

JICA Ogata Research Institute Discussion Paper

# **The Impact of Social-Economic Factors in the Rise of Violent Extremism**

## **—An Empirical Study in African Countries**

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**No. 30**  
November 2024

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Suggested Citation: Ni, B. 2024. “The Impact of Social-Economic Factors in the Rise of Violent Extremism—An Empirical Study in African Countries” JICA Ogata Research Institute Discussion Paper No.30. Tokyo: JICA Ogata Research Institute for Peace and Development.

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**The Impact of Social-Economic Factors in the Rise of  
Violent Extremism  
—An Empirical Study in African Countries**

Bin Ni\*

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**Abstract**

What roles do social-economic factors play in the process of violent extremism (hereafter VE)? Concerning the drivers of VE, much of the knowledge is based on the experience of countries in the Middle East and North Africa (MENA), as well as South Asia. By contrast, less is known about the factors that contribute to VE in sub-Saharan Africa or elsewhere in the world. This research draws on detailed data of violent events in Africa covering 1997 to 2021 and explores the relationship between social-economic factors and VE while controlling for other factors such as political stability. The results provide convincing evidence that unemployment, poor social-economic conditions, and weak governance are strongly associated with VE.

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**Keywords:** Violent extremism, Africa, Economic factors, Unemployment, Political stability

**JEL codes:** D74, D83, C35

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## **1.Introduction**

Interstate and intrastate armed conflicts and other forms of armed violence have often had devastating effects on the lives of innocent civilians. According to Downes (2008), civilian deaths represented half of all war-related casualties in the past three centuries. UN Meeting Press Release (2022) also mentioned that “ninety percent of war-time casualties are civilians.” In the twentieth century alone, tens of millions of people perished during a host of political violence and terror, including civil wars, VE, terrorist acts, and political assassinations.

If we focus on the impact of terrorism, Figure 1 gives us a general idea of the geographical distribution of casualties around the world. Apart from the Middle East, India, and Indonesia, most of the deaths from terrorism are concentrated in the African continent. UNDP (2017) indicates that VE is setting in motion a dramatic reversal of development gains and threatening to get in the way of development for decades to come. From 2011 to 2016 alone, it caused 33,300 fatalities. Despite the critical situations requiring humanitarian needs, little evidence has been available to study the cause of such phenomenon systematically, especially in the context of Africa. What drives people to join violent extremist organizations? What roles do poverty and a lack of economic opportunities play in creating conditions conducive to VE? Interviews in sub-Saharan Africa by UNDP (Ojielo et al., 2017) illuminate the role these conditions can play in leading to individuals joining extremist groups. Given the limited evidence on the linkages between VE and socio-economic conditions, the contribution of this study is that it is aimed at using rigorous methods to investigate the causal relationships between Violent Extremism and social-economic factors in the context of Africa. We leverage a large dataset that has various categories of violent events to conduct the analysis. It includes almost all the major African countries and covers 1997-2021. The length and consistency of the dataset enables us to track the variation of each country across a long period of time, which will be applied to deal with the endogeneity issues of the estimation. Such attempt has not been made in the previous literature.

The structure of this paper is organized as follows. We begin by examining the background of VE, and the existing literature regarding the determinants of VE. We not only review the conventional determinants such as the political factors but also emphasized the economic factors. An overview will be provided from both the theoretical and empirical perspectives. Section 3 introduces the data and methodology used in the paper, and section 4 presents the estimation results and robustness checks. We discuss the issues further in section 5, and the final section concludes.

## **2.Literature Review**

### **2.1 A Background of the Violent Extremism in Africa**

As for the usage of VE, we will follow the definition discussed in the introduction, which is different from the traditional term of terrorism or radicalization.

Africa is the new global epicenter of VE. According to UNDP (2023), since 2015 VE has surged in sub-Saharan Africa, in contrast to the decrease in VE of other regions, such as Europe & Central Asia, Latin America & Caribbean, and Middle East. In the year 2021, 26 percent of 5,218 terrorist attacks worldwide took place in sub-Saharan Africa, accounting for 48 percent of all deaths from VE. As a result, in 2011-2016 alone, 33,300 people in Africa lost their lives to VE (UNDP, 2017). The rapid rise in the number of VE explains the large casualty despite its abundant resilience and resourceful populations across the continent. However, the next question we would like to ask is, what are the drivers of VE in Africa? Particularly what are the socio-economic determinants of VE?

## **2.2 The determinants of VE**

USAID (2009) categorized the drivers of VE into 3 types: socioeconomic, political, and cultural. The social and political drivers of VE have been widely studied in the literature. These studies consider multiple individual-level factors like education, religiosity, and the role of Islam in explaining support for VE but fail to come up with a clear consensus<sup>1</sup>.

## **2.3 Education and its link to the rise of VE**

Anecdotal evidence suggests a positive relationship between higher education (such as the education indices computed by UNDP) and less involvement in terrorism. For example, Azam and Thelen (2008) show that high education levels discourage participation in terrorist activity<sup>2</sup>. Danzell et al. (2020) also shed light on the role of education in mitigating terrorism among African youth. Adebayo (2017) uses the case study to show how education can serve as the prevention of youth involvement in VE in Nigeria.

On the other hand, youth's vulnerability is also considered an important driver of VE. Some studies have shown that the perception of childhood happiness was lower among those who went on to join violent extremist groups within the sample. The critical factor in explaining childhood unhappiness that correlates with future extremism is the perceived lack of parental involvement in the child's life. The vulnerabilities of the communities and whether fostering greater understanding of religion, through methods that enable students to question and engage critically with teachings, are also verified as the key resources for VE.

## **2.4 Poverty, income, unemployment, and support for VE**

There are also many studies to explore the economic determinants of VE, many of which are focused on the regions outside Africa. Shapiro and Fair (2010) and Blair et al. (2013) study the

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<sup>1</sup> See World Bank (2015) for a more thorough review of the literature.

<sup>2</sup> Madiha Afzal (2015), Shafiq and Sinno (2010) and Jenkins (2011) are among the other studies that investigate the relationship between education and VE, none of which provides consistent results.

relationship between poverty and support for terrorism in Pakistan. Shapiro and Fair (2010) focus on urban Pakistanis and find little evidence between poverty, religiosity, and support for militant nationalist and Islamist organizations. Blair et al. (2013) apply a nationally representative survey in Pakistan and find that poor individuals dislike militants more than middle-class Pakistanis do. The sense of dislike is strongest among the urban poor, especially those living in neighborhoods exposed to militant violence. Results from Mousseau (2011) show that support for Islamist terrorism is highest among the urban poor. He attributes the rise of Islamic terrorism to highly insecure economic conditions faced by the poor in large cities.

When income is concerned, Shafiq and Sinno (2010) use Pew's Global Attitudes Survey (GATS) data from 2005 to study the relationship between income and support for suicide bombings across six Muslim countries – Indonesia, Pakistan, Jordan, Lebanon, Turkey, and Morocco. They hypothesize that income directly discourages support for suicide bombings but indirectly encourages support for suicide bombings through political dissatisfaction. Their results show that the effect of education and income on public support for suicide bombings varies across countries and targets, pointing to the difficulties of generalizing Muslim countries. Furthermore, Fair and Shepherd (2006) and Mousseau (2011) use 2002 Pew Global Attitudes data to study the demand for terrorism in 14 Muslim countries. Fair and Shepherd (2006) find that women, youth, computer users, those who believe that Islam is under threat and those who believe that religious leaders should play a larger role in politics, are more likely to support terrorism. Kiendrebeogo and Ianchovichina (2016) use Gallup survey data from 27 developing countries to study the characteristics of radicalized individuals. They find that the typical radicalized individual is more likely to be young, unemployed, struggling to meet ends, and not as religious as others but more willing to sacrifice their own life for his or her beliefs.

Given the scarce empirical evidence on the economic drivers of VE in Africa<sup>3</sup>, this study attempts to fill in the blank. We will use violence data for the major African countries, together with the macro-level economic factors that might potentially affect the formation of violence, to explore such a relationship. The conventional political determinants will also be included.

### **3. Methodology**

#### **3.1 Data**

This research draws on detailed data of violent events in Africa covering 1997-2021 and explores the impact of economic determinants on VE, while controlling for other factors such as the terrorism index and political stability of the countries, the choice of which will be discussed in the later section. The Armed Conflict Location & Event Data Project (ACLED) is a disaggregated

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<sup>3</sup> UNDP (2023) is a major recent study that discussed the drivers of VE in Africa in terms of education, religion, economy, and governance, etc. However, the work does not use country as the unit of the analysis. Thus, the current paper will complement the existing literature.

data collection, analysis, and crisis mapping project. As introduced by Raleigh et al. (2010), ACLED collects the dates, actors, locations, fatalities, and types of all reported political violence and protest events in more than 200 countries and territories in real-time. It monitors political violence, with a focus on civil and communal conflicts, violence against civilians, remote violence, rioting, and protesting. Each event is coded for a date and location. In total, 60 countries in Africa and Asia are covered, with Asia data currently available since the beginning of 2015<sup>4</sup>. As of October 2015, the global dataset contained around 100,000 events. Because of scarce evidence from the African regions, in this study, we will pay particular attention to Africa, while taking into account the regional heterogeneity.

In the dataset, there are 6 types of violent activities, namely battles, explosions/remote violence, protests, riots, strategic developments, and violence against civilians. We assume that the last category (violence against civilians) is the most appropriate one to capture VE because rather than military conflict, it targets civilians. We would like to confirm whether such an act is linked to social-economic factors. However, in the robustness check, we will use the total amount of violence (including all 6 categories) as the dependent variable.

Apart from the violence information, we collect social-economic as well as political variables from various sources. I include the indicators which measure the political stability of a country, to control for the possible influence of political factors on VE. Otherwise, it will contaminate our estimation of the impact of social-economy factors. The economic indicators are taken from Penn World Table, version 10.0. We mainly use GDP-related information, namely GDP per capita and GDP growth, and measurement for job security—the unemployment rate<sup>5</sup>. The political indicators are taken from the Index of Economic Freedom, published by The Heritage Foundation, a Washington-based think tank. The Index covers 12 types of freedom indicators – from property rights to financial freedom in 184 countries. Due to the concern of multicollinearity, we use the combination of property rights, judicial effectiveness, tax burden, and government spending<sup>6</sup>, as

<sup>4</sup> Despite the coverage of ACLED, in some regions such as the Sahel it is quite challenging to obtain the data. The information is based more on estimates rather than actual real numbers. There is some alternative dataset on violence, such as Uppsala Conflict Data Program (UCPD). Nevertheless, the rich violent cases ACLED documents across different continents can help us conduct a general evaluation on the key determinants.

<sup>5</sup> Though we are aware of the fact that the statistics here only represent the formal unemployment. In African countries, however, the informal employment rate is quite high, which cannot be captured in the statistics. We will leave such limitation to our future study.

<sup>6</sup> Property rights: it measures the degree to which a country's laws protect private property rights and the degree to which its government enforces those laws; Judicial Effectiveness: effectiveness of judges and prosecutors; tax burden: a measure of the tax burden imposed by government. It includes direct taxes, in terms of the top marginal tax rates on individual and corporate incomes, and overall taxes, including all forms of direct and indirect taxation at all levels of government, as a percentage of GDP. It measures fiscal

the control variables in our baseline estimation. The selection of other indicators will be tested in the robustness check section.

To better control for the country-level risk of terrorism, we use the terrorism index from the Global Peace Index database constructed by the Institute of Economic and Peace. They issued an aggregated “global terrorism index overall score”, covering 163 countries and 60,500 terrorist incidents for the period 2011 to 2021. The index is calculated based on the past information of combined deaths, hostages, and injuries incidents from terrorism over a five-year span. In this regard, it captures a priori trend of how serious terrorism can be in a certain country, whereas in this study, we use the number of incidents from terrorism in the current period to capture VE. In practice, we will apply both specifications to include and exclude the terrorism index, to ensure that our findings are not sensitive to different specifications.<sup>7</sup>

We merge the violence data with the macro-level information mentioned above, using 3-digit ISO country code. The number of African countries in the ACLED dataset is 51, as shown in Table 1, whereas the matched list includes 43 countries.<sup>8</sup> We include the statistical summary of all the variables in Table 2.

### 3.2 Empirical Strategy

$$VE_{ct} = \beta_0 + \beta_1 X_{ct} + \beta_2 P_{ct} + g_c + g_t + u_{ct} \quad (1)$$

Our baseline estimation will take the form of equation (1), where  $VE_{ct}$  is the measurement of VE for country  $c$  at time  $t$ . In practice, we use the aggregated amount of violence against civilians (num\_violence) for each country-year pair, as the proxy for VE.  $X_{ct}$  is a vector of social-economic factors, including unemployment rate, GDP growth rate, etc.  $P_{ct}$  is a vector of political variables, as mentioned in the previous section. To avoid the reverse causality issue, we lag  $X_{ct}$  and  $P_{ct}$  by one period respectively. We control for country fixed effects  $g_c$  and year fixed effects  $g_t$  to take advantage of the panel data.  $u_{ct}$  is the error term.

## 4. Estimation Results and Robustness Checks

### 4.1 Baseline results

The baseline results are shown in Table 3. In general, the GDP per capita has a negative impact

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freedom of a country; government spending: it includes consumption and transfers at all levels of government such as federal, state, and local. In cases where general government spending data are not available, data on central government expenditures are used instead.

<sup>7</sup> This can also be considered a part of robustness checks.

<sup>8</sup> When combined with the macro information, the ones with missing data will be dropped (Cabo Verde, Comoros, Congo, Eswatini, Gambia, Sao Tome, Seychelles, Sierra Leone, Zambia, Zimbabwe)



on the amount of violence against civilians, though not always significant. In the meantime, the unemployment rate positively affects the amount of violence in all cases. This indicates that the insecurity of jobs can be an important contributing factor to VE. The more people don't have access to income, the more likely they are to explore a broad range of livelihood options, including desperate ones like joining a Violent Extremist group to gain access to income or other resources. As for the other control variables, government spending seems to be negatively correlated with the dependent variable. One interpretation can be that where there is more government spending on social services and security, there is less likelihood that people will feel the need to join Violent extremist groups to meet basic needs.

#### **4.2 Robustness checks**

Though in the baseline estimation we assume that the amount of violence against civilians is the most appropriate indicator to measure VE, we recognize that violence against civilians and other types of violence<sup>9</sup> can also be triggered by a range of other factors, for example riots against local authorities for lack of service delivery that have nothing to do with VE. To this regard, we sum up the number of all types of violent crimes and use it as the alternative dependent variable. Another option of the dependent variable is the log of the number of victims of actual incidents, to measure the brutality of the terrorists, whereas the variables on the right hand side are the same as those in equation 1.

The results using aggregated amount of all violence, are presented in Table 4. The signs of GDP per capital is not stable, however, in the last three out of four columns, it is negative. We also have mixed results for unemployment rate, which makes it difficult to make consistent conclusions. The terrorism index and government spending are always robust against all specifications, which is in accordance with the results in the baseline estimation.

#### **5. Further Issues**

One has the reason to believe that the social-economic factors can play different roles in the countries with different levels of VE. The hypothesis is that when countries are inflicted with more VE, the phenomenon is more likely to be triggered by social-economic determinants, since political factors are relatively stable across different countries, which is difficult to explain the ever-increasing speed of VE than average. To better illustrate the heterogeneity among countries, we divide countries by the level of VE. In practice, we calculate the mean amount of violence against civilian among all countries, and define the ones that have more cases than the mean value "above-average VE countries"<sup>10</sup>. Likewise, when the countries have less cases than the mean,

<sup>9</sup> Battles, explosions/remote violence, protest, riots, strategic developments, as mentioned above.

<sup>10</sup> Above-average VE (in terms of violence against civilians) countries include Mali, Somalia, Uganda, Congo, etc. Whereas the below-average VE countries consist of Senegal, South Africa, Ghana, Tanzania, Mauritius, etc. Please see Table 7 for more details.

they are defined as “below-average VE countries”. We run the baseline estimation by these two groups of samples respectively, and the results are indicated in Table 5 and Table 6.

As we expected, in columns (2)-(4) of Table 5, when GDP per capita is significant, it always negatively affects the amount of VE. On the other hand, unemployment rate is consistently positive, though its significance is not stable. The other control variables also show similar signs with the results in the previous estimations. In contrast, as shown in Table 6, when we limit the estimation to below-average VE country samples, both GDP per capita and unemployment rate lose significance in all kinds of specifications. However, property rights and government spending are negatively significant, indicating the efforts towards peacekeeping are effective in suppressing the violent events in below-average VE countries. Together with the results from Table 4, we can see that the significance of social-economic factors are mainly from the above-average VE group of samples. When relating the findings to the resilience literature, what we can conclude is that when the level of violence is relatively low, protection on property rights and more government spending are useful tools to restrict the re-happening of violence, which builds resilience in peace. On the other hand, when the level of violence is already high, the policy tools alone might not be enough to lower the number of violent events. A sound economic environment together with the stable social-economic condition will be the key to the resilience of a country. However, we cannot make further conclusions without more careful investigation.

## **6. Conclusions and Policy Implications**

In this study, we made an attempt to explore the relationship between VE and social-economic performance in the context of Africa, from the empirical perspective. The novelty we would claim for this work is that we explicitly take into account both theories in relation with terrorism and economics and fill in the blank of studies targeting Africa. We take advantage of a detailed data of violent events in Africa and explores the impact of economic determinants on VE, while controlling for the other conventional factors that have been studied in the previous literature, such as political stability. The estimation results are generally in line with our expectations. A negative association between GDP per capita and amount of VE, *ceteris paribus*, would confirm the economic deprivation argument, as in the existing literature. As for the unemployment rate, the results clearly demonstrate that in African countries the classical economic argument of opportunity cost can also be confirmed, i.e., the higher the number of unemployed individuals, the higher the amount of violence against civilians is. In the meantime, when the terrorism index and political determinants are included, they also present the consistent results with the literature.

To take a step further, we divide countries into above-average VE and below-average VE groups based on their level of violence against civilians and investigate the heterogeneous impact of social-economic factors in each group. The results show that the violence against civilians is more

affected by social economic factors when the level of VE is high. In other words, when VE is already prevailing in a country, then the economic downturn will worsen the situation by enlarging the level of VE. This would in turn provide evidence to the policy makers in these countries as how economic development and labor market tightness can affect the social stability of the society.

Despite the efforts, the current study still has its limitations: First, the results can apply to Africa, but what if we expand to other regions of the world? Second, we only consider the count of violence against civilians, but haven't taken into account the scale or the consequences of these crimes. Further improvement can be made by combining both dimensions of quantity and quality. Third, even though we have confirmed the importance of the social-economic factors in determining VE, if we want to make further argument on the causal relationship between the two, more rigorous verification will be necessary. We will leave these issues for our future study.

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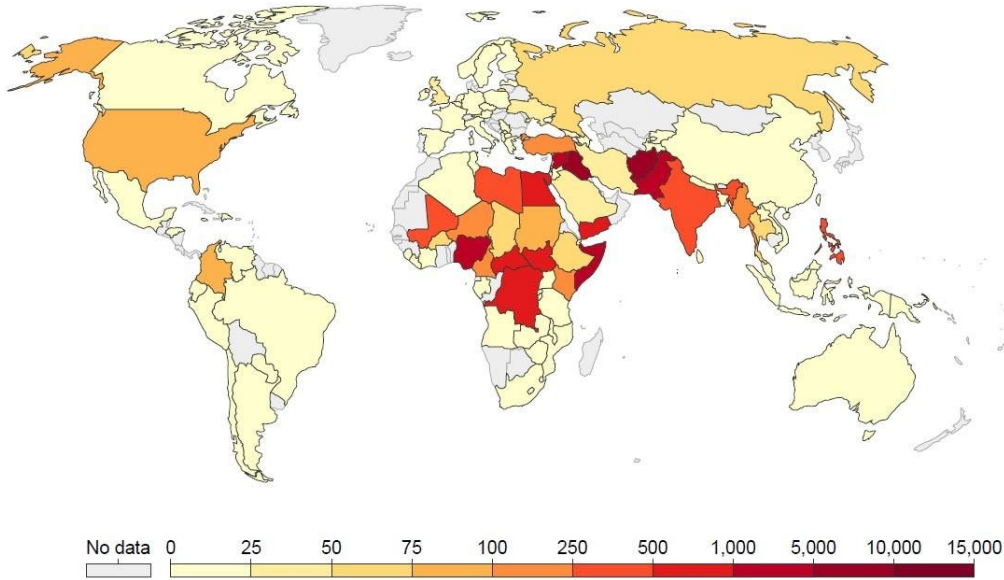
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**Figure 1 :**

### Deaths from terrorism, 2017

Confirmed deaths, including all victims and attackers who died as a result of the incident.



Source: Global Terrorism Database (2018)

[OurWorldInData.org/terrorism/](https://OurWorldInData.org/terrorism/) • CC BY

Note: The Global Terrorism Database is the most comprehensive dataset on terrorist attacks available and recent data is complete. However, we expect, based on our analysis, that longer-term data is incomplete (with the exception of the US and Europe). We therefore do not recommend this dataset for the inference of long-term trends in the prevalence of terrorism globally.

**Table1:** Country list in the ACLED dataset

Country Name
Algeria
Angola
Benin
Botswa.
Burki. Faso
Burundi
Cabo Verde
Cameroon
Central African Republic
Chad
Comoros
Congo, Rep.
Cote d'Ivoire
Djibouti
Egypt, Arab Rep.
Equatorial Guinea
Eritrea
Eswatini
Ethiopia
Gabon
Gambia, The
Ghana.
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Libya
Madagascar
Malawi
Mali
Mauritania
Mauritius
Morocco

Mozambique
Niger
Nigeria
Rwanda
Sao Tome and Principe
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
Sudan
Tanzania
Togo
Tunisia
Uganda
Zambia
Zimbabwe



**Table2:** Summary Statistics

Variable	Definition	Mean	SD	Min	Max	N
year	Year of the sample	2010.192	7.222934	1997	2021	5032
num_violence	Number of violent events	50.62381	136.6324	1	2072	5032
overallscore	The overall score of the political indicator	53.78856	7.284391	21.4	77	4308
average11	Average score the following political indicators	53.18276	8.935436	5	73.2	4403
propertyrights	Category of political indicator	34.68185	13.27986	5	78.4	4392
governmentintegrity		27.94173	10.43839	5	67.9	4440
judicialeffectiveness		35.43353	12.06444	10.3	83.2	1178
taxburden		72.27409	10.90704	32.3	100	4362
governmentspending		75.15587	17.70998	0	99.3	4380
fiscalhealth		55.0188	30.34292	0	99.4	1154
businessfreedom		53.84514	12.43696	17.1	92.3	4404
laborfreedom		54.6079	13.48685	20	91.8	3302
monetaryfreedom		71.71281	12.73307	0	90.4	4386
tradefreedom		62.20147	12.22737	0	90	4350
investmentfreedom		46.81507	16.42744	0	80	4380
fincialfreedom		41.30324	13.91406	10	70	4320
population	Population in each country	26.83903	31.97916	0.53646	200.9636	4199
employment	The number of employment in each country	9.433178	11.29889	0.1720825	73.02055	4199

GDP_per_capita		3871.624	4174.431	456.5143	41236.22	4199
GDP_growth_rate		0.0518847	0.102294	-0.3438824	1.523222	4199
country_TFP	Country-level total factor productivity	0.46203	0.226865	0.115832	1.347107	2727
unemployment_rate	Unemployment rate in each country	0.3550958	0.0705364	0.1991428	0.5544855	4199
terrorism_index	The index that measures the level of terrorism	3.487287	2.846221	0	9.117732	2269

**Table 3:** Baseline estimation results- Amount of violence against civilians

	(1)	(2)	(3)	(4)
Dep. Variable	violence	violence	violence	violence
L. GDP_per_capita	0.00259 (0.00739)	-0.0522* (0.0311)	-0.126 (0.0876)	-0.00778 (0.0200)
L.unemployment_rat				
e	675.1* (369.8)	2,008* (1,203)	8,113** (3,811)	5,018** (2,505)
L. country_TFP	45.21 (82.25)	400.0 (256.1)	433.1 (626.7)	
L.terrorism_index		18.13*** (6.469)	24.58* (13.91)	24.46** (10.68)
propertyrights			-4.045 (3.854)	-1.727 (2.019)
judicialeffectiveness			1.170 (2.385)	0.286 (1.764)
taxburden			0.359 (7.618)	1.653 (4.548)
governmentspending			-4.995 (3.335)	-3.450* (1.917)
Country FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Observations	490	192	90	136
R-squared	0.410	0.702	0.879	0.873

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table 4:** Results using total cases of violence as the dependent variable

	(1)	(2)	(3)	(4)
Dep. Variable	total_cases	total_cases	total_cases	total_cases
L. GDP_per_capita	0.0387*** (0.0125)	-0.0848 (0.0621)	-0.337 (0.222)	-0.0197 (0.0592)
L.unemployment_rat	1,882** (748.9)	1,342 (2,648)	-1,981 (10,021)	-11,475 (7,732)
L. country_TFP	211.5 (157.0)	2,731*** (629.9)	-177.1 (1,631)	
L.terrorism_index		29.71* (15.58)	38.62 (37.34)	37.46 (33.85)
propertyrights			-16.32 (10.10)	-8.173 (6.244)
judicialeffectiveness			2.403 (6.231)	2.360 (5.404)
taxburden			-18.05 (12.99)	-11.35 (10.88)
governmentspending			-18.23** (7.429)	-10.42** (5.227)
Country FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Observations	689	223	96	148
R-squared	0.472	0.784	0.900	0.872

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table 5:** Estimation results using above-average VE country sample

	(1)	(2)	(3)	(4)
Dep. Variable	violence	violence	violence	violence
L. GDP_per_capita	0.0156 (0.0378)	-0.279*** (0.0725)	-0.658** (0.240)	-0.359** (0.144)
L.unemployment_rat	438.4 (1,971)	8,687*** (2,605)	8,542 (7,651)	6,581 (5,011)
L. country_TFP	388.1 (320.7)	1,808*** (524.7)	1,199 (1,141)	
L.terrorism_index		41.19* (22.03)	159.3*** (47.91)	118.9*** (29.80)
propertyrights			4.609 (8.051)	1.565 (5.048)
judicialeffectiveness			-5.249 (8.037)	-5.964 (5.456)
taxburden			0.359 (7.618)	1.653 (4.548)
governmentspending			-4.995 (3.335)	-3.450* (1.917)
Country FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Observations	120	65	35	47
R-squared	0.453	0.796	0.925	0.899

Standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

*Notes:* if the amount of violence against civilians in a country is larger than the mean value of the total sample, then the country is defined to have above-average VE, otherwise below-average VE.

**Table 6:** Estimation results using below-average VE country sample

	(1)	(2)	(3)	(4)
Dep. Variable	violence	violence	violence	violence
L. GDP_per_capita	0.00127 (0.000931)	0.00108 (0.00303)	0.00286 (0.00767)	0.000131 (0.00248)
L.unemployment_rat	-5.506 (45.77)	113.1 (141.0)	240.8 (406.0)	673.7 (441.6)
L. country_TFP	-35.19*** (12.48)	-81.85*** (28.46)	-116.8 (81.54)	
L.terrorism_index		1.531** (0.681)	0.682 (1.212)	0.526 (1.605)
propertyrights			-1.135** (0.529)	-0.400 (0.307)
judicialeffectiveness			0.0987 (0.239)	0.140 (0.280)
taxburden			0.00661 (0.626)	-0.403 (0.610)
governmentspending			-0.614** (0.286)	-0.125 (0.272)
Country FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Observations	369	126	51	83
R-squared	0.525	0.694	0.901	0.792

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Table7:** Country list (above-average VE)

<b>Countries with above-average VE</b>
Burkina Faso
Burundi
Cameroon
Central African Republic
Democratic Republic of the Congo
Kenya
Libyan Arab Jamahiriya
Mali
Nigeria
Somalia
South Sudan
Sudan
Uganda
Zimbabwe

## Abstract in Japanese

### 要 約

暴力的過激主義のプロセスにおいて、社会経済的要因はどのような役割を果たしているのだろうか。暴力的過激主義の要因については、多くの知見が中東・北アフリカ (MENA) や南アジアの国々の事例に基づくものである。これとは対照的に、サハラ以南のアフリカや世界の他の地域における暴力的過激主義の要因については、広く認識されていない。本研究では、1997年から2021年までのアフリカにおける暴力的事件の詳細なデータを用い、その他の政治的安定性などの要因とも照らし合わせながら、社会経済的要因と暴力的過激主義との関係を分析した。その結果、失業、劣悪な社会経済状況、脆弱なガバナンスが暴力的過激主義と強い関連性があることが明らかになった。

**キーワード** : 暴力的過激主義、アフリカ、経済的要因、失業、政治的安定性

**JEL コード** : D74, D83, C35