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ArticleTitle	Does a free market system reduce conflict in Africa?	
Article Sub-Title		
Article CopyRight	The Author(s), under exclusive licence to Institute for Social and Economic Change (This will be the copyright line in the final PDF)	
Journal Name	Journal of Social and Economic Development	
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Schedule	Received Revised Accepted 26 September 2021
Abstract	<p>This study examined the relationship between economic freedom and conflict in Africa between 1985 and 2017. Unbalanced data of 54 African countries were employed to test the hypothesis about the impact of economic freedom on conflict. We used the Pooled OLS, fixed-effect, random-effect, and generalized method of moment (GMM) techniques to estimate the models. Based on countries' classification by level of economic freedom, the findings from this study show that economic freedom mitigates conflict except in the classifications of most and moderately free economies. Political institution measured by political rights and civil liberties worsens conflict incidence, while a lower corruption scale reduces conflicts. The results show that there exist complementary interactive effects of economic freedom and measures of political institutions on internal conflicts in Africa. This study concluded by emphasizing the need for African governments to improve economic freedom (i.e. increasing international trade) as well as strengthening democratic institutions in the region.</p>
Keywords (separated by '-')	Economic freedom - Conflict - Political institution - GMM technique - Africa
Footnote Information	



2 Does a free market system reduce conflict in Africa?

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4 Accepted: 26 September 2021

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6 Abstract

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8 between 1985 and 2017. Unbalanced data of 54 African countries were employed to test
9 the hypothesis about the impact of economic freedom on conflict. We used the Pooled
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16 economic freedom and measures of political institutions on internal conflicts in Africa.
17 This study concluded by emphasizing the need for African governments to improve eco-
18 nomic freedom (i.e. increasing international trade) as well as strengthening democratic
19 institutions in the region.

AQ1

20 **Keywords** Economic freedom · Conflict · Political institution · GMM technique · Africa

21 Introduction

22 A great deal of institutional economics literature has extensively investigated the role
23 of economic institutions in an economy. Studies have observed that economic freedom
24 is associated with various socio-economic indicators like income per capita, human
25 and physical capital investment (Dawson 1998; Gwartney et al. 2004, 2006; Hall et al.
26 2010; Feldmann 2017; Okunlola and Ayetigbo 2021). Some also suggest that economic
27 freedom affects growth per capita worker and foreign direct investment (Cebula 2013;
28 Quazi 2007), quality of life (Nikolaev 2014; Okunlola and Akinlo 2021), labor market

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29 outcomes (Feldmann 2007; Heller and Stephenson 2014), less cronyism and greater
30 equality (Bennett and Cebula 2015), social trust (Berggren and Jordahl 2006), and
31 improved human rights (Blume and Voigt 2007). However, the area that has been highly
32 ignored in the literature is the link between levels of economic freedom and conflict. **AQ2**

33 Few studies have considered the association between the levels of economic free-
34 dom and crime (Bjørnskov 2015; McLean et al. 2019), level of economic freedom, and
35 peacefulness (De Soysa and Fjelde 2010; Gartzke 2005). McLean et al. (2019) noted
36 that nations identified with a high level of neoliberal indicators have a high rate of homi-
37 cides. There are reasons provided for this. First, neoliberalism emphasizes the signifi-
38 cance of individual responsibility and thus encourages a unique form of competitive
39 individualism. Secondly, it also stresses economic freedom could establish a condition
40 where institutions that engage in socialization weaken and then reduce socialization.
41 Lastly, the policies of neoliberalism can encourage a reduction of the welfare system
42 and the removal of policies that are opposed to individual responsibility and freedom. **AQ3**

43 Furthermore, few empirical studies have established the link between economic free-
44 dom and conflict (Djidrov et al. 2013b; Tures 2003). According to Miller et al. (2012a),
45 economic freedom consists of ten components: property rights, fiscal freedom, govern-
46 ment spending, business freedom, investment freedom, freedom from corruption, trade
47 freedom, financial freedom, monetary freedom, and labor freedom. The EFW index
48 provides a comprehensive measure of the consistency of a country's institutions and
49 policies with economic freedom. The construction of the EFW index is based on three
50 important methodological principles (Spindler and Still 1991). First, objective compo-
51 nents are preferred to those that involve surveys or value judgments. Second, the data
52 used to construct the index ratings are from external sources such as the International
53 Monetary Fund, World Bank, and World Economic Forum that provide data for a large
54 number of countries. Lastly, the Economic Forum provides data for a large number of
55 countries. **AQ4**

56 Economic freedom through the channel of trade freedom is argued to affect conflict
57 (Mansfield and Pollins 2001; Gasiorowski 1986; Cali 2015: 25, Sudula 2012: 3; Tanious
58 2019: 38; Krpec and Hodulak 2019: 152; Su et al. 2020: 3238; Lee and Pyun 2009: 25).
59 Similarly, economic freedom through other channels such as business freedom (Nicolas
60 and Dominic 2009; Djidrov et al. 2013a; Ganson and Wennmann 2015; Forrer et al. 2012;
61 Gilpin and Downie 2009) has an important part to play in promoting sustainable peace.
62 Economic freedom through property rights has been found to have a link with violent con-
63 flict (Eck 2014; Di Falco et al. 2016a, b; Alston et al. 2000). Furthermore, financial sector
64 freedom or development, which is another measure of economic freedom, is closely con-
65 nected with issues of conflict than one might expect (Addison et al. 2001; Frick 2019; Bad-
66 deley 2007). Government size has also been associated with a higher risk of conflict (Singh
67 et al. 2014; Taydas and Peksen 2012; Khalid et al. 2019). **AQ5**

68 Djidrov et al. (2013a, b) in their work look at the link from conflict to economic free-
69 dom. On the other hand, Tures (2003) established that the relationship runs from economic
70 freedom to conflict reduction. This study provides a comparison of conflicts types (i.e.
71 internal conflict and external war) for each category of economic freedom cases and com-
72 pares the observations to an expected model randomly generated by the amount of conflict
73 and economic freedom in the sample. He, however, controlled for the level of develop-
74 ment, which could influence the relationship between economic freedom and conflict. It is
75 believed that developed countries are less likely to experience conflict because they have
76 achieved a degree of self-sufficiency to take care of the needs of their domestic population,
77 and therefore economic freedom is somewhat irrelevant.

78 Another factor that could influence the economic freedom and conflict relationship is
79 the level of political institutions in a country. The logic behind this is that good democratic
80 institutions are formal codifications of nonviolent conflict resolution procedures (Hegre
81 2014). Sound democratic institutions are key to letting the beneficial changes caused by
82 development manifest as more peaceful societies. The work of Turesson (2003), however,
83 did not account for the influence of democratic institutions in the economic freedom–con-
84 flict relationship, which could play a key role in his findings. Another issue of note is that
85 generally the region of Africa, which is the focus of this study, is characterized by weak
86 democratic institutions. Many African countries practice repressive and autocratic styles of
87 political systems, which could contribute to the incessant crisis in the region. Because of
88 this, it will be instructive to control not only for development but also for democratic insti-
89 tutions in the economic freedom–conflict hypothesis. However, as compared with the work
90 of Bussmann et al. (2005) who limited the scope of economic liberalization to trade open-
91 ness and liberalization, this paper adopts the economic freedom index, a broader measure
92 of economic liberalization, which consists of ten components.¹ Also, this study investi-
93 gated the relationship between economic freedom and conflict from a subsample perspec-
94 tive. This is aimed at establishing if the relationship defers between countries most eco-
95 nomically free and the ones that are least economically free.

96 The paper is organized as follows: Sect. 2 provides a brief review of the literature on the
97 relationship between economic freedom and poverty. Section 3 discusses the methodology
98 and data issues. Section 4 discusses the empirical results. Section 5 concludes the paper.

99 Literature review

100 The literature has revealed that violence and conflict of any nature: such as coup d'état,
101 revolution, rebellion, or war of liberation, are caused by either financial failures or adminis-
102 trative incompetence, or both (Eckstein 1965; Kamenka 1970). While it has been observed
103 that factors other than economic factors are major causes of violence and conflicts (Leiden
104 and Schmitt 1968; Collier and Hoeffler 2002), Davies (1970) showed that they occurred
105 due to the reduction of economic freedom. Some studies have shown evidence of a con-
106 nection between a strong state and the reduction in violence (Pinker 2011, 2015; Murphy
107 2016). Pinker's (2011) hypothesis claimed that developing stronger states plays a very
108 important role in reducing violence. However, while conducting his investigation, Pinker
109 (2011) employ scatterplots and trend lines which are claimed to be weak tools for measur-
110 ing the relationships between variables. Murphy (2016) on the other hand uses the regres-
111 sion method which is a better tool than the scatterplots and trend lines and still observed
112 that strong states decline violence.

113 In the introductory part, this paper identified the ten components of economic free-
114 dom. These components have been linked to violent conflicts in several ways. For
115 instance, property rights; studies linking ill-defined property rights with violent con-
116 flicts abound in the literature. According to Di Falco et al. (2016a, b), the fact that many
117 individuals may have claims to the same piece of land is alleged to exacerbate tensions
118 and generate violence. They found that farm-households with secure land tenure are

¹ Miller et al. (2012b) expressed that economic freedom consists of: property right, fiscal freedom, govern-
²ment spending, business freedom, investment freedom, freedom from corruption, trade freedom, financial
³freedom, monetary freedom and labour freedom.

119 less prone to conflicts and this effect transit through less vulnerability to water scar-
120 city. Also, Besley and Ghatak's (2010) model provided an economic rationale for why
121 conflict emerges in equilibrium and highlights the role of tenure security and the mar-
122 ginal value of the land. When competing customary and modern jurisdictions coexist in
123 countries inhabited by mixed identity groups, the conflicting sources of legal authority
124 lead to insecurity about which source of law will prevail (Eck 2014). He claimed that
125 because the source of law is contested, conflict parties could not trust the legal system
126 to predictably adjudicate disputes, which encourages the use of extrajudicial vigilante
127 measures. The results show that in countries where competing jurisdictions exist, com-
128 munal land conflict is 200–350% more likely in West Africa. AQ6

129 Business freedom plays an important part in promoting sustainable peace. (Nicolas
130 and Dominic 2009; Djidrov et al. 2013a, b; Ganson and Wennmann 2015; Forrer et al.
131 2012; Gilpin and Downie 2009). For instance, Ganson and Wennmann (2015) claimed
132 that attempted reforms will at best only deliver their intended results in the long term,
133 and at worst, how reforms are now being pursued in many places will exacerbate con-
134 flict. Forrer et al. (2012), and Gilpin and Downie (2009) in their works argued that the
135 business sector could promote prosperity and stability in conflict-prone and conflict-
136 affected regions through good corporate citizenship, but operating in these high-risk,
137 high-reward environments is fraught with great difficulty. They, however, agreed that the
138 business sector is key for sustainable peace. Killick et al. (2005) also believe that local
139 businesses contribute constructively to peace by harnessing their particular resources,
140 skills, experience, and influence to suggest it remains one of the underestimated and
141 underused peacebuilding actors. AQ7

142 Financial sector freedom or development, which is another measure of economic free-
143 dom, has also been demonstrated to be closely connected with issues of conflict (Addi-
144 son et al. 2001; Frick 2019; Baddeley 2007). Generally, it is believed that the relationship
145 between an economy's financial sector and the occurrence and resolution of conflict might,
146 at first sight, appear weak. It is argued that banking systems, financial regulation, and cur-
147 rency arrangements do not appear to be relevant in understanding why nations collapse or
148 why people kill each other. Addison et al. (2001) noted that during the conflict, finance
149 (both internal and external) can be decisive in determining who wins, as well as the dura-
150 tion of the war. Frick (2019) in another work proved that financial inclusion plays a signifi-
151 cant role in the dynamics of conflict and development. On the other hand, Baddeley (2007)
152 who studied the interactions between finance, development, and armed conflict demon-
153 strated that financial factors are crucial in sustaining conflict-underdevelopment feedback
154 loops. He found that financial instability leads to conflict (and vice versa), war retards the
155 development of financial institutions/infrastructure, and interactions between finance and
156 conflict are exacerbated by distributional struggles.

157 Also, government size has been demonstrated to have links with a higher risk of con-
158 flict (Singh et al. 2014; Taydas and Peksen 2012; Khalid et al. 2019). For instance, Singh
159 et al. (2014) investigated 148 countries over 1960–200 and demonstrated that higher lev-
160 els of military spending are associated with a lower risk of small- and large-scale conflict
161 onset in countries rich in oil and gas. Furthermore, they found that welfare expenditure
162 is associated with a lower risk of small-scale conflict, irrespective of the level of oil rev-
163 enue. However, they claimed that general government spending does not appear to have
164 any robust mitigating effects. Another work by Taydas and Peksen (2012) established that
165 certain types of public spending, such as welfare spending, might have a strong pacifying
166 effect on civil conflict, and therefore the state's welfare efforts are vital for the maintenance
167 of peace.

168 Economic freedom through the channel of trade freedom is argued to affect conflict
169 (Mansfield and Pollins 2001; Gasiorowski 1986; Cali 2015: 25, Sudula 2012: 3; Tanious
170 2019: 38; Krpec and Hodulak 2019: 152; Su et al. 2020: 3238; Lee and Pyun 2009: 25).
171 Krpec and Hodulak (2019: 152) argue that the changes resulting from the disruption
172 of trade flows itself, lead to changes and shifts which are relatively permanent, inde-
173 pendent of outcomes of the conflicts for individual countries, and do significantly affect
174 regions that did not take part in the conflict. Also, Cali (2015: 25) found support for
175 rapacity effects in the relationship between trade and conflict. By the rapacity effect,
176 he meant that valuable economic resources can provide an incentive to fight over their
177 control. However, there is no unanimous position in the various results found by these
178 authors and this calls for further investigation on the trade-conflict relationships.

179 Several authors claim that liberalizing economic reforms associated with increased
180 economic freedom is always based on blatant disregard for human rights (Klein 2007),
181 an increase in homicide rates, and other types of violent crime (Hall and McLean 2009).
182 However, some studies in the literature have disproof Klein's (2007) argument and
183 claim that there exists a positive relationship between liberalization policy and human
184 rights (Eriksen and de Soysa 2009; Carden and Lawson 2010; De Soysa and Vadlaman-
185 nati 2013). It was also claimed that the work of Hall and McLean (2009) is devoid of
186 any concrete empirical evidence aside from the strategic examples and inferences based
187 on comparisons between the US, Canada, and other countries (Bjørnskov 2015). Con-
188 trary to the foregoing works, Stringham and Levendis (2010a, b) adopt the quantitative
189 technique on cross-country comparisons and found that more economic liberalization
190 tends to reduce homicide rates.

191 More evidence in the literature has provided support for the relationships between
192 neoliberalism and violent conflict (Osborne 2010; Tures 2003; Djidrov et al. 2013a, b).
193 Osborne (2010) adopts a newer economic technique conflict to analyze ethnic conflict
194 more broadly defined. In his analysis, he derived equilibrium discrimination by a domi-
195 nant group and separatism by a weaker group. He indicated that government restrictions
196 on commerce promote conflict and hamper trust. However, the Instrumental Variable
197 (IV) approach adopted is characterized by estimator that may be imprecise (large stand-
198 ard error), biased when the sample size is small, and biased in large samples when it
199 slightly violates one of the assumptions. Djidrov et al. (2013a, b) also provided empiri-
200 cal support for the economic freedom–conflict relationship in the Balkan region using
201 graphs, tables, and charts. Tures (2003) provided a comparison of conflicts types (i.e.
202 internal conflict and internal war) for each category of economic freedom cases, and
203 compare the observations to an expected model randomly generated by the amount of
204 conflict and economic freedom in the sample. He, however, controlled for the level
205 of development that could influence the relationship between economic freedom and
206 conflict.

207 The role of democratic institutions in the economic freedom–conflict relationships can-
208 not be overemphasized. Political institutions are believed to prepare the ground with which
209 economic institutions are devised and economic policies implemented (Acemoglu et al.
210 2005). Considering that the majority of African countries possess weak political institu-
211 tions as compared with other regions of the world, this could influence the impact of eco-
212 nomic freedom on the conflict in the region. Apart from controlling for the level of devel-
213 opment as done by Tures (2003), accounting for the quality of political institutions will
214 also be instructive to the body knowledge. Bussmann et al. (2005) accounted for the role
215 of the levels of development and democracy, thus their focus of economic liberalization is
216 only restricted to trade openness or liberalization.

217 Methodology

218 This section presents a panel regression to demonstrate the impact of economic freedom on
219 conflict Africa. This study adopts and adapts the model of Kurrild-Klitgaard et al. (2006)
220 who hypothesized that terrorism is a function of economic freedom, civil liberties, and
221 political rights. It is stated in a functional form as:

$$222 \quad Y = f(\text{EFW}, \text{CL}, \text{PR}) \quad (1)$$

223 where Y measures terrorism, EFW measures economic freedom, CL is civil liberties, while
224 PR stands for political rights. They assumed that all the three independent variables have a
225 negative sign, that is;
226

$$227 \quad \text{EFW}, \text{CL}, \text{PR} < 0$$

228 We adapt the Kurrild-Klitgaard et al. (2006) model by introducing the conflict variables,
229 political institution, level of development, and other control variables. Equation (1) now
230 becomes
231

$$232 \quad \text{Conf}_{it} = \beta_0 + \beta_1 \text{Conf}_{it-1} + \beta_2 \text{Efw}_{it} \\ + \beta_3 \text{PI}_{it} + \beta_4 (\text{Efw}_{it} * \text{PI}_{it}) + \beta_5 \text{GDPPC}_{it} \\ + \beta_6 (\text{Efw}_{it} * \text{GDPPC}_{it}) + \beta_7 \text{Milex}_{it} + u_{it} \quad (2)$$

233 where Conf_{it} is our measure of conflict experienced by country i in periods t . We disaggre-
234 gate it into internal and external conflicts. Efw_{it} represents economic freedom index which
235 measures the level of economic freedom experienced by country i in periods t . PI_{it} is the
236 quality of political institution which we measured by CI_{it} —the level of civil liberty; Pr_{it}
237 —the level of political rights experience in a country; and Cor_{it} —the level of corruption
238 assesses the level of corruption within a political system. Also, the term $(\text{Efw}_{it} * \text{PI}_{it})$ is
239 the interactive variable between the economic freedom index and each measure of the qual-
240 ity of political institution. The term GDPPC_{it} measures the per capita income while the
241 term Milex_{it} as military expenditure. For details of the data used in this study, see Table 1.
242 Lastly, u_{it} stands for the error term.
243

244 It is expected that the coefficient of economic freedom (β_2) can either be positive or
245 negative. The key justifications for these are that neoliberalism emphasizes the significance
246 of individual responsibility and thus encourages a unique form of competitive individual-
247 ism. Also, the policies of neoliberalism can encourage the reduction of the welfare sys-
248 tem and the removal of policies that are opposed to individual responsibility and freedom.
249 Therefore, an increase in economic freedom may increase crime, violence, and conflict
250 in Africa (McLean et al. 2019). On the other hand, free trade reduces conflict between
251 nations. Empirical studies provide support for this in the literature (Mansfield and Pollins
252 2001; Gasiorowski 1986). Two countries that trade with each other will not want to engage
253 in conflict with each other. The freedom to trade is, however, a part of economic freedom,
254 as economic freedom consists of other components, which could influence conflict. For
255 instance, labor market freedom ensures freedom to work without particularly belonging to
256 an ethnic or racial group, which might reduce the motivation for domestic conflict. In this
257 case, a freer economy may have reduced conflict.

258 The expected sign of political institution estimates (β_3) vary; for political rights, civil
259 liberties, and conflict incidence are expected to have negative signs. This is because more
260 political rights and civil liberties improve freedom of expression and freedom of dissension

Table 1 Data source and measurement

Variables	Measurement	Source
<i>Dependent variables</i>		
Per capita income	The gross domestic product divided by midyear population measures it	WDI 2018
Internal conflict	It assesses political violence in a country and its real or likely impact on governance (Howell 2018)	International country risk guide (ICRG)
External conflict	It measures both of the risks to the incumbent government from foreign action, ranging from non-violent external pressure to violent external pressure (Howell 2018)	International country risk guide (ICRG)
<i>Independent variables</i>		
Economic Freedom index	It is from ten components; property right, fiscal freedom, government spending, business freedom, investment freedom, freedom from corruption, trade freedom, financial freedom, monetary freedom, and labor freedom	EFW
Political rights	It is from three main subcategories: Electoral Process, Political Pluralism and Participation, and Functioning of Government	FIW, freedom house
Civil liberties	It is computed from four main subcategories: Freedom of Expression and Belief, Associational and Organizational Rights, Rule of Law, and Personal Autonomy and Individual Rights	FIW, freedom house
Corruption	The data represents an assessment of corruption within the political system	ICRG
<i>Other variables</i>		
Military expenditure	It is military spending as a percentage of gross domestic product	Stockholm international peace research institute (SIPRI), 2018

261 which allow individuals the freedom to say their grievances through a legitimate means.
262 However, the case of Africa may be different as many of the democracies in the continent
263 are still fledgling. It is believed that new democracies experience a higher risk of hostilities
264 particularly, the ones transitioning from military rule (Cook and Savun 2016; Mcfaul
265 2007). Scholarly literature suggests that transitions to democracy temporarily weaken political
266 institutions, thereby enhancing instability and reducing a state's ability to make credible
267 commitments (Cederman et al. 2010; Flores and Nooruddin 2009; Hegre et al. 2001).
268 The corruption scale is expected to hurt conflict.

269 The estimate of the interactive term (β_4) between economic freedom and political institution
270 will vary in signs depending on the measure of political institution used. We expect
271 the estimate of per capita income (β_5) which we used as a proxy for the level of develop-
272 ment to be negative. The logic is that developed countries are less likely to experience hos-
273 tilities because they have achieved a level of prosperity adequate to care for their domestic
274 population. We expect the estimate of military expenditure estimate (β_8) to be negative.

275 We conduct some tests before the panel regression of the effect of economic freedom
276 on the conflict in Africa. We compute the summary of statistics and test for stationarity
277 of the data used. Consequently, this study used the pooled ordinary least square, fixed and
278 random effect, and the generalized method of moment (GMM). Apart from being suitable
279 for unbalanced data, the fixed-effect model also controls for the omitted variables. Also, we
280 can account for the differential in the level of economic freedom and development among
281 African countries by employing the random coefficient model. In the literature, however,
282 the choice of the model to use has constituted a major challenge in estimating cross-country
283 regressions. We solve this problem by employing the Hausman test.

284 We employ a more advanced estimation method: the difference and system GMM. Arellano
285 and Bover (1995), Blundell and Bond (1998), developed these estimation methods.
286 According to Bond et al. (2001), the GMM addresses the issue of unobserved country het-
287 erogeneity, omitted variable bias, measurement error, and potential endogeneity. The GMM
288 approach is capable of combining time-series and cross-country data. In the dynamic panel
289 regressions, we employ the lagged values as instruments. However, the level of consistency
290 of a GMM estimator hinges on the validity of the instruments used. As suggested by Arellano
291 and Bond (1991), Arellano and Bover (1995), and Blundell and Bond (1998), we use
292 the Sargan test of over-identifying restrictions that test for the overall validity of the instru-
293 ment. Also, the reliability of the instruments is indicated by the serial correlation tests AR
294 (1) and AR (2). The probability value of the AR tests shows the presence of autocorrelation
295 in the first order but not in the second order. For the subsamples, where the number of sam-
296 ples is lower than the number of years, the criteria for using GMM are not met. Thus, we
297 adopt the pooled ordinary least square (POLS) and panel fixed effect methods.

AQ8

298 Data source and measurement

299 This study uses secondary data² from the world development indicators (WDI) of the
300 World Bank, Economic Freedom of the World (EFW) from the Fraser Institute, conflict
301 and corruption data from International Country Risk Guide (ICRG), and military spend-
302 ing data from the Stockholm International Peace Research Institute (SIPRI). The economic
303 freedom index data consists of ten components: property right, fiscal freedom, government

²FL01² See Table 1.

304 spending, business freedom, investment freedom, freedom from corruption, trade freedom,
305 financial freedom, monetary, and labor freedom (Miller et al. 2012a, b) and was sourced
306 from the Economic Freedom of the World (EFW) report published by the Fraser Institute.
307 The Economic Freedom Index (EFW) has a rating from 0 to 10. The higher the economic
308 freedom index score tends to 10 the freer the economy while a lower economic freedom
309 index score tending to 0, the less free the economy. Conflict data, however, is an assessment
310 of political violence in the country and its actual or potential impact on governance (How-
311 ell 2021). The highest rating is given to those countries where there is no armed or civil
312 opposition to the government and the government does not indulge in arbitrary violence,
313 direct or indirect, against its people. The lowest rating is given to a country embroiled in
314 an ongoing civil war. The risk rating assigned is the sum of three subcomponents, each
315 with a maximum score of four points and a minimum score of 0 points. A score of 4 points
316 equates to Very Low Risk and a score of 0 points to Very High Risk. The subcomponents
317 are (i) Civil War/Coup Threat, (ii) Terrorism/Political Violence, (iii) Civil Disorder. See
318 Table 1 for the source and description of other variables.

319 Table 2 shows the summary of descriptive statistics of the variables used in this study
320 between 1985 and 2017. It presents the descriptive statistics for the series all African coun-
321 tries used and the two sub-samples (most & moderately free, and least free). The most and
322 moderately free economies are those that belong to the first and second quartiles of the
323 summary economic freedom ratings for 2017 while the least free are African countries in
324 the third and fourth quartiles.³ The series shows a reasonable level of consistencies as the
325 mean falls within the minimum and the maximum values of the series. Table 10 in Appen-
326 dix presents the list of the countries included in the study.

AQ9

327 Empirical analysis

328 This section describes the procedures used and the results of the test. It presents the sta-
329 tionarity test, the system and difference GMM estimation result, and the pooled OLS and
330 panel estimation results.

AQ10

331 Stationarity tests

332 To establish a long-run relationship in time series analysis, one main condition is that the
333 variables must be integrated of order one, i.e. $I(1)$ or stationary at first differences. If a vari-
334 able is not stationary, it implies that the assumptions for asymptotic analysis are invalid.
335 Also, the stationarity test is necessary to avoid spurious regression that occurs when vari-
336 ables that have trend components are being regressed over another. This section presents the
337 result of the stationarity test of variables under investigation. We use the LLC (Levin et al.
338 2002), the IPS (Im et al. 2003), and the ADF-Fisher Chi-square (Maddala and Wu 1999).

339 The result of the stationarity test is presented in Table 3. The result shows a consider-
340 able level of consistency as some of the variables are stationary at level [i.e. $I(0)$] while
341 others are stationary at the first difference $I(1)$.

³FL01 See Gwartney et al. (2019).

Table 2 Summary of statistics of variables

Variable	Mean	SD	Min	Max	Obs
Internal conflict	7.71	2.31	0.00	12.00	1214
Per capita income	7.07	1.03	5.10	9.93	1630
Corruption	2.33	0.99	0.00	6.00	1214
Political right	4.83	1.83	1.00	7.00	1744
Civil liberties	4.60	1.49	1.00	7.00	1744
Military expenditure	543.33	1209.82	1.20	10,637.00	1384
Economic freedom	5.85	0.92	2.69	8.12	815
Economic freedom*corruption	4.50	6.79	0.00	29.86	1782
Economic freedom*political rights	11.51	14.20	0.00	50.20	1782
Economic freedom*civil liberties	10.82	12.75	0.00	44.85	1782
Economic freedom*per capita income	19.10	21.96	0.00	74.35	1782
<i>Most & moderately free</i>					
Internal conflict	8.28	2.15	2.00	12.00	164
Per capita income	7.45	1.11	5.33	9.55	297
Corruption	2.42	0.89	0.50	5.00	164
Political right	3.89	2.03	1.00	7.00	297
Civil liberties	3.74	1.60	1.00	7.00	297
Military expenditure	293.02	442.23	1.20	2337.00	290
Economic freedom	6.76	0.96	2.69	8.12	146
Economic freedom*corruption	4.41	7.53	0.00	29.30	297
Economic freedom*political rights	12.34	15.37	0.00	50.20	297
Economic freedom*civil liberties	11.65	13.74	0.00	44.85	297
Economic freedom*per capita income	25.03	26.85	0.00	74.35	297
<i>Least free</i>					
Internal conflict	7.76	2.22	0.17	12.00	1017
Per capita income	6.95	0.98	5.10	9.40	1221
Corruption	2.34	0.99	0.00	6.00	1017
Political right	4.95	1.69	1.00	7.00	1250
Civil liberties	4.69	1.32	2.00	7.00	1250
Military expenditure	624.58	1365.59	3.00	10,637.00	1037
Economic freedom	5.65	0.78	2.87	7.20	669
Economic freedom*corruption	5.35	6.90	0.00	29.86	1254
Economic freedom*political rights	13.43	14.23	0.00	46.76	1254
Economic freedom*civil liberties	12.62	12.71	0.00	39.72	1254
Economic freedom*per capita income	21.22	20.87	0.00	61.57	1254

342 Result of correlation analysis

343 This study examined the correlation between economic freedom and conflict in Africa.
 344 Many studies have demonstrated that economic freedom is correlated with numerous posi-
 345 tive outcomes (Gwartney et al. 1999, 2006; Boettke 2001; Hall and Lawson 2008). This
 346 study conducted a correlation analysis of the components of economic freedom and inter-
 347 nal conflict. Five components of economic freedom including the size of government, legal

Table 3 Stationarity test result

Variables	Least free(3rd and 4th quarters)																
	LLC		IPS		F-ADF		Rmks		LLC		IPS		F-ADF		Rmks		
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	
CL	- 3.016*		- 0.048		- 22.451*		108.47		576.08*		- 5.45*		- 4.32*		124.24*		I(0)
	(0.001)		(0.480)		(0.000)	(0.469)		(0.000)	(0.000)		(0.000)		(0.000)		(0.000)		I(0)
PR	- 3.048*		- 0.897		- 24.034*		124.46		615.26*		- 3.99*		- 3.52*		111.06*		I(0)
	(0.001)		(0.184)		(0.000)	(0.127)		(0.000)	(0.000)		(0.000)		(0.000)		(0.002)		I(0)
COR	64.647		492.83*		5.000*		63.30		302.26*		- 1.54***		- 0.38		68.59		I(1)
	(0.893)		(0.000)		(0.000)	(0.914)		(0.000)	(0.000)		(0.062)		(0.350)		(0.264)		I(1)
INTC	- 2.391*		0.750		- 12.836*		78.12		348.01*		- 6.65*		- 5.82*		142.22*		I(0)
	(0.008)		(0.773)		(0.000)	(0.538)		(0.000)	(0.000)		(0.000)		(0.000)		(0.000)		I(0)
GDPPC	- 0.373		- 27.44*		- 18.528*		113.11		558.81*		1.31		- 7.53*		47.57*		I(1)
	(0.354)		(0.000)		0	(0.300)		(0.000)	(0.000)		(0.904)		(0.000)		(0.993)		I(1)
MEXP	- 117.76*		15.716*		93.582		391.93*		391.93*		5.91		- 7.41*		36.78		I(1)
	(0.000)		(0.000)		(0.712)		(0.000)		(0.000)		(1.000)		(0.000)		(0.999)		I(1)
EFW	22.548*		- 0.098		- 6.383*		98.359		221.99*		- 2.95*		- 1.43***		80.14		I(0)
	(0.000)		(0.460)		(0.000)	(0.256)		(0.000)	(0.000)		(0.002)		(0.077)		(0.113)		I(0)
EFW*COR	- 6.221*		- 5.691*		169.75*		(0.000)		(0.000)		- 0.42		- 8.45*		82.53**		I(0)
	(0.000)		(0.000)		(0.000)		(0.339)		(0.035)		(0.339)		(0.000)		(0.029)		I(0)
EFW*PR	5.637*		- 3.924*		175.19*		(0.000)		(0.000)		1.14		- 9.66*		68.53		I(1)
	(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.873)		(0.000)		(0.594)		I(1)
EFW*CL	- 5.377*		- 4.350*		179.89*		(0.000)		(0.000)		1.27		- 9.27*		59.5		I(1)
	(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.898)		(0.000)		(0.854)		I(1)
EFW*GDPPC	- 3.742*		- 2.350*		135.43*		(0.007)		(0.007)		1.03		- 10.45*		37.18		I(1)
	(0.000)		(0.009)		(0.007)		(0.007)		(0.007)		(0.848)		(0.000)		(0.999)		I(1)

Table 3 (continued)

Variables	Most and moderate free(1st and 2nd quarters)						Rmks
	LLC		IPS		F-ADF		
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	
CL	- 2.58* (0.005)		- 3.44* (0.000)		44.33* (0.001)		I(0)
PR	- 1.54*** (0.062)		- 1.15 (0.125)	- 7.92* (0.000)	24.82 (0.130)	99.05* (0.000)	I(1)
COR	- 1.71** (0.044)		- 1.15 (0.125)	- 9.29* (0.000)	14.69 (0.144)	85.59* (0.000)	I(1)
INTC	- 3.31* (0.001)		- 3.60* (0.000)		32.18* (0.000)		I(0)
GDPPC	- 2.59* (0.005)		1.35 (0.912)	- 7.59* (0.000)	11.63 (0.866)	94.27* (0.000)	I(1)
MEXP	- 1.21 (0.113)	- 6.95* (0.000)	- 0.34 (0.367)	- 8.71* (0.000)	25.15 (0.121)	105.62* (0.000)	I(1)
EFW	- 2.35 (0.009)		0.185 (0.574)	- 3.808 (0.000)	10.81* (0.821)	46.50* (0.000)	I(1)
EFW*COR	- 0.11 (0.455)	- 4.37* (0.000)	- 0.4 (0.346)	- 9.02* (0.000)	10.12 (0.430)	85.31* (0.000)	I(1)
EFW*PR	0.47 (0.681)	- 3.79* (0.000)	0.5 (0.692)	- 10.39* (0.000)	13.86 (0.738)	129.63* (0.000)	I(1)
EFW*CL	0.71 (0.760)	- 5.30* (0.000)	0.79 (0.785)	- 10.39* (0.000)	12.12 (0.841)	130.1* (0.000)	I(1)
EFW*GDPPC	0.94 (0.825)	- 3.63* (0.000)	1.83 (0.966)	- 10.55* (0.000)	6.32 (0.995)	132.53* (0.000)	I(1)

Source: Author's computation
 *****Indicate 1, 5 and 10% levels of significance

Table 4 Correlation analysis (Africa)

	INTC	GOVSIZE	LPR	SM	TRAD	REG
INTC	1					
GOVSIZE	0.0971	1				
LPR	0.4445	0.0241	1			
MS	0.2264	0.2596	0.2876	1		
TRAD	0.3429	0.3593	0.3592	0.5991	1	
REG	0.2559	0.2833	0.5986	0.4679	0.5715	1

Table 5 Correlation analysis (least free economies)

	INTC	GOVSIZE	LPR	MS	TRAD	REG
INTC	1					
GOVSIZE	0.231	1				
LPR	0.385	0.0771	1			
MS	0.2081	0.2214	0.1468	1		
TRAD	0.358	0.3634	0.2246	0.4773	1	
REG	0.326	0.2378	0.5644	0.3133	0.4435	1

Table 6 Correlation analysis (most and moderately free economies)

	INTC	GOVSIZE	LSPR	SNDM	FTI	REGU
INTC	1					
GOVSIZE	-0.3816	1				
LPR	0.7682	-0.4065	1			
MS	0.3989	0.2867	0.5024	1		
TRAD	0.4334	0.2395	0.5263	0.8457	1	
REG	0.2937	0.3408	0.4862	0.7233	0.7428	1

348 system & property rights, sound money, freedom to trade internationally, and regulation
 349 were used for the analysis. From the results in Tables 4, 5 and 6, all the components of eco-
 350 nomic freedom are correlated with conflict in all the sub-samples. However, in the sample
 351 of most and moderately free economies, government size shows a negative correlation with
 352 conflict. Thus, we cannot rule out the possibility of a threshold effect of economic freedom
 353 on the conflict in Africa.

354 Also, not all the components of economic freedom show a strong correlation result (see
 355 Tables 4, 5, 6). While government size shows a weak correlation with conflict in a much
 356 bigger sample, of 54 African countries (see Table 4), legal system and property right have
 357 a strong correlation with conflict in the most and moderately free African countries (see
 358 Table 6).

359 Estimating short-run parameters of the impact on economic freedom on internal 360 conflict

361 Consequent to establishing the stationarity of the series, we proceed to examine the impact of
362 economic freedom on the conflict in Africa by employing the system and difference GMM,
363 fixed-effect, random-effect, and pooled OLS. We prioritize the dynamic system GMM esti-
364 mate because this method is considered more superior to the difference GMM. However, the
365 difference GMM, fixed-effect, and random-effect provide a robustness check for the system
366 GMM. In the case of the subsample analysis, we used the fixed and random-effect for the
367 most and moderately free because the number of countries in the sample is lower than the
368 number of years (i.e. $N < T$). This, however, does not meet the criteria for using the GMM.
369 We, therefore, use the fixed and random effect models, and Pooled OLS provides a robust-
370 ness check for the panel regression. Except for the convergence parameter, the estimated
371 coefficients of the GMM are the measure of short-run effects of the explanatory variables.

372 Table 7 presents the result of the relationship between economic freedom and conflict in
373 Africa. Tables 8 and 9 show the result of the impact of economic freedom on the conflict
374 in the subsamples (i.e. most–moderately free economies and least free economies). Table 7
375 consists of both system and difference GMM estimates, Table 8 consists of the system
376 GMM and fixed-effect estimates, while Table 9 consists of the random-effect, fixed-effect,
377 and pool OLS estimates. In each table, we measure political institutions by political rights,
378 civil liberties, and corruption.

379 Each table contains three models, which we estimate using two methods. Each model
380 represents one measure of political institution. The result in Table 7 shows that economic
381 freedom has a negative and significant impact at 1% and 5% for the system and difference
382 GMM results. For instance, in the models that measure political institutions with political
383 rights and civil liberties, a unit increase in economic freedom index reduces internal con-
384 flict by 3.814 and 5.703, respectively, in the short-run using the system GMM estimates.
385 This suggests that a higher level of economic freedom reduces internal conflict in Africa in
386 the short run. Table 5 also shows a similar result in the estimation for the least free econo-
387 mies. That is, an increase in the level of economic freedom in the least free economies in
388 Africa reduces internal conflict in the short run. This finding is consistent with a priori
389 expectation. This is because, it is expected that government restrictions on trade and com-
390 merce will bring about separatism and conflict, and hinder trust (Osborne 2010). Many
391 studies have argued in favor of the hypothesis that countries that engage in trade with one
392 another are less likely to fight (Polachek 1992; Dorussen 2006). Similarly, Berggren and
393 Jordahl (2006) claimed that the absence of economic freedom harms trust. They, however,
394 did not account for the role of political institutions in their analysis.

395 On the other hand, Table 9 shows a positive and significant effect of economic free-
396 dom on internal conflict in most and moderately free economies in Africa. This implies
397 that increases in economic freedom raise conflict incidences in most free economies in
398 Africa. This result is contrary to a priori findings and many findings in the literature. How-
399 ever, it is consistent with the works of Klein (2007), and Hall and McLean (2009), String-
400 ham and Levendis (2010a, b) who argued that liberalization reforms that are based on the
401 improved level of economic freedom lead to disregard for human rights, increased homi-
402 cide rates, and other forms of violent crimes. Some believed that countries that rely more

Table 7 Effect of economic freedom on internal conflict in Africa

Variables	SGMM	D-GMM	SGMM	D-GMM	SGMM	D-GMM
Lag of internal conflict	0.869* (0.000)	- 0.128 (0.463)	0.884* (0.000)	0.505* (0.000)	0.650* (0.000)	0.194 (0.116)
Economic freedom	- 3.814* (0.000)	- 2.816* (0.000)	- 5.703* (0.000)	- 3.364** (0.011)	- 5.781* (0.009)	1.277** (0.024)
Political rights	- 1.566* (0.000)	- 4.359** (0.011)				
Civil liberties			- 2.095* (0.000)	- 1.464** (0.011)		
Corruption					- 3.105* (0.007)	- 7.371* (0.000)
Economic freedom*political rights	0.244* (0.000)	0.580** (0.037)				
Economic freedom*civil liberties			0.345* (0.000)	0.254* (0.007)		
Economic freedom*corruption					0.527* (0.008)	1.236* (0.000)
Per capita income	- 1.688* (0.000)	- 2.653* (0.000)	- 2.901* (0.000)	- 2.414** (0.020)	- 4.659** (0.019)	1.526* (0.006)
Economic freedom*per capita income	0.313* (0.000)	4.298* (0.000)	0.523* (0.000)	0.301*** (0.059)	0.740** (0.016)	- 2.340* (0.006)
Military expenditure	- 0.00002 (0.603)	0.0007* (0.041)	- 0.0001 (0.438)	- 0.00003 (0.503)	0.0001 (0.232)	- 0.002* (0.001)
C	23.142* (0.000)		33.709* (0.000)		38.809* (0.006)	
AR(1)	- 3.14* (0.002)	- 1.55 (0.120)	- 3.20* (0.001)	- 7.60* (0.000)	- 2.70* (0.007)	0.23 (0.818)
AR(2)	- 1.26 (0.209)	- 1.64 (0.102)	- 0.98 (0.328)	- 1.24 (0.214)	- 1.64 (0.102)	- 1.62 (0.105)
Sargan test	21.72 (0.447)	25.39 (0.553)	23.11 (0.396)	248.74 (0.756)	294.04 (0.987)	46.5 (0.113)
Observations	548	459	549	459	548	459

The probability values for the system and difference GMM estimates are in parenthesis

***Denote the significance of the individual coefficients at 1, 5, and 10% levels, respectively. The Sargan test is for over-identifying restrictions. AR (1) and AR (2) represent the Arellano–Bond test of first-order and second-order autocorrelation, respectively. Dependent variable: Internal conflict; political institution proxy by political rights, civil liberties, and corruption

Source: Authors' computation

403 on the markets would have higher rates of conflict and crimes. For instance, Hickey (2003)
 404 claimed that killing and violent behavior have permeated the development of America. He
 405 attributed this considerably to the inevitable clash of capitalism. This may form the basis of
 406 the result in most free economies in Africa. Another factor that may be responsible for this

Table 8 Effect of economic freedom on internal conflict in most and moderately free African economies

	R-Effect	POLS	F-Effect	POLS	R-Effect	POLS
Economic freedom	5.238* (0.000)	5.238* (0.000)	4.732* (0.000)	3.855* (0.001)	2.749* (0.004)	2.749* (0.005)
Political rights	1.788* (0.007)	1.788* (0.008)				
Civil liberties			2.978* (0.000)	1.918** (0.013)		
Corruption					1.173 (0.239)	1.173 (0.242)
Economic freedom*political rights	- 0.297* (0.004)	- 0.297* (0.006)				
Economic freedom*civil liberties			- 0.440* (0.000)	- 0.278** (0.019)		
Economic freedom*corruption					- 0.150 (0.354)	- 0.150 (0.357)
Per capita income	4.528* (0.000)	4.528* (0.000)	0.214 (0.861)	3.614* (0.000)	3.467* (0.001)	3.467* (0.001)
Economic freedom*per capita income	- 0.493* (0.001)	- 0.493* (0.001)	- 0.298** (0.017)	- 0.321** (0.029)	- 0.305** (0.039)	- 0.305** (0.042)
Military expenditure	- 0.002* (0.000)	- 0.002* (0.000)	- 0.001*** (0.054)	- 0.002* (0.000)	- 0.009* (0.000)	- 0.009* (0.000)
C	- 33.731* (0.000)	- 33.731* (0.000)	- 10.201 (0.190)	- 27.328* (0.000)	- 19.820* (0.002)	- 19.820* (0.003)
Breusch-Pagan LM test		0.000 (1.000)		0.000 (1.000)		0.000 (1.000)
Breusch-Pagan heteroscedasticity test		1.77 (0.183)		1.46 (0.227)		1.37 (0.242)
Hausman Test	10.15 (0.119)		118.00 (0.000)		1.07 (0.983)	
R-Sq	0.343	0.343	0.062	0.72		0.705
F-Test			21.98* (0.000)			
Obs	88	88	88	88	88	88

The probability values for the fixed-effects and system GMM estimates are in parenthesis

***Denote the significance of the individual coefficients at 1%, 5%, and 10% levels, respectively. The *F*-test examines if the panel has an individual-specific effect. Hausman's test examines if the difference in coefficient is systematic. Dependent variable: internal conflict; political institution proxy by political rights, civil liberties, and corruption

Source: Authors' computation

Table 9 Short-run effect of economic freedom on internal conflict in least-free economies

Variables	SGMM	F-Effect	SGMM	F-Effect	SGMM	F-Effect
Lag of internal conflict	0.844* (0.000)		0.859* (0.000)		0.829* (0.000)	
Economic freedom	- 3.777* (0.001)	- 2.837* (0.002)	- 3.585* (0.005)	- 3.173* (0.001)	- 2.344** (0.011)	- 1.346 (0.128)
Political rights	- 1.258* (0.001)	- 1.721* (0.000)				
Civil liberties			- 1.127** (0.049)	- 2.510* (0.000)		
Corruption					0.545 (0.219)	0.199 (0.631)
Economic freedom*political rights	0.199* (0.002)	0.275* (0.000)				
Economic freedom*civil liberties			0.219** (0.020)	0.374* (0.000)		
Economic freedom*corruption					- 0.072 (0.405)	0.006 (0.941)
Per capita income	- 1.970* (0.001)	- 2.995* (0.000)	- 1.942* (0.003)	- 2.721* (0.001)	- 1.838* (0.007)	- 3.228* (0.000)
Economic freedom*per capita income	0.344* (0.002)	0.318* (0.009)	0.354* (0.001)	- 0.288** (0.017)	0.313* (0.008)	0.315** (0.014)
Military expenditure	- 0.0001 (0.537)	- 0.00002 (0.743)	- 0.0001 (0.248)	- 0.00005 (0.482)	- 0.0001 (0.191)	- 0.00001 (0.848)
C	23.606* (0.000)	33.827* (0.000)	20.793* (0.006)	35.956* (0.000)	15.017* (0.005)	25.689* (0.000)
AR(1)	- 2.79* (0.005)		- 2.74* (0.006)		- 2.81* (0.144)	
AR(2)	- 1.29 (0.196)		- 1.35 (0.178)		- 1.46 (0.144)	
Hausman test		120.01* (0.000)		14.59** (0.012)		21.10* (0.001)
Sargan test	17.24 (0.750)		17.93 (0.710)		18.83 (0.656)	
F-Test		6.13* (0.000)		5.67* (0.000)		6.76* (0.000)
Observations	464	483	464	483	464	483

The probability values for the fixed-effects and system GMM estimates are in parenthesis

***Denote the significance of the individual coefficients at 1, 5, and 10% levels, respectively. The Sargan test is for over-identifying restrictions. AR (1) and AR (2) represent the Arellano–Bond test of first-order and second-order autocorrelation, respectively. The F-test examines if the panel has an individual-specific effect. Hausman's test examines if the difference in coefficient is systematic. Dependent variable: internal conflict; political institution proxy by political rights, civil liberties, and corruption

Source: Authors' computation

is the possibility of a threshold effect of economic freedom on the conflict in Africa. The

407 presence of a threshold effect suggests that there would be a radical change when the level
408 of economic freedom surpasses a quantitative limit. This may form the basis for the change
409 in sign of economic freedom for most free economies in Africa.

410 Political rights coefficient exhibit a negative and significant sign in Tables 7 and 8. This
411 suggests that an increase in the political rights index reduces conflict in Africa and the least-
412 free economies in Africa. It should be noted that an increase in the political rights index⁴
413 indicates a worsening political rights level while a decrease indicates an improving political
414 rights level. In this view, a unit increase in the political rights index which implies a worsen-
415 ing level of political rights reduces internal conflict by 1.566 and 4.359 in the system and
416 difference GMM estimate, respectively. The coefficient of civil liberties in Table 4 is negative
417 and significant at 1 and 5%, respectively. A unit increase in the civil liberties index,⁵ which
418 implies a worsening level of civil liberties, reduces internal conflict by 2.095 and 1.464,
419 respectively, in the short-run and vice versa. This result suggests that lower political rights
420 and civil liberties worsen the internal conflict in Africa. This is replicated in the estimation of
421 least-free economies in Table 5. However, for the most and moderately free economies, the
422 sign of the coefficient change to become positive and significant. This emphasizes the likeli-
423 hood of a threshold effect of political rights and civil liberties on internal conflict in Africa.

424 The corruption scale, which is the third measure of political institution in this study,
425 holds a negative and it is statistically significant at 1% in Table 6. This suggests that a unit
426 rises in corruption scale,⁶ indicating a lower level of corruption, decrease internal conflict
427 by 3.105 and 7.371 in the system and difference GMM, respectively, and vice-versa. In
428 other words, the level of corruption reduces internal conflict in Africa. Corruption is, how-
429 ever, not significant in the estimations of the sub-sample models.

430 The interactive variables of economic freedom and political institution measures have
431 positive signs. This result suggests a *complementary interaction*.⁷ The implication of this
432 is that an increase in the values of political institution measures increases the impact of
433 economic freedom on internal conflict and vice versa in the short run. For instance, an
434 increase in political rights and civil liberties indices, which indicate worsening political
435 rights and civil liberties, increases the impact of economic freedom on internal conflict in
436 the short run and vice versa. On the other hand, a rise in the value of the corruption scale,
437 that is, a lower level of corruption increases the impact of economic freedom on internal
438 conflict. After accounting for other control variables, the effect of economic freedom on
439 internal conflict when political rights, civil liberties, and corruption are in their mean value
440 is positive and significant. This suggests that when political rights, civil liberties, and cor-
441 ruption are at their mean value, a unit rise in economic freedom reduces internal conflict
442 by 0.244, 0.345, and 0.527 from the system GMM estimate (see Table 7). On the contrary,
443 the interaction terms in the sample that contains countries with most and moderately free
444 economies are negative and statistically significant. This suggests a *buffering interaction*.⁸

⁴_{FL01} It is a composite index that varies between 1 and 7, when 1 is signifying most free in political rights and 7
_{FL02} indicating least free (Abramowitz 2018).

⁵_{FL01} The civil liberties index is a composite index as in political rights.

⁶_{FL01} It is a composite score scaled between 0 and 6; 0, the lowest risk point total indicates the highest risk of
_{FL02} corruption, and 7, the highest risk point total indicates a lower the risk of corruption (Howell 2001).

⁷_{FL01} A positive sign of an interactive term is refers to as *complementary interaction* (Cohen et al. 2003), where
_{FL02} a rise in the value of the intervening variable will increase the impact of the regressor on the regressed
_{FL03} (Cartwright et al. 2018).

⁸_{FL01} That is a rise in the value of the intervening variable reduces the impact of the regressor on the regressed
_{FL02} (Cartwright et al. 2018).

445 Next, looking at the impact of development measures by per capita income, the result
446 shows that GDP per capita has a negative and significant impact on internal conflict for all
447 African countries and least free economies samples in Africa. This implies that an increase in
448 per capita income reduces internal conflict in the short run. The interactive term of economic
449 freedom and per capita GDP in Tables 7 and 8 indicates a *complementary interaction* for the
450 sample of all Africa countries and most-moderately free economies in Africa. This implies
451 that a rise in GDP per capita reduces the impact of economic freedom on internal conflict.
452 However, the result in Table 9 shows that per capita GDP has a positive impact on internal
453 conflict, while the interactive term of economic freedom and GDP per capita has a negative
454 sign indicating a *buffering interaction*. The results in Tables 7, 8, and 9 show that the Sargan
455 test for the over-identifying restrictions and the serial autocorrelation tests are consistent.

456 The implication of findings and conclusion

457 This study examined the relationship between economic freedom and conflict in Africa
458 between 1985 and 2017. An unbalanced data of 54 African countries⁹ were employed to
459 test the hypothesis about the impact of economic freedom on conflict. We used the Pooled
460 OLS, fixed-effect, random-effect, and Generalized Method of Moment (GMM) techniques
461 to estimate the models. The study looked at the effect of economic freedom on conflicts.
462 Also, the analysis was divided into all African economies, most and moderately free econ-
463 omies, and least-free economies. Accounting for the quality of political institutions and
464 level of economic development, the findings from this study show that economic freedom
465 hurts both internal and external conflicts in Africa. However, the study shows a positive
466 effect of economic freedom on conflict in the sample that has the most and moderately free
467 economies. This suggests the possibility of a threshold effect of economic freedom on con-
468 flict in Africa. This validates the hypothesis that a free-market system discourages war and
469 conflict within and between countries.

470 The results show that political institutions measured political rights and civil liberties
471 increase conflict in Africa. This implies that improved political rights and civil liberties
472 increase conflicts in Africa. This may be because there exist many emerging democracies
473 in Africa. Transition democracy scholars have argued that new democracies are prone to
474 political violence and conflict. This is evident in this study as the result of the sample with
475 most and moderately free economies show that improved political rights and civil liberties
476 reduce conflict. The study also shows that there is a complementary interaction between
477 economic freedom and political institution measures. Similarly, we also show a comple-
478 mentary interactive effect of economic freedom and the level of development.

479 With the spate of violent conflicts being experienced across Africa, increasing interstate
480 trading will improve cooperation among African countries. In this view, it would be cost-
481 llier for African countries to engage in war with each other. Also, trading within countries
482 would discourage citizens from going into conflict. Improved economic freedom breeds a
483 better economic outcome. This, in turn, improves economic development and reduces pov-
484 erty which disincentives war and violent conflicts in a country. As shown in this study, the
485 level of economic development reduces conflict.

486 There should be an aggressive crusade for more African countries to return to demo-
487 cratic governance by improving the level of political rights and civil liberties. By doing
488 so, more countries in Africa are likely to consolidate their democracies thereby reaching

⁹FL01 See Table 10 in Appendix.

489 the limit where political rights and civil liberties reduce conflict in the region. More effort
 490 should be made on the campaign against corruption in the region. The region houses a high
 491 number of countries with high corruption profiles, making it challenging for many coun-
 492 tries to achieve sustained growth in economic freedom, political rights, and civil liberties.

493 Thus, this study concludes that an improved level of economic freedom reduces conflict
 494 in Africa. Based on the findings of this study, it will be instructive for further researches to
 495 consider the likelihood of a threshold effect of economic freedom on conflict.

496 **Appendix**

497 See Appendix Table 10.

Table 10 List of 54 African countries used in this study

Algeria	Angola	Benin	Botswana	Burkina Faso
Burundi	Cameroon	Cabo Verde	The Central African Republic	Chad
Dr Congo	Congo Republic	Cote D'ivoire	Comoros	Djibouti
Egypt	Equatorial Guinea	Eritrea	Ethiopia	Gabon
Gambia	Ghana	Guinea	Guinea Bissau	Kenya
Lesotho	Liberia	Libya	Madagascar	Malawi
Mali	Mauritania	Mauritius	Morocco	Mozambique
Namibia	Niger	Nigeria	Rwanda	Sao Tome And Principe
Senegal	Seychelles	Sierra Leone	Somalia	South Africa
South Sudan	Sudan	Swaziland	Tanzania	Togo
Tunisia	Uganda	Zambia	Zimbabwe	
<i>List of most and moderately free economies By Fraser Institute's Report 2019</i>				
Botswana	Cape Verde	Gambia, The	Kenya	Mauritius
Nigeria	Seychelles	Rwanda	Uganda	
<i>List of least free economies By Fraser Institute's Report 2019</i>				
Algeria	Angola	Benin	Burkina Faso	Burundi
Cameroon	Central African Rep	Chad	Congo, Dem. Rep	Congo, Republic Of
Côte D'ivoire	Egypt	Ethiopia	Gabon	Ghana
Guinea	Guinea-Bissau	Lesotho	Liberia	Libya
Madagascar	Malawi	Mali	Mauritania	Morocco
Mozambique	Namibia	Niger	Senegal	Sierra Leone
South Africa	Sudan	Swaziland	Tanzania	Togo
Tunisia	Zambia	Zimbabwe		

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