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Cost of Peace Accounting and National Security in Nigeria: Does it Really Matter?

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Abstract

Purpose of the article: The cost of ensuring national security is very high, but measuring this cost has received little attention. One way of reacording and ascertaining the financial resources expended on national security is via Peace Accounting. Peace Accounting is an innovative idea that is taking a firm root in Nigeria and the world over. Peace accounting deals with ascertaining and reporting the financial resources accompanying domestic violence such as insecurity, political violence, insurgency, militancy, economic predicament, corruption and all other costs associated with national security.

Methodology/methods: Secondary data were obtained from the Central Bank of Nigeria Statistical Bulletin and the International Monetary Fund Cross Country Macroeconomic Statistics from 1996–2015. Ordinary Least Square estimation technique was employed in analyzing the data and analysis performed via SPSS.

Scientific aim: This paper gauged the costs of peace accounting and its implication for national security in Nigeria.

Findings: The study found that expenditure on internal security, cost of peace keeping and gross fixed capital formation are dynamics of peace accounting. Furthermore, cost of peace keeping is statistically significant except that expenditure on internal security and gross fixed capital formation were statistically flawed. Expenditure on internal security has negative impact on *GPI*.

Conclusions: On the basis of the above, we recommend among others that countries like Nigeria faced with security challenges should engage professionals/experts that can help develop peace accounting models aimed at measuring the cost of peace. Also, special attention should be paid to expenditure on internal security since it has negative effect on *GPI*.

Keywords: cost of peace accounting, national security, global peace index, gross fixed capital formation, expenditure on internal security

JEL Classification: M41, F52

Introduction

Nigeria as a nation is faced with numerous security challenges. These security challenges has threatened both economic prosperity and peaceful coEXIStence. Achieving peace has thus remained a challenging task for past and successive government due to the enormous financial and material resources channeled to regions faced with security trials. For instance, recent violence in Enugu (involving farmers and pastoralists) have ravaged local communities by radically plummeting both security and economic activities (Mercy, 2014), violence in Niger Delta region and terror sets (Boko Haram) in Northern region (Erin, Tony, 2011; Fidelis, Egbere, 2013; Abubakar, 2015) and more recently the Avengers group bombing of Chevron refinery in South-South (Warri, Delta State) has significantly challenged national security. This has caused the government huge amount of resources in guaranteeing national security. As a result it is our opinion that developing effective recording and reporting of the financial resources on peace or domestic predicaments is needful. This is true because reporting the financing costs relating to peace or domestic predicaments is important for policymaking by the government since finance as observed by Abubakar (2015), is very paramount in pursuance of a country's policy objectives.

The cost of ensuring national security is very high, but measuring this cost has received little attention. One way of recording and ascertaining the financial resources expended on national security is via "Peace Accounting". According to Jurgen, Paul (2010), accounting approach analyzes the total value of assets destruction (i.e. physical, human and social capitals) and the economic approach as opined by Stiglitz, Bilmes (2012), reflects on the macroeconomic costs and benefits of war (i.e. amount of money spent on domestic investment now gross capital formation). Notwithstanding the huge amount of resources spent in restoring peace, economic growth has been hindered by discouraging private investments, trade, production and destruction of productive assets. Thus, the thrust of this paper is to first, develop a model for peace accounting; and second, test the developed model to see if such peace accounting model has any implication on national security in Nigeria. The remaining part of this paper is devoted to review of related literature, methods, discussion of results, conclusion and recommendations.

1. Review of Related Literature

The literature emanates in two forms: conceptual framework and empirical review.

a. Conceptual Framework

i. Peace Accounting: An Overview

The concept of peace is relative and the circumstances for peace vary from one nation to another (Fidelis, Egbere, 2013). What we may see as peace in Nigeria may not be same for another Africa and European nation. It is a widely held view that middle and low level countries are more susceptible to some forms of social devices, militancy and unrest; this case is same in the context of Nigeria.

Most nations are now trying to measure the cost of curtailing these domestic crisis. Peace-accounting, an innovative idea that is taking a firm root in Africa and the world over, is one major way of ascertaining or measuring the costs of peace-keeping or domestic violence. For the purpose of this paper, peace accounting deals with the cost accompanying domestic predicaments such as insecurity, political violence, insurgency, militancy, economic predicament, corruption and all other costs connected with national security.

Peace accounting can be seen as the process of recording, analyzing and providing of information that relates to cost of curtailing violence or cost associated with peace-keeping. These information are so important that it solves the agency problem that may erupt between the government and the citizens. Stiglitz, Bilmes (2012) assert that the only way to mitigate the agency problem is through transparency. Peace-accounting brings about information that may instill transparency that can be passed from the principal (citizens) and its agent (government). Two methodologies to peace-accounting has been distinguished in the academic literature: economic and accounting models. Jurgen, Paul (2010) posits that accounting model to peace-accounting evaluates the total value of damaged assets which may include physical, human and social capitals during a fiscal period while the economic approach as opined by Stiglitz, Bilmes (2012), mirrors on the macroeconomic implication resulting from the amount of money spent on domestic investment as a result of war. Thus, we believe that both methodologies are not superficial but in reality, peace-accounting should not only take into cognizance only the total value of damaged goods but also domestic investments that result from peace-keeping. We hold that blending both methodologies in a unified model will give a better or more realistic picture on the cost

of peace-accounting and its implication on national security in the Nigerian context.

ii. National Security in Nigeria

The debate over national security appears to be both deepening and expanding (Dick, 2011). Nigeria's national security supports the system in which Nigerians live (Osaghea, 2010). Achieving national security in Nigeria has been a challenging task for governments, notably, since the inception of democracy. The nation has experienced a decade of violence and insecurity in the south-east, south-south and northern regions. Presently, the insecurity or violence in the northern region has full-fledged trend that successive governments are battling. Insecurity symbolizes the manifestation of threats to citizens which indicates a direct defilement of security.

The violence in the south-south region as noted by Fidelis, Egbere (2013) has intensified insecurity which has led to the withdrawal of major oil-producing companies, illegal oil-bunkering, vandalization of oil pipelines, national loss of income and resources, decrease in level of productivity, investments and capital flows among others. According to the Institute for Economics and Peace (IEP) (2016), Nigeria is ranked 151st as the most peaceful country in the world leaving other African nations like Mauritius 25th, Botswana 31st, Namibia 48th, Malawi 51st, Ghana 54th, Zambia 55th, among others. Such insecure atmosphere may discourage the acquisition of visible assets and may worsen macroeconomic problems (Jurgen, Paul, 2010).

In the northern region, about 15,000 citizens have been exterminated in bombings and gun raids by Boko Haram sects since July 2009 (Agbiboa, 2013). This according to Agbiboa has led to abrupt decline in Nigeria's Foreign Direct Investment (FDI) and have weakened the national security of Nigeria. The insecurity challenges has emasculated the private and public sectors of the Nigerian economy. Thus, in order to restrain the adverse consequences that violence may have on national security, Abubakar (2015) and Lynn (2003) assert that countries all over the world have devised and employed foreign policies aimed at cushioning the effect as well as protecting, promoting and defending their vital national interest.

b. Prior Works

A review of prior studies suggest that there are no empirical evidence on peace accounting and its implication for national security in Nigeria. Thus our study is one of the first to critically analyze the cost of peace accounting and its knock-on-effect for national security in Nigeria. Some studies (Fidelis, Egbere, 2013; Jurgen, Paul, 2010; Abubakar, 2015; Stiglitz, Bilmes, 2012; Justino, 2012; Hoeffler, Fearson, 2015; Mercy, 2014) have dealt with militancy, peace keeping mission, estimating cost of wars, inequality and benefits of peace and cost of conflicts without no empirical evidence on cost of peace accounting and national security in Nigeria. Expanding the frontier of these studies, Fidelis, Egbere (2013) study utilized Gross Domestic Product and cost of peace-keeping in analyzing the effect of the cost of militancy and unrest or peace accounting on the productivity of private organizations in Nigeria. Ordinary least square estimation method was employed and the analysis of the study suggests that peacekeeping cost, especially with private organizations has a negative significant influence on the level of productivity and economic growth in Nigeria.

Jurgen, Paul (2010) believed that if Africa continent must account for the cost of violence, then it has enormously negative effect on their economies in the form of resources misallocation, severe opportunity costs of non-realized GDP and trillion dollars resulting in business opportunities may be lost. Abubakar (2015) descriptively explored the cost and benefits of Nigeria's peace mission in Sierra Leone and found several benefits and implication of peace accounting costs. First, Nigerian's intervention in the peace mission led to a fall of the GDP from 8.2% in 1991 to only 1 % in 1994 which precipitated a decline in the Nigerian economy. Thus the cost of peace accounting made the Nigerian economy to become volatile. Second, peace accounting cost in Nigeria came with benefits such as re-establishing the nation as the giant of Africa, international laurels won, solidification of the bilateral affiliation between Nigeria and Sierra Leone, expansion of trade relations and improved economic investments in Sierra Leone. One interesting revelation of Abubakar's study is that the cost of peace accounting outweighed the benefits.

Stiglitz, Bilmes (2012) provided a methodological basis for estimating the costs of peace accounting in Iraq and Afghanistan. Their methodological thought showcases two approaches: measuring cost of war in economic and accounting terms. Economic costs include micro and macroeconomic costs. Microeconomic costs are cost of war suffered by a particular individual or firm while macroeconomic costs are those which impact on the aggregate economy in excess and beyond the amount of micro costs. Thus, the economic approach to measuring peace accounting is assessing the amount of resources utilized and how these expended resources are valued. On the

other hand, accounting approach deals with providing information on the use of resources during domestic crisis. The accounting approach as they opine, is indispensable for good governance of a nation.

Justino (2012) theoretically described how the correlation between economic marginalization, disparity, conflict and violence influence the goal of instituting shared societies. The study identified two institutional framework for understanding the correlation between conflict and shared societies. First, the change triggered by armed conflict on social relations, norms of trust and collaboration; second, the control exerted by informal intermediaries, informal service providers and informal systems of governance regulated habitually by non-state armed players emerging from the course of violence. These forms of institutional frameworks are fundamental to understanding how nations can limit the use of violence towards ensuring national security.

Hoeffler, Fearson (2015) investigated the benefits and costs of the conflict and violence targets for the post-2015 development agenda. Several forms of violence that may threaten national security, costs and GDP were identified to include collective violence (\$167.19) as a cost in percent of world GDP 19% interpersonal violence (\$1,245.27: 1.44%), homicides (\$700.5: 0.82%), child abuse (\$3,594: 4.21%), reported child sexual violence (\$36.8: 0.043%), intimate partner violence (\$4,423: 5.18%) and reported sexual violence against women (\$66.7: 0.078%).

Interestingly, Hoeffler and Fearson study evidenced that violence is degenerating and the falloff in violence in ensuring national security is connected with countries with high incomes, suggesting that countries with low and middle income may experience huge cost of peace accounting as well as violence that can threaten the national security.

Mercy (2014) study on economic costs of conflict and the benefit of peace in relation to farmer pastoralist conflict in Nigeria's middle belt on state, sector and national economies found that Nigeria stands to get about US \$13.7billion yearly in aggregate macroeconomic growth in situation of peace between farmers and pastoralists in specific areas such as Benue, Kaduna, Nasarawa and Plateau and states distressed by farmer-pastoralist conflicts suffer a loss of 47% of taxes on an average. Also, the findings indicated that Plateau suffer an estimated loss of 75% of probable state revenue, Kaduna 22%, Nasarawa 45% and Benue 44%. The overall findings hint that trade is the hardest hit by farmer-pastoralist conflict in the Middle Belt and Nigeria's economy. Concluding the review of empirical studies, we found that there is no evidence on cost of peace accounting and

national security in Nigeria, this forms the thrust of this paper.

2. Methods

In reality, measuring the cost of peace-accounting ought not to be streamlined to just gauging the domestic investments resulting from peace-keeping but also to cost of peace-keeping as well as assets damaged as a result of violence. Besides, gauging the cost of peace-accounting will yield a more realistic results by combining both the accounting and economic approaches. In this paper, we first proposed a model that showcased the disjointed approaches to peace-accounting and second, a unified model of accounting and economic assessment of peace-accounting. The functional relationship as regards the economic perspective to peace accounting is given below:

$$GPI = f(\log GFCF),$$
 (1)

where *GPI* is the dependent variable and *GFCF* is the independent variable during a fiscal period. The above equation (1) is explicitly expressed below:

$$GPI_{t} = a_{o} + b_{1}\log GFCFt + U_{t}. \tag{2}$$

Equations (3) and (4) below express the functional relationship as regards the accounting approach to peace accounting:

$$GPI = f(\log VAD),$$
 (3)

where *GPI* is the dependent variable and *VAD* is the independent variable during a fiscal period. The above equation (1) is explicitly expressed below:

$$GPI_{t} = a_{o} + b_{1}\log VAD_{t} + U_{t}. \tag{4}$$

In equations (5) and (6), we estimated a unified model that blends both perspectives to peace-accounting:

$$GPI = f(\log GFCF, \log VAD), \qquad (5)$$

$$GPI_{t} = a_{o} + b_{1}\log GFCF_{t} + b_{2}\log VAD_{t} + U_{t}. \quad (6)$$

In equations (7) and (8), we proposed a peace accounting model by introducing *COPK* and *EXIS*. *COPK* and *EXIS* were introduced since national security depends largely on the cost associated with peace-keeping as well as expenditure on national security.

$$GPI = f(\log GFCF, \log EXIS, \log COPK),$$
(7)

$$GPI_{t} = a_{o} + b_{1}\log GFCF_{t} + b_{2}\log EXIS_{t} + b_{3}\log COPK_{t}U_{t},$$
(8)

where *GPI* is the dependent variable, *GFCF*, *EXIS* and *COPK* are the independent variables during a fiscal period.

Definition of variables:

GPI Global Peace Index,

log EXIS logarithm of Expenditure on Internal

Security,

GFCF logarithm of Gross Fixed Capital

Formation (Gross of depreciation of assets- investments replacing

scrapped capital),

COPK logarithm of Cost of Peace Keeping,

t time, U error term,

 a_0, b_1, b_2, b_3 egression coefficients.

Secondary data were employed from the Central Bank of Nigeria Statistical Bulletin and International Monetary Fund (IMF) Cross Country Macroeconomic Statistics during the period 1996–2015. The analysis was performed via the SPSS 21.0 version.

3. Discussions

The results are presented in Tables 1–3:

Table 1 reports the descriptive statistics for the dependent (Global Peace Index) and independent variables (Gross Fixed Capital Formation, Expenditure on Internal Security and Cost of Peace

Keeping). The aggregate mean GPI is 2.22% with standard deviation of just about 0.52%. This implies that the aggregate GPI can deviate from mean to both sides by 0.52%. The minimum *GPI* for Nigeria was 1.158% in 2000 while GPI reached a whopping 2.93% in 2015. This result suggests that Nigeria was ranked 2.93% higher than prior years as regards to their level of peace. GFCF recorded a mean and standard deviation of 1.2% and 0.067% with minimum and maximum values of 1.12% (1996) and 1.36% (2002). This suggests that GFCF can deviate from mean to both sides by 0.067%. However, mean EXIS is 1.24% and standard deviation 0.067% while the minimum and maximum EXIS reported were 1.04% in 1996 and 2.56% in 2015. This result suggests that expenditure on internal security increased significantly in all the years and rose to a very high extent in 2015. Furthermore, mean COPK is 1.89% and standard deviation 0.45%.

The minimum *COPK* is 1.03% in 1996 and maximum is 2.47% in 2015. It was thus evident that the highest *COPK* was 2.47% higher than prior years.

The mean plot above further explains the above position. Furthermore, based on Figure 1 above, Global Peace Index (*GPI*) recorded the highest mean, followed by Cost of Peace Keeping (*COPK*), Gross Fixed Capital Formation (*GFCF*) while Expenditure on Internal Security (*EXIS*) recorded the lowest mean value for the period under investigation.

Table 2 reports the correlation matrix for the dependent and independent variables. Pearson correlation indicates the measure of association between variables. The measure of association can be wither low, moderate and high.

Table 1. Descriptive Statistics for Dependent and Independent Variables.

Variables	Mean	St. Deviation	Min. Value	Max. Value	
GPI	2.2171	0.52442	1.158	2.930	
log GFCF	1.2353	0.06730	1.117	1.364	
log EXIS	1.2353	0.06730	1.044	2.562	
log COPK	1.8880	0.44563	1.034	2.469	

Source: Author's own study.

Table 2. Correlation Matrix.

Variables	GPI	log GFCF	log EXIS	log COPK
GPI	1.000	-0.288	-0.288	0.762
log GFCF	-0.288	1.000	1.000	-0.200
log EXIS	-0.288	1.000	1.000	-0.200
log COPK	0.762	-0.200	-0.200	1.000

Source: Author's own study.

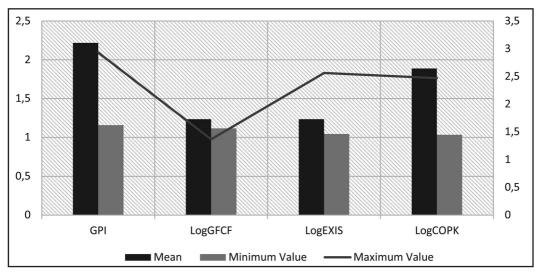


Figure. 1 A custom combination graph showing the Mean, Minimum and Maximum Values of the Dependent and Independent Variables. Source: Author's own study.

A low or moderate association suggests the absence of multicollinearity between variables (Edesiri, 2014). Van *et al.* (2008) advocates that when the Pearson *R* exceeds 0.80, the variables exhibit multicollinearity but the contrary is the case if Pearson *R* does not exceed 0.80. The maximum Pearson *R* in Table 2 is 0.762 and this was between Global Peace Index (*GPI*) and Cost of Peace Keeping (log *COPK*). This ratifies that there is no multicollinearity among the variables, hence the data used in this study is fit for performing regression analysis.

Table 3 presents the Model Summary, Analysis of Variance (ANOVA) and Coefficient results for the

dependent and independent variables. First, the R² adjusted =.552 shows that 55% of the dependent variable (Global Peace Index) has been explained by the independent variables: Cost of Peace Keeping (COPK), Expenditure on Internal Security (EXIS) and Gross Fixed Capital Formation (GFCF). However, the unexplained variation is 0.448 which is about 45%; thus we can understand that the model is providing a good fit to the data since the unexplained variation is 0.448. This clearly shows that the regression line fits the data and Durbin Watson (Dw) suggests that the model is serially correlated since 0.791 lies between 1.635_{dl} to 1.679_{du}. Second,

Table 3. Model Summary, ANOVA and Coefficient Results.

Model Summary									
R = 0.774	$R^2 = 0.599$	Adj. $R^2 = 0.552$	Std. error of estimate = 0.35108	Dw = 0.791					
ANOVA									
Model	Sum of squares	df	<i>f</i> -ratio	Sig.					
Regression	3.130	2	12.696	.000					
Residual	2.095	17	.123						
Total	5.225	19							
Coefficients									
Model	Beta	Std. error	t	Sig.					
Constant	1.946	1.617	1.203	0.245					
log EXIS	-1.099	1.221	-0.900	0.381					
log COPK	0.863	0.184	4.678	0.000					

Predictors: (constant), log COPK, log EXIS; dependent variable: GPI; excluded variable: Log GFCF.

Source: Author's own study.

the ANOVA result (specifically *f*-ratio) test the overall significance of the model. The *f*-ratio (12.696) shows that the variables (*EXIS*, *COPK* and *GFCF*) are the major determinants in explaining Cost of Peace Accounting. It can be observed that the independent variables give a significant effect on the dependent variable based on the *f*-ratio, suggesting that, overall, the model in the study is significantly good enough in explaining the variation on the dependent variable. Third, *COPK* is statistically significant (*P*<0.05) while *EXIS* and *GFCF* are statistically flawed (*P*>0.05). Interestingly, the *t*-value of *EXIS* (–.900) is carrying an additional sign (negative) and this implies that *EXIS* has negative impact on *GPI*.

4. Conclusion

Nigeria as a nation is faced with security challenges. These security challenges has triggered enormous resource commitment by the government in a bid to ensuring peaceful coexistence. Inspite of this, the country is still ranked 151st as the most peaceful country in the world. In Nigeria, we have not been able to gauge the resources spent on domestic violence and this has however gave birth to the novel

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concept of "Peace Accounting" which is taking a firm root in Nigeria. In this study, certain parameters such as cost of peace keeping, expenditure on internal security and gross fixed capital formation were examined in order to see their implication on national security (proxied by Global Peace Index).

The study revealed that Expenditure on Internal Security (EXIS), Cost of Peace Keeping (COPK) and Gross Fixed Capital Formation (GFCF) are dynamics of Cost Peace Accounting. In addition, COPK is statistically significant except that EXIS and GFCF are statistically flawed, although EXIS is carrying a negative sign suggesting that EXIS has negative impact on GPI. On the basis of the above, we recommend first that countries like Nigeria faced with security challenges should engage professionals or experts that can help it develop peace accounting models aimed at measuring the cost of peace since it has implication on national security. Second, special attention should be paid to expenditure on internal security since it has negative effect on GPI. Third, inspite of the security challenges facing the nation, gross fixed capital formation should be strengthened so as to allow for national progress. Finally, government should tackle the security challenges in all regions of the country.

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