

Transnational Dimensions of Civil War ¹

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Abstract

Existing research has related civil war primarily to country-specific factors or processes within individual states. Many contemporary civil wars, however, display a transnational character, where actors, resources, and events span national boundaries. I challenge the “closed polity” approach to the study of civil war, and posit that transnational factors and linkages between states influence the risk of violent civil conflict. Previous research has shown that conflicts in a state’s regional context can increase the risk of conflict, but has not distinguished between different transnational linkages that may underlie geographic contagion and failed to consider the potential influences of domestic attributes. I evaluate a series of hypotheses on how transnational factors can influence the risk of conflict and the prospects for maintaining peace in a conditional autologistic model, including country-specific factors often associated with civil wars. I find that transnational linkages between states and regional factors strongly influence the risk of civil conflict, and that the risk of civil war differs fundamentally depending on a country’s linkages to other states.

1 Introduction

Research on conflict has tended to draw a sharp distinction between *interstate* conflict between states and *intrastate* conflict within states. The two types of conflict have generally been treated as mutually exclusive phenomena and studied in very different ways.¹ Research on international war has tended to disregard any form of conflict not between two state actors, even though many disputes between states often originate in interactions between states and non-state actors (see, e.g., Gleditsch and Salehyan 2007; Moore and Davis 1997; Gartzke and Gleditsch 2006). Likewise, most studies of civil war tend to try to explain each conflict based on attributes and processes in the country in which conflict takes place, without considering the role of actors outside the boundaries of the affected state.

In this paper, I argue that it is inappropriate to treat civil war as a fully domestic phenomenon, as participants and processes outside the boundaries of each individual state where conflict takes place can influence the risk of conflict. I examine how transnational linkages and interactions across state boundaries influence the likelihood of civil conflict. I find strong evidence that transnational contagion, or conflict in neighboring states, as well as series hypothesized transnational ethnic, political, and economic linkages between states, shape the risk of conflict and prospect for peace. In the concluding section I discuss

¹In the Correlates of War project's data on war (Sarkees 2000), for example, the conflict in Vietnam becomes an interstate war after 1965 due to the US intervention. Since the war categories are mutually exclusive, this by definition "terminates" the prior civil war in the Republic of Vietnam. Prior to independence, the conflict in Vietnam is considered an international extra-state war involving France.

some broader implications for the study of civil war.

2 Civil war: Existing research and stylized facts

Civil war between states and non-state actors is the most prevalent form of conflict in the contemporary world (see Gleditsch et al. 2002), and the causes of civil wars have received considerable scholarly interest, especially after the end of the Cold War. Theoretical approaches to internal conflict have focused on how grievances motivate groups to rebel (e.g. Gurr 1970), what shapes opportunities for collective action in mobilization (e.g., Tilly 1978), as well as the role that *greed* or rents from conflict through activities such as pillaging and looting may play in promoting violence (e.g., Collier and Hoeffler 2004). Empirical research has identified a number of country characteristics that appear to be associated with civil war onset (for a comprehensive review, see Sambanis 2002). For example, researchers have suggested that civil wars are more common in poorer societies (see Fearon and Laitin 2003), in politically unstable countries (see Hegre et al. 2001), and countries that are abundant in lootable resources (see Collier and Hoeffler 2004). Many propositions on civil war remain hotly contested; Whereas Fearon and Laitin (2003) insist that there is no link between ethnic heterogeneity and conflict, others find more evidence that ethnic cleavages may give risk to conflict and question the validity of common measures (see Ellingsen 2000; Cederman and Girardin 2006; Quinn, Hechter and Wibbels 2003).

Although different studies of civil war onset may have emphasized different explanatory factors, virtually all have related civil war to *country-specific* factors or processes *within* the state experiencing conflict. Existing research has largely overlooked the pos-

sibility that transnational factors or linkages to actors outside the state experiencing conflict may influence conflict onset. This “closed polity” assumption stands in stark contrast to the importance accorded to international factors in many popular accounts of individual civil wars such as the conflict in the former Zaire (e.g., McNulty 1999), and the widespread concern among policymakers that civil wars may generate instability in other states (e.g., Brown 1996, 3). Several studies have shown that external parties may play an important role in conflict escalation and settlement (e.g., Gleditsch and Beardsley 2004; Regan 2000; Walter 1997). But just as external parties can influence ongoing conflict, there are strong reasons to suspect that the risk of civil war at the outset may be influenced by participants and processes outside the boundaries of the nation state. However, the possibility that external parties could influence whether internal disputes over contentious issues escalate to violent civil conflict in the first place has received remarkably little attention. Moreover, if transnational factors influence the risk of civil war, then focusing exclusively on country-specific factors can yield incomplete or potentially misleading inferences.

In the following section I first review existing work on how transnational dependence and interactions can influence the risk of conflict. I will return to hypotheses on transnational linkages between states that may affect the risk of civil war later.

3 Transnational dimensions of civil war

International relations research usually insists that states do not exist in isolation, but are influenced by their interaction and exposure to other states. Spatial proximity increases the opportunity for conflictual and cooperative interactions between states as well as the

willingness of leaders to engage in particular types of behavior. Most wars are fought between neighboring states, cooperative relations such as trade also tend to be more developed between geographically proximate states, and these in turn influence the constraints and incentives of individual leaders. This stands in stark contrast to the “closed polity” model usually adopted in studies of intrastate conflict, where each state is treated as an isolated unit.

Some researchers have challenged the “closed polity” approach to civil war, and considered the possibility that “bad” neighbors and neighborhoods - using a term from Weiner (1996) - can make countries more at risk of civil war. Several have found evidence of spatial contagion or diffusion of civil conflict, in the sense that the risk of conflict increases when neighboring states are involved in conflict (see Gleditsch 2002*a*; Sambanis 2001*a*; Ward and Gleditsch 2002; Salehyan and Gleditsch 2006). This clustering effect has been replicated in many studies. In a sensitivity analysis, Hegre and Sambanis (2006) find that the positive impact of neighboring conflict on the risk of civil war remains robust under many possible specifications, and neighboring conflict has been suggested as useful for predicting conflict or generating “early warning” systems (see Esty et al. 1998).

Although the assertion that conflict in a neighboring state increases the risk of conflict may not be controversial, there are a number of ambiguities associated with the existing empirical evidence. First, it remains unclear exactly what it is about conflict in a neighboring state that increases the risk that a state will experience war. On the one hand, the increase in risk could stem from direct contagion, or what we can call non-actor specific spill-over effects. For example, ongoing conflicts in neighboring countries may decrease the price of arms and increase their availability, thereby making it relatively less expensive

for aggrieved groups to mobilize insurgencies (see Collier and Hoeffler 2004). However, the increase in risk may also stem from actor-specific forms of intervention and support from actors outside the state in question. Whereas direct contagion would increase the risk of conflict for all countries alike, the effects of actor-specific mechanisms hinge on the specific relationship between outside actors and the conflict protagonists inside the country.

Studies of third party intervention in ongoing civil wars have of course already studied ways in which conflicts become internationalized.² Although some researchers such as Reagan (2000, 2) assume that third parties intervene in ongoing conflict to stop the fighting, Gartzke and Gleditsch (2005) suggest that third parties may have more varied motivations for decisions to intervene. In addition to seeking to shorten an ongoing conflict by increasing the likelihood of *a* settlement, third parties may also intervene to promote *preferred* outcomes, or settlements that are relatively more favorable to one of the parties. Austvoll (2005) confirms that countries with shared ethnic ties to actors in civil war are much more likely to intervene in ongoing conflicts.

Direct interventions from other states in civil wars, however, are relatively rare. Direct intervention in conflicts in other states, especially on the side of the rebels, constitutes a serious violation of the state's sovereignty, and often entail significant costs to the inter-

²About 5% of the internal conflicts in the Uppsala data for 1946-2003 are considered internationalized civil wars, where either the government or the opposition receives support from the government of other states. The Correlates of War project's civil war data (Sarkees 2000), with a higher conflict threshold, hold that about 25% include foreign interventions.

vening state. States often intervene in more indirect ways in disputes in other states, for example through covert support to one of the parties, not interfering in arms transactions, or permitting rebels to operate on their territory. Such indirect support seems at least as important as direct intervention in ongoing civil wars, but has received little attention in existing work (although see Salehyan 2006).

A more fundamental point overlooked by previous research is that if direct or indirect third party support influences the outcomes of conflict, then presumably the prospects for such support will also influence conflict onset or whether contention between a government and a rebel group will escalate to violent conflict in the first place.³ Studies of intervention in ongoing disputes can by construction not tell us anything about this. Instead of studying only cases where actors intervene in ongoing conflicts (whether directly or indirectly), we should consider whether situations with high *ex ante* opportunities for third party support see a higher rate of conflict onset. This has so far not been done convincingly in systematic studies of conflict onset.⁴ In the subsequent section, I outline hypotheses on specific transnational factors that will make support for insurgencies more or less likely, and thereby influence the risk of conflict onset.

To illustrate the point that transnational linkages may influence initial onset and not just subsequent intervention, consider the case of the Albanian insurgencies in Kosovo

³Kuperman and Crawford (2006) discuss the possibility that anticipated external support can lead actors to instigate violence.

⁴Collier and Hoeffler (2004) consider the number of a state's immigrants in the US census as a measure of potential external support. However, this seems a poor measure, as ties to actors in conflict countries are not limited to immigrants and all communities not in the US are ignored.

in the late 1990s and Macedonia in the early 2000s, where it is clearly unreasonable to assume that transnational ties were irrelevant for the decision to initiate violence. Although ethnic Albanians were clearly harshly discriminated against after Milošević revoked Kosovo's autonomy in 1989, the main Albanian leaders in the province, such as Rugova, favored a non-violent strategy of resistance, and the conflict did not turn violent until the emergence of the more militant Kosovo Liberation Army (KLA) in 1996. The KLA mobilized to a large extent through recruitment and financial support from the Albanian emigré community, and benefitted from military training camps in neighboring Albania. Although the KLA guerrilla strategy led to a very harsh military response from Serb forces that forced the KLA to retreat back to Albania, the indiscriminate Serb retribution against Albanian civilians increased pressure on the USA and NATO to intervene in the region. After the end of the Kosovo war, the KLA lost much of the political influence to Rugova's Democratic League for Kosovo. Dissatisfied with their marginalization in post-war politics in Kosovo, many ex-KLA members turned towards spreading the Albanian insurgency outside Kosovo. In 2001, the Albanian National Liberation Army took up arms against the government in neighboring Macedonia, which had a large ethnic Albanian minority and had received a massive influx of refugees from the war in Kosovo. The Albanian mobilization in Macedonia is difficult to explain by looking at the situation in that country in isolation — indeed, the main Albanian parties served in the ruling government coalition — but was strongly influenced by ties to Albanians outside the country and the polarizing influence of the war in Kosovo.

Even existing studies that have examined conflict contagion have generally failed to appreciate how such neighborhood effects imply that conventional country-specific mod-

els are incorrect by construction, since individual observations cannot be assumed to be independent of one another. Stated differently, if the risk of conflict in one state i depends upon whether conflict is present in other states, there is an implied feedback effect where a change in a factor affecting the risk of conflict in state i in turn affects the probability of conflict in connected countries j (see Beck, Gleditsch and Beardsley 2006; Gleditsch and Ward 2000). Ward and Gleditsch (2002) propose an *autologistic* model of conflict, where the likelihood of conflict in one country is treated as conditional on conflict in other states (see also Gleditsch and Ward 2000; Sambanis 2001a; Salehyan and Gleditsch 2006). They find strong evidence of conditionality in conflict, and demonstrate that a simple model conditioning on wars in neighboring countries predicts well out of sample. However, their study has some important shortcomings; It is based on data for a single year (1988). Since wars are rare events, a sample of one year only could be highly idiosyncratic. The high conflict threshold (i.e., more than 1,000 casualties per year) will exclude many violent events that do not quite reach the cut-off point.⁵ Since the model left out many domestic factors commonly thought to influence the likelihood of civil war, the results could reflect omitted spatially clustered country attributes rather than transnational contagion *per se*. Gleditsch (2002a) shows how many economic and political country-specific

⁵Sambanis (2001b) argues that a high threshold may understate conflict in small countries where x deaths could constitute a sizable share of the population. This may in part account for why many studies find a positive effect of population on the risk of war (e.g., Collier and Hoeffler 2004). The coding of start and end dates can become somewhat arbitrary with a high threshold, as conflicts may drop in and out the sample depending on whether they reach the threshold in a given year.

attributes believed to be related civil war, such as GDP per capita and democracy, also display geographical clustering.

In this paper, I address shortcomings in existing studies on transnational factors and civil war onset. I first develop hypotheses on specific transnational factors increasing the risk of civil war that may underlie the observed spatial clustering. I then test these in an autologistic model using a lower conflict threshold and considering country-specific attributes that may be spatially clustered.

4 Hypotheses on transnational linkages and civil war

Breaking down the spatial clustering suggested by previous research into specific transnational linkages has important advantages; Since spatial contagion may reflect a host of different phenomena, it is difficult to interpret the meaning of spatial clustering directly. We would like to know not only that conflict in Rwanda increases the risk of conflict in Zaire, but what it is about conflict in neighboring states that increases the risk of conflict in another state. Moreover, whereas the risk of contagion from conflict in a neighboring country can only be assessed *ex post*, or once neighboring conflict has broken out, transnational factors that increase the opportunities for conflict can be assessed *ex ante*. Here, I identify three transnational linkages that are likely to affect the risk that a country will experience a civil war.

4.1 Transnational ethnic linkages

Transnational ties related to ethnicity is likely to influence the “willingness” of groups to mobilize for violent conflict or respond to government repression with violence. Many

civil wars involve ethnic groups who try to attain autonomy or secede from existing states. However, ethnic groups are often not limited to a single state, but can span national boundaries. Existing research has demonstrated that external intervention in conflicts often seem motivated by efforts to support ethnic kin in other states, and ethnic kin and emigré communities in other states have often played an important role in mobilizing and financing insurgencies. Hence, transnational ethnic kin linkages can also plausibly influence in whether disputes between ethnic groups with grievances against a central government escalate to violent conflict. Groups that have transnational communities should have a generally larger pool of resources that they can draw upon in mobilizing for violent conflict. On the one hand, transnational communities provide ethnic groups with often substantially *more* resources than what would be apparent from the size of a group and its resources at the domestic level. At the same time, support from transnational communities can provide groups with qualitatively different resources, as it is more difficult for the government in the conflict country to limit sources of support and bases/safe havens in other countries than would be the case on its own territory. Finally, members of the transnational component of an ethnic group are often more confrontational and more likely to support hardline leaders than the average member in the country of contention itself. Although ethnic kin in principle could be located in many countries, supporting insurgencies is much more difficult for communities far from the conflict country. Hence, all else equal, we should expect that the risk of civil war should be higher the more ethnic groups are found on both sides of an international border.

Hypothesis 1: The more ethnic groups that span international boundaries, the higher the potential for external support for insurgencies, and the higher the risk that a country will experience a civil war

4.2 Transnational political linkages

Geographical distance is obviously not the only factor that mediates willingness or incentives to support insurgencies or promote conflict in other states. In particular, the character of political institutions can constrain the opportunities for leaders who wish to influence political events and disputes that may escalate to violence in other states. Democracies are sometimes defined in terms of institutions that have potential power to constrain executives (see Bollen 1990; Gleditsch and Ward 1997). Research on the democratic peace suggests that leaders in competitive political institutions face greater difficulties in intervening militarily when other actors oppose the use of force (see, e.g., Gleditsch 2002a; Tures 2001; Schultz 1998). An autocratic ruler such as Mugabe faces few effective barriers on providing support to the beleaguered government in the Democratic Republic of Congo, despite widespread domestic opposition to involvement in the civil war. Such constraints should also make it more difficult for leaders to either provide or not restrict support for mobilizing violent insurgencies in other states, and transnational ties should be less likely to be associated with conflict when the potential patron state has a democratic regime. Of course, most states have multiple neighbors, and we need to look at the overall political context prevailing in a region to ascertain barriers against support or intrusion in the affairs of other states. The more constrained political leaders in a region, the stronger the ex ante barriers against involvement in disputes in neighboring

states (Gleditsch 2002a). Conversely, states in a more autocratic region, where leaders face few formal constraints on intervention, should have a higher risk of political conflicts escalating to violence.

Hypothesis 2: The less democratic the political institutions of neighboring countries, the higher the risk that a country will experience a civil war

4.3 Transnational economic linkages

A third transnational factor which may influence the risk of civil war is the extent of integration between connected states. A wealth of research suggests that higher economic interdependence between states decreases the likelihood of interstate war. Interdependence can similarly have a limiting effect on conflict within states (see Gleditsch 2002a; Hegre, Gissinger and Gleditsch 2003; de Soysa 2002). Actors in more integrated and complex economies face greater costs from conflict, and therefore have greater interests in maintaining peaceful relations. Economic interdependence may exert a conflict dampening role even when potential rebels are only marginally integrated in the formal economy. In a situation where levels of interdependence are high and conflict would be costly to many actors, affected interests will have an incentive to lobby governments for solutions to accommodate aggrieved groups and limit disruption.

Moreover, the incentives for states to support conflicts in neighboring states are shaped to a large extent by their affinity or antipathies to existing regimes. Trade is one indicator of compatibility between states. Although it is firms rather than states that engage in exchange, governments can regulate trading opportunities. International trade takes place

under expectations about political relations and the likelihood that political conflict will disrupt future opportunities for trade. The extent of trade is in this sense a good observable indicator of integration.

Most existing studies of international economic relations and civil war have studied general openness or trade with all countries in the international system (see Esty et al. 1998; de Soysa 2002). However, potential influences for conflict or peace are most likely to emanate from neighboring countries. An individual county may have a high degree of trade integration with countries elsewhere in the world, but relations with neighboring states will affect its security the most. Hence, the extent of economic linkages with proximate states seems a more appropriate indicator of the costs of violent conflict and incentives for settling conflicts in non-violent ways (see Gleditsch 2002a).

Hypothesis 3: The greater the trade integration with states surrounding a country, the lower the risk of civil war

4.4 Central domestic factors in civil wars

Evaluating the influence of transnational factors on the risk of civil war requires a reasonable baseline model of conflict. In particular, we need to take into account domestic factors believed to be associated with conflict *and* likely to be spatially correlated or systematically associated with the other transnational factors. Many researchers find that a state's level of development alters the prospects for civil war (e.g., Collier and Hoeffler 2004; Fearon and Laitin 2003), although the interpretations offered vary between stressing the opportunity costs of conflict of rebels or state strength. However, since GDP

per capita clearly clusters geographically (e.g., Gleditsch 2002*a*), we need to ensure that we do not infer apparent conflict clusters simply due to failing to control for clustering in income.

Several have hypothesized that political regime influences the risk of civil war, and the distribution of institutions is known to be spatially clustered (e.g., Gleditsch and Ward 2007). Many argue that civil wars should be less likely in democracies, which provide greater opportunities for pursuing political objectives by peaceful means (e.g., Krain and Myers 1997). However, since strict autocracies may be sufficiently repressive to deter dissent, some scholars argue that the risk of civil war should be highest in intermediate “anocratic” regimes that combine sufficient grievances and lack of political rights to make violent protest attractive, yet are not repressive enough to successfully deter conflict (see Hegre et al. 2001; Muller and Weede 1990). This is sometimes referred to as the inverted U-curve hypothesis.⁶

Finally, many argue that conflicts may be more likely in ethnically heterogeneous countries (see Sambanis 2002; Ellingsen 2000). This could be associated with the hypothesized link between transborder groups and conflict since societies with a higher number of transborder ethnic groups could be associated with greater ethnic heterogeneity. Finally, countries with larger population are more likely to contain some group willing to rebel (e.g., Collier and Hoeffler 2004). Since larger countries are more likely to have transborder groups, population size is a relevant control variable.

⁶Vreeland (2005) argues that many empirical studies claiming to find support for these arguments using the Polity data are problematic, since conflict explicitly influences the coding of the data.

5 Identifying transnational linkages and dependence

I have argued that the likelihood that a state i will be involved in a conflict at time t is very much dependent on processes taking place in other states j and their relations with i , but so far not specified what states should be considered potentially dependent on one another. Before proceeding to analyze if transnational factors influence the risk of war I must identify the relations that tie states together and where we may expect external factors to increase the risk of conflict.

Dependence among states stems from interaction and differences in their relations. Assuming global dependence where all states are connected to one another provides no indication of why some regions appear to be more conflict prone than others. A single state i may interact with all the remaining $N - 1$ states in the international system, but not all of these $[N \times (N - 1)] / 2$ dyadic relationships are likely to be equally relevant. Since distance is such a powerful modifier of the opportunities for interaction, geographically proximate states are generally more relevant to one another. Although states other than geographic neighbors can be important, we can identify the most important relationships between states by examining dependence determined by geographical proximity.⁷

A simple way to model spatial dependence is to assume a local Markov random field, where each observation depends only upon its proximate geographic neighbors. More formally, for a set of N units, $Pr(y_i | y_j, j \neq i)$ depends only on y_j if j is a neighbor of i (Ripley 1988). A Markov random field can be seen as a spatial analogy to a first-order

⁷Truly global influences, such as superpower “overlay” or support to civil wars motivated by the Cold War rivalry, can potentially apply in all cases (e.g., Buzan 1991). As such, they cannot account for differences between regions.

Markov process in time.⁸ Substantively, this implies that the likelihood of a civil war in Zaire is influenced by proximate states such as Rwanda, but does not depend on whether distant states such as Colombia experience civil war. The structure of dependence can be represented through an $N \times N$ connectivity matrix \mathbf{W} based on distances among the N units in the system, where individual entries $w_{i,j}$ acquire non-zero values if units i and j are connected or “neighbors” (Harary, Norman and Cartright 1965). I will use the connectivity matrix \mathbf{W} later to create measures of conflict spill-inn and regional linkages.

6 Model, Data, and Measures

This section details the data used to measure the concepts and the model to test the hypotheses on transnational linkages.

6.1 Conflict data

For data on civil war, I rely on information from the Uppsala armed conflict data project (Gleditsch et al. 2002; Harbom and Wallensteen 2005).⁹ The lower casualties threshold in these data (i.e., more than 25 deaths in a year) helps address the previously noted problems

⁸A Markov chain specifies the distribution of a discrete variable $y_{i,t}$ at time t as a function of the state of observation i at previous time periods and a $J \times J$ matrix of transition probabilities between the J possible states that y_i may acquire. A chain is said to be first-order Markov if the transition probabilities depend only on the state at the preceding time period $y_{i,t-1}$ and are independent of state at previous time periods $y_{i,t-2}, y_{i,t-3}, \dots, y_{i,t-T}$ (Harary, Norman and Cartright 1965).

⁹Available at <http://www.prio.no/cwp/armedconflict/>.

with a high threshold.¹⁰ The main conflict measure, denoted $y_{i,t}^{cw}$, takes a value of 1 if an intrastate or internationalized civil war breaks out in state i at t , and excludes subsequent years of conflict. Since we are interested in the prospects for spatial contagion of conflict, the relevant feature here is the conflict zone or location *where* conflicts occur rather than the identity of participating governments.¹¹

Although the outcome of interest here is civil war, both neighboring civil and interstate wars could affect the mechanisms discussed here and increase the risk of civil war. For example, depending on the specific definitions used, the conflict between Croatia and the remainder of Yugoslavia in 1991 could be considered an interstate war. Yet, this clearly heightened the risk of violence in Bosnia, where many previous combatants contributed to the escalation to war after the 1992 ceasefire in Croatia.¹² The presence of conflict

¹⁰Re-estimating the model including only conflicts with more than 1,000 fatalities obviously leads to much lower probabilities of conflict, but does not change the main inferences regarding the role of transnational dimensions.

¹¹The approach of Fearon and Laitin (2003) of treating wars in colonies as wars in the metropole would clearly not be appropriate, since we would not expect neighbors of the metropole far from the conflict zone to be at risk of contagion.

¹²Since conflicts emerging out of disputes within states could become classified as interstate wars depending on how the conflict evolves and the nature outside involvement, it is problematic to impose a strict and mutually exclusive separation of civil and interstate war. The COW project, for example, has shifted between classifying the Kashmir conflict as an *inter* and *intrastate* war in different releases of their conflict data (see Gleditsch 2004). Note that the Croatia-Yugoslavia 1991 war would not qualify as interstate in the COW data, due to a rule eliminating interstate wars by states not recognized as system

nearby is the key condition for assessing potential conflict contagion, and it is less relevant whether conflicts are classified as intrastate or interstate, and whether the conflict started at time t or $t - 1$. I will therefore use another variable indicating the presence of either civil and interstate conflicts, denoted $y_{i,t}^c$, in assessing conflict clustering.¹³

6.2 Country-specific covariates

I measure income by a state's real GDP per capita in constant 1985 dollars taken from Gleditsch (2002b).¹⁴ The effect of GDP per capita of conflict is unlikely to be fully linear, as an increase in one dollar matters more when states are relatively poor. I thus use the natural logarithm of real GDP per capita, denoted $\ln(g_{i,t})$.

I consider the extent of constraints in democratic institutions by the Polity scale, denoted d . The Polity scale ranges from -10 to 10, with values closer to 10 indicating more democratic polities. The inverted U-curve hypothesis can be tested by including a square term or two dummy variables for the categories in Jagers and Gurr's (1995) tri-partite typology, distinguishing between democracies (scores above 6 on the composite scale), anocracies (between -6 and 6), and autocracies (below -6).¹⁵

The literature on ethnic conflict displays little consensus on what constellations of members for at least six months prior to onset.

¹³Since there are relatively few intrastate conflict locations, the civil wars vastly dominate in this composite variable.

¹⁴These data are based on the Penn World Tables (PWT) with additional estimates for many developing and socialist states not in PWT, based on other available sources such as the *CIA World Factbook*.

¹⁵Note that many studies claiming to find evidence of an inverted y-curve relies on measures that impute a score of 0 for some "irregular" Polity values. This is problematic,

ethnic groups increase the risk of conflict. Whereas some focus on ethnic fragmentation or heterogeneity, others argue that the likelihood of conflict is greater when a dominant majority suppresses minorities. For this paper, I assess the degree to which a society is ethnically heterogeneous by the share of the population not in the dominant ethnic group. The ethnic dispersion measure is 100 minus percentage share of the largest ethnic group, based on data provided by Vanhanen (2001), denoted $e_{i,t}$.¹⁶ Higher values indicate less homogenous countries.

Countries with larger population are more likely to contain some group willing to rebel and are more likely to have conflict exceeding the casualty threshold. Accordingly I include a measure of the natural log of total population, taken from Gleditsch (2002b), denoted $\ln(p_{i,t})$.

as some of these irregular values are assigned precisely because institutions are in a flux during times of war, and risks confirming the inverted U-curve by construction. Since predicted Polity values for countries with irregular scores based on the Freedom House tend to be close to the extreme autocracy end of the scale, I treat all these irregular values as -10.

¹⁶Vanhanen (2001) provides three possible indicators of ethnicity: race, nationality, and religion. I define the largest ethnic group by the smallest of the dominant group shares on any of these indicators. Albania, for example, is coded as having a population that is 100% Caucasoid, 90% Albanian speaking, and 70% Muslim. The heterogeneity score is $100 - 70 = 30$ since 30% of the population is not Muslim.

6.3 Regional covariates

I identify spatial linkages between countries using a data set on the minimum distances between states (see Gleditsch and Ward 2001). I code two states as connected if they are within 950 km of one another.¹⁷ Given the linkages between states in the connectivity matrix \mathbf{W} , we can define regional covariates reflecting the factors hypothesized to increase the likelihood of conflict in a given state.

The first transnational factor is the presence of conflict in other proximate states, denoted $r_{i,t}^c$. This variable will acquire a value of 1 if one (or more) of the j states connected to i are involved in a civil or interstate war at time t .¹⁸

The second regional factor hypothesized to influence the likelihood of conflict pertains

¹⁷I have also used other cut-off points, and results are generally consistent with more restrictive distance thresholds. Direct contiguity (or a threshold of 0 km) yields largely similar aggregate results, but leads to questionable classifications for individual states, as many states separated by only minor stretches of land or water such as the Netherlands and Luxembourg or Nicaragua and El Salvador are not regarded as connected (see Gleditsch 2002a). Introducing a term for the number of neighbors did not notably change the result, and actually yields a negative coefficient estimate, probably reflecting small European countries with many neighbors and few civil wars.

¹⁸More formally, $r_{i,t}^c = (w_{(i,\cdot)}y_t^c)\#$, where $\#$ indicates the Boolean product. I do not define separate variables for adjacent civil and interstate war (but note results separating these were not dramatically different) as it is difficult to condition on predicted conflicts in simulation based methods while distinguishing between types of conflict, since the model does not yield separate predictions for civil and internationalized wars.

to regime types in connected states. This is measured by a variable indicating average level of democracy among states in a region surrounding a country i at time t , denoted $d_{i,t}^r$.¹⁹ This can range from a low of -10 to a high of 10, in the event that all neighbors are considered full democracies.

The third regional factor hypothesized to affect the likelihood of civil war is the level of local economic integration. This is measured as the ratio of the sum of country i 's trade with connected states over its total GDP, denoted $i_{i,t}$.²⁰

The fourth regional factor hypothesized to affect the risk of civil conflict is the number of ethnic groups that span national borders. I operationalize this using data from the Minorities at Risk project (Davenport 2003). More specifically, I rely on an indicator of the number of groups in a state that also exist in adjacent countries, denoted e^r .

6.4 Dependence in time

Previous research has shown that the likelihood of conflict depends upon a country's prior conflict history. The risk of recurrent civil war is high immediately after previous conflict, but the stability of peace generally increases with additional years without renewed conflict (see Collier et al. 2003, Ch. 4). Beck et al. (1998) and Raknerud and Hegre (1997) suggest including a count of the years a country has remained at peace py , either since

¹⁹More formally, this is defined as $d_{i,t}^r = w_{i,t}^s \cdot d_t$, where the s superscript indicates that the connectivity matrix is row-standardized so that all the entries in each row of \mathbf{W}^s sum to 1.

²⁰More formally, this is defined as $i_{i,t} = \frac{W_{i,t} T_{i,j,t}}{g^{cp}} \forall j = \{1, \dots, N\}$ where T is trade in current prices, g^{cp} is a country's GDP (both in current prices), and $W_{i,j} = 1$ if i and j are connected.

its last conflict or since the first data point. As additional years are unlikely to contribute much to the stability of peace in countries that have remained at peace for an extended period of time, Raknerud and Hegre suggest an exponential function where a country's time at peace decays relative to a half time parameter α , i.e., $e^{[-py/\alpha]}$.²¹ I include an exponential function of py as a covariate to control for time dependence. Trial and error suggested that $\alpha = 4$ provides a reasonable fit to these data. This implies that the risk of recurrent conflict is halved about every five years.

6.5 Domestic and regional factors in civil war

Given the above hypotheses and measures, we can estimate the probability of conflict for a given state i at time t conditional on presence/absence of conflict in adjacent states $r_{i,t}^c$, various country-specific attributes $\mathbf{X}_{i,t}$, the regional attributes $\mathbf{Z}_{i,t}$, and conflict history indicated by $py_{i,t-1}$ as

$$Pr(y_{i,t}^{cw} = 1) = \frac{e^{\eta_i}}{1 + e^{\eta_i}},$$

$$\text{where } \eta_i = \gamma r_{i,t}^c + \mathbf{X}_{i,t}\beta + \mathbf{Z}_{i,t}\lambda + \phi_1 F(py_{i,t-1}),$$

$$\mathbf{X}_{i,t}\beta = \beta_1 d_{i,t} + \beta_2 e_{i,t} + \beta_3 \ln(g_{i,t}) + \beta_4 \ln(p_{i,t}),$$

$$\text{and } \mathbf{Z}_{i,t}\lambda = \lambda_1 d_{i,t}^r + \lambda_2 e_{i,t}^r + \lambda_3 i_{i,t},$$

²¹Beck et al. (1998) suggest modeling time dependence through a non-parametric approach. I use an exponential decay function, primarily because it is easier to interpret and lends itself better for simulation. For conflict data, the two approaches tend to yield similar results.

all the terms as defined above.

This resembles a standard logit model, but a key difference is that conflict appears on both sides of the equation as conflicts in adjacent states influence conflict in i through the γ parameter. Unless the γ parameter is zero (in which case the autologistic simplifies to a standard logit), individual outcomes are *conditional* and the risk of conflict cannot be treated as independently determined by other variables on the right hand side.²² The hypotheses about transnational linkages influencing the risk of civil war imply that the λ terms should have non-zero coefficients.²³

²²The autologistic model has a complicated likelihood function, since each observation y_i is conditionally dependent on y_j in connected states j . Maximum pseudolikelihood (MPL) estimates, which consider only a limited set of dependencies and assumes that other observations are independent and exchangeable, have reasonable asymptotic properties, but can be inefficient (see Ripley 1988; Besag 1974). Markov Chain Monte Carlo (MCMC) simulation methods can be used to approximate the full likelihood function (Huffer and Wu 1998; Geyer and Thompson 1992; Ward and Gleditsch 2002). In a previous version this paper, I reported both MCMC and MPL estimates. However, since the differences were not dramatic and the MPL estimates are much easier to replicate, I report only the MPL estimates here.

²³The presence of a right hand side spatial term also changes the implied long-run interpretation of the other coefficients. Each β coefficient indicates the short run impact of increasing a right hand side term by one unit. However, a change in a right hand side term for any one individual country will in turn have an impact on neighboring states, which ultimately feeds back to the country itself, and reverberate through the system until some new equilibrium is reached. The long-run impact will depend on the specific

7 Empirical results

Table 1 displays the results of two alternative models of conflict onset based on these data. The two leftmost columns contain estimates for the autologistic model with transnational factors. The two rightmost columns display the coefficient estimates and standard errors for a standard logit model, without any transnational factors.

Table 1 about here

Most of the expectations about transnational linkages are strongly borne out by the empirical results in Table 1. More transboundary ethnic groups increases a country's risk of conflict. The negative coefficient estimate for regional democracy indicates that countries in regions with more democracies are less likely to experience conflict. Finally, countries with higher interregional trade are significantly less likely to experience conflict. The coefficient estimates for all these transnational variables are in the hypothesized direction, and significantly different from 0.

The positive estimate for γ indicates that conflict in adjacent countries increases the risk of conflict. As such, although the specified transnational linkages capture relations with neighboring states that can increase or decrease the likelihood of conflict, making these explicit does not fully remove all spatial clustering in conflict, and there appears to be additional spill-over effects of conflict for adjacent states, over and beyond the information contained in these indicators.

The results suggest that transnational linkages and attributes of surrounding countries connectivities of individual observations. See Beck et al. (2006) for further discussion.

can exert a substantial impact on the risk of conflict. For example, for a country profile with an average estimated risk of conflict onset, the presence of a conflict in a neighboring country alone increases the baseline risk of civil war onset by almost two-thirds. Holding everything else equal, the risk of a civil war breaking out is almost twice as high for a country located in a highly autocratic region compared with a country located in a region where all other states are democracies. A country which is highly trade integrated with its neighboring countries has a risk of conflict less than half the risk for a country that has no trade with its neighboring countries.

With respect to country-specific variables, the results are largely consistent with expectations and previous studies. I again find that countries recently involved in conflict or new states are substantially more likely to experience conflict. More populous countries are more likely to experience civil war. As in Ellingsen (2000), the results indicate that the larger the population share not in the dominant ethnic group, the higher the likelihood of civil war. GDP per capita has a negative coefficient, suggesting a lower risk of civil war. However, country-specific democracy does not have a coefficient estimate significantly different from 0. Moreover, there is no evidence that democracy has a non-linear effect on civil conflict.²⁴

The estimates for the autologistic model suggest that the marginal effects of changes in transnational factors appear to be at least as large as the effects of country-specific factors. In the political realm, changes on the regional democracy variable yields a large

²⁴Adding two separate dummies for coherent democracies and autocracies or a term for the square of the Polity score does not yield a better fit, nor were the estimates consistent with the hypothesized inverted U-curve.

decrease in the risk of conflict, with an estimated effect more than twice the size of that of country-specific democracy. Moreover, regional trade integration is associated with large differences in the predicted probabilities of conflict. Stated differently, the effects of bad neighborhoods can be as important, if not more, than the profile of individual states. The baseline probabilities depend on the combined contribution of all factors in the model. In the real world, other things do not tend to be equal, rather, many of the factors associated with conflict go together. Undemocratic regimes tend to have low integration with other states, and are often located in “bad” neighborhoods with protracted hostilities. The effects of individual covariates can in this sense be exacerbated by the feedback effects implied by the model, where an increase/decrease in the risk of conflict for one country will have an effect on the risk of conflict in connected countries which then in turn will affect the country’s own risk of conflict. The likelihood of civil war in an extremely unfavorable region would be several hundred percent higher than in very favorable neighborhoods, and the effects of a shock or change in one feature would have much greater consequences. For a country such as Zaire under Mobutu in 1995, with many of the factors promoting conflict, differences in transnational factors and events in neighboring countries can substantially increase the risk of conflict. Conversely, in security communities, integrative forces can prevent domestic disputes from escalating to violence and make peace stable (for a more extended discussion, see Gleditsch 2002a).²⁵ In this sense,

²⁵Such association between covariates may raise concerns over collinearity. However, the highest variance inflation factor is less than 1.75, which suggests that collinearity does not pose a problem. A country’s democracy is for example not more highly correlated with regional democracy than its own GDP per capita.

rather than attribute conflict dampening effects exclusively to a country's own institution, we should acknowledge that a country's location can exert a considerable influence on its security challenges. Civil wars in border areas may have as much to do with relations to other states and transnational actors as deficiencies in a country's own institutions, and democratic institutions and reform may not provide a panacea for countries in unfortunate neighborhoods. Transnational linkages that increase or decrease the risk of conflict can be explicitly identified, and cannot be dismissed as artifacts of failing to control for relevant domestic characteristics.²⁶

8 Discussion and conclusions

Most research on civil wars focuses exclusively on attributes of states and treats states as independent of one another. I have shown that some hypothesized transnational linkages appear to make civil wars more likely, and that the risk of conflict varies depending on the interactions and processes that cross national boundaries in ways that cannot be

²⁶Proposed model specifications vary considerably in the civil war literature, and critics may contend that there may be other omitted domestic attributes underlying the seeming support for transnational factors. However, an additional robustness check (not reported for considerations of space) inserting the proposed transnational measures into the Fearon and Laitin (2003) model yields very similar findings. This is a particularly appropriate comparison, as Fearon and Laitin explicitly argue that international factors are largely unimportant (p. 86) and use quite different conflict data, attesting to that support for transnational factors cannot simply be dismissed as an artifact of failing to control for central domestic factors or the particular measures used.

fully accounted for by attributes or processes within individual states. Understanding the dynamics of civil wars and the prospects for their resolution requires that we consider potential contributing factors both within states and as well features found in transnational relations and interactions across state boundaries. Civil wars that display clear transnational dimensions, such as the Albanian revolt in Macedonia, may have as much to do with events outside the boundaries of the country in question as the behavior of national governments.

If we accept Blainey's (1988) argument that the reasons why wars start must be related to why wars eventually end, then looking to the role of transnational factors for onset can suggest how international strategies may help contain internal conflicts. The international community can alter the prospects for conflict by regulating access to transnational support, mobilization, and the availability of arms. Just as transnational factors influenced the onset of a minor armed violent conflict in Macedonia, the actions of international third parties also helped prevent the conflict from escalating to a major war. The Organization for Cooperation and Security in Europe (OCSE) and NATO helped Macedonia close the border with Kosovo, and supported the governments relatively measured military response against the Albanian insurgents occupying cities in the border area. The behavior of the international community also helped the Macedonian government resist demands from Slav militants for more forceful actions against Albanians. Another critical international factor was the Albanian government's refusal to endorse the NLA, despite widespread support for the organization from many ethnic Albanians. As such, international factors appear to have helped promote and sustain the Ohrid peace agreement between the rebels and the government.

Numerous extensions can help improve on the present analysis and clarify further the transnational dimensions of civil war. One limitation of the present analysis is the exclusive use of national level data, and there are clear benefits from trying to disaggregate the study of civil war. Just as wars may not be confined within the boundaries of a state, they rarely engulf the entire territory of state. Whereas the conflict in Chechnya, for example, displays clear transnational linkages and entails significant risks of contagion for other states in the Caucasus, neighbors of Russia far from the Caucasus such as Finland and Norway have few links to actors in the conflict and little exposure to spill-overs. Future research can benefit from improved data incorporating geographical information for the incidents in the Uppsala conflict data (see Buhaug and Gates 2002). Just as the dependent variable (conflict) is not well represented by the entire territory of states, there is an increasing recognition that existing research on civil war has tended to use rather crude national level proxies for features and processes that often vary considerably within states and ignore the actors in civil war. There is an emerging wave of research considering disaggregated conflict data on the subnational level on explanatory factors such as terrain, resources, and population (see, e.g., Buhaug and Rød 2006), and future research on the transnational dimensions of conflict can be enhanced by gathering additional data on the transnational linkages of actors that might increase or decrease prospects for peace at the group level. For example, transnational linkages may be particularly relevant in cases where disadvantaged ethnic groups are already mobilized in another country, can count on support of ruling ethnic kin in other states, or mobilize among refugees in neighboring states. However, new theoretical extensions and data gathering on the specific constellations of transnational ethnic groups and third party support that can increase the risks of

conflict require an initial foundation to build on. This paper clearly suggest that transnational factors exert important influences on the risk of civil war onset, and provides a stepping stone for future research of this kind.

Table 1: Factors associated with civil conflict onset

Covariate	M1: Transnational		M2: Domestic	
	Coefficient estimate	Standard error	Coefficient estimate	Standard error
(Intercept)	-8.882	0.870	-8.335	0.835
Conflict history (ϕ)	3.240	0.150	3.322	0.149
Democracy (β_1)	-0.014	0.009	-0.024	0.009
Ethnic dispersion (β_2)	0.015	0.004	0.016	0.004
ln GDP per capita (β_3)	-0.146	0.072	-0.235	0.066
ln Population (β_4)	0.315	0.037	0.350	0.036
Regional democracy (λ_1)	-0.032	0.017	–	–
Transborder groups (λ_2)	0.050	0.024	–	–
Regional trade (λ_3)	-1.923	1.127	–	–
Adjacent conflict (γ)	0.561	0.168	–	–
Model fit	N = 6815		N = 6815	
	LR- χ^2 = 916.4, df=9		LR- χ^2 = 893.1, df=5	

Coefficient estimates in bold are significant at 0.05 in a one-tailed test

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