Causes of Civil War in Asia and Sub-Saharan Africa: A Comparison*

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Objectives. This article explores the extent to which economic development, ethnic and religious fractionalization, domestic governance, and international trade openness affect civil war in postcolonial Asia and Sub-Saharan Africa (SSA) from 1950 through 1992. Methods. We estimate a set of multivariate logit models with the generalized estimating equation (GEE) method for time-series cross-sectional (TSCS) data. Results. Both in Asia and in SSA, civil war is less likely with increased economic development and trade openness, while mixed autocratic-democratic regimes raise the likelihood that states will experience civil war. Although neither ethnic nor religious fractionalization has any statistically significant effect on civil war in SSA, civil war in Asia is more likely with greater ethnic fractionalization. Conclusions. Despite cross-regional variation in causes of civil war, economic development and trade openness seem to play a consistent role in reducing civil war.

One of the major issues on the recent global agenda of foreign policy leaders is the need to prevent and manage armed conflicts within sovereign states (e.g., Collier et al., 2003; Mack, 2002). Although several deadly internal conflicts ended recently, there still remained 30 internal armed conflicts in 24 places in the year 2002 (Eriksson, Wallensteen, and Sollenberg, 2003). Of these conflicts, 15 (50 percent) were in Sub-Saharan Africa (SSA) and 10 (33.3 percent) were in Asia. In the period between 1945 and 1999, of 127 civil wars, 40 (31.5 percent) were in SSA and 32 (25.2 percent) were in Asia (Doyle and Sambanis, 2000). Apparently, SSA and Asia lie in a “zone of conflict” (e.g., Gleditsch, 2002b).

Recent studies have pointed to various causes of civil war (e.g., Collier and Hoeffler, 2002b; Fearon and Laitin, 2003; Hegre et al., 2001; Henderson and Singer, 2000), but relatively little is known about cross-regional differences (e.g., Collier and Hoeffler, 2002a; Elbadawi and Sambanis, 2000; Henderson, 2000; Murdoch and Sandler, 2002). Following Murdoch and...
Sandler (2002), we compare Asia and SSA, two regions most afflicted by civil war, in terms of the extent to which their proneness to civil war is a function of economic development, ethnic and religious fractionalization, domestic governance, and trade openness.

This article has two objectives. The first is to uncover regional similarities and differences in the risk of civil war, with focus on postcolonial states in Asia and SSA. The second is to examine how theoretical explanations around economic development, social fractionalization, political institutions, and trade openness account for civil war onset. In pursuit of these objectives, we deal with civil war, meaning large-scale political conflict within sovereign states resulting in at least 1,000 battle-related deaths per year. Here, we rely on the Correlates of War 2 Project’s newly updated intra-state war data set (Sarkees, 2000). In our analysis, we estimate a set of multivariate logit models with the generalized estimating equation (GEE) method that Zorn (2001) suggests for time-series cross-sectional (TSCS) data.

In the following section, we briefly review four theoretical perspectives and empirical evidence on causes of civil war. After presenting our research design, which includes a variety of relevant control variables, we report our findings for Asia and SSA. We conclude with a discussion of policy implications and suggestions for future research.

Causes of Civil War: A Review of Previous Empirical Evidence

There is extensive scholarly interest in the dynamics of internal conflict (e.g., Collier et al., 2003; Gates, 2002; Sambanis, 2002); however, theoretical expectations and empirical findings regarding key predictors of civil war are rather mixed. Recently, Collier and Hoeffler (2002b), as well as Fearon and Laitin (2003), using economic models of rebellion or insurgency, challenge classical postcolonial and grievance-based explanations (i.e., explanations focusing on lack of political and civil rights, income inequality, or social fractionalization) in studies of civil war. According to Collier and Hoeffler’s (2002b) “greed and grievance” model, opportunities for rebellion based on greed are more important than the grievances that might encourage people to rebel.

Fearon and Laitin (2003) present a “rural insurgency” model and argue that a poor economy, a large population, and high oil export dependence increase the likelihood that a state will experience civil war. Furthermore, they maintain that a state has an increased risk of civil war if it is newly independent, experiences political instability, is ruled by a weak government,

1Examples of data on various types and intensities of internal conflict are provided by Davenport (2003), Doyle and Sambanis (2000), Fearon and Laitin (2003), Gleditsch et al. (2002), and Marshall, Gurr, and Harff (2003).
and has rough terrain as well as noncontiguous territory conducive to rural guerrilla insurgency.

Although there is little doubt that these two theoretical models have improved our understanding of causes of civil war, there remain inconsistent findings among key variables of concern to Collier and Hoeffler (2002b), Fearon and Laitin (2003), and other scholarly literature (e.g., Hegre et al., 2001; Hegre, Gissinger, and Gleditsch, 2003). Here, we focus specifically on four predictors that may increase or decrease the risk of civil war: economic development, social fractionalization, domestic governance, and trade openness.

**Economic Development**

According to some theorists, rapid social-economic change associated with economic modernization may mobilize social groups for conflict by enhancing group competition for scarce resources (e.g., Huntington, 1968). Others claim that modernization ensures economic development, which in turn decreases inequalities within a society and increases its political stability (e.g., Lipset, 1959; Przeworski et al., 2000). Further, Hibbs (1973) argues that economically affluent societies experience reduced internal violence because all groups in these societies have access to negotiated outcomes and conciliation, although social conflicts increase in an early stage of industrialization. Existing empirical studies commonly reveal a positive relationship between economic prosperity and domestic peace (e.g., Collier et al., 2003; Collier and Hoeffler, 2002b; Fearon and Laitin, 2003; Hegre et al., 2001; Henderson and Singer, 2000; Hibbs, 1973), yet substantive effects vary across investigations.

**Social Fractionalization**

Several scholars (e.g., Horowitz, 1986; Gurr, 2001) argue that social fractionalization, manifest in ethnic, linguistic, or religious cleavages, may play an important role in internal armed confrontations. As Gurr (2001) points out, political and economic tensions may contribute to ethnopolitical conflict in multiethnic societies. According to Mazrui (1986:291), “the majority of major civil wars in Africa including those in Sudan, Nigeria, Chad, Eritrea, the Ogaden, have had an Islamic Component”; further, “all civil wars in Africa have been substantially ethnic, including all those in the above Islamic list, with the addition of Angola and perhaps Zimbabwe and Zaire.” Yet, Kieh (2002:43) notes that “the only country in Africa where ethnicity was the only cause of a civil conflict is Djibouti” and “in cases like Burundi, Chad, Rwanda, and Sudan, while ethnicity was a factor, it was not the sole precipitant of the conflict.” Further, Collier and Hoeffler (2002b)
argue that greater ethnic diversity in societies increases domestic peace by raising transaction and coordination costs to rebellion.

Empirical findings are rather mixed. Empirical scholars focus on two dimensions of ethnicity in a society: social fragmentation (ethnolinguistic and religious fractionalization) and ethnic dominance (or polarization). Looking at social fractionalization (including both ethnic and religious fractionalization), Collier and Hoeffler (2002a, 2002b) find that greater ethnic fractionalization is conducive to domestic peace, while religious fractionalization has no statistically significant impact. Elbadawi and Sambanis (2000) not only confirm Collier and Hoeffler’s findings, but also report an “inverted U-shaped” relationship between ethnic diversity and the risk of civil war. By contrast, Fearon and Laitin (2003) assert that there is no statistically significant relationship between civil war and ethnic or religious fractionalization.

Regarding ethnic dominance (or polarization), Collier and Hoeffler (2002b) show that ethnic dominance (45–90 percent) significantly increases the risk of civil war. Hegre et al. (2001) reveal that increased ethnic heterogeneity is related to an increased probability of civil war, and Reynal-Querol (2002) comes to a similar conclusion regarding the relationship between religious polarization and the risk of internal conflict. By contrast, other scholars (e.g., Henderson, 2000; Henderson and Singer, 2000) maintain that there is no statistically significant relationship between ethnic polarization and civil war.2

**Domestic Governance**

Henderson and Singer (2000) as well as Hegre et al. (2001) claim that many political scientists rely on the assumption that strong domestic governance (i.e., institutionalized democracy) reduces internal conflict because it contains a legitimate system for peaceful conflict resolution. Democracies also tend to perform well to provide public goods and protect a basic set of individual (political and economic) and minority rights for citizens. Therefore, since peaceful negotiations are possible and rebellion is very costly due to democratic constraints, highly institutionalized democracies are less likely than other political regimes to experience civil war.

As several studies (e.g., Gurr, 1974; Hegre et al., 2001; Henderson and Singer, 2000; Muller and Weede, 1990) suggest, not only consistent democracies but also consistent autocracies have a decreased likelihood of experiencing internal conflict and civil war. These studies uncover that

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2As several scholars point out (e.g., Fearon, 2003; Reynal-Querol, 2002; Sambanis, 2002; Vanhanen, 1999), these empirical differences may be associated with various disagreements about measurements of ethnolinguistic and cultural diversity and the role of ethnicity in civil war.
regimes with both democratic and autocratic characteristics, or “inconsistent regimes” (Gates et al., 2003), are more unstable and more likely to experience civil war than are consistent democracies and autocracies. What is the theoretical foundation here? Why are inconsistent regimes more likely to be unstable and suffer from civil war? Recently, Gates et al. (2003) presented a theoretical explanation for this in terms of a political executive’s incentive to maximize power and authority.

According to Gates et al. (2003), autocracies have institutional arrangements that prevent competition among political elites and parties, and make it relatively easy for leaders to control or monitor political opponents. These arrangements increase the costs of political challenges to leadership authority. As political executives in autocracies try to maximize power and authority, they have incentives to stabilize their political regimes. Not only autocratic but also democratic political executives attempt to maximize power and authority. Yet, democratic political executives are bound to do so within a framework of institutionalized elections and participation, as well as constitutionally delimited executive power. Although political leaders’ ambitions are restricted in democratic societies, illegitimate political challenges, insurgencies, or rebellions are very costly because of constitutional restrictions and legitimized means of peaceful conflict resolution. Furthermore, it is difficult to obtain strong citizen support for illegal political actions. By limiting political challenges to democratic authority, democratic institutions help increase political stability and reduce the risk of civil war.

Unlike consistent democracies and autocracies, institutionally inconsistent political regimes are not strong enough to either ensure legitimized democratic processes or repress political challenges to leadership authority. Although political leaders in inconsistent regimes also seek to maximize power and authority, their attempts tend to raise confrontation among competing groups whose conflicts and grievances tend to remain unchecked by institutionalized conflict resolution. Furthermore, inconsistent political regimes have very weak police and military forces, compared with political opposition forces, and a lack of power concentration in one political leader or authority. These circumstances may increase political instability. Therefore, inconsistent regimes tend to be unstable and, in turn, experience civil war.

Empirical studies (e.g., Fearon and Laitin, 2003; Gates et al., 2003; Hegre, 2003; Hegre et al., 2001; Henderson and Singer, 2000; Muller and Weede, 1990) show that democracy does not appear to sufficiently reduce the likelihood of civil war. Rather, there seems to be an inverted U-shaped relationship between political regime and the risk of civil war: intermediate regimes seem to suffer more civil war than fully institutionalized democracies or fully institutionalized autocracies. While fully institutionalized democracies have legitimate and effective institutions for conflict resolution, and fully institutionalized autocracies have powerful and effective institutions for the repression of domestic dissent, intermediate regimes lack both types of institutions.
Trade Openness

Given debates over consequences of globalization, there is increasing scholarship on the extent to which economic openness affects intra-state conflict (e.g., de Soysa, 2002; Gissinger and Gleditsch, 1999; Hegre, Gissinger, and Gleditsch, 2003; Rothgeb, 1996). Underlying this scholarship are two contending perspectives: liberal and structuralist. The liberal perspective maintains that trade openness is conducive to peace by promoting political and economic integration and raising opportunity costs of political conflict. The structuralist perspective claims that trade openness contributes to conflict as it intensifies domestic inequalities and fosters insecurity by threatening balanced development, weakening government capacity, and demolishing social integrity.

According to Gissinger and Gleditsch (1999), between 1965 and 1993, increased trade openness reduced the onset of civil war. Considering the period from 1989 through 1999, de Soysa (2002) demonstrates that increased trade openness reduced the likelihood of internal armed conflict. Goldstone et al. (2000), in a recent report by the State Failure Task Force for the 1958–1999 period, conclude that a state with high (above median) trade openness is less likely than a state with low (below median) trade openness to suffer state failure. By contrast, King and Zeng (2001) show that state failure is more likely with increased trade openness. Focusing on the 1960–1992 period, Hegre, Gissinger, and Gleditsch (2003) report that the onset of civil war is not significantly affected by trade openness. Similarly, relying on their own civil war data from 1945 through 1999, Fearon and Laitin (2003) find no significant relationship between trade openness and domestic conflict.

Research Design

In our investigation, we consider postcolonial states in Asia and SSA from 1950 through 1992. FDI flows seem to have no direct impact on internal conflict (de Soysa, 2002; Fearon and Laitin, 2003; Gissinger and Gleditsch, 1999; Hegre, Gissinger, and Gleditsch, 2003; Rothgeb, 1996). Therefore, this article understands economic openness exclusively in terms of trade openness. Rothgeb (1996) examines the relationship between foreign investment and political conflict on the basis of three theoretical models—deprivation, mobilization, and nationalist stimulation. According to his findings, there is no explicit connection between FDI and high-level violent conflict such as internal war. Other studies show consistently that trade and FDI have substantially different effects on democracy, economic development, and income inequality, that is, factors associated in some way or another with domestic turmoil (e.g., Gissinger and Gleditsch, 1999; Hegre, Gissinger, and Gleditsch, 2003).

The theoretical arguments about the relationship between globalization and civil war rely mostly on Gissinger and Gleditsch (1999).

Postcolonial states in Asia (24) and Sub-Saharan Africa (42) were identified on the basis of Henderson and Singer (2000). We omitted five Sub-Saharan African states (Cape Verde,
postcolonial states in Asia and SSA provides a critical sample for investigating the onset of civil war. Colonial experience, as in Asia and SSA, not only has long-term negative effects on political, economic, and social development, but it also correlates with an increased risk of deadly internal conflict (e.g., Hegre et al., 2001; Horowitz, 1986). As several scholars (Henderson and Singer, 2000; Holsti, 1996) point out, since postcolonial states are confronted with tasks of time-constrained and simultaneous state and nation building while facing resistance and concerns about leadership survival, they have a higher baseline risk of civil war than states without such challenges.

**Dependent Variable**

Our dependent variable is civil war onset, measured by a dichotomy where 1 indicates that a state experiences the onset of at least one civil war; 0 indicates otherwise. Following Bennett and Stam (2000:660–61), all observations of ongoing civil war after the first observation are coded as missing unless we observe the onset of a new civil war. Following Collier and Hoeffler (2002b), as well as Henderson and Singer (2000), we deal specifically with civil war, employing the Correlates of War 2 Project’s newly updated intra-state war data, version 3.0 (Sarkees, 2000). Civil war is defined as “sustained military combat, primarily internal, resulting in at least 1,000 battle deaths per year, pitting central government forces against an insurgent force capable of effective resistance, determined by the latter’s ability to inflict upon the government forces at least 5% of the fatalities that the insurgents sustain” (Henderson and Singer, 2000:284–85).

**Independent Variables**

To evaluate four theoretical explanations (discussed above) across two regions, we look at five independent variables: economic development, ethnic fractionalization, religious fractionalization, domestic governance, and trade openness.

Sao Tome and Principe, Equatorial Guinea, Comoros, and Seychelles) that were not in the Fearon and Laitin (2003) data set. Twenty-four postcolonial states in Asia are Afghanistan, Bangladesh, Bhutan, Cambodia, China, Democratic Republic of Vietnam, Fiji, India, Indonesia, Kazakhstan, Laos, Malaysia, Mongolia, Myanmar (Burma), Nepal, Pakistan, Papua New Guinea, People’s Republic of Korea, Republic of Korea, Republic of Vietnam, Philippines, Singapore, Sri Lanka, and Taiwan. Forty-two postcolonial states in Sub-Saharan Africa are Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Djibouti, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zaire (Democratic Republic of Congo), Zambia, and Zimbabwe.
Economic development is measured by the natural log of a state’s per-capita GDP in constant 1985 U.S. dollars. Data on GDP is from Gleditsch’s (2002a) expanded trade and GDP data, version 2.1. To compute per-capita GDP, we also use figures on total population provided by the Correlates of War 2 Project’s material capabilities data, version 2.1 (Singer, 1988).

Although there are various measures of ethnic and religious fractionalization, we rely on Fearon and Laitin’s (2003) measures to capture these two dimensions of social fractionalization (not polarization).

Since the effect of domestic governance on civil war onset may be reflected in an inverted U-shaped relationship between democracy and civil war, we use two indicators of domestic governance to capture such a relationship: regime and squared regime. These indicators are measured on the basis of the Polity IV Project’s political regime scale, ranging from –10 (most autocratic) to +10 (most democratic) (Marshall and Jaggers, 2003). For regime, we add 10 to the original Polity IV measure, resulting in a transformed scale that ranges from 0 to 20. For squared regime, we square all transformed regime values, resulting in a scale that ranges from 0 to 400.

Trade openness is measured by the natural log of the sum of a state’s total exports and total imports divided by its GDP. The values for total exports, total imports, and GDP are from Gleditsch’s (2002a) expanded trade and GDP data, version 2.1.

**Control Variables**

Following recent literature (Collier and Hoeffler, 2002b; Fearon and Laitin, 2003; Hegre et al., 2001; Henderson and Singer, 2000), we consider a variety of relevant control variables: militarization, political instability, new state, population size, mountainous terrain, oil exporter, and noncontiguous territory.

According to Henderson and Singer (2000), militarization in postcolonial states may generate dissatisfaction and unrest due to its negative impact on a state’s economy, especially on investment, growth, and expenditures for social welfare, health, and education. Also, increased militarization may indicate a privileged status of the military in decision making as well as reliance on military preparedness to deter domestic insurgency (e.g., Henderson, 2000). As Collier et al. (2003) note, governments may raise conventional military spending to prevent rebellion even though it may be ineffective in quelling domestic revolt. Hence, the more militarized a state is, the greater its likelihood of civil war onset. The measure of militarization is the natural log of a state’s military expenditures in constant 1990 U.S. dollars divided by its total population. Figures on military expenditures and total population are from the Correlates of War 2 Project’s material capabilities data, version 2.1 (Singer, 1988).
Fearon and Laitin (2003) point out that political instability may signal that a central government is weak and disorganized, providing opposition groups with opportunities to rebel. Therefore, a politically unstable state is more likely than a politically stable state to experience civil war onset (e.g., Gates et al., 2003; Hegre et al., 2001). Following Fearon and Laitin (2003), we measure political instability by a dichotomy where 1 indicates that a state’s regime in any of three years immediately preceding its observed state-year has changed by three or more points on the Polity IV scale; 0 indicates otherwise.

Several studies (e.g., Collier and Hoeffler, 2002b; Fearon and Laitin, 2003) argue that the larger a state’s population, the greater its risk of civil war.6 Some scholars argue that more populous countries may contain various ethnic and religious groups that are potentially hostile to each other (e.g., Collier and Hoeffler, 2002b). Other scholars contend that central governments may face various practical obstacles to monitoring and managing large populations spread out in rural areas (e.g., Fearon and Laitin, 2003). Further, some scholars claim that a large population is associated with limited distributions of public goods or increased scarcities of public resources, which may produce grievances resulting in insurgencies (e.g., Homer-Dixon, 1999). We reexamine these issues, measuring population size by the natural log of a state’s total population. Figures on total population are from the Correlates of War 2 Project’s material capabilities data, version 2.1 (Singer, 1988).

Rough or mountainous terrain may facilitate insurgencies and thus increase the likelihood of civil war.7 Although Collier and Hoeffler (2002b) find no significant relationship between rough terrain and civil war, Fearon and Laitin (2003) discover that civil war is more likely in areas with rough terrain due to the lack of infrastructure essential for government control. We use Fearon and Laitin’s (2003) measure of mountainous terrain, which is the proportion of a state’s territory covered by mountains.

According to Collier and Hoeffler (2002b), lootable resources, reflected in increased primary commodity export shares of GDP, make states more susceptible to civil war.8 As Fearon and Laitin (2003) suggest, however, it is not any primary commodity exports but oil exports that raise the risk of civil war. Following Fearon and Laitin (2003), we control for oil exports, measured by a dichotomy, where a score of 1 is assigned to an oil exporter, that is, a state whose fuel exports make up more than 33 percent of all its merchandise exports; a score of 0 is assigned otherwise.

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6Gates (2002) presents a skeptical view of the relationship between total population and the risk of civil war since it may be biased by using a 1,000 battle-death threshold to define civil war.

7For a recent systematic investigation of the geography of internal armed conflict, see Buhaug and Gates (2002).

8For an extensive review of the relationship between various “lootable” natural resources (i.e., diamonds, drugs, and oil) and internal conflict, see Ross (2004).
Fearon and Laitin (2003) argue that an additional factor conducive to insurgencies is distance from a state’s capital, or noncontiguous territory. Territory of a state is considered noncontiguous if it has a population of at least 10,000 and has other land or 100 km of water between itself and the central territory containing the state’s capital city. Noncontiguous territory is coded 1; contiguous territory is coded 0.

**Techniques of Statistical Analysis**

Since our dependent variable is measured by a dichotomy, logit regression is an appropriate statistical estimation technique (Greene, 2003). Here we use the generalized estimating equation (GEE) method that Zorn (2001) recommends for a time-series cross-sectional (TSCS) design, which, like ours, involves population-averaged models with possible temporal and non-temporal correlation in error terms. Assuming an auto-regressive process in our time series, the GEE method is specified with an AR(1) within-group correlation structure.

**Findings**

Table 1 displays results from GEE logit analyses of civil war onset in Asia and SSA from 1950 through 1992.

According to our findings, a state’s propensity for civil war onset declines with increased economic development in both Asia and SSA. Although ethnic fractionalization is associated with an increased likelihood of civil war onset in Asia, it has no statistically significant effect on the onset of civil war in SSA. Neither in Asia nor in SSA do we find any statistically significant relationship between the onset of civil war and religious fractionalization. Both in Asia and in SSA, the onset of civil war is more likely with mixed autocratic-democratic regimes than with either fully institutionalized democracies or fully institutionalized autocracies. Increased trade openness reduces a state’s risk of civil war onset in both Asia and SSA.

As for control variables, we find that in Asia as well as in SSA, the greater a state’s militarization, the more likely it is to experience the onset of civil war. Neither in Asia nor in SSA does political instability, being a new state, population size, or mountainous terrain have any statistically significant effect on civil war onset. Although being an oil exporter is related to an increased likelihood of civil war onset in SSA, it has no statistically significant impact on the onset of civil war in Asia. Although we find that noncontiguous territory has no statistically significant effect on a state’s civil war onset in Asia, there is no comparison with SSA because the “Noncontiguous Territory” variable is dropped for SSA due to collinearity.
Table 2 presents findings from marginal impact analyses of civil war onset in Asia and SSA from 1950 through 1992. Focusing on findings that are statistically significant at least at \( p < 0.10 \), these analyses offer us more substantive insight into the extent to which specific variables affect the onset of civil war. Following recent scholarship (e.g., Bennett and Stam, 2000), we compute marginal effects for continuous variables (e.g., economic development and international trade openness) based on a change in a particular independent or control variable from one standard deviation below its mean to one standard deviation above its mean. For dummy variables (e.g., political instability and oil exporter), the change is from a value of zero to a value of one. In Table 2, we report relative percentage changes in the predicted probability of civil war onset rather than absolute ones. It seems that the marginal impacts based on this approach are quite high,\(^9\) but this is a good way to compare substantive effects of variables with respect to low

\(^9\) The authors gratefully acknowledge reviewers for comments on this point.

### Table 1

GEE Logit Analyses of Civil War Onset in Asia and Sub-Saharan Africa, 1950–1992

<table>
<thead>
<tr>
<th>Independent and Control Variables</th>
<th>Asia Coefficient (S.E.)</th>
<th>Sub-Saharan Africa Coefficient (S.E.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Development</td>
<td>-1.743 (0.963)*</td>
<td>-2.123 (0.509)**</td>
</tr>
<tr>
<td>Ethnic Fractionalization</td>
<td>4.202 (2.136)**</td>
<td>0.681 (1.304)</td>
</tr>
<tr>
<td>Religious Fractionalization</td>
<td>1.390 (1.794)</td>
<td>-0.024 (1.679)</td>
</tr>
<tr>
<td>Regime</td>
<td>0.678 (0.266)*</td>
<td>0.454 (0.226)**</td>
</tr>
<tr>
<td>Squared Regime</td>
<td>-0.031 (0.016)**</td>
<td>-0.021 (0.011)*</td>
</tr>
<tr>
<td>Trade Openness</td>
<td>-0.339 (0.144)**</td>
<td>-0.868 (0.316)**</td>
</tr>
<tr>
<td>Militarization</td>
<td>0.585 (0.295)**</td>
<td>0.930 (0.241)**</td>
</tr>
<tr>
<td>Political Instability</td>
<td>0.334 (0.510)</td>
<td>0.457 (0.517)</td>
</tr>
<tr>
<td>New State</td>
<td>0.499 (1.190)</td>
<td>-0.933 (1.306)</td>
</tr>
<tr>
<td>Population Size</td>
<td>0.152 (0.136)</td>
<td>0.356 (0.303)</td>
</tr>
<tr>
<td>Mountainous Terrain</td>
<td>-0.492 (0.435)</td>
<td>0.282 (0.217)</td>
</tr>
<tr>
<td>Oil Exporter</td>
<td>0.497 (1.036)</td>
<td>1.302 (0.659)**</td>
</tr>
<tr>
<td>Noncontiguous Territory</td>
<td>-1.946 (1.612)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.686 (5.178)</td>
<td>1.488 (4.283)</td>
</tr>
<tr>
<td>N</td>
<td>609</td>
<td>983</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>77.78***</td>
<td>80.52***</td>
</tr>
</tbody>
</table>

*\( p < 0.10 \); **\( p < 0.05 \); ***\( p < 0.01 \).

**NOTE:** Models were estimated with Stata Release 8.0 (Stata, 2003). Standard errors (in parentheses) are heteroskedastic-robust. All significance levels (\( p \) values) are based on two-tailed tests. Due to collinearity, the “Noncontiguous Territory” variable is dropped for Sub-Saharan Africa.
baseline probabilities of civil war onset in Asia (1.4 percent) and SSA (0.6 percent).

An increase in economic development reduces the probability of civil war onset by 91.5 percent in Asia and by 93.2 percent in SSA. An increase in ethnic fractionalization raises the probability of civil war onset by 891.6 percent in Asia. As far as domestic governance is concerned, in Asia, the onset of civil war is 3,589.3 percent more likely with mixed autocratic-democratic regimes than with fully institutionalized autocracies. In SSA, civil war onset is 1,030.0 percent more likely with mixed autocratic-democratic regimes than with fully institutionalized autocracies. In Asia, the onset of civil war is 91.5 percent less likely with fully institutionalized democracies than with mixed autocratic-democratic regimes. Finally, an increase in trade
openness reduces the probability of civil war onset by 66.6 percent in Asia and by 81.8 percent in SSA.

When it comes to control variables, our findings indicate that an increase in militarization raises the likelihood of civil war by 668.9 percent in Asia and by 980.3 percent in SSA. In only SSA, an oil exporter is 262.9 percent more likely than a non-oil exporter to experience civil war onset.

Discussion

According to our findings, in both Asia and SSA, a change from a fully institutionalized autocracy to a mixed autocratic-democratic regime is most strongly associated with a greater risk of civil war onset. This substantive effect, however, is much greater in Asia than in SSA. A change from a mixed autocratic-democratic regime to a fully institutionalized democracy, increased economic development, and increased trade openness lower the risk of civil war onset in both Asia and SSA. The effect of domestic governance is greater in Asia than in SSA, while the effects of economic development and trade openness are greater in SSA than in Asia. Although increased militarization raises the risk of civil war in both regions, the effect is greater in SSA. Further, our findings highlight that an increased risk of civil war onset is associated with increased ethnic fractionalization only in Asia and with being an oil exporter only in SSA.

Consistent with previous findings, our results demonstrate that increased economic development is highly associated with domestic peace not only in SSA but also in Asia. Although Collier and Hoeffler (2002a) as well as Elbadawi and Sambanis (2000) report that greater ethnic diversity reduces civil war in SSA and globally, we find that neither ethnic nor religious fractionalization has any statistically significant effect on the onset of civil war in SSA. Further, Elbadawi and Sambanis (2000) argue that ethnic polarization in Asia increases the risk of civil war while our findings show that greater ethnic fractionalization in Asia significantly enhances the probability of civil war. In this regard, we might consider our results consistent with the findings of Elbadawi and Sambanis (2000) because it seems difficult to empirically distinguish ethnic fractionalization from ethnic polarization (e.g., Gates, 2002).

Elbadawi and Sambanis (2000) as well as Henderson (2000) take into account effects of political institutions on civil war onset in SSA. Henderson (2000) reports that semi-democracy has no statistically significant effect on civil war onset in SSA;\(^\text{10}\) Elbadawi and Sambanis (2000), however, find that poorly developed political institutions in SSA are significantly associated

\(^{10}\)Henderson and Singer (2000), however, report that semi-democracy has a statistically significant impact on an increased risk of civil war in the postcolonial world between 1950 and 1991.
with a high risk of African civil war. Our findings are similar to those of Elbadawi and Sambanis (2000) rather than those of Henderson (2000). This difference may be due to different indicators of regime type. Similar to Elbadawi and Sambanis (2000), we employ squared regime in addition to regime to capture an “inverted-U shaped” relationship; Henderson (2000) uses a dichotomous semi-democracy variable, which equals 1 for Polity III regime scores from 0 to +5, 0 otherwise.

Most existing inquiries do not take a close look at the effect of international trade openness on civil war in particular regions although they do focus on primary commodity exports per GDP (Collier and Hoeffler, 2002a; Elbadawi and Sambanis, 2000). Our results show that increased trade openness significantly reduces the risk of civil war in both Asia and SSA. As noted earlier, there are mixed findings regarding the link between trade openness and internal conflict in global panel studies. According to Hegre, Gissinger, and Gleditsch (2003) as well as de Soysa (2002), conflict-mitigating effects of trade openness may be due to strong political institutions and good economic policy. Causal paths between international trade openness and internal conflict require further inquiry.

In our investigation, following Fearon and Laitin (2003), we consider the role of oil export dependence, unlike Collier and Hoeffler (2002a) and Elbadawi and Sambanis (2000). The latter examine not oil export dependence in particular but generally all primary commodity export dependence in SSA, finding a quadratic (inverted-U-shaped) relationship between natural resources and civil war onset in SSA. Our findings suggest that, in SSA, states with oil export dependence are more likely to experience civil war onset than states without it; yet, the effect does not hold in Asia. This may be because, as Ross (2004) argues, individual natural resources have different effects on the civil war experience of specific countries.

Our findings concerning effects of militarization are consistent not only with Henderson’s (2000) for SSA but also with the findings for the post-colonial world reported by Henderson and Singer (2000). More research is required to identify and assess causal paths linking militarization to domestic unrest, internal conflict, and civil war.

Conclusions

In this study, we examined how theoretical explanations around economic development, social fractionalization, political institutions, and trade openness account for civil war onset in Asia and SSA, two regions that have suffered most of the world’s civil wars since 1945. At the same time, we controlled for militarization, political instability, being a new state, population size, mountainous terrain, being an oil exporter, and noncontiguous territory.
Given our findings discussed above, we see five tentative policy implications.

1. Careful policies to promote economic development and open trade may help lower the risk of civil war in Asia and SSA, two regions that include many states that are the world’s least economically developed, least open to (international) trade, and most prone to civil war.

2. Efforts to reduce the risk of civil war in Asia and SSA seem to require monitoring intermediate (mixed autocratic-democratic) regimes and strengthening political institutions for good domestic governance.

3. Managing ethnic fractionalization may be helpful in decreasing the risk of civil war in Asia.

4. Encouraging lower levels of militarization may contribute to reducing the risk of civil war in Asia and SSA.

5. Lessening dependence on oil exports may help diminish the risk of civil war in SSA.

In our investigation, we dealt exclusively with civil war as a manifestation of large-scale political violence within states. Additional research would be desirable on the extent to which political, economic, demographic, geographic, and international factors affect other forms of domestic turmoil. These may include internal armed conflict short of civil war, state failure resulting in revolutionary or ethnic war, as well as genocides and politicides (e.g., Davenport, 2003; Marshall, Gurr, and Harff, 2003). Of interest here might be models that trace the escalation of internal conflict to all-out intra-state war.

REFERENCES


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