Socioeconomic impact of conflict in Africa
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Abstract

Conflict has been a major challenge in Africa in recent decades. Although Africa has experienced fewer conflicts in recent years than it did in the 1990s, they are still common in the region, with approximately 30 per cent of African countries affected by them in 2019. In addition, since the mid-2000s, there has been a resurgence of armed conflict on the continent. Conflict causes not only immense human suffering but also substantial economic losses. It places onerous burdens on the social development of countries, by decreasing revenues, increasing defence expenditure and diverting funds away from social and development initiatives. The results of the present study, for which a dynamic panel estimation, the generalized method of moments, has been used, show that, in the period 1996–2022, countries affected by intensive conflict experienced, on average, a reduction of 20.0 per cent in annual economic growth and a decrease of 2.5 per cent in their scores for social outcomes.

Key words: conflict, growth, socioeconomic development, dynamic panel estimations, system generalized method of moments, Africa
I Introduction

The annual number of conflict-related deaths (military and civilian) in the world has fluctuated in recent decades but has generally increased since the early 2000s (Novta and Pugacheva, 2021). Deadly conflict in Afghanistan, Iraq and the Syrian Arab Republic, among other countries, and an increase in the number of less lethal conflict, in particular civil wars within States, reflect the growing discontent among world populations (Pettersson and others, 2021).

Although there has been a decline in the frequency and severity of conflict in Africa since the early 2000s, there has been an uptick in violence in recent years that is consistent with the global rise in conflict. Approximately one third of the countries in the region have experienced recent conflict (Uppsala Conflict Data Program, 2023b), which may complicate the development challenges facing the continent.

Armed conflict is widely acknowledged as a primary cause of instability, with attendant economic consequences. Conflict has destabilized countries and has huge costs, in terms of the loss of human life and the destruction of property, infrastructure and the social fabric. Conflict disproportionally affects impoverished and vulnerable populations, including women and children. Armed conflict, in particular, causes total economic paralysis, huge social trauma and costs, political instability and disintegration, and severe environmental damage and degradation. The consequences persist during and after the conflict, thereby making it challenging to escape what is known as the "conflict trap" (Cerra and Saxena, 2008).

Since the mid-1990s, conflict has destabilized many African countries, wiping out the achievements of decades of economic and social development. It is, therefore, important to understand the impact of violence on economic and social development and to identify mechanisms to promote recovery from conflict, in order to guide resilience initiatives and develop appropriate policies and actions to reduce conflict in Africa and mitigate its effects.

In the present report, a comprehensive and empirical analysis of the relationship between conflict and socioeconomic development in African countries is set out. In order to provide policy options for preventing conflict and mitigating its effects, the report includes an analysis, completed using a variety of methodologies and disaggregated event-level data, of the evolution of conflict in the region and estimates of the socioeconomic costs of such conflict. In addition, the theoretical and analytical framework of the research is laid out, along with the empirical model and resultant findings, concluding remarks and policy recommendations.
II Theoretical and analytical framework

A. Overview of conflict in Africa

Since – and in particular during – the 1990s, Africa has been beset by a plethora of conflicts that have threatened progress on the continent. Conflicts in Africa can be grouped into four significant categories: secession, internal crises, civil war and regional conflicts (Ikejiaku, 2009).

Secession occurs when a specific region, community or territory tries to separate or withdraw itself from the governance or authority of a State, in order to establish an independent governing body and institutions. The infamous Katanga rebellion in what is now the Democratic Republic of the Congo during the early 1960s, the efforts of Biafra to secede from Nigeria in 1967 and the secession of South Sudan from the Sudan in 2011 are noteworthy examples. Usually, the seceding entities pursue autonomy, rather than formal or total independence (Ikeajiaku, 2009).

Internal crises encompass various kinds of disturbance that affect the peace and security of a country, including rampages, riots, violent demonstrations, insurgencies, rebellions and guerrilla operations (González-Ruibal, 2019). The Soweto riots in 1976 in South Africa during the apartheid era, the 1994 Bryanda riots in Uganda and the series of student riots in Nigeria from 1999 to 2006 are all relevant events (Ikejiaku, 2009).


Regional conflict on the continent has been irredentist in nature, meaning that there have been instances of one State seeking to act on its territorial ambitions over another. Examples of such conflicts in Africa include the claim of Somalia over the Ogaden region of Ethiopia in the early 1970s and the attempt by Libya to annex a portion of northern Chad in the early 1980s. A similar conflict occurred in 1979, when the military forces of the United Republic of Tanzania attempted to overthrow the President of Uganda, Idi Amin. The concurrent efforts of several African countries to topple the Government of Mobutu Sese Seko in Zaire (1997), now the Democratic Republic of the Congo, are another example of regional conflict (Wanyande, 1997; Ikeajiaku, 2009).

Inter-State conflicts are uncommon in Africa; there have been only seven instances of such conflicts since 1990, with the most recent taking place in 2016 between Eritrea and Ethiopia. Although inter-State conflicts are rare, a number of States are currently involved in domestic disputes, several of which are associated with the expansion of Da’esh in Africa. Since the proclamation of a caliphate by Da’esh in 2014, there has been a substantial escalation in the overall occurrence of conflict across the continent. In 2021, seven African countries (Burkina Faso,
Cameroon, Democratic Republic of the Congo, Mali, Mozambique, Niger and Nigeria) were beset by Da’esh on their territory (Palik, Obermeier and Rustad, 2022).

It can be extremely difficult to draw a line between a civil war and a regional or international war, and many civil wars have been intertwined with such conflicts. A State-based conflict, which is a conflict involving at least one State and armed force, can escalate into an internationalized conflict, which is a conflict in which the State or its opponent – or both – receives assistance from external States that are actively engaged in the conflict. The complexity of the situation can be heightened by the involvement of numerous third parties to the conflict. The incidence of internationalized conflict in Africa has escalated significantly since 2009. For example, to combat Al-Shabaab, the Government of Somalia receives assistance from 10 other States; and, in their opposition to the Government of Libya, the armed forces of the House of Representatives of that country are backed by the Governments of the Sudan and the United Arab Emirates (Palik and others, 2022).

Overall, non-internationalized and internationalized civil conflicts are the most prevalent forms of conflict in Africa, as shown in figure I. Of the 30 State-based conflicts taking place in 2020, 11 were civil wars. The remaining 19 were internationalized civil conflicts, the largest number recorded in Africa since 1989. External intervention occurred in 12 State-based conflicts in 2021: Burkina Faso (twice), Burundi, Cameroon, Central African Republic, Democratic Republic of the Congo (twice), Ethiopia, Kenya, Mali (twice), Mozambique, Niger (twice), Nigeria (twice) and Somalia.

The annual number of fatalities resulting from battles in State-based conflicts decreased during the early 1990s and early 2000s and, although they then remained at a relatively low level, an upward trend was observed from 2018, as shown in figure II. The number of battle-related fatalities increased from 10,978 in 2020 to 19,325 in 2022.

**Figure I:** State-based armed conflict in Africa by conflict type, 1946–2022 (Number of countries)

Source: Uppsala Conflict Data Program (2023d).
2021. The conflict between the Government of Ethiopia and the Tigray People’s Liberation Front, which caused 8,637 battle-related fatalities in 2021, contributed significantly to that rise. In addition, in 2020, battle-related fatalities were documented in the United Republic of Tanzania for the first time as a result of the expansion of Da’esh into the country.

B. Conflict in Africa: empirical approach

1. Literature review

Given that armed conflict not only has adverse effects on tax revenues, but also changes the composition of government spending by increasing expenditure on defence, the impact of conflict on economic growth, productive capacity, fiscal stability and other variables has been reported in several research papers (Collier, 1999; Blomberg, Hess and Orphanides, 2004; Gupta and others, 2004; Rother and others, 2016; Mueller and Tobias, 2016). A related strand of the academic literature is focused on the outcomes at the subnational or regional levels, since conflict has potential spillover effects (Hegre and Sambanis, 2006).

Empirical studies have shown that civil wars reduce the growth of gross domestic product (GDP) by between 2 and 25 per cent, on average (e.g., Collier, 1999; Petrova and others, 2023; Cerra and Saxena, 2008; Fang and others, 2020; Le and others, 2022). In addition, some empirical studies have been conducted into the impact of conflict on social development, which has been assessed using a number of variables. For example, conflict has been found to have a negative impact on overall public health, owing to the fact that conflict increases malnutrition and infant mortality and spreads infectious diseases. Access to safe drinking water is hampered by conflict (Gates and others, 2012). As a result, people become ill with waterborne diseases, such as cholera, diarrhoea, hepatitis A and typhoid. People in conflict-affected countries are more than twice as likely to be undernourished, twice as likely to see their children die before reaching five years of age, twice as likely to lack access to clean water and more than three times as likely to be unable to send their children to school (World

![Figure II: Battle-related deaths from State-based conflict in Africa, 1946–2022](source: Uppsala Conflict Data Program (2023c).)

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Nevertheless, the current body of literature on the relationship between development and conflict is in its early stages of theoretical development and rigorous empirical application. The empirical approaches are relatively simplistic, with such methods as pooled ordinary least squares, fixed effects and instrumental variables regressions being employed. In addition, in most qualitative papers, only observable trends based on descriptive statistics are set out. Furthermore, a considerable number of those papers are focused on particular subjects, such as the “resource curse” (Jalili and others, 2019), or the impacts of conflict on particular economic factors (Amadio and Di Maio, 2018; Fang and others, 2020; Novta and Pugacheva, 2021).

Although there has been a significant increase in literature on armed conflict in recent years, Africa has received comparatively little attention (Le and others, 2022). Moreover, few reliable quantitative studies have been conducted on the connection between armed conflict and socioeconomic development in Africa. At present, research on the societal ramifications of conflict is scarce, with the exception of three studies: Akresh and others (2012), Novta and Pugacheva (2021) and Le and others (2022). National case studies have formed the basis of most research in the field, the applicability of which to other countries is limited (Le and others, 2022). The present study is, therefore, intended to fill the gap in the literature, through an empirical investigation of the socioeconomic costs of conflict in Africa.

2. Empirical model specification

In accordance with the existing literature (e.g., Murdoch and Sandler, 2002; Blomberg, Hess and Orphanides, 2004; Cerra and Saxena, 2008; Fang and others, 2020), the impact of conflict on economic growth is estimated using a standard growth model, defined as follows:

$$ y_{it} = \beta_1 y_{it-1} + \beta_2 C_{it} + \beta_3 X_{it} + \alpha_i + \alpha_t + \epsilon_{it} \quad (1) $$

where $\beta_1$, $\beta_2$, $\beta_3$, $\alpha_i$ and $\alpha_t$ are estimated coefficients; $\alpha_i$ and $\alpha_t$ are country fixed effects and year fixed effects, respectively; and $\epsilon_{it}$ is the residual term, which will take, respectively, the value of economic development and social development variables in a country $i$ at time $t$ as below:

$$ gd_{pit} = \beta_1 gd_{pit-1} + \beta_2 C_{it} + \beta_3 X_{it} + \alpha_i + \alpha_t + \epsilon_{it} \quad (2) $$

$$ sod_{evit} = \beta_1 sod_{evit-1} + \beta_2 C_{it} + \beta_3 X_{it} + \alpha_i + \alpha_t + \epsilon_{it} \quad (3) $$

where $gd$, $C$ and $sodev$ represent real domestic output, conflict and social development, respectively; $gd_{pit-1}$ is the log of lagged value of GDP per capita; $sod_{evit}$ is the lagged value of social development; $C_{it}$ is the conflict variable of interest; and $\alpha_i$ and $\alpha_t$ are country-specific and time effects, respectively. Standard errors are clustered at the country level and $X_{it}$ is a vector of other control variables.

The data on which the present study is based were compiled from various sources. Economic development is measured by using per capita GDP (at constant 2015 prices in billions of dollars), which, along with demographic information (population growth rate), was sourced from the World Development Indicators database (World Bank, 2023a) (real per capita GDP was converted into natural logarithmic form for estimation at a later stage). The human development index, the scores for which are taken from the Human Development Report 2021/22 (United Nations
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Development Programme, 2022), is used as a proxy for social development.¹

For the conflict variable, a measure of conflict intensity was used: data from the Uppsala Conflict Data Program (2023a) were employed to obtain best estimates of the total number of people killed, including civilians, combatants and unknown deaths. Conflict intensity was calculated by taking the ratio of total annual conflict-related fatalities in a country relative to the total population and multiplying it by 1,000 to determine the number of conflict-related deaths per 1,000 people. That method – which is based on the approaches of Fang and others (2020), Novta and Pugacheva (2021) and Le and others (2022) – is better than the traditional measure of conflict intensity, which is predicated on the absolute number of casualties, since the latter can skew the sample towards low-intensity conflicts occurring in countries with large populations (Novta and Pugacheva, 2021).

In order to examine the channels through which armed conflict can affect economic and social well-being, the control variables set out below, which are based on those already used or suggested in the existing literature, have been considered.

### a. Institutional quality

The significance of institutional quality in fostering social development and economic growth has been extensively documented in numerous studies (Becker, Glaeser and Murphy, 1999; Acemoglu, Johnson and Robinson, 2001; Rodrik, Subramanian and Trebbi, 2004). Public institutions exert significant influence on the socioeconomic development of countries and operate across all strata of society by establishing structural frameworks for economic and social matters.

As a proxy for institutional quality, a combination of the worldwide governance indicators of the World Bank (Kaufmann, Kraay and Mastruzzi, 2009) is used. This variable captures the quality of State institutions and measures the extent to which Governments function well, essential elements for fostering social development and economic growth. The worldwide governance indicators are based on several hundred individual variables, measuring perceptions of governance and reflecting the views of a diverse range of stakeholders. The individual measures are grouped into six categories of governance: voice and accountability; political stability and absence of violence/terrorism; government effectiveness; regulatory quality; rule of law; and control of corruption. The scores range from -2.5 to 2.5, with higher scores corresponding to better outcomes. Observations are available from 1996, with some gaps in the series during earlier years (World Bank, 2023b).

### b. Population

The impact of population growth on social and economic development is the subject of debate. A close and bidirectional correlation can be observed between the economic development of a country and its population growth. On the one hand, the population can serve as a labour force that can be harnessed to increase national output; as the population increases, savings and investments are also expected to increase. On the other hand, according to neoclassical growth models, higher population growth rates have a negative effect on the steady-state level of output.

¹ The human development index is a summary measure of average achievement in important dimensions of human development: living a long and healthy life, being knowledgeable and having a decent standard of living. The index is the geometric mean of normalized indices for each of the three dimensions. The health dimension is assessed by life expectancy at birth; the education dimension is measured by mean years of schooling for adults 25 years of age and older and by expected years of schooling for children of school-entering age; and the standard of living dimension is measured by gross national income per capita. The index uses the logarithm of income to reflect the diminishing importance of income with increasing levels of gross national income. The scores for the three dimensions are aggregated into a composite index using a geometric mean.
because a portion of the economic investment must go towards the provision of capital for new workers rather than towards increasing capital per worker; in addition, the population can be perceived as a consumer group that significantly consumes and depletes a substantial amount of national resources.

c. Trade openness

Numerous studies have been dedicated to answering the important question of whether trade openness matters for growth. That question continues to be debated. There are extensive studies on the impact of trade openness on various macroeconomic, institutional and environmental variables, including by Sachs and Warner (1995), who have documented evidence that trade openness has a positive effect on growth, and by Alcalá and Ciccone (2004), who have demonstrated that the effects work primarily through total factor productivity. In the present study, total trade (exports plus imports), as a percentage of GDP, is used as a proxy for trade openness; the data source is the World Development Indicators database of the World Bank (2023a).

d. Capital flows

Capital flows influence the socioeconomic development of a country (Welch, 1996; Belloumi, 2014; Asamoah, Alagidede and Adu, 2021). Inflows of foreign direct investment (FDI), in particular, play an essential role in stimulating economic growth, given that they serve as the primary sources of capital investment. The inflow of FDI contributes to the accumulation of capital and to total factor productivity. Nevertheless, FDI inflows may have adverse consequences for the recipient country, in particular when the inflows fail to generate favourable multiplier effects through sectoral investment linkage, which can occur when there is an insufficient spillover from one sector to another. In addition, there may be a correlation between FDI inflows and domestic investment in the host country (Adams, 2009; Adams, Sakyi and Opoku, 2016). In the present study, FDI into a country is measured as net FDI (outflows subtracted from inflows) as a percentage of GDP.

e. Human capital

It is generally accepted that human capital, such as education, health and other human capacities that can raise productivity when improved, is important for individual and economy-wide prosperity. The concept dates back to the formulation of the human capital theory in the 1960s, when it was a revolutionary idea. The impact of human capital development on economic growth has also been emphasized in growth theories (Romer, 1986; Lucas, 1988). In empirical literature, human capital, in general, and education, in particular, have been found to correlate positively with economic growth (Mankiw, Romer and Weil, 1992; Barro and Sala-i-Martin, 1995; Barro, 1996). Education is perceived to be an important factor in the development of human capital, which facilitates the transmission of the knowledge required for implementing new technology. Education – measured as the total enrolment in primary education, regardless of age, expressed as a percentage of the population of official primary education age – is used as a proxy for human capital. The data source is the World Development Indicators database of the World Bank (2023a).

f. Natural resources endowment

In numerous studies, a consistent negative correlation has been found between the abundance of natural resources and sustained economic growth (Sachs and Warner, 1995). The causes of that phenomenon, which is known as the resource curse, are not fully understood, although several factors may operate simultaneously to cause economically undesirable consequences of resource exploitation. Potential explanations for the resource curse include several possible effects of natural resource abundance and resource exploitation, such as rent-seeking and corruption, the crowding-out of manufacturing, underinvestment in human
capital, rising exchange rates and consequent underperformance of other sectors (known as the “Dutch disease”), the unsustainability of non-renewable resource extraction (depletion of natural capital) and the boom-and-bust cycle. In a separate group of studies, it is argued that quality of institutions is the decisive factor in the use of income from natural resources and in whether the resource curse ensues (Robinson and others, 2005; Wiens, 2014). The share of total non-renewable natural resource rents (oil, natural gas, coal and minerals) as a percentage of GDP is used as a proxy for endowment of natural resources. Natural resource rents (as a percentage of GDP) are taken from the World Development Indicators database of the World Bank (2023a).

g. Economic and social developments

Per capita real GDP is used as a control variable in the social development equation. Extensive existing research has established the positive correlation between GDP and social development (Dixon and Drakakis-Smith, eds., 2002; Sylwester, 2000). Strong economic growth improves human development through increased household consumption expenditure and public spending, which directly benefits the poor. As economic growth increases the national tax base, the Government can spend more on important public services, such as health and education, which build the capacity of people and raise their standard of living. Furthermore, human development can affect economic growth, given that healthier, better nourished and better educated people are more able to contribute to economic growth. In addition, even though per capita GDP growth remains an important instrument for achieving higher standards of living, the impact of economic growth on national social development also depends on other crucial aspects, such as income distribution (Ravallion and Chen, 1997; Easterly, 1999; Bourguignon, 2003; Fosu, 2010).

The empirical representations of equations (2) and (3) can, therefore, be expressed as follows:

\[
gdp_t = \beta_0 + \beta_1 \text{gdp}_{t-1} + \beta_2 C_t + \beta_3 \text{PoP}_t + \beta_4 \text{Inst}_t + \beta_5 \text{Opn}_t + \beta_6 \text{FDI}_t + \beta_7 \text{Rent}_t + \beta_8 \text{Educ}_t + \alpha_i + \alpha_t + \epsilon_t (4)
\]

\[
\text{Sodev}_t = \beta_0 + \text{Sodev}_{t-1} + \beta_1 \text{gdp}_t + \beta_2 C_t + \beta_3 \text{PoP}_t + \beta_4 \text{Inst}_t + \beta_5 \text{Opn}_t + \beta_6 \text{FDI}_t + \beta_7 \text{Rent}_t + \alpha_i + \alpha_t + \epsilon_t (5)
\]

where, PoP is the log value of population, Inst is institutional quality, Opn is trade openness, FDI is foreign direct investment, Rent is the endowment in natural resources and Educ is education.

Using world governance indicators data, a panel of 54 African countries for the period 1996–2022 has been constructed. Detailed descriptions of the variables are presented in annex I.

3. Model estimations and results

The major econometric difficulty with estimating equations (4) and (5) for identifying the causal effect of conflict on economic growth and of conflict on social development is that development and its potential drivers exhibit endogenous relationships. In addition, autocorrelation, heterogeneity and cross-sectional issues are likely to be observed. The empirical analyses, therefore, began with some data diagnostic tests: panel unit root tests for stationarity, cross-sectional dependence, autocorrelation and heteroscedasticity, along with panel cointegration tests.

First, Pesaran’s (2004) cross-section dependence test was carried out, with the results providing evidence of cross-sectional dependence across all variables. Given that the panel data were unbalanced and that cross-sectional dependence was present in the panels, Fisher-type tests on demeaned variables were used, with the result that all the variables were found to be stationary (I(0) at the level) (results are available upon request). Pearson’s correlation matrix for the selected variables is included in annex II; the results show more or less strong interrelationships among them. In addition, the Wooldridge (2002) test for autocorrelation confirmed the presence
of first-order autocorrelation among some variables of the equation. Lastly, the Breusch-Pagan White tests (for the pooled ordinary least squares estimation) and the modified Wald test for group-wise heteroscedasticity (for the fixed effects regression model) revealed the presence of heteroscedasticity (results are available upon request).

Accordingly, a dynamic generalized method of moments estimator, developed by Blundell and Bond (1998), was used to estimate the levels equations and the first difference equation (Wooldridge, 2002; Flannery and Hankins, 2013). Using this methodology, coefficient estimates were obtained, which are corrected for unobserved individual specific effects, heteroscedasticity, serial correlation and endogeneity biases that can arise from reverse causality and simultaneity bias.

The dynamic two-step generalized method of moments approach appears to be superior to other panel data estimators, such as ordinary least squares, fixed effect and difference generalized method of moments, in particular in empirical growth analysis with relatively short time periods and highly persistent time series, because it can address the econometric issues caused by unobserved, group-specific effects and the endogeneity of explanatory variables in lagged dependent variable models. In addition, the system generalized method of moments estimator was shown to be consistent in parameter estimation with the lowest bias (Bond, Hoeffler and Temple, 2001; Beck and Levine, 2004; Baltagi, 2008; Chu and Chu, 2020). It can also address Nickell bias (“small T, large N”). The superiority of the generalized method of moments over other estimators is related to the use of instrumental variables, including the lagged dependent variable, which helps to generate unbiased and efficient estimates (Arellano and Bond, 1991; Blundell and Bond, 1998).

In order to test the validity, adequacy and suitability of the given model and estimation method, it is crucial that the instruments of the model be valid and exogenous as a group. The Arellano-Bond first-order autocorrelation $AR(1)$ and second-order autocorrelation $AR(2)$ tests, along with the Hansen test of overidentifying restrictions, were used to evaluate the validity and strength of the instruments. The null hypothesis of the Arellano-Bond $AR$ tests suggested that instruments were valid, meaning that they were uncorrelated with the error term. The null hypothesis of the Hansen test implied that the instruments were jointly exogenous as a group. The Sargan test was performed in order to ensure that the whole specification did not have any correlation issue among the residuals and the instruments used. All system generalized method of moments regressions were well identified according to test statistics (annexes III and IV).

To test for the robustness of the study results with respect to sample composition, the relationships among conflict, socioeconomics and the control variables were explored, using three additional methodologies: difference generalized method of moments, fixed and random effects and pooled ordinary least squares. The Hausman test on the full model yielded results that led to the conclusive acceptance of both fixed and random effects regressions as valid estimation models (see annex III). Although the fixed and random effects, difference generalized method of moments and ordinary least squares regression models did not yield statistically significant results for most of the variables, a significant number of results were found to be consistent with the results from the system generalized method of moments model.

The empirical estimations of the model specifications expressed in equations (4) and (5) are reported in annexes III and IV. The estimations

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2 The difference generalized method of moments approach uses lagged differences as instruments, whereas the system generalized method of moments approach incorporates lagged levels into the set of instruments. The general advantage of the system generalized method of moments is that it uses more information (past differences and levels). The disadvantage is that the number of instruments tends to increase quickly, which can lead to overfitting of estimations. The difference estimator uses less information, and, therefore, although it may be less informative, it may be more reliable, owing to the lower number of instruments.
provide consistent results regarding the economic and social impacts of conflict. Specifically, high levels of conflict intensity appeared to reduce both economic growth and quality of life, for example by shortening life expectancy and expected years of schooling. The effects on economic development, however, are much more statistically significant. One unit increase in conflict intensity reduces real per capita income by nearly 20.0 per cent and decreases the human development index score by 2.5 per cent. Conflict, therefore, not only directly affects economies, by damaging infrastructure and disrupting production and investment flows, thereby restricting growth, but also affects the availability and quality of human resources for economic activity.

Institutional quality, for which worldwide governance indicators have been used as a proxy in the present study, had a significant positive effect on economic growth. Similarly, the impact of governance quality on social welfare progress was positive, although the results were statistically insignificant. Countries with effective government institutions are likely to benefit from social stability and equality, contributing to income, health and education improvements and, thus, to overall economic and social development.

In addition, the results reaffirmed the positive impact of economic growth on the quality of life, which was expected, given that economic growth affects the well-being of a population: the higher living standards associated with better health and education outcomes significantly improve longevity, educational attainment and income.

Trade openness was found to have a statistically significant positive impact on the GDP per capita of African countries. Similarly, larger trade volumes seem to have a positive impact on economic growth, although the impact is low. Trade openness has a negative impact on social development, however. It is possible that the benefits from increased trade volumes accrue to firms first and to individuals later.

FDI has a statistically significant negative effect on the economic growth and social outcomes of African countries. The coefficients of FDI are low, however, which is not surprising, given that most inflows of FDI to Africa are channelled mainly to the extractive sector, which has very few links with other sectors of the domestic economy. That finding supports the assertion by Ndikumana and Verick (2008) that the limited effect of FDI could be attributed to the lack of synergies between FDI and domestic investment. In addition, FDI may have an unfavourable impact in Africa because most FDI is directed at the primary sector (United Nations Conference on Trade and Development (UNCTAD), 2007). Other explanations for the negative effects of FDI on socioeconomic development include inefficient or deficient institutions (UNCTAD, 2007; Agbloyor and others, 2014) and the crowding-out of domestic investment (Spencer, 2008; Wan, 2010).

The results show that, in Africa, education has a positive impact on economic growth: an improvement in education, measured by increases in school enrolment, leads to per capita growth. The results confirm the positive link found in the literature for developing countries.

Population growth has a statistically significant positive effect on social outcomes. This result can be explained by the fact that, in the long term, if the supply of resources becomes flexible, the larger population may result in greater specialization and productivity, due to increases in capital, the availability of land and machinery, technological advancement or economies of scale.
In the present study, the nexus between conflict and socioeconomic development in Africa has been examined. The study was focused on economic growth and on the important but under researched nexus between conflict and social outcomes, such as human development, which encompasses life expectancy, educational attainment and standards of living. The empirical study, consisting of a dynamic panel estimation, offers some new insight into the complex and dynamic relationship between conflict and development. Endogeneity, autocorrelation, cross-sectional and heterogeneity issues in the regression were addressed and, therefore, the strong results of the dynamic two-step system generalized method of moments approach helped to identify various policy-relevant effects of conflict on development. In particular, a high level of conflict intensity has been found to reduce long-term economic growth and worsen social outcomes, specifically by reducing life expectancy, expected years of schooling and living standards.

The results have important policy implications. Given that conflict can have long-lasting and important effects on national economic and social development, the risk of armed conflict and violence should be considered in sustainable development policies and plans.

In view of the consequences of conflict on national key development indicators revealed by the study, policymakers should implement the appropriate policy responses promptly. Ensuring equal access to basic services, such as health care, social protection and education, is essential for maintaining people’s trust and confidence in Governments. Moreover, swift support should be given at the local level to the most vulnerable and marginalized groups, such as minorities, displaced persons, refugees and the communities that host them, owing to the disproportionate impact that conflict is likely to have on them.

In addition, policymakers should concentrate on the overarching objective of mitigating certain structural determinants of conflict on a national scale, which includes addressing ethnic divisions, mitigating economic disparities, resolving historical conflict-related tensions, enhancing accountability mechanisms and curbing corruption. Achieving those goals necessitates a more extended time frame than that which is customarily embraced by governmental legislatures and requires the involvement of various stakeholders at the subregional, regional and international levels. It is probable, however, that investment in them will be required in order to break the conflict trap permanently.

Policy reforms to increase capital inflows, including aid and investment, at all levels and in sectors of the economy are vital. Using multinational corporations to facilitate access to foreign markets and by augmenting domestic capital and government resources, the much-needed FDI will be propelled towards sectors other than the extractives sector, which will promote export diversification, given that FDI enhances the domestic productive capacity of developing countries through technological diffusion and spillovers. Furthermore, given the fact that most States experiencing conflict are typically considered to be fragile, investing in policies to tackle corruption is crucial, in order to increase the stability and effectiveness of capital inflows. Sound and well-implemented policies should include the right policies and investments in education, health and living standards.

Fragile States often rely on aid inflows to promote economic growth and social development. Owing to the absorptive capacity constraints of such States, however, aid given to them is likely to
be more sporadic and less effective than it is elsewhere. Policymakers in countries affected by conflict and fragility must introduce inclusive approaches to help their economies to recover from current conflicts and prevent conflicts from erupting and persisting. Hence, finance and knowledge from international organizations may play a vital role in helping fragile and conflict-affected States to rebuild resilient institutions and economies during active conflict and throughout their recovery and transition. For instance, operations financed by the International Development Association (IDA) of the World Bank have demonstrated their effectiveness in helping people to resume peaceful and productive lives in conflict-affected areas. Each eligible recipient of funding from IDA, however, receives an allocation that is predominantly based on a formula that links the population of the country, gross national income per capita and a country performance rating, which depends on the economic management and policies of a State and the quality of its governance and institutions. The consequence of that approach is to skew resources away from fragile and conflict-affected States, where public sector management and institutions are typically weak, towards countries with fewer problems. Currently, the criteria covering public sector management and institutions account for more than two thirds of the country performance rating. A State could, therefore, have excellent fiscal, exchange rate, monetary, debt management and business regulation policies, but still have a poor country performance rating and, thus, a low IDA allocation. That mechanism must, therefore, be made much more flexible. In addition, there must be more flexibility in the selection by IDA of delivery partners, given the track record of slow disbursements to the Governments of fragile and conflict-affected States; one option is the greater use of intermediaries with a proven capacity for delivery, as IDA did in South Sudan and Yemen, partnering mostly with entities of the United Nations system and non-governmental organizations. Furthermore, aid flows should be well-sequenced and adequately coordinated among donors, with an initial focus on humanitarian aid, followed by a gradual increase in reconstruction aid, as the capacity of the recipient country to use that aid effectively is enhanced. External assistance requirements should be assessed more accurately, notably through closer donor involvement in programme countries, and they should be designed from a long-term perspective.

The positive impact of trade on development and the potential effect of conflict on trade means that measures should be implemented to mitigate the impact of conflict on trade. Overarching policy directives to support stability through trade consist of trade-related and complementary measures. Policymakers should increase transparency regarding the scale and use of trade revenues; transfer those revenues to producer regions, or transfer a portion of them directly to individuals; cooperate with international transparency initiatives; and centralize the government collection of trade revenues. Targeted transfers, public works programmes, price subsidies and temporary trade insulation are other potential options. Policymakers could promote labour-intensive exports by increasing access for fragile States to goods and services markets in labour-intensive sectors in their main trading partners and by enhancing the relative competitiveness of the exports of fragile States, especially in labour-intensive sectors. In addition, fostering trade relations among neighbours can help to reduce conflict; there is abundant evidence that intense trading with neighbours reduces the duration and intensity of conflict. Facilitation and trade policy can contribute to the development of trade relations among neighbours. The Agreement establishing the African Continental Free Trade Area could help to boost intra-African trade in all the main sectors, with clear opportunities to promote industrialization and socioeconomic development, thereby contributing to conflict mitigation on the continent. In addition, governance quality, encompassing such aspects as accountability, corruption and bureaucratic efficiency, are important in fostering trade and mitigating the occurrence and intensity of conflict.
Although the analysis and conclusions set out in the present study are robust, it is important to keep in mind some limitations that might be addressed in future studies. One potential limitation of the present research is the measurement of conflicts according to fatalities. Considering various kinds of conflict – not only battles or wars but also non-fatal conflicts – would be useful and would be a promising avenue for extensive future research, subject to data availability. In addition, it would be useful to disaggregate the results at the country level, provided that the data are available. Methods such as panel autoregressive distributed lag will allow such disaggregation but, owing to the short timespan and to gaps in the data used in the present study, that methodology could not be used. In addition, the cross section of countries included in the data set could be expanded.
## Annex I

### Descriptive statistics

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<thead>
<tr>
<th>Observation</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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Abbriviations: Lgdp, logarithm of gross domestic product; FDI, foreign direct investment; HDI, human development index.
## Annex II

### Pearson’s pairwise correlations

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<th>FDI</th>
<th>Openness</th>
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<th>Education</th>
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**Abbreviations:** Lgdp, logarithm of gross domestic product; FDI, foreign direct investment; HDI, human development index.
Annex III

Dynamic panel results (GMM) of Model 4

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<th>Ordinary least squares estimation</th>
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<td></td>
<td></td>
<td></td>
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<td>0.74499* (0.0682)</td>
<td>0.97612*** (0.0231)</td>
<td>0.97611*** (0.0121)</td>
<td>0.99712*** (0.0047)</td>
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<td>-0.37445** (0.1555)</td>
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<td>-0.10238*** (0.0345)</td>
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<td>Natural resources endowment</td>
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<td>0.00022 (0.0003)</td>
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<td>2.40458** (1.0696)</td>
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<td>Arellano-Bond test for AR (1) in first differences</td>
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<td>n/a</td>
<td>n/a</td>
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<td>Arellano-Bond test for AR (2) in first differences</td>
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<td>n/a</td>
<td>n/a</td>
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<td>Sargan test of overidentifying restrictions</td>
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<td>chi2(51) = 94.31 Prob &gt; chi2 = 0.000</td>
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<td>n/a</td>
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<td>Hansen test of overidentifying restrictions</td>
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*Note*: Standard errors are in parentheses; *, ** and *** denote a 10, 5 and 1 per cent level of significance, respectively; FDI, foreign direct investment; GMM, generalized method of moments; Lgdp, logarithm of gross domestic product; Sys-GMM, system generalized method of moments.
## Annex IV

### Dynamic panel results (GMM) of Model 5

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<th>Two-step Sys-GMM</th>
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<th>Ordinary least squares estimation</th>
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**Arellano-Bond test for AR (1) in first differences**
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- z = -0.71
- z = 0.477
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- n/a
- n/a

**Arellano-Bond test for AR (2) in first differences**
- z = 1.48
- z = -0.91
- z = 0.364
- n/a
- n/a
- n/a

**Sargan test of overidentifying restrictions**
- chi2(16) = 34.96
- Prob > chi2 = 0.004
- n/a
- n/a
- n/a

**Hansen test of overidentifying restrictions**
- chi2(16) = 19.20
- Prob > chi2 = 0.258
- n/a
- n/a
- n/a

**sigma_u**
- n/a
- n/a
- 0.010819
- 0.000
- n/a

**sigma_e**
- n/a
- n/a
- 0.005980
- 0.005980
- n/a
## Socioeconomic impact of conflict in Africa

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</table>

*Note:* Standard errors are in parentheses; *, ** and *** denote a 10, 5 and 1 per cent level of significance, respectively; FDI, foreign direct investment; GDP, gross domestic product; GMM, generalized method of moments; HDI, human development index, Sys-GMM, system generalized method of moments.
Reference


Jalili, Zahra, and others (2019). Resource-economic growth nexus, role of governance, financial development, globalization, and war:
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of Development Economics, vol. 63, No. 2 (December).


