable democracy with ample dividends. Equally contributing to the mood was the persuasions from the international community that it was no longer fashionable to condone militarism. It was at this time that the popular parlance and demand in the country became that of 'reaping the dividends of democracy.

However, an objective question is: "was there no dividends reaped by the citizens during the authoritarian rule in Nigeria? In a possible debate, two opposing sides would provide ample points to the satisfaction of keen observers. For economic and financial analysts, however, the emphasis would be on how the economy fared during their respective periods. It is on record that from 1960 to date, the military had ruled for about 29 years, while their civilian counterparts have ruled for about 26 years. This record must be qualified, however, in view of the fact that the erstwhile democratic rule in Nigeria was greeted with the presence of former military leaders who retired into civilianism. General Olusegun Obasanjo, for instance, that earlier ruled the country as Head of State from 1976 to 1979 retired as a soldier and joined politics only to rule the same country as a civilian President from 1999 to 2007. Considering this scenario, would one say that such a regime was an extension of the military rule? This study does not suggest that but rather asks the relevant question: what do these years of rule mean to the growth of the Nigerian economy? How did average prices fare in the light of sustained living standards? What magnitude of inflationary pressures was experienced by the economy during those regimes and with what effects?

Some studies earlier conducted on Nigeria data had asked similar questions and attempted to provide empirical answers. For instance, Anyiwe and Aigbokhaevbolo (2005) studied Democracy and Economic Growth by drawing statistical evidence from Nigeria during the 1960 through 2002 period. The crux of their study was to determine which regime brought greater level of economic

growth. They applied statistical time-trend analysis of eleven economic growth variables. These variables include gross product per capita, food production per capita, and discomfort index. The results indicated that in seven variables, the country performed better during periods of democracy than during military rule. The country performed sub-optimally during both civilian and military regimes in the remaining four variables. This led the authors to conclude that for greater economic growth, Nigeria should continue to encourage democracy than authoritarian system of government. More insightfully, their results particularly indicated that discomfort index grew faster during democracy than during military and as such the overall positive growth impacts of democracy cannot really be tagged 'impressive'. The made these authors to refine their position that "the issue of type of regime should not necessarily over-ride that of 'good governance and accountability' in Nigeria. What must be of utmost importance is 'good governance'".

Anyiwe and Aigbokhaevbolo's (2005) study utilized time-trend analytical technique to derive its conclusions. The use of this tool is considered insufficient to establish that military rule performed abysmally all through the periods it thrived in comparison with the civilian rule. When the excesses that prevailed during both regimes in Nigeria are considered, such a result on the strength of trend analysis becomes increasingly a suspect. Furthermore, the need for more studies based on more robust methodologies becomes rife. It is against this back-drop that this study seeks to contribute to determining whether or not authoritarian system of government in Nigeria impacted on output growth and inflationary pressures using more plausible econometric procedure.

METHODOLOGY

Techniques and Data

The method employed in this study is major econometric modelling, estimation and analysis of implicated relationships between militarism (MIL) civilianism (CN) output growth (GDP growth), and inflation (INF) in Nigeria. The data on the last two variables were computed from the level data on the country's gross domestic product (GDP) and the composite consumer price index (CPI). They are sourced from the statistical Bulletin of the Central Bank of Nigeria. Use was made of growth rates of CPI which are the inflation figures (INF) and growth rates of GDP (which also proxies economic growth). Use was made of categorical (dummy) data for Militarism and Civilianism variables. Because the emphasis is on the actual role of Militarism, the years when the military ruled were assigned the binary figure, 1, while the years of Civilian rule were assigned the figure, zero (0). Generally the data set spanned from 1970 through 2014. The compiled data on all the variables are estimated using the cointegration and causality procedures. Accordingly, stationarity tests, Johansen cointegration and Granger causality tests were conducted. Equally, short-run OLS estimations were carried out to test relevant hypotheses.

The Models

The study models the relationships between output growth (GDP), militarism, and civilianism. It also models the relationships between inflation, militarism and civilianism. Their causality imperatives are also modeled as shown hereunder.

Output – Militarism - Civilianism Relations

From the empirical literature reviewed in this study, the authoritarian system of government was seen to be positively related to growth in some studies like in Park (2008) and negatively related to output growth in other studies as in Havi et al (2013) and Anyiwe and Aigbokhaevbolo (2006). Whatever the direction, this study hypothesizes that there exist a statistically significant relationship between Militarism (MIL) and growth of the gross domestic product (GDP) of a country. This would reduce explicitly to

$$GDP_t = \emptyset_0 + \emptyset_1 MIL_t + U_{1t} \; ; \; \emptyset_1 >< 0 \qquad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where $\emptyset_0$ is the intercept, U_{1t} is the stochastic error term, $\emptyset_1$ is the parameter, and other terms are as previously defined. Similarly, the study hypothesizes that civilianism (CIL) or democracy (DEM) is a positive function of output growth going by the findings of Anyiwe and Aigbokhaevbolo (2006) and Edame and Nwankwo (2003). Equally, when administrative lapses, wastes, and other vices accused of the civilian regimes are put into consideration, it behoves this study to hypothesize a negative relationship between CIL and GDP. Putting all these together, the study explicitly posits that

$$GDP_t = \beta_0 + \beta_1 CIV_t + U_{2t} \; ; \; \beta_1 >< 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where β_0 is the intercept, β_1 is the parameter, and U_{2t} is the error term. Other terms are as previously defined. In countries like Pakistan, South Korea, Nigeria, and Ghana where both military and democratic rule have been practiced in different periods, a combined model utilization categorical variables for both MIL and CIL would become.

$$GDP_t = \varphi_0 + \varphi_1 MIL_t + \varphi_2 CIV_t + U_{3t} \; ; \; \varphi_1, \varphi_2 >< 0 \; \ldots\ldots\ldots (3)$$

Where φ_0 is the intercept, while φ_1 and φ_2 are parameters and U_{3t} is the stochastic error term. Equations, (1) through (3) can be used to explain the short run relationships between GDP growth and variables for militarism and civilianism.

Inflation – Militarism- Civilianism Relations

Inflation is not a condition that is usually associated with militarism in view of the fact that under such a regime there is usually intense regulation, restrictions and lid placement. Price control is one of the features of authoritarianism. Situations of price controls may not give rise to inflation. Given this, an a priori expectation would be the existence of a negative relationship between inflation

and militarism. However, when the military decides to pursue liberal policies such as in the first period of Pinochet's regime, then the expected relationship would be negative. Thus we can explicitly write the inflation - militarism relation as

$$INF_t = \gamma_0 + \gamma_1 MIL_t + E_{1t} \; ; \; \gamma_1 >< 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Similarly, the inflation – civilianism relation can be expressed as:

$$INF_t = \mu_0 + \mu_1 CIV_t + E_{2t} \; ; \; \mu_1 >< 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

Where, μ_0 is the constant term, μ_1 is the parameter, and E_{2t} is the stochastic error term. Other variables are as previously determined. A joint interplay of militarism and civilianism in a typical economy would yield to a multiple linear relation of the sort.

$$INF_t = \delta_0 + \delta_1 MIL_t + \delta_2 CIV_t + E_{3t} \; ; \; \delta_1, \delta_2 >< 0 \quad \ldots\ldots\ldots (6)$$

Where δ_0 is the constant term, δ_{is} are the parameters, E_{3t}t is the stochastic error term, and other variables are as previously defined. Equations (4) through (6) can be used to determine the short-run relationships between inflation, militarism, and civilianism.

Causal Relationships. As in the causality implications following Granger (1969) and Granger and Newbold (1979) formulation was examined based on the expression

$$GDP_t = \sum_{j=1}^{m} a_j GDP_{t-j} + \sum_{j=1}^{m} \beta_j MIL_{t-j} + U_1 \quad \ldots\ldots\ldots (7)$$

The causality model above regresses a variable, GDP, on lagged values of itself and another variable MIL. If MIL is significant, it means that it explains some of the variance in GDP that is not explained by lagged values of GDP itself. This indicates that MIL is causally prior to GDP and is said to dynamically cause or Granger cause MIL. Similarly, we can write the causality expression for output – civilianism causality relation as

$$GDP_t = \sum_{j=1}^{m} a_j GDP_{t-j} + \sum_{j=1}^{m} \beta_j CIL_{t-j} + U_1 \quad \ldots\ldots (8)$$

The causal relation between inflation (INF) and the two regimes concept would be

$$INF_t = \sum_{j=1}^{m} a_j INF_{t-j} + \sum_{j=1}^{m} \beta_j MIL_{t-j} + U_1 \quad \ldots\ldots (9)$$

And

$$INF_t = \sum_{j=1}^{m} a_j INF_{t-j} + \sum_{j=1}^{m} \beta_j CIL_{t-j} + U_1 \quad \ldots\ldots (10)$$

With the Expressions (7) and (8) above, the study determines if militarism causes output growth or vice versa and if civilianism causes output growth or the other way round. Expressions (9) and (10) above is used to determine if militarism causes inflation or vice versa; and if civilianism causes inflation. Also, the possibility of dual causation was also examined.

ANALYSIS OF ESTIMATION RESULTS

Descriptive Statistical Analysis of Data

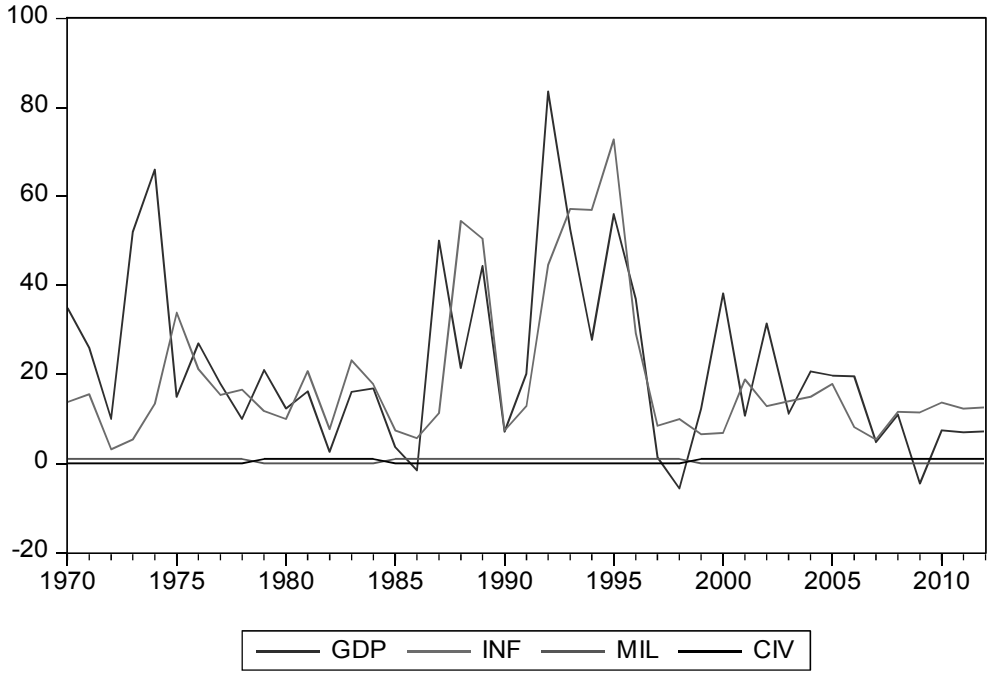
The study utilized annual Nigerian data from 1970 through 2014. The descriptive statistics of the four variables used in the analysis are summarized on Table 1. As can be seen, the mean of the variables are 21.8% for GDP growth, 19.2% for inflation (INF), 0.53 for militarism (MIL) variable and 0.47 for the civilianism variable (CIV).

TABLE 1
Descriptive Statistics of the Variables

Statistics	GDP	INF	MIL	CIV
Mean	21.84767	19.22093	0.534884	0.465116
Median	16.90000	13.40000	1.000000	0.000000
Maximum	83.60000	72.80000	1.000000	1.000000
Minimum	-5.600000	3.200000	0.000000	0.000000
Std. Dev.	19.61967	16.53367	0.504685	0.504685
Skewness	1.156971	1.754329	-0.139876	0.139876
Kurtosis	4.050307	5.115651	1.019565	1.019565
Jarque-Bera	11.56964	30.07610	7.167353	7.167353
Probability	0.003074	0.000000	0.027773	0.027773

The variables posted median values of 16.9%, 13.4%, 1.0, and 0.0 for the GDP, INF, MIL, and CIv variables respectively. The maximum growth rate of the Nigeria economy during the period was 83.6, while the highest inflation rate was 72.8%. in view of the categorical nature of the MIL and CIV data, their maximum values were 1, while their minimum stood at zero. The minimum growth (negative) of output was – 5.6%, while the least inflation rate was 3.2%. There was no evidence of deflation during the period. In terms of variability of the data values, GDP recorded a standard deviation of 19.6, while inflation posted 16.5. The standard deviation for MIL and CIV were the same at 0.5. the variables were highly skewed at 1.15, 1.75, -0.14, and 0.14 respectively for GDP, INF, MIL, and CIV. The Kurtosis and Jarque-Bera statistics showed that the data for the variables were not normally distributed with probabilities that are less

FIGURE 1
Line Chart of the Variables



than the conventional alpha 0.05. Thus we cannot reject a hypothesis of no normality. These results are amply verifiable from figure 1, which represents the line chart of the variables. As can be seen the variables fluctuated violently, although almost in similar manner.

Stationarity and Long-run Equilibrium Analysis.

The stationarity test of the variables was done using the Augmented Dickey–Fuller and Phillips–Perron test statistics. The results are summarized on Table 2. Panel A through D shows s the results of the first difference tests of MIL, GDP, and INF. The test statistic of -6.29, -7.93, and -6.54 for MIL, GDP, and INF respectively were all significant at conventional alpha levels and thus the study rejects the null hypothesis of a unit root. By implications at the variables do not possess unit roots at the first differencing and are thus integrated at order 1 (I(1). The categorical nature allows an assumption that MIL and CIV are all I(1) variables.

Being all I(1) variables permits the of Johanen cointegration procedure to determine the existence or otherwise, of long-run equilibrium relationship among the variables. The study, in this respect, undertook an estimation of unrestricted coimtegration rank test using Trace and maximum eigenvalue procedures. Table 3a and 3b depicts the results of the coimtegration test between

TABLE 2
Stationarity Test Results of Variables

Panel A: Null Hypothesis: D(MIL) has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.296398	0.0000
Test critical values:	1% level	-3.600987	
	5% level	-2.935001	
	10% level	-2.605836	

Panel B: Null Hypothesis: D(CIV) has a unit root

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.296398	0.0000
Test critical values:	1% level	-3.600987	
	5% level	-2.935001	
	10% level	-2.605836	

Panel C: Null Hypothesis: D(GDP) has a unit root

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.930840	0.0000
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

Panel D: Null Hypothesis: D(INF) has a unit root

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.538654	0.0000
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.

GPD and MIL and, by default, CIV. From the result it can be seen that the trace statistic of 27.22 is greater than, the critical value (at 0.05 alpha level) of 15.49, yielding a probability of 0.0006. This would permit a rejection of the null hypothesis of no coimtegration and acceptance of the alternate hypothesis of at least one co-integration equation at the 5% level. The same inference can equally be drawn from the maximum Eigen statistic of 25.08 against the crucial value of 14.26. Thus, we can conclude that there exists at least one (1) co-integrating equation underscoring that GDP and MIL (and by default) have long-run equilibrium relationships.

The nature and magnitude of the relationships are demonstrated on Table 3c, which depicts the normalized co-integrating coefficients. From the Table, it is easy to see that the MIL variable is significant at 5% level by posting a coefficient of -23.06 and a standard error of 4.41. This shows that in the long-run, militarism significantly associates with growth in output, but in a negative manner. The coefficient posted by CIV variable is 23.06. This is positive and shows that civilianism is associated with positive growth in output (GDP).

In the case of the long-run equilibrium relationship between inflation (INF), MIL, and CIV, the coimtegration test results are summarized on Table 4a and 4b. Accordingly the observed trace statistics of 22.56 is greater than the critical value of 15.49 at 5% level of significance (see Table 4a). Equally, as in Table 4b, the Max-Eigen statistic of 19.77 is greater than the critical value of 14.26. Invariably the study rejects the null hypothesis and accepts the alternate hypothesis of at least one co-integrating equation. This implies that there exists a long-run equilibrium relationship between inflation and militarism (and by default civilianism).

TABLE 3A
Unrestricted Cointegration Rank Test (Trace) Results between GDP and MIL

Trend assumption: Linear deterministic trend
Series: GDP MIL
Lags interval (in first differences): 1 to 1

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.457584	27.22355	15.49471	0.0006
At most 1	0.050925	2.142972	3.841466	0.1432

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

TABLE 3B
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypot: hesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.457584	25.08058	14.26460	0.0007
At most 1	0.050925	2.142972	3.841466	0.1432

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05

TABLE 3C
Normalized Cointegrating Coefficients (Standard Error in Parentheses) Showing the Longrun Relationship between GDP, CIV and MIL

GDP	MIL
1.000000	-23.06603
	(5.23310)
GDP	CIV
1.000000	23.06603
	(5.23310)

Table 4c summarizes the normalized co-integrating coefficient of the MIL, and CIV -18.0 and standard error of 5.97 indicates a t-statistic of -3.02, which is significant at 5% level. The CIV posted similar result as expected (18.0 and 5.97 respectively for coefficient and standard error), only that the relationship is positive. By implication, militarism is negatively related with inflati*on* while civilianism is positively related with inflation. The implication of this result tends to suggest that military administrations tend to pursue policies that are anti-inflationary as opposed to their civilian counterparts who pursue policies and engage in practices that encourage inflation. An explanation to this may not be

TABLE 4A
Unrestricted Cointegration Rank Test (Trace) Results between INF and MIL

Trend assumption: Linear deterministic trend
Series: INF MIL
Lags interval (in first differences): 1 to 1

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.382613	22.56970	15.49471	0.0036
At most 1	0.065946	2.797069	3.841466	0.0944

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

unconnected with the non –liberal, but intense regulatory approach of the military regimes in such indicates as prices of commodities, interest, rates, and wages.

TABLE 4B
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.382613	19.77264	14.26460	0.0061
At most 1	0.065946	2.797069	3.841466	0.0944

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

TABLE 4C
Normalized Cointegrating Coefficients (Standard Error in Parentheses) Showing the Longrun Relationship Between GDP, CIV and MIL

INF	MIL
1.000000	-18.00370
	(5.96600)

Normalized cointegrating coefficients (standard error in parentheses)

INF	CIV
1.000000	18.00370
	(5.96600)

Short-Run Equilibrium and Causality Analysis

Tables 5 depicts the results of the regression indicating the short-run relationships between GDP, NIL, and CIV. As can be seen, the coefficient of 14.46 and t-statistical of 2.57 is significant at 5% level (probability = 0.014). This would suggest a rejection of a null hypothesis that militarism does not record growth in output. In Table 5 both MIL and CIV coefficients are significant, indicating that both regimes have the propensity to bring about, the confidence level that CIV brings about growth more than MIL is higher.

With respect to inflation, as in Table 6, both variables are also significant at 5% indicating that both have the tendency to generate inflationary pressures in their activities in the short-run (Beta= 11.7 for MIL and 24.68 for CIV). It is noteworthy that the level of significance for CIV is lower than that of MIL

indicating higher confidence level that CIV is more associated with inflation than MIL. Generally, however we cannot accept a null hypothesis that both regimes

TABLE 5
Regression Results showing Short-run Relationship Between GDP, CIV and MIL

Dependent Variable: GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.11250	4.121611	3.424025	0.0014
MIL	14.46141	5.635563	2.566099	0.0140
CIV	28.57391	3.843422	7.434498	0.0000

TABLE 6
Regression Results showing Short-run Relationship Between INF, CIV and MIL

Dependent Variable: INF

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.94000	3.493220	3.704319	0.0006
MIL	11.74261	4.776351	2.458489	0.0183
CIV	24.68261	3.257445	7.577292	0.0000

fail to initiate policies and activities that encourage inflation in the short-run.

TABLE 7
Pairwise Granger Causality Tests Results among the Variables

Null Hypothesis:	Obs	F-Statistic	Prob.
MIL does not Granger Cause GDP		3.84443	0.0307
GDP does not Granger Cause MIL		2.50742	0.0956
CIV does not Granger Cause GDP		3.84443	0.0307
GDP does not Granger Cause CIV		2.50742	0.0956
MIL does not Granger Cause INF		1.42915	0.2528
INF does not Granger Cause MIL		1.11612	0.3386
CIV does not Granger Cause INF		1.42915	0.2528
INF does not Granger Cause CIV		1.11612	0.3386

The results of the causality tests are summarized on Table 7. As in Table, causality is observed to flow from MIL to GDP and not vice versa. This indicates that both regimes have the potentials to cause and actually causes GDP growth in the economy. There was no causality established for both MIL and CIV variables in respect of inflation. Thus, their relationships are not necessarily causal but at best associational.

DISCUSSION OF FINDINGS AND CONCLUDING REMARKS

It was the central objective of this study to investigate, econometrically, the impact of military and democratic systems of government on the output growth and inflation conditions of the Nigerian economy. In order to do this, the study specified three output models, three inflation models and four causality models aimed at providing econometric basis for estimating the hypothesized relations. The results indicate that in the short-run, both military and democratic regimes that ruled Nigeria reserved the capacity to cause real growth in the country's GDP. The results of both the least squares estimation and Granger causality tests for both military and civilian regimes attest to this fact. Both regimes granger-caused output growth during the period under study. This result would agree with the submissions of the middle-of-the-Road School of Thought that regime differences are immaterial; what mattered is good governance. Thus, where the right people, policy, materials and resources are in place, it would not matter whether or not administration is authoritarian or democratic. This was demonstrated in South Korean, Pakistani, and Chile's cases as reported in Park (2008), The World Factbook (2014), and Khan(2011).

The observed short-run causally significant relationship between GDP growths and the economic policies and activities of the two regimes are equally sustainable in the long-run. This is substantiated by the results of the cointegration tests. According to the results, long-run equilibrium relationships exist between output, militarism, and civilianism. Thus, both regimes reserve to potentials to cause output growth in a relatively long time. Note-worthy, however, is that whereas in the long-run democracy is found to cause positive, militarism is observed to cause negative growth. By implication military rule that may have started with incipient positive growth ended up having the table turned around in the long-run to give room for output decline. This finding appears to be in tandem with the arguments of the democratic school of thought and the findings of Mintz and Huang (1990), Chowdhury (1991), Galvin (2003), and Edame and Nwankwo (2003).

Furthermore, in the case of inflation, the short-run results indicated that both military and civilian regimes had their activities and operations associating remarkably with inflation in the economy. The observed significant relationships were not causal, however. The results of the Granger causality test did not show any causation for the two regimes, nor any feedback whatsoever. Thus, in the

short-run, inflation in the economy can be explained by other factors other than regime typology. In the long-run however, both regimes were observed to have long-run equilibrium relationship with inflation during the period under study. This implies that the policies, programs, and activities which failed to cause inflation in the short-run ended up aggravating it in the long-run. It is interesting to notice that for the military rule the long-run relationship with inflation was negative. This implies that the policies and programs of the military reserve the potentials to reduce inflation over a long time. This was not the case with the civilian administration variable which was found to be positive and significant. Thus, civilianism had a long-run association with inflation; implying that the policies and activities implemented in Nigeria by democratic regimes were inflationary as opposed to those of the military which were anti-inflationary in the course of time.

This result agrees with the *a priori* theoretical underpinning that iinflation is not a condition that is usually associated with militarism in view of the fact that under such a regime there is usually intense regulation, restrictions and lid placement. Price control is one of the features of authoritarianism that would not surely give rise to inflation. Going by economic and finance theory, inflation is more growth-friendly than deflationary conditions. Taking this for granted, policies and activities that encourage mild inflation would be more desirable than those that cause deflation. In this regard, it can be said that democracy would be superior to military rule as far as the economy is concerned. This point must be qualified to the extent that the levels of inflation experienced by the country are mild and not hyper. Hyper-inflation is very destructive to any economy, and perhaps, just as destructive as deflation (negative inflation).

Based on the findings of this study, it is recommended that Nigeria, as a country should continue to uphold democracy and its ideals instead of authoritarianism. Giving the good points associated with authoritarianism, especially in terms of training, discipline and devotion, the suggested democracy should equally find a viable way to tap the potentials of valuable military personnel. An additional proviso would be for the democratic governments to encourage training and development programs for such military personnel on aspects of democratic ideals and processes to enable them fit properly into the democratic society and contribute their own desired quota to national development. Equally, it should be a pre-condition for politicians to be trained and developed, not only on the ideals of democracy, but also on the cherished principles and qualities that the military inculcates in their personnel. These would mean "a little to the right and a little to the left" strategy that would help the country reap the good points of both the military and those of democracy. This would surely redound to an enduring beneficial democracy.

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