

*Online Appendix*  
Introducing xSub:  
A New Portal for Cross-National Data on Sub-National Violence

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February 25, 2018

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# 1 Appendix A: xSub

## 1.1 Units of Analysis

**xSub** datasets are available at multiple levels of analysis, which users can customize to their needs. The spatio-temporal resolution of the panel data can thus range from macro-level (e.g. country-year) to meso-level (e.g. province-month) and micro-level (e.g. grid-week).

Spatial units:

- `country [adm0]`: country or national level
- `province [adm1]`: 1st order administrative division (e.g. U.S. state)
- `district [adm2]`: 2nd order administrative division (e.g. U.S. county)
- `grid cell [priogrid]`: 0.5 x 0.5 decimal degree regular grid (PRIO-GRID)
- `electoral constituency [clea]`: geographic units used by the Constituency-Level Elections Archive (CLEA)

Temporal units:

- `year`
- `month`
- `week`

Output datasets feature violent event counts and local demographic, geographic, ethnic and weather variables, aggregated to the user's preferred units. For example, if the user selects "Space: district" and "Time: week", the dataset will include repeated weekly observations for each district, with the total number of violent incidents at each time period (broken down by actor and tactics), and local average statistics for weather and other covariates.

## 1.2 Variables Included

**xSub** datasets include variables from two categories:

1. conflict and violence
2. local demographics, geography, ethnicity, weather

## 1.3 ID variables

The following variables identify spatial and temporal units, and can be used for merging and aggregation:

- `ID_0`: GADM country ID (numeric)
- `ISO`: ISO3 country ID (string)

- NAME\_0: country name (string)
- ID\_1: GADM province ID (numeric)
- NAME\_1: province name (string)
- ID\_2: GADM district ID (numeric)
- NAME\_2: district name (string)
- CLEA\_CST: electoral constituency ID / format is “A.B.C”, where A is the CLEA country code, B is the election year, C is the CLEA constituency number (string)
- CLEA\_CST\_N: name of electoral constituency (string)
- PRIO\_GID: PRIO-GRID cell ID (numeric)
- PRIO\_XCOORD: longitude of cell centroid (numeric)
- PRIO\_YCOORD: latitude of cell centroid (numeric)
- PRIO\_COL: PRIO-GRID column number (numeric)
- PRIO\_ROW: PRIO-GRID row number (numeric)
- YEAR: year (numeric)
- YRMO: year-month (YYYYMM) (numeric)
- WID: week ID (numeric)
- DATE: date (YYYYMMDD) (numeric)

### 1.3.1 Event counts: conflict and political violence

- INITIATOR variables:
  - INITIATOR\_SIDEA, INITIATOR\_SIDEB, INITIATOR\_SIDEDEC, INITIATOR\_SIDED
- TARGET variables:
  - TARGET\_SIDEA, TARGET\_SIDEB, TARGET\_SIDEDEC, TARGET\_SIDED
- ACTION variables:
  - ACTION\_ANY, ACTION\_IND, ACTION\_SEL, ACTION\_PRT
- INITIATOR\_ACTION variables:
  - SIDEA\_ANY, SIDEA\_IND, SIDEA\_SEL, SIDEA\_PRT
  - SIDEB\_ANY, SIDEB\_IND, SIDEB\_SEL, SIDEB\_PRT
  - SIDEDEC\_ANY, SIDEDEC\_IND, SIDEDEC\_SEL, SIDEDEC\_PRT

## INITIATOR, TARGET

- **SIDE\_A**: incumbent government, pro-govt militia, third party acting on incumbent's behalf
- **SIDE\_B**: rebels, anti-government militia, third party acting on rebels' behalf, and other armed groups directly challenging the government
- **SIDE\_C**: civilians
- **SIDE\_D**: local militia, tribe, other non-state actors *not* directly challenging the government

The **actor dictionary** specifies which factions belong to **SIDE\_A** . . . **SIDE\_D** for each conflict.

## ACTION

General categories

- **ANY**: any use of force
- **IND**: indiscriminate force. This category includes the following actions:
  - *airstrike* – air strike, strategic bombing, helicopter strike
  - *armor* – tank battle or assault
  - *artillery* – shelling by field artillery, howitzer, mortar (“mine-thrower”)
  - *bomb* – improvised explosive device, roadside bomb, landmine, car bomb
  - *chemical* – chemical weapons attack
  - *civilian abuse* – other civilian abuses
  - *displacement* – forcible population displacement
  - *raid* – assault/attack, followed by a retreat
  - *rocket* – shelling by artillery rockets like Grad/BM-21, Uragan/BM-27, other Multiple Launch Rocket System (MRLS)
  - *siege* – siege of a building, base or town
  - *storm* – storming of a building or base
  - *suicide* – suicide bombing
  - *terror* – terrorist attack, tactics unspecified
- **SEL**: selective force. This category includes the following actions:
  - *ambush* – surprise attack
  - *arrest* – arrest/detention
  - *firefight* – any exchange of gunfire with handguns, semi-automatic rifles, automatic rifles, machine guns, rocket-propelled grenades (RPGs)
  - *kidnap* – kidnapping or abduction
  - *killing* – assassination, execution, extrajudicial killing, other targeted killing

- *killing\_a* – attempted (unsuccessful) assassination, execution, extrajudicial killing, other targeted killing
- PRT: protest. This category includes the following actions:
  - *protest* – non-violence protest
  - *protest\_v* – violent protest
  - *riot* – violent public disturbance against property or people

While some sources contained information on the types of actions they covered, others were less precise. They either contained no precise explanation of the type of violence an initiator used against a target or provided rather extensive notes with the exact explanation of what happened. In the former case, we either coded such violence as **Any** or referred to the original article or the author. In the latter case, we used the detailed notes to categorize a specific event into one of the four action categories.

### 1.3.2 Local demographics, geography, ethnicity, weather

- POP\_1990: population per square kilometer, 1990 (GPW v3) (numeric)
- POP\_1995: population per square kilometer, 1995 (GPW v3) (numeric)
- POP\_2000: population per square kilometer, 2000 (GPW v3) (numeric)
- ELEV\_MEAN: average elevation, meters (ETOPO05) (numeric)
- ELEV\_SD: standard deviation of elevation, meters (ETOPO05) (numeric)
- ELEV\_MAX: maximum elevation, meters (ETOPO05) (numeric)
- OPEN\_TERRAIN: proportion of land covered by open terrain (shrublands, savannah, grasslands, barren or sparsely vegetated) (GLCC) (numeric)
- FOREST: proportion of land covered by evergreen, deciduous or mixed forest (GLCC) (numeric)
- WETLAND: proportion of land covered by wetlands or water bodies (GLCC) (numeric)
- FARMLAND: proportion of land covered by croplands (GLCC) (numeric)
- GREG\_NGROUPS: number of local ethnic groups (GREG) (numeric)
- GREG\_GROUPS: names of local ethnic groups (GREG) (string)
- WLMS\_NLANG: number of local languages (WLMS) (numeric)
- WLMS\_LANGS: names of local languages (WLMS) (string)
- NBUILTUP: number of built-up areas (GGIS) (numeric)
- BUILTUP: names of built-up areas (GGIS) (string)
- NPETRO: number of petroleum fields (PRIO) (numeric)

- PETRO: names of petroleum fields (PRIO) (string)
- DIST2PROVCAP: distance to nearest provincial capital, km (GGIS) (numeric)
- DIST2CAP: distance to national capital, km (GGIS) (numeric)
- ROAD\_XING: number of primary, secondary roads crossing border (DCW) (numeric)
- ROAD\_LENGTH: length of primary, secondary roads, km (DCW) (numeric)
- AREA\_KM2: area of spatial unit, km<sup>2</sup> (numeric)
- ROAD\_DENSITY: road density, km/km<sup>2</sup> (DCW) (numeric)
- TEMP: average temperature in Celsius (NOAA) (numeric)
- RAIN: average precipitation in millimeters (NOAA) (numeric)

## 1.4 GIS Compatibility

**xSub** datasets are designed for compatibility with Geographic Information Systems (GIS). Each file contains a spatial unit ID that can be used to merge the event data to GIS spatial geometry files, like ESRI polygon shapefiles (.shp), and R SpatialPolygons (.RData).

Spatial Unit	Type	Merge Variables	Link to GIS Files
country [adm0]	Global Administrative Areas	ID_0, NAME_0	gadm.org
province [adm1]	Global Administrative Areas	ID_1, NAME_2	gadm.org
district [adm2]	Global Administrative Areas	ID_2, NAME_2	gadm.org
grid [priogrid]	PRIO Grid	PRIO_GID, PRIO_COL, PRIO_ROW	grid.prio.org
constituency [clea]	CLEA polygons	CLEA_CST_N, CLEA_CST	electiondataarchive.org

## 1.5 How to Use **xSub**

**xSub** /cross-sub.org/ is a repository of micro-level, subnational event data on armed conflict and political violence around the world.

Through the online interface, users select:

1. a country and data source, in either order.
2. a unit of analysis
  - space: country / province / district / grid / electoral constituency
  - time: year / month / week

The website then generates a compressed archive with:

1. dataset
  - file format: comma-separated values delimited text file (.csv)
  - data structure: cross-sectional time-series

- number of observations:  $N \times T$ , where  $N$  is the number of spatial units (e.g. districts, grid cells), and  $T$  is the number of time units (e.g. months, weeks)
  - variables included: unit IDs, violence event counts (broken down by actors and tactics), covariates (local demographics, geography, ethnicity, weather)
2. map and time plot of violence
    - file format: portable network graphics (.png)
    - map: number of violent events per spatial units (darker shade = more violence)
    - time plot: number of violent events per time unit (higher bars = more violence)
  3. codebook
    - file format: portable document format (.pdf)
    - contents: information on variable names, data structure
  4. actor dictionary
    - file format: portable document format (.pdf)
    - contents: information on which specific actors are classified as “government,” “rebel,” and other categories in the file

## 1.6 Sources

The current **xSub** release features data on 139 countries from 21 sources, including

- American Bar Association / Darfur
- Armed Conflict Location and Event Data Project (ACLED)
- Beissinger / Protest
- Beissinger / Riot
- Beissinger / Ukraine
- Empirical Studies of Conflict Project (ESOC) / Afghanistan / WITS (2010 version)
- Empirical Studies of Conflict Project (ESOC) / Iraq / SIGACT (version 3)
- Empirical Studies of Conflict Project (ESOC) / Iraq / WITS (version 3)
- Empirical Studies of Conflict Project (ESOC) / Mexico / Drug-Related Murders (2006-2011)
- Empirical Studies of Conflict Project (ESOC) / Mexico / Homicides (1998-2011)
- Empirical Studies of Conflict Project (ESOC) / Pakistan / BFRS (2010 version)
- Empirical Studies of Conflict Project (ESOC) / Pakistan / WITS (2010 version)
- Ferwerda and Miller/France

- National Violence Monitoring System (NVMS) Indonesia
- Political Instability Task Force / Worldwide Atrocities Dataset (1995-2016)
- Social Conflict Analysis Database (SCAD) (1990-2015)
- UCDP / Georeferenced Event Dataset (version 17.2)
- Sullivan/Guatemala
- Zhukov / North Caucasus
- Zhukov / Chechnya
- Zhukov / Libya
- Zhukov / Ukraine

## 1.7 How to Cite

When using data from the **xSub** archive, please cite both the original data source you are using and the xSub project.

### Citation information for **xSub**

- Zhukov, Yuri M., Christian Davenport, and Nadiya Kostyuk. 2017. **xSub: Cross-National Data on Subnational Violence**. Produced and distributed by Ann Arbor, MI: Center for Political Studies, University of Michigan.

### Citation information for data sources featured in **xSub**

- American Bar Association / Darfur
  - Totten, Samuel. “The US Investigation into the Darfur Crisis and the US Government’s Determination of Genocide.” *Genocide Studies and Prevention* 1, no. 1 (2006): 57-78.
- Armed Conflict Location and Event Data Project (ACLED)
  - Raleigh, Clionadh, Andrew Linke, Håvard Hegre, and Joakim Karlsen. “Introducing ACLED: An armed conflict location and event dataset special data feature.” *Journal of Peace Research* 47, no. 5 (2010): 651-660.
- Beissinger / Protest
  - Beissinger, Mark R. *Nationalist mobilization and the collapse of the Soviet State*. Cambridge University Press, 2002.
- Beissinger / Riot
  - Beissinger, Mark R. *Nationalist mobilization and the collapse of the Soviet State*. Cambridge University Press, 2002.



- Beissinger / Ukraine
  - Beissinger, Mark R. *Nationalist mobilization and the collapse of the Soviet State*. Cambridge University Press, 2002.
- Empirical Studies of Conflict Project (ESOC) / Afghanistan / WITS
  - Wigle, John. “Introducing the worldwide incidents tracking system (WITS).” *Perspectives on Terrorism* 4, no. 1 (2010).
- Empirical Studies of Conflict Project (ESOC) / Iraq / SIGACT
  - Eli Berman, Jacob N. Shapiro, and Joseph H. Felter, “Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq,” *Journal of Political Economy* 119, no. 4 (August 2011).
- Empirical Studies of Conflict Project (ESOC) / Iraq / WITS
  - Wigle, John. “Introducing the worldwide incidents tracking system (WITS).” *Perspectives on Terrorism* 4, no. 1 (2010).
- Empirical Studies of Conflict Project (ESOC) / Mexico / Drug-Related Murders
  - Calderón, Gabriela, Gustavo Robles, Alberto Díaz-Cayeros, and Beatriz Magaloni. “The beheading of criminal organizations and the dynamics of violence in Mexico.” *Journal of Conflict Resolution* 59, no. 8 (2015): 1455-1485.
- Empirical Studies of Conflict Project (ESOC) / Pakistan / BFRS
  - de Mesquita, Bueno, Ethan C. Christine Fair, Jenna Jordan, Rasul Bakhsh Rais, and Jacob N. Shapiro. “The BFRS Political Violence in Pakistan Dataset.” (2013).
- Empirical Studies of Conflict Project (ESOC) / Pakistan / WITS
  - Wigle, John. “Introducing the worldwide incidents tracking system (WITS).” *Perspectives on Terrorism* 4, no. 1 (2010).
- Ferwerda and Miller/France
  - Ferwerda, Jeremy, and Nicholas L. Miller. “Political devolution and resistance to foreign rule: A natural experiment.” *American Political Science Review* 108, no. 03 (2014): 642-660.
- National Violence Monitoring System (NVMS) Indonesia
  - Barron, Patrick, Sana Jaffrey, and Ashutosh Varshney. “When Large Conflicts Subside: The Ebbs and Flows of Violence in Post-Suharto Indonesia.” *Journal of East Asian Studies* 16, no. 02 (2016): 191-217.
- Political Instability Task Force / Worldwide Atrocities Dataset
  - Schrodtt, Philip A. and Jay Ulfelder, “Political Instability Task Force Atrocities Event Data Collection,” Version 1.1b1 (September 12, 2016)

- Social Conflict Analysis Database (SCAD)
  - Salehyan, Idean, Cullen S. Hendrix, Jesse Hamner, Christina Case, Christopher Linebarger, Emily Stull, and Jennifer Williams. “Social conflict in Africa: A new database.” *International Interactions* 38, no. 4 (2012): 503-511.
- Sullivan/Guatemala
  - Sullivan, Christopher. “The (In)Effectiveness of Torture for Combating Insurgency.” *The Journal of Peace Research* 51, no. 3 (2014): 388-404.
- UCDP / Georeferenced Event Dataset
  - Sundberg, Ralph, and Erik Melander. “Introducing the UCDP Georeferenced Event Dataset.” *Journal of Peace Research* 50, no. 4 (2013): 523-532.
- Zhukov / North Caucasus
  - Toft, Monica Duffy, and Yuri M. Zhukov. “Islamists and nationalists: Rebel motivation and counterinsurgency in Russia’s North Caucasus.” *American Political Science Review* 109, no. 02 (2015): 222-238.
- Zhukov / Chechnya
  - Zhukov, Yuri M. *Theory of Indiscriminate Violence*. Ph.D. Dissertation, Harvard University (2014).
- Zhukov / Libya
  - Baum, Matthew A., and Yuri M. Zhukov. “Filtering revolution: Reporting bias in international newspaper coverage of the Libyan civil war.” *Journal of Peace Research* 52, no. 3 (2015): 384-400.
- Zhukov / Ukraine
  - Zhukov, Yuri M. “Trading hard hats for combat helmets: The economics of rebellion in eastern Ukraine.” *Journal of Comparative Economics* 44, no. 1 (2016): 1-15.

## 1.8 XSub Data in Detail

Table 1 provides information on each country included in **xSub**. It includes information on data sources, the number of reported violent events in each source, the time period covered, the actors included, and the most detailed spatio-temporal levels of analysis available.

Table 1: XSUB DATA IN DETAILS

<i>Page 1 of Table 1</i>								
<i>ID</i>	<i>Country</i>	<i>ISO3</i>	<i>Dates</i>	<i>EventNum</i>	<i>Actors</i>	<i>Spatial</i>	<i>Time</i>	<i>Source</i>
1	Afghanistan	AFG	1989-2014 1995-2015 2002-2009	18030 656 7846	G/R G/R G/R	M M M	D D D	UCDP_GED PITF ESOC_WITS
2	Albania	ALB	1996-1999	3	G/R	M	D	PITF
3	Algeria	DZA	1990-2015 1990-2014 1995-2015 1997-2016	366 4022 360 4352	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
4	Angola	AGO	1975-2015 1989-2014 1995-2016 1997-2016	129 1918 84 3070	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
5	Argentina	ARG	1992-1992	1	G/R	M	D	UCDP_GED
6	Armenia	ARM	2000-2015	2	G/R	M	D	PITF
7	Bahamas	BHS	2014-2014	1	G/R	M	D	PITF
8	Bahrain	BHR	1996-2014 2011-2011	3 24	G/R G/R	M M	D D	PITF UCDP_GED
9	Bangladesh	BGD	1989-2014 1995-2016 2015-2016	495 72 2137	G/R G/R G/R	M M M	D D D	UCDP_GED PITF ACLED
10	Barbados	BRB	2010-2010	1	G/R	M	D	PITF
11	Belarus	BLR	2011-2011	1	G/R	M	D	PITF
12	Belgium	BEL	2016-2016	1	G/R	M	D	PITF
13	Belize	BLZ	2000-2014	2	G/R	M	D	PITF
14	Benin	BEN	1990-2014 1997-2016	84 137	G/R G/R	M M	D D	SCAD ACLED
15	Bhutan	BTN	1997-2004	2	G/R	M	D	UCDP_GED
16	Bolivia	BOL	2000-2016	9	G/R	M	D	PITF
17	Bosnia & Herzegovina	BIH	1995-2008	31	G/R	M	D	PITF
18	Botswana	BWA	1990-1990 1991-2012 1997-2016	1 17 49	G/R G/R G/R	M M M	D D D	UCDP_GED SCAD ACLED
19	Brazil	BRA	1995-2016	75	G/R	M	D	PITF
20	Bulgaria	BGR	2005-2012	2	G/R	M	D	PITF
21	Burkina Faso	BFA	1991-2015 1997-2016 2002-2016	107 619 4	G/R G/R G/R	M M M	D D D	SCAD ACLED PITF
22	Burundi	BDI	1990-2014 1991-2015 1995-2016 1997-2016	1390 277 258 6727	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD PITF ACLED
23	Cambodia	KHM	1989-2012 1995-2016 2015-2016	551 25 301	G/R G/R G/R	M M M	D D D	UCDP_GED PITF ACLED
24	Cameroon	CMR	1990-2015 1990-2014 1997-2016 2004-2015	210 86 668 27	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED ACLED PITF

*Spatial*: municipality (M), province (P), district (D); *Time*: Day (D), week (W), year (Y), conflict (C);

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<i>Page 2 of Table 1</i>								
<i>ID</i>	<i>Country</i>	<i>ISO3</i>	<i>Dates</i>	<i>EventNum</i>	<i>Actors</i>	<i>Spatial</i>	<i>Time</i>	<i>Source</i>
25	Central African Republic	CAF	1990-2015	332	G/R	M	D	SCAD
			1991-2014	751	G/R	M	D	UCDP_GED
			1997-2016	3446	G/R	M	D	ACLED
			1997-2016	81	G/R	M	D	PITF
26	Chad	TCD	1989-2015	91	G/R	M	D	SCAD
			1989-2014	300	G/R	M	D	UCDP_GED
			1997-2016	667	G/R	M	D	ACLED
			1997-2016	27	G/R	M	D	PITF
27	China	CHN	1989-2009	35	G/R	M	D	UCDP_GED
			1996-2016	67	G/R	M	D	PITF
28	Colombia	COL	1995-2016	322	G/R	M	D	PITF
29	Comoros	COM	1989-1998	7	G/R	M	D	UCDP_GED
			1998-1998	1	G/R	M	D	PITF
30	Congo	COG	1991-2015	48	G/R	M	D	SCAD
			1992-2012	219	G/R	M	D	UCDP_GED
			1997-2016	14	G/R	M	D	PITF
			1997-2016	416	G/R	M	D	ACLED
31	Congo, the Democratic Republic of the	COD	1989-2014	2610	G/R	M	D	UCDP_GED
			1990-2015	617	G/R	M	D	SCAD
			1995-2016	255	G/R	M	D	PITF
			1997-2016	10778	G/R	M	D	ACLED
32	Costa Rica	CRI	1993-2013	35	G/R	M	D	SCAD
33	Cote d'Ivoire	CIV	1990-2015	362	G/R	M	D	SCAD
			1990-2013	269	G/R	M	D	UCDP_GED
			1992-2014	56	G/R	M	D	GTD
			1995-2016	73	G/R	M	D	PITF
			1997-2016	1642	G/R	M	D	ACLED
34	Croatia	HRV	1995-1995	3	G/R	M	D	PITF
35	Cuba	CUB	1990-2012	266	G/R	M	D	SCAD
			2002-2002	1	G/R	M	D	PITF
36	Djibouti	DJI	1989-2014	47	G/R	M	D	UCDP_GED
			1997-2016	106	G/R	M	D	ACLED
37	Dominican Republic	DOM	1990-2013	210	G/R	M	D	SCAD
			1998-2015	6	G/R	M	D	PITF
38	Ecuador	ECU	2000-2014	3	G/R	M	D	PITF
39	Egypt	EGY	1990-2015	1838	G/R	M	D	SCAD
			1990-2014	479	G/R	M	D	UCDP_GED
			1995-2016	72	G/R	M	D	PITF
			1997-2016	8152	G/R	M	D	ACLED
40	El Salvador	SLV	1992-2013	115	G/R	M	D	SCAD
			1996-2016	13	G/R	M	D	PITF
41	Equatorial Guinea	GNQ	1997-2016	42	G/R	M	D	ACLED
42	Eritrea	ERI	1993-2013	19	G/R	M	D	SCAD
			1993-2003	42	G/R	M	D	UCDP_GED
			1996-2004	6	G/R	M	D	PITF
			1997-2016	402	G/R	M	D	ACLED
43	Ethiopia	ETH	1964-2015	141	G/R	M	D	SCAD
			1989-2014	1611	G/R	M	D	UCDP_GED
			1995-2016	59	G/R	M	D	PITF
			1997-2016	1997	G/R	M	D	ACLED
44	Finland	FIN	2002-2002	1	G/R	M	D	PITF
45	France	FRA	1942-1944	1429	G/R	D	M	FerwerdaMiller
			1992-2012	4	G/R	M	D	UCDP_GED
			1995-2016	11	G/R	M	D	PITF
46	Gabon	GAB	1990-2015	89	G/R	M	D	SCAD
			1997-2016	167	G/R	M	D	ACLED
			2009-2009	1	G/R	M	D	PITF
47	Gambia	GMB	1994-2053	18	G/R	M	D	SCAD
			1997-2016	140	G/R	M	D	ACLED
			2000-2016	2	G/R	M	D	PITF

*Spatial*: municipality (M), province (P), district (D); *Time*: Day (D), week (W), year (Y), conflict (C);

*Continued on next page*

<i>Page 3 of Table 1</i>								
<i>ID</i>	<i>Country</i>	<i>ISO3</i>	<i>Dates</i>	<i>EventNum</i>	<i>Actors</i>	<i>Spatial</i>	<i>Time</i>	<i>Source</i>
48	Georgia	GEO	2000-2008	2	G/R	M	D	PITF
49	Germany	DEU	1992-1992 2000-2016	1 4	G/R G/R	M M	D D	UCDP_GED PITF
50	Ghana	GHA	1991-2015 1991-2010 1995-2016 1997-2016	108 38 6 491	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
51	Greece	GRC	2013-2013	1	G/R	M	D	PITF
52	Guatemala	GTM	1977-1994 1990-2013 1995-2016	69681 315 37	G/R G/R G/R	M M M	M D D	Sullivan SCAD PITF
53	Guinea	GIN	1991-2015 1994-2013 1996-2016 1997-2016	165 73 19 805	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
54	Guinea-Bissau	GNB	1992-2000 1995-2014 1997-2016 1998-2014	22 69 216 4	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD ACLED PITF
55	Guyana	GUY	2003-2016	5	G/R	M	D	PITF
56	Haiti	HTI	1990-2013 1997-2014	1268 24	G/R G/R	M M	D D	SCAD PITF
57	Honduras	HND	1990-2013 2000-2016	186 31	G/R G/R	M M	D D	SCAD PITF
58	India	IND	1989-2014 1995-2016 2016-2016	13688 507 29576	G/R G/R G/R	M M M	D D D	UCDP_GED PITF ACLED
59	Indonesia	IDN	1989-2011 1995-2016 1997-2015	1683 97 217834	G/R G/R G/R	M M M	D D C	UCDP_GED PITF NVMS
60	Iran, Islamic Republic	IRN	1990-2014 1995-2016	218 29	G/R G/R	M M	D D	UCDP_GED PITF
61	Iraq	IRQ	1990-2014 1995-2016 2003-2015 2004-2009 2004-2010	5081 2079 29191 27456 25490	G/R G/R G/R G/R G/R	M M M D M	D D D WEEK D	UCDP_GED PITF Zhukov ESOC_SIGACT ESOC_WITS
62	Israel	ISR	1989-2014 1995-2014	2671 152	G/R G/R	M M	D D	UCDP_GED PITF
63	Italy	ITA	1993-1993 1995-2010	1 6	G/R G/R	M M	D D	UCDP_GED PITF
64	Jamaica	JAM	1992-2013 2000-2010	264 11	G/R G/R	M M	D D	SCAD PITF
65	Japan	JPN	1995-2016	2	G/R	M	D	PITF
66	Jordan	JOR	1992-2005 1997-2016	2 5	G/R G/R	M M	D D	UCDP_GED PITF
67	Kazakhstan	KAZ	2012-2015	2	G/R	M	D	PITF
68	Kenya	KEN	1989-2014 1990-2015 1995-2016 1997-2016	640 700 187 5311	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD PITF ACLED
69	Korea, Republic of	KOR	1996-1996	1	G/R	M	D	PITF
70	Kuwait	KWT	1990-1996 2005-2015	39 2	G/R G/R	M M	D D	UCDP_GED PITF
71	Kyrgyzstan	KGZ	1999-2010 2002-2010	46 4	G/R G/R	M M	D D	UCDP_GED PITF
72	Lao People's Democratic Republic	LAO	1989-2006 2003-2006 2015-2016	24 5 14	G/R G/R G/R	M M M	D D D	UCDP_GED PITF ACLED
73	Lebanon	LBN	1989-2014	986	G/R	M	D	UCDP_GED

*Spatial*: municipality (M), province (P), district (D); *Time*: Day (D), week (W), year (Y), conflict (C);

*Continued on next page*

<i>Page 4 of Table 1</i>								
<i>ID</i>	<i>Country</i>	<i>ISO3</i>	<i>Dates</i>	<i>EventNum</i>	<i>Actors</i>	<i>Spatial</i>	<i>Time</i>	<i>Source</i>
			1996-2016	88	G/R	M	D	PITF
74	Lesotho	LSO	1991-2015	67	G/R	M	D	SCAD
			1997-2016	114	G/R	M	D	ACLED
			1998-1998	4	G/R	M	D	UCDP_GED
			2002-2002	1	G/R	M	D	PITF
75	Liberia	LBR	1989-2015	132	G/R	M	D	SCAD
			1989-2003	548	G/R	M	D	UCDP_GED
			1995-2015	28	G/R	M	D	PITF
			1997-2016	1268	G/R	M	D	ACLED
76	Libya	LYB	1990-2015	737	G/R	M	D	SCAD
			1997-2016	5181	G/R	M	D	ACLED
			2006-2016	126	G/R	M	D	PITF
			2011-2014	329	G/R	M	D	UCDP_GED
			2011-2011	1510	G/R	M	D	Zhukov
77	Lithuania	LTU	1998-2013	2	G/R	M	D	PITF
78	Macedonia	MKD	2001-2001	3	G/R	M	D	PITF
79	Madagascar	MDG	1990-2015	104	G/R	M	D	SCAD
			1997-2016	875	G/R	M	D	ACLED
			2002-2012	42	G/R	M	D	UCDP_GED
			2009-2014	4	G/R	M	D	PITF
80	Malawi	MWI	1990-2015	152	G/R	M	D	SCAD
			1997-2016	341	G/R	M	D	ACLED
			2011-2015	3	G/R	M	D	PITF
81	Malaysia	MYS	2007-2014	2	G/R	M	D	PITF
			2013-2013	14	G/R	M	D	UCDP_GED
82	Mali	MLI	1990-2014	254	G/R	M	D	UCDP_GED
			1990-2015	436	G/R	M	D	SCAD
			1997-2016	1310	G/R	M	D	ACLED
			1999-2016	26	G/R	M	D	PITF
83	Malta	MLT	1995-1995	1	G/R	M	D	UCDP_GED
84	Mauritania	MRT	1989-2012	29	G/R	M	D	UCDP_GED
			1990-2015	117	G/R	M	D	SCAD
			1997-2016	422	G/R	M	D	ACLED
			2003-2003	1	G/R	M	D	PITF
85	Mauritius	MUS	1999-2015	9	G/R	M	D	SCAD
86	Mexico	MEX	1989-2013	1737	G/R	M	D	SCAD
			1995-2016	233	G/R	M	D	PITF
			1998-2011	34398		M	Y	ESOC_NSHI
87	Moldova	MDA	2006-2006	1	G/R	M	D	PITF
88	Morocco	MAR	1989-2003	10	G/R	M	D	UCDP_GED
			1990-2015	211	G/R	M	D	SCAD
			1997-2016	1112	G/R	M	D	ACLED
			2003-2011	3	G/R	M	D	PITF
89	Mozambique	MOZ	1977-2015	112	G/R	M	D	SCAD
			1989-2014	287	G/R	M	D	UCDP_GED
			1997-2016	741	G/R	M	D	ACLED
			2003-2016	10	G/R	M	D	PITF
90	Myanmar	MMR	1989-2014	2198	G/R	M	D	UCDP_GED
			1995-2015	32	G/R	M	D	PITF
			2015-2016	778	G/R	M	D	ACLED
91	Namibia	NAM	1989-2002	22	G/R	M	D	UCDP_GED
			1992-2014	32	G/R	M	D	SCAD
			1997-2016	694	G/R	M	D	ACLED
			2000-2014	3	G/R	M	D	PITF
92	Nepal	NPL	1990-2009	5652	G/R	M	D	UCDP_GED
			1996-2008	26	G/R	M	D	PITF
			2015-2016	1115	G/R	M	D	ACLED
93	Netherlands	NLD	1997-2014	4	G/R	M	D	PITF
94	Nicaragua	NIC	1990-2013	151	G/R	M	D	SCAD
			2000-2014	4	G/R	M	D	PITF
<i>Spatial</i> : municipality (M), province (P), district (D); <i>Time</i> : Day (D), week (W), year (Y), conflict (C);								
<i>Continued on next page</i>								

<i>Page 5 of Table 1</i>								
<i>ID</i>	<i>Country</i>	<i>ISO3</i>	<i>Dates</i>	<i>EventNum</i>	<i>Actors</i>	<i>Spatial</i>	<i>Time</i>	<i>Source</i>
95	Niger	NER	1989-2013 1990-2015 1995-2016 1997-2016	97 265 19 534	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD PITF ACLED
96	Nigeria	NGA	1990-2013 1990-2014 1995-2016 1997-2016	1492 2078 1002 9998	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
97	Norway	NOR	2011-2011	1	G/R	M	D	PITF
98	Oman	OMN	2011-2011	1	G/R	M	D	PITF
99	Pakistan	PAK	1988-2011 1989-2014 1995-2016 2015-2016 2004-2009	29969 5114 742 2842 5601	G/R G/R G/R G/R G/R	M M M M M	D D D D D	ESOC_BFRS UCDP_GED PITF ACLED ESOC_WITS
100	Palestine, State of	PSE	2012-2012	1	G/R	M	D	PITF
101	Panama	PAN	1990-2013	90	G/R	M	D	SCAD
102	Papua New Guinea	PNG	1989-2012 1996-2016	117 7	G/R G/R	M M	D D	UCDP_GED PITF
103	Peru	PER	1996-2014	15	G/R	M	D	PITF
104	Philippines	PHL	1989-2014 1995-2016	2760 136	G/R G/R	M M	D D	UCDP_GED PITF
105	Poland	POL	1998-1998	1	G/R	M	D	PITF
106	Portugal	PRT	2000-2000	1	G/R	M	D	PITF
107	Puerto Rico	PRI	2009-2009	1	G/R	M	D	PITF
108	Russian Federation	RUS	1991-1996 1994-2016 2000-2012	13298 124 63673	G/R G/R G/R	M M M	D D D	Zhukov PITF Zhukov
109	Rwanda	RWA	1990-2013 1990-2013 1994-2009 1995-2001 1997-2016	106 495 885 89 621	G/R G/R G/R G/R G/R	M M M M M	D D D D D	SCAD UCDP_GED Davenport PITF ACLED
110	Saudi Arabia	SAU	1991-2007 1995-2016	16 13	G/R G/R	M M	D D	UCDP_GED PITF
111	Senegal	SEN	1989-2013 1990-2015 1995-2014 1997-2016	305 192 18 1013	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD PITF ACLED
112	Serbia	SRB	1998-2004	52	G/R	M	D	PITF
113	Sierra Leone	SLE	1990-2015 1991-2002 1995-2007 1997-2016	129 1466 33 4625	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
114	Slovakia	SVK	1999-2010	2	G/R	M	D	PITF
115	Solomon Islands	SLB	2002-2003 1992-1992	3 1	G/R G/R	M M	D D	PITF UCDP_GED
116	Somalia	SOM	1986-2016 1989-2014 1995-2016 1997-2016	716 3400 532 21538	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
117	South Africa	ZAF	1989-2010 1990-2015 1995-2016 1997-2016	2781 1258 75 48845	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD PITF ACLED
118	South Sudan	SSD	2011-2016 2011-2016 2011-2015 2011-2014	3460 60 117 305	G/R G/R G/R G/R	M M M M	D D D D	ACLED PITF SCAD UCDP_GED
119	Spain	ESP	1995-2004	3	G/R	M	D	PITF

*Spatial*: municipality (M), province (P), district (D); *Time*: Day (D), week (W), year (Y), conflict (C);

*Continued on next page*

<i>Page 6 of Table 1</i>								
<i>ID</i>	<i>Country</i>	<i>ISO3</i>	<i>Dates</i>	<i>EventNum</i>	<i>Actors</i>	<i>Spatial</i>	<i>Time</i>	<i>Source</i>
120	Sri Lanka	LKA	1989-2013 1995-2016 2015-2016	4575 158 438	G/R G/R G/R	M M M	D D D	UCDP_GED PITF ACLED
121	Sudan	SDN	1983-2015 1989-2014 1995-2016 1997-2016	563 2345 318 10150	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
122	Swaziland	SWZ	1989-1989 1990-2014 1996-1996 1997-2016	2 94 1 191	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD PITF ACLED
123	Switzerland	CHE	2001-2001	1	G/R	M	D	PITF
124	Syrian Arab Republic	SYR	1996-2016 2004-2014 2011-2015	2329 408 13730	G/R G/R G/R	M M M	D D D	PITF UCDP_GED Zhukov
125	Tajikistan	TJK	1995-2000	9	G/R	M	D	PITF
126	Tanzania	TZA	1992-2013 1990-2015 1992-2007 1995-2016 1997-2016	286 114 12 11 687	G/R G/R G/R G/R G/R	M M M M M	D D D D D	UCDP_GED SCAD UCDP_GED PITF ACLED
127	Thailand	THA	1989-2014 1995-2016 2015-2016	2495 44 504	G/R G/R G/R	M M M	D D D	UCDP_GED PITF ACLED
128	Timor-Leste	TLS	2006-2006	2	G/R	M	D	PITF
129	Togo	TGO	1990-2015 1991-2005 1997-2016 1998-2005	126 106 230 3	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED ACLED PITF
130	Trinidad and Tobago	TTO	1995-2013 1995-2012	3 43	G/R G/R	M M	D D	PITF SCAD
131	Tunisia	TUN	1991-2015 1997-2016 2011-2016	323 3110 8	G/R G/R G/R	M M M	D D D	SCAD ACLED PITF
132	Turkey	TUR	1989-2014 1992-2016	4233 73	G/R G/R	M M	D D	UCDP_GED PITF
133	Uganda	UGA	1978-2013 1989-2014 1995-2016 1997-2016	107 1666 160 4871	G/R G/R G/R G/R	M M M M	D D D D	SCAD UCDP_GED PITF ACLED
134	Ukraine	UKR	1996-2016 2014-2016	68 26289	G/R G/R	M M	D D	PITF Zhukov
135	United Arab Emirates	ARE	2010-2010	1	G/R	M	D	UCDP_GED
136	United Kingdom	GBR	1968-1998 1997-2016 2005-2005	7 1	G/R G/R G/R	M M M	D D D	Davenport PITF UCDP_GED
137	United States	USA	2001-2009	2	G/R	M	D	UCDP_GED
138	Uzbekistan	UZB	1999-2005 1999-2009	4 32	G/R G/R	M M	D D	PITF UCDP_GED
139	Venezuela	VEN	1996-2016	27	G/R	M	D	PITF
140	Viet Nam	VNM	1997-2013 2015-2016	4 96	G/R G/R	M M	D D	PITF ACLED
141	Western Sahara	ESH	1999-1999	1	G/R	M	D	PITF
142	Yemen	YEM	1998-2016 1994-2014	217 1001	G/R G/R	M M	D D	PITF UCDP_GED
143	Zambia	ZMB	1989-2001 1990-2015 1997-2016 2001-2012	12 158 1135 6	G/R G/R G/R G/R	M M M M	D D D D	UCDP_GED SCAD ACLED PITF

*Spatial*: municipality (M), province (P), district (D); *Time*: Day (D), week (W), year (Y), conflict (C);

*Continued on next page*



<i>Page 7 of Table 1</i>								
<i>ID</i>	<i>Country</i>	<i>ISO3</i>	<i>Dates</i>	<i>EventNum</i>	<i>Actors</i>	<i>Spatial</i>	<i>Time</i>	<i>Source</i>
195	Zimbabwe	ZWE	1989-2012	56	G/R	M	D	UCDP_GED
			1990-2015	489	G/R	M	D	SCAD
			1997-2016	5600	G/R	M	D	ACLED
			2002-2013	2	G/R	M	D	PITF
<i>Spatial:</i> municipality (M), province (P), district (D); <i>Time:</i> Day (D), week (W), year (Y), conflict (C).								

## 2 Appendix B: Literature review in details

### 2.1 Past sub-national studies

Table 2: QUANTITATIVE AND QUALITATIVE STUDIES OF CONFLICT

Page 1 of Table 2								
<b>Climate Variability (28)</b>								
<i>Study</i>	<i>Sample Period</i>	<i>Sample Region(s)/country(ies)</i>	<i>Time Unit</i>	<i>Spatial Unit</i>	<i>Actor(s)</i>	<i>Violence by Actor(s)</i>	<i>Preexisting Data</i>	<i>Level of Analysis</i>
2012 AdanoEtAl	1929-2010	Kenya	Y	C	G,R	V,V	N	
2008 Benjaminsen		Mali	Y	P	G, R	V,V	N	
2012 BenjaminsenEtAl	1992-2009	Mali	Y	P	G,R	V,V	N	
2012 BergholtLujala	1981-2007	MN	Y	C	G,R	V,V	Y	MC
2010 BohlkenSergenti	1982-1995	India	Y	P	G,R	V,V	N	
2010 Buhaug	1960-2005	Africa	Y	C	G,R	V,V	Y	MCD
2012 ButlerGates		East Africa		C	R	V	N	MC
2016 CarusoPetrarcaRicciuti	1993-2003	Indonesia	M	D	G,R	V,V	Y	
2015 CrostEtAl	2001-2009	Philippines	Y	P	G,R	V,V	Y	
2016 Detges	1990-2010	Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC
2012 DevittTol		Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC
2014 HammondWeidmann	1997-2008	Africa	M	G	G,R,Pr	V,V,V	Y	MD
2012 HeikkilaEtAl	1880-1920	US	Y	P	O	B	N	
2012 HendrixSalehyan	1990-2009	Africa	M	C	G,R,Pr	B,B,B	Y	MC
2017 JonesEtAl	1991-2011	Africa	M	C	G,R	V,V	Y	MC
2012 KoubiEtAl	1980-2004	Global	Y	C	G,R	V,V	Y	MC
2014 Landis	1979-2010	MN	M	C	G,R	V,V	Y	MC
2011 LinkeRaleigh	1975-2006	Somalia	D	M	G,R,Pr	V,V,V	Y	
2015 MaystadtCalderoneYou	1997-2009	Sudan	S	G	G,R,Pr	V,V,V	Y	MC
2015 NardulliEtAl	1981-2004	MN	M	C	R,Pr	B,B	Y	MC
2014 OLoughlinLinkeWitmer	1960-2005	Africa	Y	C	G,R	V,V	Y	MCD
2012 OLoughlinWitmerLinkeEtAl	1990-2009	East Africa	M	G	G,R,Pr	V,V,V	Y	MC
2012 RaleighKniveton	1997-2009	East Africa	M	G	G,R	V,V	Y	MC
2014 RaleighLinkeOLoughlin		Africa		C	G,R	V,V	Y	
2012 Slettebak	1950-2010	Global	Y	C	G,R	V,V	Y	MC
2012 Theisen	1989-2004	Kenya	Y	G	G,R,Pr	V,V,V	N	
2017 WitmerEtAl	1980-2012	Sub-Saharan Africa	M	G	G,R	V,V	Y	MCD
2015 Yeeles	1960-2006	MN	M	T	G,Pr	B,B	Y	MC
<b>Conflict Specifics (35)</b>								
2009 BasedauLay	1990-2005	MN	Y	C	G,Pr	V,V	Y	MC
2014 BesleyReynal-Querol	1400-1700, 1997-2010	Africa	D	G	G,R	V,V	B	MD
2017 BlairBlattmanHartman	2008,2010	Liberia	Y	T	G,R	V,V	N	
2006 BuhaugRod	1970-2001	Africa	D	G	G,R,Pr	V,V,V	Y	MC
2010 CedermanHugKrebs	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2017 ChaudoinEtAl	1960-2008	MN	Y	C	G,R	V,V	Y	MC
2017 ChibaGleditsch	1996-2012	MN	M	C	G,R	V,V	Y	MCD
2012 CollierDuponchel	1991-2002	Sierra Leone	Y	D	G,R	V,V	Y	
2010 CunninghamD	1945-2004	MN	Y	C	G,R	V,V	Y	MC
2013 CunninghamK	1960-2005	MN	Y	C	G,R	V,V	Y	MC
2012 Daly	1964-1984	Colombia	M	M	R	V	N	
2017 DaxeckerPrins	1993-2010	MN	M	G	G,R	V,V	Y	MC
2009 DeLaLuzInclan	1994-2003	Mexico	D	M	G,Pr	B,B	N	
2010 DeSoysaFjelde	1970-2005	MN	Y	C	G,R	V,V	Y	MC
2010 Escriba-Folch	1959-1999	MN	Y	C	G,R	V,V	Y	MC
2009 HegreEtAl	1989-2002	Liberia	D	G	G,R	V,V	Y	MC
2009 JohnsonBraithwaite	2005	Iraq	W	G	G,R	V, V	Y	
2006 Lacina	1946-2002	MN	Y	C	G,R	V,V	Y	MC
2010 Lujala	1946-2003	MN	Y	C	G,R	V,V	Y	MC
2009 Lujala	1946-2002	MN	Y	C	G,R	V,V	Y	MC
2011 MageeMassoud	1950-2004	MN	Y	C	G,R	V,V	Y	MC
2011 Olzak	1984-2002	MN	Y	C	G,R	V,V	Y	MC
2008 Ostby	1986-2004	Global	Y	C	G,R	V,V	Y	MC
2015 Raleigh	1997-2013	Africa	D	T	G,R,Pr	V,V,V	Y	MC
2009 RaleighHegre	1960-2004	Africa	Y	G	G,R	V,V	Y	MC
2015 Ruhe	1993-2004	Africa	M	C	G,R	V,V	Y	MCD
2012 RustadBinningsb�y	1946-2006	MN	Y	G	G,R	V,V	Y	MC
2013 Salverda	1989-2003	MN	Y	C	G,R	B,V	Y	MC
2013 ShortlandEtAl	1993-2009	Somalia	Y	T	G,R	V,V	Y	
2007 TadjoeddinMurshed	1994-2003	Indonesia	Y	D	G,R	V,V	N	
2012 Verpoorten	1994	Rwanda	D	CM	G,R	V,V	Y	
2014 WallaceEtAl	2006	US	D	ST	Pr	NV	N	
2010 WardGreenhillBakke	1960-2005	MN	Y	C	G,R	V,V	Y	MC
2010 WeidmannWard	1992-1995	Bosnia	M	M	G,R,Pr	V,V,V	Y	MD
2017 WitmerEtAl	1980-2012	Sub-Saharan Africa	M	G	G,R	V,V	Y	MCD
<b>Data Quality (7)</b>								
2008 AshworthEtAl	1980-2001	MN	Y	C	G,R	V,V	Y	
2012 Eck	1997-2016, 1989-2014	Africa	D	M	G,R,Pr	V,V,V	Y	MD
2014 HammondWeidmann	1997-2016, 1989-2014, 1979-2014	Global	D	M	G,R,Pr	V,V,V	Y	
2015 Kennedy	1995-2013	MN	Y	C	G,R	V,V	Y	MC

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B - both; *Preexisting Data:* Y=yes, N=no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets

Continued on next page

								Page 2 of Table 2	
Study	Sample Period	Sample Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis	
<b>Data Quality (7)</b>									
2015 Kreutz	1946-2012	MN	Y	C	G,R	V,V	Y	MC	
2008 Theisen	1945-2007	MN	Y	C	G,R	V,V	Y	MC	
2013 WardBegerCutlerEtAl	1979-2013, 2007-2013	Global	D	M	G,R,Pr	B,B,B	Y		
<b>Diffusion (32)</b>									
2016 Barcells Daniels Escriba-Folch	2005-2012	Northern Ireland	Y	D	G,R	V,V	N		
2010 Braithwaite	1960-2001	DRC	Y	N	G,R	V,V	N		
2015 Braithwaite Braithwaite Kucik	1946-2006	MENA	Y	C	G,Pr	B, NV	Y	MC	
2011 Braun	2001-2003	Netherlands	D	M	G,Pr	V,V	N		
2015 CalderonEtAl	2006-2011	Mexico	M	M	O	V	Y		
2012 Cunningham Bakke Seymour	1960-2008	MN	Y	GR	R	V	N	MC	
2014 DannemanRitter	1981-2004	Global	Y	C	G,R	V,V	Y	MC	
2012 FjeldeNilsson	1989-2007	Global	Y	GR	R	V	Y	MC	
2008 Forsberg	1989-2004	Global	Y	C	G,R	V,V	Y	MC	
2007 Gleditsch		MN	Y	C	G,R	V,V	Y	MC	
2017 HegreEtAl	1950-2014	MN	Y	C	G,R	V,V	Y	MC	
2014 HultmanEtAl	1992-2011	Africa	M	C	G,R	V,V	Y	MC	
2012 Inclan	1994-2003	Mexico	M	M	G,Pr	B,B	N		
2014 JenkinsMaherFahrer	1986-1999	Egypt	Y	D	G,Pr	V,V	N		
2014 KlasnjaNovta	1980-2000, 1992-1995	India, Bosnia	Y	D,M	G,R	V,V	Y	MC	
2011 Kolas		India	Y	P	G,R	V,V	N		
2016 Linebarger	1968-2001	MN	Y	C	G,R	V,V	Y	MC	
2015 LinkeSchutteBuhaug	2000-2009	Sub-Saharan Africa	Y	D	G,R,Pr	V,V,V	Y	MC	
2013 McDoom	1994	Rwanda	D	N	G,R	V,V	N		
2011 OLoughlin Holland Witmer	1999-2011	Russia/Caucasus	D	D	G,R	V,V	N		
2011 OLoughlinWitmer	1999-2007	Russia/Caucasus	D	D	G,R	V,V	N		
2012 OLoughlinWitmer	1999-2010	Russia/Caucasus	D	D	G,R	V,V	N		
2015 Osorio	2000-2010	Mexico	D	M	O	V	N		
2015 Nakao		MN	C		G,R	V,V	N	MC	
2006 SalehyanGleditsch	1951-2001	Global	Y	C	G,R	V,V	Y	MC	
2011 SchutteWeidmann	1992-1995, 1998-1999, 1993-2003, 1994	Bosnia, Kosovo, Burundi, Rwanda	D	G	G,R,Pr	V,V,V	Y	MC	
2016 Shesterinina	2010-2013	Georgia	P		G,R	V,V	N		
2017 Steinert-Threlkeld	2010-2011	MENA	D	C	G,Pr	V,V	B	MD	
2012 ToftZhukov	2000-2008	Russia/Caucasus	M	P	G,R	V,V	N		
2015 Weidmann	1996-2007	Global	Y	C	G,R	V,V	Y	MCD	
2012 Zhukov	2000-2008	Russia/Caucasus	M	M	G,R	V,V	N		
2013 Zhukov	1943-1950	Ukraine	M	D	G,R	V,V	N		
<b>Displacement (17)</b>									
2012 Adhikari	1996-2004	Nepal	Y	D	G,R	V,V	Y		
2013 Adhikari		Nepal	Y	C					
2014 BarryEtAl	1981-2007	MN	Y	C	G,Pr	NV,NV	Y	MC	
2015 BhavnaniLacina	1991-2001	India	Y	S	G,Pr	V,V	N		
2016 Belge	1982-1987	Turkey	M	D	G,R	V,V	N		
2011 BohraMishraMassey	1996-2006	Nepal	M	D	G,R	V,V	Y	MD	
2009 CzaikaKisKatos	1999-2002	Indonesia	Y	T	G,R	V,V	Y		
2014 GilliganEtAl	2009-2010	Nepal	D	D			N		
2011 HendrixGlaser	1952-2004	MN	Y	C	G,R	V,V	Y	MC	
2014 MillerRitter	1981-2008	MN	Y	C	G,R	V,V	Y	MC	
2008 OLoughlin Tuathail Kolossov	1992	Russia/Caucasus	Y	T	G,R	V,V	Y		
2007 ShellmanStewart	1994-2004	Haiti	W	C			Y	MD	
2007a ShellmanStewart	1990-2004	Haiti	W	C	O	V	Y		
2007 Steele	1990-2006	Colombia	Y	D	G,R	V,V	N		
2009 Steele		Colombia	Y	H	G,R	V,V			
2011 Steele	1991-1998	Colombia	Y	D	O	V	N		
2014 Zhukov	1943-1955	Ukraine	Y	D	O	V	N		
<b>Economic shocks (31)</b>									
2008 AngristKugler	1990-2000	Colombia	Y	D			Y		
2011 BermanCallenFelterEtAl	2004-2007, 2008-2009, 1997-2006	Iraq, Afghanistan, Philippines	M	D,D,P	G,R	V,V	Y	MCD	
2012 Berman Felter Kapstein EtAl	2002-2008	Philippines	D	P	G,R	V,V	Y		
2011 BermanShapiroFelter	2004-2009	Iraq	M	D	G,R	B,V	Y		
2017 BlairBlattmanHartman	2008,2010	Liberia	Y	T	G,R	V,V	N		
2013 BlairFairMalhotraEtAl	2009-2010	Pakistan	D	P	R	V	N		
2013 BlakesleeFishman	1971-2000	India	S	D	C	B	Y		
2012 CamachoRodriquez	1988-2004	Colombia	Y	M	G,R	V,V	Y		
2017 ChaudoinEtAl	1960-2008	MN	Y	C	G,R	V,V	Y	MC	
<p><i>Country:</i> MN-multinational; <i>Time Unit:</i> DC-decade, Y-year, S-season, M-month, W-week, D-day; <i>Spatial Unit:</i> C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; <i>Actor:</i> G-government, R-rebel, Pr-protectors, C-criminals, O-other; <i>Violence by Actor(s):</i> V - violence, NV - no violence, B-both; <i>Preexisting Data:</i> Y-yes, N-no, B-both; <i>Level of Analysis:</i> MC-multiple countries, MD-multiple datasets</p>									

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Study	Sample Period	Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis	
<b>Economic shocks (31)</b>									
2017 Chadefaux	1816-2007	MN	Y	C	G,R	V,V	Y	MCD	
2012 CollierDuponchel	1991-2002	Sierra Leone	Y	D	G,R	V,V	Y		
2017 CostalliMorettiPischedda	1960-2010	MN	Y	C	G,R	V,V	Y	MC	
2014 CrostFelterJohnstonEtAl	2008-2011	Philippines	D	M	G,R	V,V	Y		
2012 Deiwiks Cederman Gleditsch	1991-2005	MN	Y	P	G,R	V,V	Y	MC	
2010 DeSoysaFjelde	1970-2005	MN	Y	C	G,R	V,V	Y	MC	
2010 DoIyer		Philippines							
2014 DubeNaidu	1988-2005	Colombia	Y	M	G,R	V,V	N		
2013 DubeVargas	1988-2005	Colombia	Y	M	G,R	V,V	N		
2010 Escriba-Folch	1959-1999	MN	Y	C	G,R	V,V	Y	MC	
2017 GawandeEtAl	2000-2009	India	S	D	G,R	V,V	N		
2012 GublerSelway	1945-1999	MN	Y	C	G,R	V,V	Y	MCD	
2017 GuttingSteinwand	1970-2008	MN	Y	C	G,R	V,V	Y		
2015 HendrixHaggard	1961-2010	MN	Y	T	G,Pr	NV,NV	Y	MC	
2014 IyerTopalova	1971-2010	India	M	D	C	B	Y		
2016 LektzianRegan	1950-2005	MN	Y	C	G,R	V,V	Y	MC	
2014 MaystadtEcker	1997-2009	Somalia	M	D	G,R,Pr	V,V,V	Y	MD	
2011 NepalEtAl	1996-2003	Nepal	Y	V	G,R	V,V	N		
2007 Robertson	1997-2000	Russia	M	P	G,Pr	NV,NV	N		
2015 RaleighChoiKniveton	1997-2010	Africa	M	D	G,R,Pr	V,V,V	Y	MC	
2014 Smith	1990-2012	Africa	M	C	G,R	B,B	Y	MC	
2016 Zhukov	2014-2015	Ukraine	D	M	G,R	V,V	N		
<b>Elections (14)</b>									
2007 Carey	1971-1995	Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC	
2013 CedermanGleditschHug	1960-2000	MN	Y	GR	G,R	V,V	Y	MC	
2015 CoupeObrizan	2014	Ukraine	Y	T			N		
2012 Daxecker	1997-2009	Africa	Y	C	G,Pr	V,V	Y	MC	
2015 Goldsmith	1997-2013	Africa	D	C	G,R,Pr	V,V,V	Y	MC	
2017 HarishLittle	1990-2010	MN	D	C	G,Pr	V,V	Y	MC	
2015 Heger	1980-2014	Northern Ireland, MENA	Y	C	G,Pr	V,V	Y	MC	
2008 JoshiMason	1991-1999	Nepal	Y	D	G,R	V,V	N		
2015 KlausMitchell	2007-2008, 2010-2011	Kenya, Cote d'Ivoire	Y	C	G,Pr	V,V	Y	MC	
2013 Linke	2003-2007	Kenya	D	D	G,R,Pr	V,V	Y	MD	
2016 Smidt	1990-2009	Africa	D	C	G,R,Pr	V,V,V	Y	MC	
2017 TaylorEtAl	1990-2008	Africa	Y	C	G,R,Pr	V,V,V	B	MCD	
2012 Theisen	1989-2004	Kenya	Y	G	G,R,Pr	V,V,V	N		
2012 WeidmannCallen	2009	Afghanistan	D	D	G,R	V,V	Y	MD	
<b>Ethnic Geography (46)</b>									
2016 AsalEtAl	1946-2005	MN	Y	C	G,R	V,V	Y	MC	
2014 BalcellsDaniels	2005-2012	Northern Ireland	Y	D	G,R	V,V	N		
2016 Bacells Daniels Escriba-Folch	2005-2012	Northern Ireland	Y	D	G,R	V,V	N		
2014 Bara	1990-2009	MN	Y	C	G,R	V,V	Y	MC	
2016 BasedauEtAl	1990-2010	MN	Y	C	G,R	V,V	Y	MC	
2014 Bhavnani Donnay Miodownik EtAl	2001-2009	Israel	Y	N	R	V	N		
2017 BlairBlattmanHartman	2008,2010	Liberia	Y	T	G,R	V,V	N		
2016 BlairKalmanovitz	1979-2004	Afghanistan	Y	P	G,R	V,V	N		
2011 BleaneyDimico	1940-2000	MN	Y	C	G,R	V,V	Y	MCD	
2006 Blimes	1945-1999	MN	Y	C	G,R	V,V	Y	MC	
2006 BoharaEtAl	1996-2004	Nepal	Y	D	G,R	V,V	N		
2010 BohlkenSergenti	1982-1995	India	Y	P	G,R	V,V	N		
2017 BormannCedermanVogt	1946-2009		Y	C	G,R	V,V	Y	MC	
2016 BunteVinson	1970-2010	Nigeria	D	D	G,R	V,V	N	MD	
2006 Buhaug	1946-1999	MN	Y	C	G,R	V,V	Y	MC	
2015 Butcher	1975-2011	MN	M	C	G,R	V,V	Y	MC	
2009 CedermanBuhaugRod	1951-2005	MN	Y	C	G,R	V,V	B	MC	
2009 Cederman Girardin Gleditsch	1945-2005	MN	Y	C	G,R	V,V	Y	MCD	
2017 Cederman Gleditsch Wucherpfennig	1949-1999	MN	Y	C	G,R	V,V	Y	MCD	
2010 CedermanWimmerMin	1946-2005	MN	Y	C	G,R	V,V	Y	MCD	
2013 CedermanEtAl	1946-2009	MN	Y	C	G,R	V,V	Y	MC	
2017 CostalliMorettiPischedda	1960-2010	MN	Y	C	G,R	V,V	Y	MC	
2012 CostalliMoro	1992-1995	Bosnia	Y	M	G,R	V,V	Y		
2015 DeJuanBank	2011-2012	Syria	D	D	G,R	V,V	N		
2014 DennyWalter	1946-2005	MN	Y	C	G,R	V,V	Y	MC	
2010 DoIyer	1996-2006	Nepal	M	D	G,R	V,V	N		
2012 Dyrstad	1989, 2003	Former Yugoslavia	Y	M	G,R	V,V	N	MC	
2008 Forsberg	1989-2004	Global	Y	C	G,R	V,V	Y	MC	
2012 GublerSelway	1945-1999	MN	Y	C	G,R	V,V	Y	MCD	
2017 HunzikerCederman	1990-2013	MN	Y	C	G,R	V,V	Y	MC	
2016 Isaacs	1970-2012	MN	Y	OR	G,R	V,V	Y	MC	
2012 JhaWilkinson	1931-1951	South Asia	M	D	G,R	V,V	N		
2014 KlasnjaNovta	1980-2000, 1992-1995	India, Bosnia	Y	D,M	G,R	V,V	Y	MC	

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B-both; *Preexisting Data:* Y-yes, N-no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets

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Study	Sample Period	Sample Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis
<b>Ethnic Geography (46)</b>								
2017 KorenBagozzi	1997-2009	Africa	Y	G	G,R	V,V	Y	MCD
2016 Kreibbaum	1980-2004	MENA	Y	G	G,R	B,B	Y	MC
2009 Lujala	1946-2002	MN	Y	C	G,R	V,V	Y	MC
2011 Olzak	1984-2002	MN	Y	C	G,R	V,V	Y	MC
2016 Ray	1946-2010	MN	Y	C	G,R	V,V	Y	MC
2013 SambanisShayo	1945-2006	MN	Y	C	G,R	V,V	Y	
2011 Sorens	1950-2003	MN	Y	C	G,R	V,V	Y	MC
2014 VadlamannatiEtAl	1985-2006	MN	Y	C	G,R	V,V	Y	MC
2009 Weidmann	1945-2003	MN	Y	G	G,R	V,V	Y	MCD
2011 Weidmann	1991	Bosnia	Y	M	O	V	N	
2013 WeidmannSalehyan	2006-2007	Iraq	D	N	G,R	V,V	Y	
2012 Wucherpfennig Metternich Cederman EtAl	1946-2005	MN	D	C	G,R	V,V	Y	MC
2016 WucherpfennigEtAl	1946-2009	MN	Y	C	G,R	V,V	Y	MC
<b>Foreign Aid (8)</b>								
2008 BlouinPallage	1946-1999	MN	Y	C	G,R	V,V	Y	MC
2014 Colaresi	1980-2000	Peru	M	C	G,R	V,V	N	
2012 FieldingShortland	1980-2000	Peru	M	C	G,R	V,V	N	
2011 NielsenEtAl	1981-2005	MN	Y	C	G,R	V,V	Y	MC
2011 RobertsonTeitelbaum	1980-2005	MN	Y	C	G,Pr	NV,NV	N	MC
2014 SalehyanSirokyWood	1989-2009	MN	Y	OR	G,R	V,V	Y	MC
2011 SavunTirone	1990-2003	MN	Y	C	G,R	V,V	Y	MC
2016 Sexton	2008-2010	Afghanistan	W	D	G,R	V,V	Y	MD
<b>Group Characteristics (16)</b>								
2015 Cederman Weidmann Bormann		South Africa	Y	C	G,R	V,V	N	
2006 CunninghamD	1946-2005	MN	M	C	G,R	V,V	Y	MC
2011 CunninghamK	1960-2005	MN	Y	C	G,R	V,V	Y	MC
2013 CunninghamK	1960-2005	MN	Y	C	G,R	V,V	Y	MC
2013 CunninghamKEtAl	1960-2005	MN	Y	C	G,R	V,V	Y	MC
2012 Dyrstad	1989, 2003	Former Yugoslavia	Y	M	G,R	V,V	N	MC
2011 Evans	1990-2000	U.S.	Y	CN	G,Pr	NV,NV	N	
2017 LiebermanSingh	1946-2005	MN, India	DC	C	G,R	V,V	Y	
2008 Ostby	1986-2004	Global	Y	C	G,R	V,V	Y	MC
2013 Parkinson	1982-1988	Lebanon	Y	C	G,R	V,V	N	
2016 Prorok	1980-2011	MN	M	C	G,R	V,V	N	MC
2007 Robertson	1997-2000	Russia	M	P	G,Pr	NV,NV	N	
2017 Schricker	2008-2013	Afghanistan, Pakistan	M	GR	G,R	V,V	Y	
2010 ShellmanEtAl	1980-2004	Cambodia, Indonesia	D	GR	G,R	V,V	N	MC
2015 Tiernay	1945-2003	MN	Y	C	G,R	V,V	N	MC
2014 Thomas	1989-2010	Africa	M	C	G,R	V,V	Y	MC
<b>Indiscriminate Violence (32)</b>								
2010 Balcells	1936-1939	Spain	D	M	G,R	V,V	N	
2011 Balcells	1936-1939	Spain	D	M	G,R	V,V	N	
2011 BhavnaniEtAl	2006-2008	Israel, Palestine	Y	P	G,R	V,V	N	
2013 Cohen	1980-2009	MN, Sierra Leone	Y	C	G,R	V,V	Y	
2012 CondraShapiro	2004-2009	Iraq	W	D	G,R	V,V	Y	
2017 DeLaCalle	1980-1995	Peru	Y	D	G,R	V,V	N	
2007 EckHultman	1989-2004	Global	Y	C	G,R	V,V	Y	MC
2010 FieldingShortland	1990-2000	Egypt	M	C	G,R	V,V	N	
2012 FieldingShortland	1980-2000	Peru	M	C	G,R	V,V	N	
2009 Justino				H	G,R	V,V		
2006 Kalyvas	1943-1949	Greece	D	V	G,R	V,V	Y	
2009 KalyvasKocher	1969	Vietnam	D	D	G,R	V,V	N	
2011 KocherPepinskyKalyvas	1969	Vietnam	D	D	G,R	V,V	N	
2009 Lyall	2000-2005	Russia/Chechnya	D	V	G,R	V,V	N	
2010 Lyall	2000-2005	Russia/Chechnya	D	V	G,R	V,V	N	
2013 LyallBlairImai	2010	Afghanistan	D	V	G,R	V,V	N	
2016 PoloGleditsch	1970-2011	MN	Y	GR	G,R	V,V	Y	MCD
2015 Schutte	1970-2014	Africa	Y	G	G,R	V,V	Y	
2015a Schutte		Afghanistan		V			N	
2015b Schutte		Afghanistan		V			N	
2015 SirokyDzutsati	2000-2012	Russia/Caucasus	D	D	G,R	V,V	Y	
2016 SouleimanovSiroky		Russia/Caucasus		V	G,R	V,V	N	
2015 Stanton	1989-2010	MN	Y	C	G,R	V,V	Y	MC
2009 Steele		Colombia	Y	H	G,R	V,V		
2012 Sullivan	1959-1996	Guatemala	M	M	G	V	N	
2014 SuttonButchSvensson	1989-2011	MN	Y	C	G,Pr	V,NV	Y	MC
2015 ToftZhukov	2000-2012	Russia/Caucasus	D	D	G,R	V,V	N	
2014 VoorsBulte	1998-2007	Burundi	V	M	G,R	V,V	N	
2010 Wood	1989-2044	MN	Y	C	R	V	Y	MC
2012 WoodKathmanGent	1989-2005	MN	Y	C	G,R	V,V	Y	MC
2014 Zhukov	1943-1955	Ukraine	Y	D	O	V	N	
2017 Zhukov	1941-1944	Belarus	M	V	G	V	N	

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Study	Sample Period	Sample Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis
<b>Information communications technology (12)</b>								
2015 Bailard	2007-2009	MN	Y	D	G,R,Pr	V,V,V	Y	MC
2015 CrabtreeEtAl	1989	Germany	D	D	Pr	NV	Y	
2015 DafoeLlyall								
2015 Gohdes	2011-2013	Syria	D	C	G,R	V,V	N	MD
2011 Kern	1989	Germany	D	D	Pr	NV	Y	
2013 PierskallaHollenbach	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
2015 RodWeidmann	1993-2010	MN	Y	C	G,Pr	B,B	Y	MC
2015 ShapiroSiegel								
2015 ShapiroWeidmann	2004-2009	Iraq	M	G	G,R	V,V	Y	MC
2015 Warren	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
2015 Weidmann	1996-2007	Global	Y	C	G,R	V,V	Y	MCD
2014 YanagizawaDrott	1994-1995	Rwanda	D	V	G,R	V,V	N	
<b>Occupation policies (2)</b>								
2012 BiddleFriedmanShapiro	2007	Iraq	D	V	G,R	V,V	Y	
2014 FerwerdaMiller	1942-1944	France	M	V	G,R	V,V	N	
<b>Political exclusion (12)</b>								
2014 Bartusevicius	1961-2009	MN	Y	C	G,R	V,V	Y	MC
2011 Cederman Weidmann	1946-2005	MN	Y	M	G,R	V,V	N	MC
Gleditsch								
2010 CedermanWimmerMin	1946-2005	MN	Y	C	G,R	V,V	Y	MCD
2010 GleditschRuggeri	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2009 Fjelde	1985-1999	MN	Y	C	G,R	V,V	Y	MC
2008 JoshiMason	1991-1999	Nepal	Y	D	G,R	V,V	N	
2014 KoubiBohmelt	1951-2004	MN	Y	C	G,R	V,V	Y	MC
2010 Tezcur	1994-2008	Turkey	Y	M	G,R	V,V	N	
2011 Vadlamannati	1970-2007	India	Y	P	G,R	V,V	Y	
2014 VadlamannatiEtAl	1985-2006	MN	Y	C	G,R	V,V	Y	MC
2016 Wig	1946-2009	Africa	Y	C	G,R	V,V	Y	MC
2009 WimmerCedermanMin	1946-2005	MN	Y	C	G,R	V,V	Y	MCD
<b>Public Opinion (5)</b>								
2015 BrantonEtAl	2006	U.S.	D	ST	G,Pr	NV,NV	Y	
2015 Hillesund	2000-2009	Palestine,Israel	M	D	G,R	V,V	N	
2017 HiroseImaiLlyall	2011	Aghanistan	Y	V	G,R	V,V	N	
2013 ShellmanEtAl	1997-2006	Philippines, Sri Lanka	M	C	G,Pr	B,B	Y	MC
2015 TirSingh	1989-2008	MN	Y	C	G,R	V,V	Y	MC
<b>Reporting Bias (4)</b>								
2015 BaumZhukov	2010-2011	Libya	D	C	G,Pr	B,B	N	
2006 DavenportStam	1994	Rwanda	D	CM	G,R	V,V	N	MD
2009 DavenportStam	1994	Rwanda	D	CM	G,R	V,V	N	MD
2015 HollenbachPierskalla	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
<b>Repression and dissent (32)</b>								
2016 BakkerHillMoore	1971-2007	MN	Y	C	G,Pr	V,V	Y	MCD
2015 CadenasEtAl	1995-2015	Eurasia	D	M	G,Pr	B,B	Y	MC
2012 ConradDeMeritt	1981-2011	MN	Y	C	G,R	V,V	Y	MC
2014 DannemanRitter	1981-2004	Global	Y	C	G,R	V,V	Y	MC
2013 DavenportTrivedi	2005-2008	India		V	G,Pr	B,B	N	
2009 DeLaLuzInclan	1994-2003	Mexico	D	M	G,Pr	B,B	N	
2012 Driscoll	1992-2006	Tajikistan	Y	PR	G,R	V,V	N	
2010 EarlSoule	1960-1990	US			G,Pr	B,B		
2014 GiblerMiller	1946-2007	MN	Y	C	G,R	V,V	Y	MC
2015 Gohdes	2011-2013	Syria	D	C	G,R	V,V	N	MD
2017 GohdesCarey	2002-2013	Global	Y	C	G,P,Pr	B,B,B	B	MCD
2006 Herreros		El Salvador, Soviet Union, Israel	Y	C	G,Pr	V,V	N	MC
2014 HillJones	1981-1999	MN	Y	C	G,P,Pr	V,V,V	Y	MCD
2015 HoigiltPalestine		Israel	Y	C	G,Pr	NV,NV	N	
2014 JenkinsMaherFahrer	1986-1999	Egypt	Y	D	G,Pr	V,V	N	
2014 KimEtAl		Tunisia, North Korea		C	G,Pr	B,B	N	
2013 KingPanRoberts	2012	China	D	C	G,Pr	NV,NV	N	
2014 LoyleSullivanDavenport	1968-1998	Northern Ireland	D	ST	G,Pr	V,V	N	
2006 Llyall	1994-1996, 1999-2005	Russia	M	T	G,Pr	NV,NV	N	
2012 McLauchlinPearlman	1975, 1988, 1987, 2000	Iraq, Palestine	Y	C	GR,Pr	V,V	N	
2013 Metternich Dorff Gallop EtAl	2001-2010	Thailand	M		G,R	V,V	Y	
2010 Pierskalla					G,Pr	V,V		
2013 PierskallaHollenbach	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
2015 RodWeidmann	1993-2010	MN	Y	C	G,Pr	B,B	Y	MC
2016 Ryckman	1965-2006	MN	Y	C	G,Pr	NV, NV	Y	MC
2013 ShellmanEtAl	1997-2006	Philippines, Sri Lanka	M	C	G,Pr	B,B	Y	MC
2013 ShellmanLeveyYoung	1997-2006	Philippines, Sri Lanka	M	C	G,Pr	B,B	Y	MC
2016 Smidt	1990-2009	Africa	D	C	G,R,Pr	V,V,V	Y	MC
2014 Sullivan	1977-1994	Guatemala	M	M	G,R	V,V	N	
2015 Sullivan	1975-1985	Guatemala	M	M	G,R	V,V	N	
2016 Sullivan	1975-1985	Guatemala	M	M	G,R	V,V	N	
2014 SuttonButcherSvensson	1989-2011	MN	Y	C	G,Pr	V,NV	Y	MC

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B-both; *Preexisting Data:* Y=yes, N=no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets

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Study	Sample Period	Sample Region(s)/country(ies)	Time Unit	Spatial Unit	Actor(s)	Violence by Actor(s)	Preexisting Data	Level of Analysis
<b>State capability (53)</b>								
2013 AcemogluRobinsonSantos	1991-2006	Colombia	Y	M	G,R	V,V	Y	
2012 Akcinaroglu	1946-2008	MN	Y	C	G,R	V,V	Y	MC
2012 AkcinarogluRadziszewski	1990-2008	Africa	Y	C	G,R	V,V	Y	MC
2016 AsalEtAl	1946-2005	MN	Y	C	G,R	V,V	Y	MC
2006 BakkeWibbels	1978-2000	MN	Y	C	G,R,Pr	V,V,V	Y	MC
2009 BasedauLay	1990-2005	MN	Y	C	G,Pr	V,V	Y	MC
2016 BayerBethkeLambach	1955-2006	MN	Y	C	G,Pr	B,B	Y	MC
2008 Boix	1919-1997	MN	Y	C	G,R	V,V	Y	
2010 Braithwaite A	1960-2001	DRC	Y	N	G,R	V,V	N	
2010 CedermanHugKrebs	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2013 CelestinoGleditsch	1900-2004	MN	Y	C	G,Pr	B,B	Y	MC
2013 Clayton	1946-2004	MN	Y	C	G,R	V,V	Y	MC
2015 Colgan	1946-2014	MN	Y	C	G,R	V,V	Y	MC
2012 ConradDeMeritt	1981-2011	MN	Y	C	G,R	V,V	Y	MC
2016 CookSavun	1951-2009	Global	Y	C	G,Pr	V,V	Y	MC
2016 CunninghamD	1975-2011	MN	Y	C	G,R	V,V	Y	MC
2016 Deglow	1969-1998	Northern Ireland	Y	D	G,R	V,V	N	
2015 DeJuanBank	2011-2012	Syria	D	D	G,R	V,V	N	
2015 DeJuanPierskalla	2006-2010	South Sudan	D	CN	G,R	V,V	Y	
2012 DeLaCalle Sanchez-Cuenca	1970-1997	MN	Y	C	G,R	V,V	Y	MC
2014 DennyWalter	1946-2005	MN	Y	C	G,R	V,V	Y	MC
2012 DiGiuseppeBarryFrank	1981-2007	MN	Y	C	G,R	V,V	Y	MC
2010 DoIyer	1996-2006	Nepal	M	D	G,R	V,V	N	
2015 Duran-Martinez	1984-2010	Mexico, Colombia	Y	T	G,R	V,V	N	
2014 Eck	1990-2009	West Africa	Y	C	G,R	V,V	Y	MC
2015 Eck	1962-2010	Myanmar	Y	D	G,R	V,V	Y	
2015 Elfversson	1989-2010	Sub-Saharan Africa	Y	C	G,R	V,V	Y	MC
2009 Fjelde	1985-1999	MN	Y	C	G,R	V,V	Y	MC
2016 Gandrud	1981-2012	MN	Y	C	G,Pr	V,V	N	MC
2014 GiblerMiller	1946-2007	MN	Y	C	G,R	V,V	Y	MC
2016 Holtermann	1996-2006	Nepal	Y	D	G,R	V,V	N	
2016 Houle	1960-2008	MN	Y	C	G,R	V,V	Y	MCD
2013 Hultquist	1989-2004	MN	Y	C	G,R	V,V	Y	MC
2017 JonesEtAl	1991-2011	Africa	M	C	G,R	V,V	Y	MC
2016 Kreibbaum	1980-2004	MENA	Y	G	G,R	B,B	Y	MC
2017 Lake	2005-2012	DRC	D	P	G,R	V,V	B	MD
2009 Lujala	1946-2003	MN	Y	C	G,R	V,V	Y	MC
2011 MageeMassoud	1950-2004	MN	Y	C	G,R	V,V	Y	MC
2010 MattesEtAl	1945-2005	MN	M	C	G,R	V,V	Y	MC
2016 Paine	1960-2006	MN	Y	C	G,R	V,V	Y	MCD
2017 Prorok	2002-2013	MN	Y	C	G,R	V,V	Y	MC
2016 Ray	1946-2010	MN	Y	C	G,R	V,V	Y	MC
2015 Rios	1990-2010	Mexico	Y	M	O	V	Y	
2016 Rivera	1980-2010	Latin America	Y	C	O	V	Y	MC
2017 RuggeriEtAl	1989-2006	Sub-Saharan Africa	Y	G	G,R	V,V	N	MC
2011 Salehyan	1951-1999	MN	Y	C	G,R	V,V	Y	MC
2012 TaydasPekse	1975-2005	MN	Y	C	G,R	V,V	Y	MC
2008 Theisen	1945-2007	MN	Y	C	G,R	V,V	Y	MC
2010 Thies	1960-1999	MN	Y	C	G,R	V,V	Y	MC
2009 Trejo	1975-2000	Mexico	D	M	G,Pr	B,B	N	
2014 VoorsBulte	1998-2007	Burundi	V	M	G,R	V,V	N	
2015 Warren	1989-2010	Africa	Y	G	G,R	V,V	Y	MC
2016 Zhukov	1921-1927	Russia/Caucasus	W	G	G,R	V,V	N	

*Country:* MN-multinational; *Time Unit:* DC-decade, Y-year, S-season, M-month, W-week, D-day; *Spatial Unit:* C-country, P-province, M-municipality, D-district, CN-county, T-town, G-grid, N-neighborhood, CM-commune, ST-street address, H-household, GR-group, OR-organization, PR-person; *Actor:* G-government, R-rebel, Pr-protectors, C-criminals, O-other; *Violence by Actor(s):* V - violence, NV - no violence, B-both; *Preexisting Data:* Y=yes, N=no, B-both; *Level of Analysis:* MC-multiple countries, MD-multiple datasets



## 2.2 Topics covered in past sub-national research

There are 386 articles in our dataset, from 2006 to 2017.<sup>1</sup> They range across the following topics:

1. *Climate Variability*: includes studies that investigate relationship between various climate variables – water availability, rainfall, etc. – and conflict. Currently, there are 28 sources in the dataset.
2. *Conflict specifics*: includes studies that investigate various dimensions of conflict – its onset, duration, intensity, colonial conflict presence. Currently, there are 35 articles in the dataset.
3. *Data quality*: includes studies that investigate the quality of data used to draw conclusions in the existing studies. Currently, there are 7 sources in the dataset.
4. *Diffusion*: includes studies that investigate diffusion of the conflict into neighboring areas. We decided to distinguish these category from the *conflict specifics* category for the following two reasons. First, it studies a slightly different question related to conflict – instead of conflict specifics it looks at how it spreads. Second, the literature that studies this question is rather rich. Currently, there are 32 articles in the dataset.
5. *Displacement*: includes studies that investigate how conflict either affects people’s choices to other places or forces them to move somewhere else. Currently, there are 17 articles in the dataset.
6. *Economic shocks*: includes studies that investigate how economic shocks related to firm’s behavior or caused by economic sanctions or change in global food prices can cause the conflict onset. Currently, there are 30 articles in the dataset.
7. *Elections*: includes studies that investigate how elections outcomes affect the spread of violence, or non-violent protest. Currently, there are 14 articles in the dataset.
8. *Ethnic geography*: includes studies that investigate how ethnic and/or religious background of groups that co-exist next to each other can affect the spread of violence and how it could be further explained by the geographic peculiarities of the region where this violence or protest takes place. Currently, there are 47 articles in the dataset.
9. *Foreign Aid*: I distinguish articles that study foreign aid and foreign direct investment into a separate category. But I also think that we can combine this category with the *economic shocks* one. Currently, there are 8 articles in the dataset.
10. *Group characteristics*: this category includes a variety of feature of a rebel group: their usage of tactics, leadership change, internal structure, aggregation, interdependencies between a few groups, expertise dynamics. Currently, there are 16 articles in the dataset.
11. *Indiscriminate violence*: includes studies that investigate how rebel or government forces target civilians to gain their support. Currently, there are 42 articles in the dataset.
12. *Information and communication technologies*: includes studies that investigate how access to information and communication technologies affects the spread of conflict and protest. Currently, there are 12 articles in the dataset.

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<sup>1</sup> We did not include 6 articles in our review, as they covered a period prior to the World War II.

13. *Occupation policies*: includes studies that investigate how new regimes' policies affect the development of protest or violence. Currently, there are 2 articles in the dataset. Even though there is scarcity of literature on this topic, I do not think we are able to find needed covariates to pursue this topic for our substance piece.
14. *Political exclusion*: includes studies that investigate how excluding certain groups from access to resources and certain rights can cause conflict or protest. Currently, there are 12 articles in the dataset.
15. *Public opinion*: includes studies that investigate how excluding certain groups from access to resources and certain rights can cause conflict or protest. Currently, there are 12 articles in the dataset.
16. *Reporting bias*: includes studies that investigate reporting bias in the study of conflict. Currently, there are 5 articles in the dataset.
17. *Repression and dissent*: includes studies that investigate repression and dissent. Currently, there are 33 articles in the dataset.
18. *State capacity*: includes studies that investigate how state capacity affects the development of protest and conflict. A quite broad concept of 'state capacity' includes institutions, usage of proxy militias and peacekeeping operations, etc. Currently, there are 53 articles in the dataset.

Table 3 summarizes the distribution of these topics by region.

Table 3: TOPIC STUDIED BY REGION

Number of Empirical Studies by Topic and Region, 2006-2017.							
<i>Topic</i>	<i>Africa</i>	<i>Americas</i>	<i>Asia</i>	<i>Europe</i>	<i>Multinational</i>	<i>Global</i>	<b>Total Number</b>
Climate Variability	18	1	3	0	4	2	28
Conflict Specifics	11	3	2	1	18	1	36
Data Quality	1	0	0	0	4	2	7
Diffusion	5	3	1	9	9	5	32
Displacement	0	5	6	3	3	0	17
Economic Shocks	3	5	11	1	10	0	31
Elections	8	0	2	1	3	0	14
Ethnic Geography	3	0	8	5	28	1	46
Foreign Aid	0	1	1	0	5	0	8
Group Characteristics	2	1	4	1	7	1	16
Indiscriminate Violence	2	4	8	10	6	1	32
Information & Communication Technology (ICT)	2	0	3	2	2	1	12
Occupation Policies	0	0	1	1	0	0	2
Political Exclusion	1	0	2	1	8	0	12
Public Opinion	0	1	3	0	1	0	5
Reporting Bias	4	0	0	0	0	0	4
Repression and Dissent	2	5	10	2	10	2	32
State Capacity	10	5	4	2	31	1	53

### 3 Appendix C: Additional meta-analysis results

Table 4 summarizes coefficient estimates reported in Figure 6 of the main text, by region. The relationship is ‘inverted-U’ in a plurality of conflicts (47% overall), inflammatory in 13%, and suppressive in 9%.

Table 4: ESTIMATED REPRESSION-DISSENT RELATIONSHIPS, BY REGION. Numbers represent number of datasets in which coefficient estimates were significant, and had the specified signs.

	<b>Inflammatory</b> ( $\beta_1 > 0, \beta_2 \geq 0$ )	<b>Suppressive</b> ( $\beta_1 < 0, \beta_2 \leq 0$ )	<b>Inverted-U</b> ( $\beta_1 > 0, \beta_2 < 0$ )	<b>U-shaped</b> ( $\beta_1 < 0, \beta_2 > 0$ )	<b>Null</b> ( $\beta_1 = \beta_2 = 0$ )	<b>Total</b>
<b>Africa</b>						
Eastern Africa	6 (16.7%)	7 (19.4%)	12 (33.3%)	1 (2.8%)	10 (27.8%)	36
Middle Africa	2 (14.3%)	0 (0%)	8 (57.1%)	2 (14.3%)	2 (14.3%)	14
Northern Africa	3 (16.7%)	2 (11.1%)	9 (50%)	0 (0%)	4 (22.2%)	18
Southern Africa	2 (22.2%)	2 (22.2%)	4 (44.4%)	0 (0%)	1 (11.1%)	9
Western Africa	2 (5.7%)	1 (2.9%)	22 (62.9%)	0 (0%)	10 (28.6%)	35
	15 (13.4%)	12 (10.7%)	55 (49.1%)	3 (2.7%)	27 (24.1%)	112
<b>Americas</b>						
Caribbean	1 (25%)	0 (0%)	1 (25%)	0 (0%)	2 (50%)	4
Central America	0 (0%)	0 (0%)	2 (50%)	0 (0%)	2 (50%)	4
	1 (12.5%)	0 (0%)	3 (37.5%)	0 (0%)	4 (50%)	8
<b>Asia</b>						
South-Eastern Asia	1 (16.7%)	0 (0%)	1 (16.7%)	0 (0%)	4 (66.7%)	6
Southern Asia	2 (18.2%)	2 (18.2%)	4 (36.4%)	1 (9.1%)	2 (18.2%)	11
Western Asia	1 (12.5%)	0 (0%)	5 (62.5%)	0 (0%)	2 (25%)	8
	4 (16%)	2 (8%)	10 (40%)	1 (4%)	8 (32%)	25
<b>Europe</b>						
Eastern Europe	0 (0%)	0 (0%)	2 (66.7%)	0 (0%)	1 (33.3%)	3
	0 (0%)	0 (0%)	2 (66.7%)	0 (0%)	1 (33.3%)	3
<b>Oceania</b>						
Melanesia	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1
	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1
<b>All</b>	<b>20 (13.4%)</b>	<b>14 (9.4%)</b>	<b>70 (47%)</b>	<b>4 (2.7%)</b>	<b>41 (27.5%)</b>	<b>149</b>