ARMED CONFLICTS AND ECONOMIC GROWTH IN AFRICA

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1. Introduction

One of the goals of any country is attaining sustainable growth of the economy. To achieve this, some enabling factors such as human capital development, capital accumulation, exchange rate stability, and political stability, have been identified. While several studies have examined the effect of macroeconomic variables on growth, some efforts have also been devoted to other factors that are not strictly economic in nature but have far-reaching implications for growth. One of such factors is political stability, of which conflicts are one of the key manifestations of such downturn in economic fortunes. To aptly investigate conflicts and its implications, a number of authors have employed different indicators. Studies such as Barro and Wolf (1989) used the number of assassinations per million per year as a measure of conflicts, while Barro (1991) identified two main measures of political instability (the number of revolutions and coups per year and the number of assassinations per million per year). In addition, Barro and Lee (1993), Knack and Keefer (1995) and Easterly and Levine (1997) also established that revolutions have a negative and significant impact on growth. Overall, these studies suggest a deleterious impact of conflicts on growth, however, the narratives on mechanisms of effect differ.

There are different dimensions of conflicts, of which armed conflicts have been identified as one of the major causes of instability with attendant effects on economies. The African region has been experiencing changes in the nature and intensity of these armed conflicts\(^1\) over the years (see Williams 2017). Before the independence of some of these countries in the 1960s, most struggles were nationalistic in nature with a focus on fighting for the autonomy of the States and were specifically aimed at the colonial masters. However, the nature changed after independence, as struggles for control of political and economic powers by ethnic groups took the center stage in many African countries. Several of these countries experienced long episodes of civil wars such as Nigeria, Kenya, Angola, Congo, Somalia, Congo Republic, Sudan, Burundi, Rwanda, etc. Furley (1995) submitted that the persistence of military coups was terrifying in the four decades following the 1960s and more than half of the all African countries had gone through such experiences.

The resulting effects of these armed conflicts have been a drag to the economic growth of many African countries. These conflicts caused devastating effects on lives, properties, and economic activities in the region (see Elbadawi and Sambanis, 2000). More recently, the dynamics of conflicts in Africa have taken new dimensions as most countries such as Nigeria, Somalia, Libya,

\(^1\) According to ICRC (2008), armed conflicts can be classified as international armed conflicts (conflicts between two states that involves the intervention of armed forces) and non-international conflicts (the occurrence of conflicts in the territory of a ‘high contracting party’ between its armed forces and rebellious armed forces or organized armed group with vibrant command exercising a form of control over a part of its territory to perform and-execute military operations effectively and implement this Protocol). Another definition of armed conflicts is given by the Armed Conflict Location and Event Data (ACLED) report which comprehensively measured armed conflicts as the death resulting from political violence, civil and communal conflicts, violence against civilians, rioting and protesting and militia interactions (see Raleigh et al., 2014). According to Uppsala Conflict Data Program (UCDP), armed conflict is a contested incompatibility that requires government action through the use of armed force by the military forces of two parties where one party is the government of the state which resulted in at least 25 battle-related deaths each year. These are three main conceptual definitions for armed conflict. In this study, we preferentially adopt an armed conflict definition in the context of ACLED essentially because it covers different aspects of armed conflicts experienced in African countries. Therefore, we specifically conceptualized armed conflict as any forms of political violence, civil and communal clashes, violence against civilians, militia interactions, and rioting and protest.
Mali, Ethiopia, Egypt, Sudan, Chad, Cameroon, Burkina Faso to mention but a few, have been struggling with the challenges of insurgency. In addition, there are growing concerns about the emergence of new forms of armed conflict in the region (such as xenophobic attacks, banditry, extrajudicial killings, kidnapping etc.). This may complicate the developmental challenges facing the region. Thus, there are socioeconomic and economic implications of these conflicts as peace in the society is disrupted leading to human, environmental and material losses that go beyond what existing resources can replace. This may result in unimaginable damage to human lives and under some conditions increase the population of refugees and displaced persons thereby disrupting productive activities.

Furthermore, the prevalence of conflicts in Africa has resulted in the decline in productive activities causing widespread scarcity as well as the persistent increase in prices of goods and services thus negatively affecting productive capacity in some countries. This state of affairs is evident in the low ranking of the Africa region in terms of developmental indicators such as human capital development, employment, ease of doing business, security among others. As expressed in the World Economic Outlook report (2017, pp. 4), “the main risks to the growth outlook include volatility in commodity prices and a slump in the global economy’s recovery, which could affect trade, investment and remittance flows towards African economies, while political instability and security issues remain important risks to several of these countries”. For example, the Internal Displacement Monitoring Centre (2017) reports that “there were 6.9 million new internal displacements by conflict and violence in 2016, Sub-Saharan Africa overtook the Middle East as the region most affected, with almost one million new displacements in the Democratic Republic of Congo alone as a result of violent clashes in the provinces of North Kivu, South Kivu and Kasai”. It has also been appreciably argued in the literature that since the continent has experienced high levels of corruption, high youth unemployment rate, high poverty rate, high out-of-school children and lack of freedom, it is inevitable to have a concomitant prevalence of armed conflicts.

The need to understand how armed conflicts affect economic growth is premised on establishing potential mechanisms through which growth is influenced and the response to address the problem. In the case of Africa, studies that attempt to interrogate the nature of relationship between armed conflicts and economic growth are few.

To this end, this study identifies three mechanisms through which armed conflict may influence economic growth. In the first mechanism, foreign direct investment is a key candidate which has been identified in the literature (see Aziz and Asadullah, 2017, Ezeoha, 2015; Elbadawi and Sambanis, 2000; and Alesina and Perotti, 1996). These studies suggest that uncertainty created in the economic environment discourages foreign investors from committing their funds into business activities because of threats to their expected return. The earlier discussions have been in support of the view that conflicts dampen economic activities in African countries. This general perspective may not be generally true for all countries witnessing conflict. In rethinking the existing notions on the relationship between conflicts and economic activities, Haber et al. (2003)

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2 Dunne and Mhone (2003) argued that the havoc caused by conflicts and their socioeconomic implications after disruption of the well-functioning society will bring about widespread material or environmental losses that exceed the ability of the affected society to sustain relying on their existing resources.

3 See Copson (1994)
argued that econometric approaches applied on cross-national data failed to provide strong evidence on the political instability-income growth nexus. Similarly, Campos and Nugent (2002) further reveal that the argument of political instability having dampening effect on growth is to an appreciable extent inconsequential and relative. Specifically, they carefully demonstrated that the growth challenge in sub-Saharan Africa is more related to structural change rather than political instability. Furthermore, interesting patterns of plausible association between political stability and economic growth can be observed in some African countries. For instance, countries such as Libya, Algeria, republic of Congo and Egypt experienced high political instability and higher economic growth (per capita income) relative to countries with more stable political systems (such as Malawi, Madagascar, Benin, Togo and Lesotho). Thus, a closer scrutiny may suggest that the conclusion that the growth tragedy in African countries is largely caused by conflict is rather premature. Along this line of reasoning, a comprehensive study by Haber et al. (2003) on political instability, credible commitments and economic growth in Mexico further shed light on the issue of conflict and growth. They show that military leaders have incentive to make effort to protect the flow of revenues by ensuring strong economic base to foster their political organization and promote legitimacy. This suggests that under such conditions the economic implications of conflict may be surprisingly low. Thus, it would be incisive to explore this vital submission in the case of African countries as well as uncover possible mechanisms through which the conflict-growth works.

Thus, this study will carry out a comprehensive and analytical exploration of the relationship between conflict/political instability and economic growth using selected African countries. One key indicator to be explored is investment (both domestic and foreign) which is important to economic growth. As established in the literature, investment plays a pivotal role in the growth process. The occurrence of armed conflicts may discourage potential investment on one hand. It may not have substantial effect on investment given the return on such investment on the other hand. We further argue that if returns on investment is very high, then there is tendency for an ample share of returns to be allocated to security. This may guarantee the survival of the underlining activities. Haber et al. (2003) posited that the nature of the product offered by firms may determine their survival during conflict. In the case of mining or manufacturing, politicians have more incentive to protect such sector. This can be observed in some African countries especially the resource-rich nations. Thus, the implications of political violence and regime instability may vary across African countries. Hence, the relationship between forms of instability and economic growth may not really be as detrimental as widely underscored in the literature. This is further reinforced in Bates (2004, pp.497), that “... the costs of political disorder can surprisingly be low... But how might students of modern Africa react to that assertion?”. The second mechanism supposes that substantial portions of the resources meant for development financing are diverted to various aspects of military expenditures which may surprisingly account for the protection of the economic base. This may raise question on the tradeoff decision between security and developmental projects by governments in Africa. More so, military expenditure may cause crowding-out effect of public investment in productive sectors thereby reducing growth. Expectedly, during wars governments in these countries increase military spending substantially and antagonistic non-state actors such as rebel groups wrestle for the countries’ resources to fund their own military agenda (see Collier, 2006). The argument in the third mechanism is along the lines that armed conflicts may also affect the proper functioning of institutions that are critical to
economic growth. These social, political and economic institutions may be destroyed permanently due to armed conflicts (see Gates et al., 2015). Also, armed conflict may erode the important role of these institutions in creating an enabling environment for the expansion of economic activities. Put together, thus, these three mechanisms can help understanding on the tricky relationship between political instability and the growth trajectories of African countries. Based on the foregoing, the following questions are pertinent; Do conflicts necessarily dampen economic growth in Africa countries? Through which mechanisms do armed conflicts affect economic growth in Africa? What relatable policy implications can arise from these findings?

Although extant literature has an appreciable number of studies on armed conflicts and its determinants, not much is documented on the precise implication of the armed conflicts on the dynamics of the economy. Given the prevalence of armed conflicts/political instability and its changing nature in Africa, it is very important to evaluate its implication in achieving macroeconomic objectives particularly sustainable economic growth. Also, poor economic performance may ignite rebellious acts among citizens on the one hand; and on the other hand, the prevalence of armed conflicts may dampen economic prosperity (i.e. economic growth). Poor economic conditions are one of the key structural conditions that promote armed conflicts thus causing civil unrest in the region. Most of the previous studies on Africa such as Davies (2000), Herbst (2000), Orogun (2003), Lopez and Wodon (2005), Lemarchand (2009), Collier and Duponchell (2010), Pioireri (2012), Serneels and Verpoorten (2013), and Ezeoha (2015), only examined the impact of conflicts on some indicators such as well-being, schooling, and economic incentives. However, assuming the existence of an impact may not elicit the required understanding of the relationship between armed conflicts and economic growth. Thus, this study seeks to analyse the relationship between armed conflict and economic growth in Africa. Furthermore, some of the potential intermediate influences (mechanisms) on the armed conflict-economic growth linkage will also be investigated. The main preoccupation of this study is to explore an examination of the nature of the relationship between armed conflict and economic growth in the context of Africa using some countries as case studies.

Therefore, this study broadly examines the armed conflict-economic growth nexus in selected countries in Africa. The specific objectives of the study are to:

i. examine the nature of relationship between armed conflicts and economic growth
ii. investigate the mechanism(s) through which armed conflicts affect economic growth.
iii. explicate policy lessons corresponding to the outcomes in (i) and (ii)

The outline of the rest of this study is clear. Section 2 deals with the trends and patterns in armed conflicts, institutional quality, resource rents, foreign direct investment, and economic growth, while section 3 covers the review of related literature. The fourth and final section briefly offers the methodological approach and data issues.
2. Armed Conflicts, Economic Growth and Potential Interveners in Africa: Overview and Trends

This section focuses on the pattern of some key variables of interest over time. The persistent wave of conflicts in most countries in Africa somewhat reflects the extent to which weakening internal structures or institutions can significantly contribute to unstable output paths (Department for International Development, 2001). Thus, the trend analysis of key variables using graphical apparatus, across countries is the main focus of this section while other sections will explore the transmission mechanism.

In figure 1, armed conflicts recorded in Africa rose significantly from 35% in 1998 to 173.1% (the peak) in 1999 with a corresponding GDP growth decline from 4.1% to 3.9% between 1998 and 1999. This appears to suggest a negative association between growth in recorded armed conflicts and GDP growth. However, in the year 2000, there was a significant decline of 88% in the growth of recorded armed conflicts while economic growth further declined to 3.3%. It should be noted that conflicts do not account for the total fluctuation in GDP growth, other macroeconomic and socio-economic factors are also responsible. Notably, when growth in armed conflicts was rising, GDP was declining. The growth in armed conflicts recorded and GDP were oscillating over the period between 1998 and 2014. In sum, the plausible reason for the observed high growth of armed conflicts between 1999 and 2014 can be linked to several documented episodes such as the Second Congo War (1998-2003), Algerian Civil War (1991-2002), Somalia Civil War (1991-present), Caprivi Conflict (1994-1999), Guinea-Bissau Civil War (1998-1999), Libya Civil War (2011-present), Second Liberia Civil War (1999-2003), First Ivorian Civil War (2002-2007), Boko Haram insurgency in Nigeria (2009-present) to mention but a few. Although, some of these armed conflicts started before 1997 and there were spillovers to the period under consideration.

Figure 1: Average Growth in Recorded Armed Conflicts and Nominal GDP Growth in Africa

Source: Computed from Armed Conflict Location and Event Data Project, 2015
Further, the security situation on lives, property, and businesses in a country determine to a large extent the amount of foreign investment inflows. Investors are understandably interested in destinations with low levels of risk to their resources. Figure 2 shows the relationship between growth in recorded armed conflict and foreign direct investment (FDI) in Africa between 1998 and 2014. As shown in the figure, there was high armed conflict growth in 1999 with a corresponding decline in FDI inflows into the continent. The high armed conflicts growth was due to battles and militia groups’ violence affecting most parts of countries such as Angola, Burundi, DR Congo, Eritrea, Ethiopia, Nigeria, Sudan, and Uganda. However, there was a sharp decline in 2000 with relatively high fluctuation over the remaining period while FDI started rising from 2000. As observed from the figure, foreign direct investment was at the peak with corresponding low armed conflicts growth in 2011. Surprisingly, the armed conflicts growth rose astronomically by 111% in 2013. The period was characterized by many armed conflicts in many African countries. These armed conflicts were due to the insurgency, Arab uprising, and extrajudicial killing. Figure 3 presents the relationship between armed conflicts growth and domestic investment growth in Africa. It can be observed from the figure that the high armed conflicts growth recorded in 1999 clearly affect a lot of economic activities in the region as domestic investment growth decline significantly. This shows the extent to which the phenomenon of armed conflicts can be detrimental to the dynamics of the economies in the region. As shown below, there is a clear negative relationship between the two variables except period 2012-2014. The co-movement between the two variables in period 2012-2014 can be attributed to economic factors such as returns on investment.

Figure 2: Growth in Recorded Armed Conflicts and FDI in Africa

Source: Computed from Armed Conflict Location and Event Data Project, 2015 and WDI, 2016
Figure 3: Growth in Recorded Armed Conflicts and Domestic Investment Growth

Source: Computed from Armed Conflict Location and Event Data Project, 2015 and PWT, 2016

Figure 4 depicts the link between the number of fatalities and total natural resource rents (TNRR). The struggle for natural resources has played a significant role in a lot of conflicts that broke out in many African countries. This is because most conflicts in the continent arise from groups’ grievances through marginalization. Thus, this encourages groups’ arm proliferation to fight the state for what they perceive as their right (i.e. natural resources). The figure shows generally that high level of conflicts is associated with a decline in resource rents. This pattern is evident in 1999, 2005, 2006, 2007 and 2008 where conflicts and resource rents clearly moved in opposite directions. Some of the countries that have been confronted with these challenges include Angola, Liberia, Sudan/South Sudan, Nigeria, Congo DR, Sierra Leone, and the Central African Republic. In these settings, a large number of lives have been wasted as a result of conflicts between armed groups and the central government over valuable resources such as some solid minerals, crude oil, etc.
In figure 5, the nature of armed conflicts and military expenditure were presented. The region witnessed high military spending between 1998 and 2006. Afterward, the spending begins to decline as armed conflicts start to increase between 2007 and 2014. This is not too surprising as the region continues to face different challenges on how to allocate its limited resources among competing needs which include military spending to address emerging armed conflicts.

Digging deeper to apprehend the possible influence of constraints in terms of institutional structures and capacities, table 1 shows different indicators for measuring institutional quality for Africa between 1996 and 2015. The figure shows that the values for these indicators are largely negative indicating that there are lots of institutional challenges in Africa. Most countries in the continent have experienced high levels of corruption, low government effectiveness, high political
instability, weak regulatory quality, poor rule of law and lack of accountability. This may explain in part the propensity and spread of instabilities (armed conflicts) in the continent.

Table 1: Indicators for Institutional Quality in Africa

<table>
<thead>
<tr>
<th>Period(s)</th>
<th>Control of Corruption</th>
<th>Government effectiveness</th>
<th>Political Stability</th>
<th>Regulatory Quality</th>
<th>Rule of Law</th>
<th>Voice and Accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996-2002</td>
<td>-0.67</td>
<td>-0.57</td>
<td>-0.72</td>
<td>-0.66</td>
<td>-0.73</td>
<td>-0.60</td>
</tr>
<tr>
<td>2003-2006</td>
<td>-0.66</td>
<td>-0.52</td>
<td>-0.68</td>
<td>-0.65</td>
<td>-0.68</td>
<td>-0.66</td>
</tr>
<tr>
<td>2007-2010</td>
<td>-0.66</td>
<td>-0.54</td>
<td>-0.65</td>
<td>-0.68</td>
<td>-0.70</td>
<td>-0.62</td>
</tr>
<tr>
<td>2011</td>
<td>-0.68</td>
<td>-0.57</td>
<td>-0.67</td>
<td>-0.69</td>
<td>-0.71</td>
<td>-0.59</td>
</tr>
<tr>
<td>2012</td>
<td>-0.72</td>
<td>-0.62</td>
<td>-0.65</td>
<td>-0.69</td>
<td>-0.70</td>
<td>-0.61</td>
</tr>
<tr>
<td>2013</td>
<td>-0.73</td>
<td>-0.64</td>
<td>-0.65</td>
<td>-0.68</td>
<td>-0.71</td>
<td>-0.63</td>
</tr>
<tr>
<td>2014</td>
<td>-0.75</td>
<td>-0.70</td>
<td>-0.71</td>
<td>-0.69</td>
<td>-0.63</td>
<td>-0.63</td>
</tr>
<tr>
<td>2015</td>
<td>-0.73</td>
<td>-0.63</td>
<td>-0.69</td>
<td>-0.68</td>
<td>-0.62</td>
<td>-0.62</td>
</tr>
</tbody>
</table>

Source: World Governance Indicators, 2016

Note: These indices range from -2.5 to 2.5, with both extremes representing the worst and best institutional quality in that order.

3. Literature Review

Globally, armed conflicts appear to be on the rise and as one is being subdued in a particular place (say district, country, region, etc.) some others evolve in another geographical space. Given that peace is fundamental to the survival of the state, armed conflicts have been given ample attention in the literature. Various theories have been put forward to explicate the causes and consequences of armed conflicts. For instance, classical insurgency theory gives insights to the issue of armed conflict based on the assumption that the fundamental reason for conflict is the provision of alternatives which challenge the subsisting order (see Kilcullen, 2006). From the 2010 Handbook for Internally Displaced Persons (HIDP) developed by Global Protection Cluster Group, a framework for contextualization of the degree and impact of armed conflicts around the world was set. According to Global Protection Cluster Group (2010) armed conflict creates destabilization which leads to displacement of people (i.e. Internally Displaced Persons-IDP) and therefore, they are forced to abandon their homes with uncertainty about return to their place of origin due to high risks (such as destruction of lives, properties, investment, and output). Under such situations, the state authorities are incapable of providing adequate security for the survival of the residents. The affected population is therefore faced with the problem of low standard of living, exposure to deadly diseases, inability to participate in productive activities among others.

Further to this initial conceptual framing of the causes of armed conflicts, a number of other theoretical postulations also provide more insights. These include the ideas espoused in the “economic interests” and “relative deprivation” hypotheses. Starting with economic interest hypothesis, the assumption is that the incidence of internal war is the resulting factor of rational estimations in terms of expected costs and opportunities (see Humphreys, 2003 and Lemarchand, 2009). Also, the existence of natural resources and the ethnic struggle for control may warrant the use of force in a violent manner by the government on the civilians (Querido, 2009). This may
arise from the economic interest of taking ownership and exploitation as well as agitations for a share in the fiscal proceeds. The struggle by militia groups and government for taking control of natural assets create instability where economic activities are significantly affected thereby resulting in reduced productivity. For instance, Lei and Michaels (2014) demonstrated that giant oilfield discoveries may increase the incidence of armed conflict by 5 to 8 percentage points, especially for countries that have a past history of conflicts or coups. With particular reference to Sierra Leone’s civil war, Davies (2000) identified greed and obsession for control of the diamond-rich regions of the country as motivation for the Revolutionary United Front’s (RUF) challenge of the government which destabilized the country as future exploitation rights were sold to fund the war. This implies that economic wellbeing will no longer be prioritized as both parties struggle for survival. This will affect productivity as less focus will be on economic activities.

The relative deprivation hypothesis, as an alternative theoretical perspective, offers explanations on the widespread perception of misalignment between the objectives of human action and the potential of achieving those objectives. The fundamental issue starts with notions of deprivation in the distribution of political power or national resources. This plays a significant role in the evolution of armed conflicts especially in African countries where sharp ethnic divisions are prevalent. The struggle for control of political or natural resources may lead to deprivation of one party which may implant grievance and animosities in ethnic and inter-regional association in the affected country. Similarly, parties deprived and displeased with the state of the economy and which lack the political power to effect institutional changes might be prone to terrorism (Blomberg et al., 2004). This may make the country ungovernable and lead to substantial drag in productive activities. For instance, per capita GDP in the Basque region of Spain fell by about 10% relative to a “synthetic” control region in the 1970s after the outbreak of terrorism and this gap continued to widen in response to increasing activities of terrorists (See Abadie and Gardeazabal, 2001).

The foregoing tends to suggest that armed conflicts are broadly manifestations of several unresolved tensions and contestations over resources and other valuable assets. Some authors, such as Moser and Shrader (1999) and Dim (2017) have proposed an integrative conceptual approach to explain important aspects of violent extremism and the ways in which they interplay. In particular, Dim (2017) noted that the adoption of this approach is vital as it provides holistic explanation to the persistence of conflicts. Specifically, the approach consists of the poverty theory, which highlights the socio-economic factors (economic interests) that creates the requisite environment for violent extremism to foster; the relative deprivation theory, which undertakes a psychological approach; and social identity theory which describes terrorism as a phenomenon shaped by the tensions created by one’s desire to affirm one’s social identity.

Conflicts are indubitably destructive for a country with both quantifiable and unquantifiable costs. Thus, countries may find it difficult to sustain economic growth and development because of the nonexistence of the enabling environment. In Africa, the persistence of armed conflicts has been one of the key factors that contributed to under-development in the region (Ezeoha, 2015). Consequently, the resulting effect of crises has embodied disasters and other events where the survival of the society is at stake and also destruction that can lead to widespread human, economic, material or environmental losses that go beyond what available resources can rectify (Dunne and Mhone, 2003). In the documentation of armed conflicts in Africa, Human Rights
Watch showed that civil war in Sudan had claimed 1.3 million lives since 1983 which caused destruction of productive activities and assets of the civil population. This has had far-reaching deleterious consequences especially reduction in the productivity of the country and widespread diseases and hunger among the population. Thus, the implications of armed conflicts are numerous and multifaceted in nature. Hence, wars result in injuries of the capable and productive population thus turning them to the dependent population as well as increasing the number of refugees and displaced persons and abuse of human rights (Copson, 1994). In its presence, the productivity level of a country is equally affected largely and the recovery process takes much longer.

Given the complexity and implications of armed conflicts, many empirical studies have attempted to provide and evaluate evidence on some of the foregoing propositions on the conflict-economy nexus. There are many studies on the broad impact of armed conflicts on domestic economies. These studies include: Miguel et al. (2004)- Economic shocks and Civil Conflict; Serneels and Verpoorten (2013)- impact of armed conflict on economic performance in Rwandan, Murdoch and Sandler (2004)- Civil Wars and Economic Growth using spatial dispersion; Rodrik (1999)- Where did all the growth go? External shocks, social conflict, and growth collapses; Bussmann (2010)- Foreign Direct Investment and Militarized International conflicts; Ezeoha and Ugwu (2015)- Interactive Impact of Armed Conflicts on Foreign Direct Investments in Africa; Blomberg et al. (2004) Economic Conditions and Terrorism; and Bandyopadhyay et al. (2014)- Foreign Direct Investment, Aid and Terrorism; among others. The next few paragraphs are thus devoted to detailed discussions of each of this pool of highlighted empirical papers.

Using Instrumental Variables (IV) approach, Miguel et al. (2004) analyse the relationship between economic shocks and civil conflict. Their study identifies endogeneity and omitted variable bias as key challenges that can hinder reliable estimation and thus, used rainfall variation as an instrumental variable for economic growth in 41 African countries. The study establishes negative relationship between growth and civil conflict. In essence, they found that a five percentage points negative growth shock exacerbates conflict by one-half the succeeding year. The study further assumed away other possible ways through which rainfall can affect conflict and found that the effect of growth shocks on conflict does not differ across the richer, more democratic and ethnic rooted countries. Exploring micro data in their analysis of the economic consequences of conflict in Rwanda, Serneels and Verpoorten (2013) reveal that households and localities with high conflict intensity face consumption crisis in post-conflict period. Also, huge disparity in land and labour returns was observed between low and high conflict intensity areas and forms of violence also influence pattern of returns especially during the recovery process.

In addition, spatial dispersion approach was employed to examine the relationship between civil wars and economic growth by Murdoch and Sandler (2004). The study augments the neoclassical growth framework by Solow (1957) by including human capital (in line with Mankiw et al., 1992) and a civil war variable. It was established that civil war negatively influences income per capita growth. In addition, conflict is detrimental to the economic growth of the country experiencing it and nearby countries as well due to spillover effects. In a similar study, Rodrik (1999) reveals that domestic social conflicts account for low persistent growth and growth collapse in the mid-1970s. Marginalization within countries and weak institution for conflict resolution were identified as key candidates for the significant decline in growth after 1975. Grievances among groups within a country about uneven distribution of country’s economic prosperity often result in conflicts.
terrorism when changes through institutional procedure proves unrealizable (Blomberg et al., 2004). Such activity of terrorism dampened economic activities relative to environment with no terrorism. The result further reveals that terrorism and economic performance are interrelated. Weaker economic activity may increase the incidence of terrorism and terrorism can also weak economic activities.

The multidimensional nature and implications of conflicts are essential for understanding the proper arrangements of economic activities in a country. In the particular case of Africa, only a few studies have devoted empirical efforts to examine the extent to which armed conflicts have affected growth and the possible role of intervening factors in the process. Some of the studies include Ezeoha (2015) who examined the dynamic impacts of armed conflicts on economic growth and wellbeing in Africa and revealed that conflict intensity impacted growth and economic wellbeing negatively and significantly. Also, Poireri (2012) examined the effects of armed conflict on schooling in sub-Saharan Africa and revealed that armed conflicts (specifically civil wars) had a negative impact on educational performance. Moreover, the author found that both primary and secondary school enrolment rates were adversely influenced during periods of crises. Given the complexity of conflicts and different mechanisms through which it exerts influence on economic activities, existing studies have not carried out a detailed analysis in this regard. Pooling countries together as well as assuming direct impact of conflict may not provide individual country with adequate information about the multiplier effect of conflict and policy implication will not be specific. Thus, this may undermine the reliability of results emanating from pooled countries. Holistic and systemic approaches are required in understanding the conflicts in Africa. For instance, aggregate economic activities are generated from different sectors of the economy which may respond differently to the intensity of conflicts. Existing studies on Africa do not consider different mechanisms through the conflict effects work. This is a strong rationale for reexamining the issues around conflict and growth in Africa.

It is pertinent to note that the multidimensional and multifaceted characteristics of armed conflicts have led to the use of disparate approaches to analysis. These approaches include quantitative, qualitative, influence diagrams, system dynamics, and agent-based models. A good number of studies have estimated the impact of conflicts using the quantitative approach. The analysis is typically done at the macro- or micro- level, or a combination of both. For a phenomenon such as armed conflicts, there is the need to measure its attributes and dynamics. The use of econometric estimates is subject to misinterpretation and often subsume important information. As noted in Clancy and Crosett (2007), who documented history of several insurgencies that metrics used in those insurgencies were highly misleading. Nonetheless, the use and the analysis of metrics remain dominant. A more insightful approach will involve a combination of quantitative and specific quantitative variables. This helps in profiling and contextualizing armed conflicts through identification of non-linear relationship between conflicts and response variable of interest. Thus, this approach will be gleaned on for its advantage of elucidating the nuances that would have otherwise been muzzled using the more dominant econometric analysis.

The detrimental effect of conflict in non-democratic, low-income countries as well as African countries is more awful (See Rodrik, 2016). Further, the role of armed conflict on the progress of achieving United Nation’s Sustainable Development Goals has been detrimental to a reduction in
poverty and hunger reduction, primary education, child mortality reduction, and access to potable water. This suggests that a medium-sized conflict with cumulative 2500 battle-related deaths is estimated to amplify malnutrition by an additional 3.3%; reduce life expectancy by at least one year; increase infant mortality by 10% and deprive an additional 1.8% of the population from accessing potable water (Gates et al., 2012). From different perspectives, institutions and the absence of political violence have been key drivers of economic growth in terms of enforcement of property rights as well as the risk of expropriation (Knack and Keefer, 1995). Poor performance in key indicators such as human capital and political stability, slow down economic activities. Despite the overwhelming assertion about detrimental effect of conflict and economic growth, Haber et al. (2003) challenged this submission. In their robust and puzzling result, they clearly demonstrate that political disorder may not dampen economic growth. Further, the cost of conflict may not be considerably large as widely believed. In addition, the argument of political instability having dampening effect on growth is a rather weak one (Campos and Nugent, 2002).

The foregoing review has clearly showed that there is need to revisit the nature of relationship between conflicts and economic growth especially in Africa. Given the prevalence of armed conflicts on the continent, it will be interesting to complement existing empirical studies on this subject matter to further illuminate the grey area on the relationship between armed conflict and economic growth as well as the possible mechanisms. Thus, evaluating the implication of armed conflict on macroeconomic objectives especially the sustainability of economic growth is the main focus of the study. Also, the possible role of intervening factors such as investment, resource rents and institutional quality among others in influencing the relationship between armed conflict and economic growth is essential. Understanding this subject matter may therefore require an analytical and exploratory approach instead of relying solely on impact multipliers obtained through the standard econometric approaches.

4. Methodology and Data Issues
The study will cover period between 1997 and 2018 and explore data from the Armed Conflict Location and Event Data Project (ACLED), Penn World Table version 9.1, World Governance Indicators, 2018 and World Development Indicators, 2018. The selected countries for the study are Nigeria, Sierra Leone, Burkina Faso, Congo DR, Liberia, Angola, and Cote d’Ivoire. The sample period was chosen due to data availability. Also, the countries were selected based on two features that are relevant to our study: presence of Oil and gas and mining sectors and political instability experience. To achieve the objectives of this study, the study will deploy exploratory and analytical approaches such trend analysis, correlation, scatterplots, Granger causality test among others. These choices are underpinned by the idea that in understanding the nature of relationship between armed conflicts and economic growth, entirely econometric approaches may not be sufficient (see Haber et al., 2003).

Specifically, the nature of the relationship between armed conflicts and economic growth as well as possible mechanisms will be explored using trend analysis, correlation and scatterplots. These non-parametric approach will provide detailed and meaningful information about the association between armed conflict and economic growth. In addition, significant information derived through this process will provide new insights into the intrinsically complexity connections between armed conflict and economic growth in Africa. This approach does not require making any assumptions about the distribution of the population. It is also geared toward hypothesis testing. In other words,
this methodological route will further help to reveal the important interdependencies between armed conflicts and economic growth. This approach is elected to underpin the empirical analysis of the relationship of interest to a large extent because relying heavily on point estimates from econometric analyses may undermine the critical information about fundamental issues around armed conflict and economic growth in Africa. Hence, a non-parametric method such as we have opted for will help to provide an in-depth and illustrative information. This will also assist in understanding the different dimensions of armed conflicts and economic growth in Africa.


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