Online appendix for "Transnational Transmitters:

Ethnic Kinship Ties and Conflict Contagion. 1946-2009"

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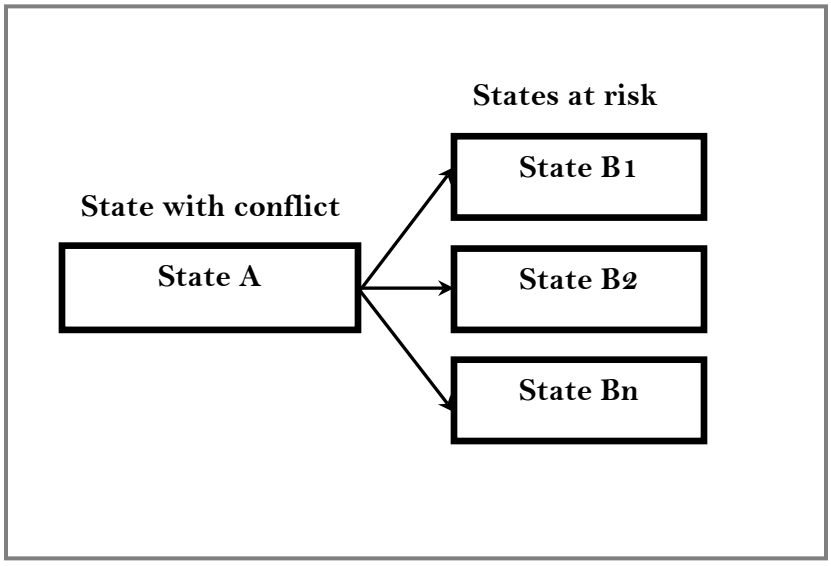
[Version as of October, 2013]

Data Structure

To test the impact of transnational ethnic kin ties, as outlined above, the study utilizes a dyadic dataset. The first state of the dyad (state A) has an ongoing armed ethnic conflict at any point in time 1946-2009. The second state of the dyad (state B) is one of state A's proximate states (i.e. within 950 km, see (e.g. Gleditsch 2007, Gleditsch and Ward 2001)). The two states make up one cross-section in the dataset, each of which is considered a potentially contagious relationship. The dyadic structure of the dataset indicates that it is organized around each state A with a time-series cross-section for each state B. Each dyad is included for a number of years, depending on the length of the ethnic conflict(s) in state A. If state A experiences ethnic conflict for a number of years, state B is considered at risk of conflict contagion during these years as well as for five years after the end of the conflict in state A.

Figure 1 illustrates the dyadic approach employed to study contagion in the present study. The ethnic-kinship explanation suggests that if e.g. state B_2 harbors an ethnic group also involved in conflict in the conflict country state A, state B_2 will be more likely to experience conflict than will, for instance, state B_1.

FIGURE I Sources and Targets of Contagion: The Dyadic Approach



Description and operationalizations of variables

Variable	Description	Source
Onset of ethnic conflict (DV)	Indicates with (1) if the state B experienced an onset of ethnic conflict in the coded year; otherwise (0). Ongoing ethnic conflicts are not censored.	Onset of internal armed conflict according to UCDP Dyadic Dataset (Harbom and Melander and Wallensteen 2008, Themner and Wallensteen 2013). Among those, *ethnic* conflicts identified using e.g. Fearon & Laitin (2003), Sambanis (2001), & Licklider (1995).
Ethnic kin	If at least one of the ethnic groups in conflict in state A is also present in the neighboring state B, the variable *Ethnic kin* is coded (1) the year after conflict, it is then modeled as a function that decays over time with a half-life of five years (chosen based on log likelihood test). More details below.	Updated version of Forsberg (2008).
Rebel concessions	If the rebel group in state A gains concessions as stipulated in a negotiated settlement, the variable is coded (1); otherwise (0). Any type of concessions are included in the coding, i.e. political, military and territorial).	The IMPACT dataset (Jarstad and Nilsson 2008, Jarstad and Nilsson and Sundberg 2007).
Rebel victory	If the conflict in state A ends with a rebel victory, this variable is coded (1); otherwise (0).	The UCDP Conflict Termination Dataset (Kreutz 2010).
Kin*Concessions	Interacts *Ethnic kin* and *Rebel concessions*.	See above.
Kin*Victory	Interacts *Ethnic kin* and *Rebel victory*.	See above.
Ln GDP/capita	GDP/capita in state B. Transformed using its natural log. Lagged one year. Extrapolated 1946-1949 and 2005-2009.	Gleditsch (2002), based on Penn World Tables (Heston and Summers and Aten 2002).
Population	Population size in state B, in thousands. Transformed using its natural log. Lagged one year. Extrapolated 1946-1949 and 2005-2009.	Gleditsch (2002), based on Penn World Tables (Heston, et al. 2002).
Polity & polity squared	Polity2 score in state B, ranging from -10 (highly autocratic) to 10 (highly democratic). Models estimated with both polity and polity squared. Lagged one year.	Polity IV project (Marshall and Jaggers 2009).
Ethnic polarization	If state B is ethnically polarized it is assigned the value (1); otherwise (0). This dummy variable identifies polarized societies as those states that are neither highly fractionalized nor has a dominant majority. In operational terms this indicates the absence of a dominant group, defined as a country where there is no group which constitutes more than 70% of the population, while at the same time having at least one group larger than 30% of the	Own categorization, based on the group proportions reported in EPR-ETH (Cederman and Wimmer and Min 2010).

	population.	
Territorial conflict	Coded (1) if the conflict in state A is fought over territory, (0) if fought over government power. If state A has more than one conflict in the same year, one territorial conflict is sufficient to assign the value (1).	UCDP Dyadic Dataset (Harbom, et al. 2008, Themner and Wallensteen 2013).
War	Coded (1) in years when state A experienced intrastate armed conflict at the level of war (1000 annual battle deaths).	UCDP Dyadic Dataset (Harbom, et al. 2008, Themner and Wallensteen 2013).
Decay function	A decay function of time passed since the last onset, with a half-life of two years (chosen based on log likelihood test).	UCDP Dyadic Dataset (Harbom, et al. 2008, Themner and Wallensteen 2013) and Raknerud & Hegre (Raknerud and Hegre 1997).
Discriminated kin	Coded (1) if a kinship tie exists between state A and state B and that the kin segment in state B suffers from discrimination, it is then modeled as a function that decays over time.	For kinship identification, see Ethnic kin above. Discrimination data comes from EPR-ETH (Cederman, et al. 2010).
Autonomous kin	As Discriminated kin but the kin segment enjoys autonomous status.	For kinship identification, see Ethnic kin above. Autonomy data comes from EPR-ETH (Cederman, et al. 2010).
Concentrated kin	As Discriminated kin but the kin segment lives geographically concentrated.	For kinship identification, see Ethnic kin above. Group concentrated data comes from the Minorities at Risk project (Minorities at Risk Project 2005).
Large kin	As Discriminated kin but the kin segment is at least 10% of the population in state B.	For kinship identification, see Ethnic kin above. Group size data comes from EPR-ETH (Cederman, et al. 2010).

Coding Transnational Ethnic Kinship Ties

The dataset consists of a number of dyads of states. The first state of the dyad, also referred to as state A, has an ongoing armed ethnic conflict at any point in time 1946-2009. The second state of the dyad, called state B, is one of state A's proximate states and the potential target of conflict spread. The central hypothesis of this study posits that when state A experiences ethnic conflict, state B is increasingly likely to also experience ethnic conflict if kinship bonds exist between an actor involved in ethnic conflict in state A and an ethnic group in state B. The coding procedure was conducted in the following manner:

(1) For each year state A is involved in ethnic conflict, defined as an intrastate armed conflict where parties mobilize along ethnic lines, all opposition/rebel groups active (according to the UCDP criteria) that particular year are listed.

> *Example*: Burma/Myanmar 1990; the following ethnically mobilized rebel groups are active: KIO (Kachin Independence Organization), KNU (Karen National Union), NMSP (New Mon State Party).

(2) For all ethnically mobilized opposition groups listed as active a given year, the ethnic constituency/affiliation is identified. This is done on a case-by-case basis, using a multitude of sources including the descriptions of the conflict and the actors incorporated in the UCDP Conflict Encyclopedia (UCDP), the group chronologies and descriptions provided by the Minorities at Risk Project (2005), and the World Directory of Minorities (Minority Rights Group International 1997).

> *Example*: Burma/Myanmar 1990; the ethnic constituency of the active groups: KIO: Kachin; KNU: Karen/Kayin; NMSP: Mon.

(3) A year-by-year comparison with ethnic groups for each proximate state (state B) is made. If any of the groups identified in step 2 above is listed as a politically relevant ethnic group in a neighboring state according to the EPR-ETH Dataset (Cederman, et al. 2010), this dyad-year is coded (1) on the variable *Ethnic kin*.

> *Example*: Burma/Myanmar has five neighbors: Bangladesh, China, India, Laos, and Thailand. According to EPR's list of ethnic groups, neither Kachin, Karen/Kayin, or Mon signify important ethnic groups in any of the five countries. Hence, for the year 1990, all five dyads are coded (0) on *Ethnic kin*.

(4) For those coded (1), the variable is first lagged one year. As the suggested demonstration effect of kin may linger for some time, the years following the coding of (1) are given values corresponding to a half-life of five years.

Robustness Checks (estimations in attached do-file)

<u>Alternative estimator (rare events logit)</u>
Using a rare events logit, as suggested by (King and Zeng 2001a, 2001b) does not substantially change any of the results.

<u>Alternatives for dealing with spatial autocorrelation</u>
In the results reported in the paper, the standard errors are adjusted for clustering on state A of the the dyad. Two alternatives have been tested: (1) when clustering on state B (the state at risk of contagion), the results in table I is substantially the same, while in table II *Discriminated kin* and *Concentrated kin* are not significant, but *Autonomous kin* now are (in the predicted direction). (2) when clustering on the state A-state B dyad, table I's results are the same while *Discriminated kin* in Table II falls just below the 90% significance threshold.

<u>Alternatives for dealing with temporal autocorrelation</u>
A half-life of two years for the decay function was chosen since it performed best in terms of log likelihood. Alternative half-lives of peace years (1 and 3 yrs respectively) generated the

following results: the results in table I is substantially the same, while in table II *Discriminated kin* and *Concentrated kin* are not significant

Alternative operationalizations of the kinship measure used in Table 1
A half-life of five years for the decay function was chosen since it performed best in terms of log likelihood. Alternative half-lives of peace years (1 and 3 yrs respectively) did not change the results.

Alternative risk periods
In the section "Data structure" above, I describe that cross-sections are kept for five years after the last year of active armed conflict. Ending the time-series one year or three years after the last year of active conflict generated the following results: the results in Table I do not substantially change, while *Concentrated ethnic kin* in Table II falls in significance.

Additional control variables
Adding military expenditure as an additional control (as described in footnote 30) generated the following: In Table I, *Military expenditure* significantly increases the risk of conflict in models 1 and 3, but does not change the impact of kinship. In Table II: *Military expenditure* significantly increases the risk of conflict and the kinship variables fall in significance. Note that the sample drops to 2,506.

Alternative sampling techniques
As detailed in "Data structure" above dyads are formed based on proximity, operationalized as being separated by a maximum of 950 km. Three other samples have been tested (1) dyads of direct neighbors, that share land borders (2) dyads separated by a maximum of 100 km and (3) dyads that are part of the same "neighborhood" as detailed by Black (2012). These alternative specifications generated the following results: no substantial differences in Table I, while *Discriminated kin*, *Concentrated kin*, and *Large kin* fall in significance in Table II.

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