Web Appendix for

Social Structure and Conflict: Evidence from Sub-Saharan Africa

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A1. Overview

The following section of the Appendix, Section A2, provides a description of the data used in the paper, including relevant source material and an explanation of the construction of each variable. Section A3 reports results from two alternative strategies that we use to investigate causal relationships: (*i*) An application of the techniques developed by Altonji, Elder and Taber (2005) and Oster (2014), which propose ways to assess the required strength of unobservable characteristics to fully explain away our baseline results, and (*ii*) nearest neighbor matching.

Section A4 reports estimates from a range of robustness and sensitivity checks: (*i*) re-estimation using Poisson or negative binomial models, (*ii*) the use of alternative conflict coding and data sources, (*iii*) the exclusion of potential outliers from the sample, and (*iv*) controlling for potentially endogenous historical and contemporary covariates.

Section A5 presents additional checks about the validity of the RD approach. First, we present graphical results that accompany the balance tests reported in Table 6 of in the main text. Second, we report the estimates that show that ethnic affiliation varies discontinuously at the boundaries on the Murdock map. Last, we report the factor loadings for the principal components constructed for the placebo RD analyses, which are reported in Table 7 of the text.

The final section of the Appendix, Section A6, presents additional results investigating the interaction between adverse climate shocks and segmentary lineage organization. We present results analogous to Table 12 but with different conflict sub-types as the outcome variable. We also report estimates of an alternative specification without ethnic group fixed effects but with ethnicity-level controls, in order to estimate the effect of segmentary lineage organization in the absence of a negative rainfall shock.

A2. Data, their Sources, and their Construction

A. *Conflict*

Our primary source of conflict data is the Armed Conflict Location and Event Data Project (ACLED): https://www.acleddata.com. ACLED includes information on the location (latitude and longitude), date, and other characteristics of all known conflict events in Africa since 1997, including the number of conflict deaths resulting from each conflict event and information about conflict type. We use the "Interaction" variable to group conflicts by type; in particular, we define

a conflict as a:

- **Civil Conflict** if the Interaction variable takes a value between 10-28. These are all conflict events that involve the government military or rebels (who are seeking to replace the central government) as one of the actors.
- **Non-Civil Conflict** if the Interaction variable takes a value between 30-67. These are all conflict events that are not civil conflicts.
- **Within-Group** or **Localized Conflict** if the Interaction variable takes a value between 40-47, 50-57, or 60-67. These are all conflict events for which both actors in the conflict are geographically local and/or ethnically local groups.

The ACLED data also contain information about the type of conflict event (riots and protests, battles, violence against civilians, etc – this information is used in Table A4), the actors involved (government forces, rebel militia, civilians, protestors, etc), and the motivation of the actors involve (e.g., aimed at taking over land, riots, protests, etc). ACLED data are coded from a variety of sources, including "reports from developing countries and local media, humanitarian agencies, and research publications" (http://www.acleddata.com/about-acled/).

As an alternative source of conflict data, we use the Uppsala Conflict Data Program (UCDP): http://ucdp.uu.se/#/exploratory. The UCDP data are used exclusively in Table A4. These data record the location, date, and other characteristics of conflict events beginning in 1989 and only include conflict events with at least 1 associated fatality.

Conflicts were matched to ethnic groups using the Murdock Map of African ethnic groups from Murdock (1959). They were matched to grid cells using the location of the conflict incidents. Summary statistics of the various conflict measures at the ethnicity-level and grid-cell-level are reported in Tables A1 and A9 respectively.

B. *Segmentary Lineage Organization*

All sources that were used to code the segmentary lineage variable are included at the end of the Appendix. All ethnic groups in the sample are listed by classification, along with the source(s) used to determine whether the ethnic group was a segmentary lineage society or not. If one of the sources is from the *Ethnographic Survey of Africa*, it is listed first.

Segmentary lineage societies:

ACHOLI

1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda*, pp. 81-82.
2. Parkin, David (1969) *Neighbors and Nationals in an African City Ward*, p. 200.

ALUR

1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda*, pp. 174-175.
2. Southall, Aidan W. (2004), *Alur Society: A Study in Processes and Types of Domination*, p. 62.
3. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 15.

AMBA

1. Taylor, Brian K. (1963), *The Western Lacustrine Bantu*, pp. 74, 76-77.
2. Runciman, W. G. (1989), *A Treatise on Social Theory (Volume II)*, p. 321.

ANUAK

1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda*, pp. 68-70.
2. Eisenstadt, S. N. (1959), " Primitive Political Systems: A Preliminary Comparative Analysis," *American Anthropologist*, p. 209.

BALANTE

1. Morier-Genou, Eric (2012), *Sure Road? Nationalisms in Angola, Guinea-Bissau & Mozambique*, p. 62.
2. Sigrist, Christian (2004), "Segmentary Societies: The Evolution and Actual Relevance of an Interdisciplinary Conception," *Difference and Integration*, p. 15.

BAMBARA

1. Paques, Viviana (1954), *Les Bambara*, pp. 50-51.

BANZA

1. Burssens, Herman (1956), *Les peuplades de l'entre Congo-Ubangi (Ngbandi, Ngbaka, Mbanja, Ngombe et Gens d'Eau)*, p. 117.

BARI

1. Huntingford, George W. B. (1953), *The Northern Nilo-Hamites*, pp. 35-36.
2. Barclay, Harold (1982), "Sudan (North): On the Frontier of Islam" in *Religion and Societies: Asia and the Middle East* ed. Carlo Caldarola, p. 148.

CHOKWE

1. McCulloch, Merran (1978), *The Southern Lunda and Related Peoples*, pp. 40-41.
2. Miller, Joseph C. (1977), "Imbangala Lineage Slavery" in *Slavery In Africa: Historical and Anthropological Perspectives* eds. Suzanne Miers and Igor Koptoff, p. 207.

DIGO

1. Waaijenberg, Henk (1994) *Mijikenda Agriculture in Coast Province of Kenya?: Peasants in between Tradition, Ecology and Policy*, p. 35, 38.
2. UNESCO World Heritage Convention (2008), "The Sacred Mijikenda Kaya Forests," p. 59.

DINKA

1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda*, pp. 120-121.
2. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 14.

DOGON

1. Palau Martí, Montserrat (1957), *Les Dogon*, p. 37.
2. Tait, David (1950), "An Analytical Commentary on the Social Structure of the Dogon," *Africa* 20(3), p. 197.

DOROBO

1. Huntingford, George W. B. (1969), *The Southern Nilo-Hamites*, pp. 72-73.
2. Eisenstadt, Shmuel Noah (2009), *From Generation to Generation*, p. 119.

DUALA

1. Ardener, Edwin (1956), *Coastal Bantu of the Cameroons*, pp. 51, 57.

2. Teresa, Meredith (2013), *Nation of Outlaws, State of Violence*, p. 270.
EDO
1. Bradbury, R. E. (1957), *The Benin Kingdom and the Edo-Speaking Peoples of the South-Western Nigeria*, pp. 88-89.
EWE
1. Manoukian, Madeline (1952), *The Ewe-speaking people of Togoland and the Gold Coast*, pp. 22-24.
FALI
1. Palau Martí, Montserrat (1957), *Les Dogon*, p. 37.
FANG
1. Alexandre, Pierre & Jaques Binet (1960), "Le groupe dit Pahouin (Fang, Boulou, Beti)," *Revue de l'histoire des religions* 160(1), pp. 48-9.
2. Terretta, Meredith (2013), *Nation of Outlaws, State of Violence: Nationalism, Grassfields Tradition, and State Building in Cameroon*, p. 270.
GA
1. Manoukian, Madeline (1964), *Akan and Ga-Adangme Peoples of the Gold Coast*, p. 73.
2. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 17.
GANDA
1. Fallers, Marcaret Chave (1968), *The Eastern Lacustrine Bantu (Ganda, Soga)*, p. 52.
2. F.B. Welbourn, "A Sacral Kingship in Buganda? An Essay in the Meaning of Religion," *Department of Religious Studies, University of Bristol*, p. 2.
GBARI
1. Gunn, Harold D. & F. p. Conant (1960), *Peoples of the Middle Niger Region: Northern Nigeria*, pp. 94-96.
GISU
1. La Fontaine, J.S. (1959), *The Gisu of Uganda*, pp. 24-26, 29-31.
2. La Fontaine, J.S., "Witchcraft in Bugisu" in *Witchcraft and Sorcery in East Africa* eds. John Middleton and E.H. Winter, p. 188.
GURENSI (TALENSI)
1. Manoukian, Madeline (1951), *Tribes of the Northern Territories of the Gold Coast*, pp. 26-27.
2. Smith, M.G., "On Segmentary Lineage Systems," in *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 86(2), p. 40.
3. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 12.
GUSII
1. Cohen, Yehudi (1971), *Man in Adaptation: The Institutional Framework*, pp. 294-295.
2. Smith, M.G., "On Segmentary Lineage Systems," in *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 86(2), p. 40.
IBO
1. Forde, Darryll & G.I. Jones (1967), *The Ibo and Ibibio Speaking Peoples of South Eastern Nigeria*, pp. 15-16.
2. Southall, Aidan (1975), "From Segmentary Lineage to Ethnic Association–Luo, Luhuya, Ibo and Others" in *Colonialism and Change; Ikenna Nzimiro, Studies in Ibo Political Systems* ed. Maxwell Owusu, pp. 100-101.
3. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 17.
IDOMA
1. Armstrong, Robert G. (1955), "The Idoma-Speaking Peoples" in *Peoples of the Niger-Benue Confluence* ed. Darryll Forde, pp. 94-5.
2. Dudley, B.J. (1968), *Parties and Politics in Northern Nigeria*, pp. 60-61.
ITSEKIRI
1. Lloyd p.C. (1957), "The Itsekiri" in *The Benin Kingdom and the Edo-Speaking Peoples of the*

South-Western Nigeria ed. R.E. Bradbury, pp. 182, 186.
KAMBA
1. Middleton, John & Greet Kershaw (1972), *The Central Tribes of the North-Eastern Bantu*, pp. 71-74.
2. Edgerton, Robert B. (1970), "Violence in East African Tribal Societies," in *Collective Violence* eds. James F. Short Jr. & Marvin E. Wolfgang, pp. 168-169.
KARANGA
1. Hughes, A.J. B. & J. van Velsen (1954), *The Shona and Ndebele of Southern Rhodesia*, p. 19.
KIKUYU
1. Middleton, John & Greet Kershaw (1972), *The Central Tribes of the North-Eastern Bantu*, pp. 23-24, 27-29, 38.
KIPSIGI
1. Huntingford, George W. B. (1969), *The Southern Nilo-Hamites*, pp. 43-45.
KISSI
1. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 17.
KONGO
1. Soret, Marcel (1959), *Les Kongo*, pp. 72-73.
KONJO
1. Taylor Brian K. (1969), *The Western Lacustrine Bantu*, p. 92.
KONKOMBA
1. Froelich, J. C. et al. (1965), *Les population du Nord-Togo*, p. 142.
2. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 13.
KEWRE
1. Beidelman, T. O. (1967), *Matrilineal Peoples of Eastern Tanzania*, p. 23.
LAMBA
1. Froelich, J. C. et al. (1965), *Les population du Nord-Togo*, p. 89.
2. Mitchell, James Clyde, and John Arundel Barnes (1950). *The Lamba Village: Report of a Social Survey*, throughout.
LANGO
1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda* pp. 98-99.
LENDU
1. Kaberry, Phyllis (1957), "Primative States", *The British Journal of Sociology* 8(3), p. 230.
LUGBARA
1. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 12.
LUGURU
1. Beidelman, T. O. (1967), *Matrilineal Peoples of Eastern Tanzania*, p. 28.
2. Pets, Peter (1996), "The Pidgnization of Luguru Politics: Administrative Ethnography and the Paradoxes of Indirect Rule," *American Ethnologist*, p. 744.
LUNGU
1. Willis, Roy G. (1966), *The Fipa and Related Peoples*, pp. 49-50.
LUO
1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda* pp. 110-111.
2. Shipton, Parker (1984), *Lineage and Locality as Antithetical Principles in East African Systems of Land Tenure*, p. 123.
MADI
1. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 15.
MERU
1. Moore, Sally Falk & Paul Puritt (1977), *The Chagga and Meru of Tanzania*, pp. 110-111
2. Munson, Robert B. (2013), *The Nature of Christianity in Northern Tanzania* p. 17.
MIJERTEIN (SOMALI)

1. Lewis, I.M. (1999), *A Pastoral Democracy: A Study of Pastoralism and Politics Among the Northern Somali of the Horn of Africa*, pp. 127, 161.
2. Lewis, I.M. (1994), *Blood and Bone: The Call of Kinship in Somali Society*, p. 19.
MINIANKA
1. Holas, Bohumil (2006), *Les Sénufo: (y compris les Minianka)*, pp. 65, 78.
MOBA
1. Froelich, J. C. et al. (1965), *Les population du Nord-Togo*, p. 142.
MONDARI
1. Huntingford, George W. B. (1953), *The Northern Nilo-Hamites*, pp. 58, 63-64.
NANDI
1. Huntingford, George W. B. (1953), *The Northern Nilo-Hamites*, pp. 24-26.
NDEMBU
1. McCulloch, Merran (1978), *The Southern Lunda and Related Peoples*, pp. 18-21.
2. Gough, Kathleen (1961), "Descent Group Variation Among Mobile Cultivators" in *Matrilineal Kinship* eds. David Murray Schneider & Kathleen Gough, p. 537.
NGBANDI
1. Burssens, Herman (1956), *Les peuplades de l'entre Congo-Ubangi (Ngbandi, Ngbaka, Mbanja, Ngombe et Gens d'Eau)*, p. 117.
NGURU
1. Beidelman, T. O. (1967), *Matrilineal Peoples of Eastern Tanzania*, p. 59.
NUER
1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda*, pp. 138-139.
2. Middleton, John & David Tait (2004), *Tribes Without Rulers*, p. 12.
POKOMO
1. Prins, A. H. J. (1952), *The Coastal Tribes of the North-Eastern Bantu*, pp. 16-22.
REGA
1. Biebuyck, Daniel p. (1973), *Lega Culture: Art, Initiation and Moral Philosophy Among a Central African People*, pp. 44-46.
2. Biebuyck (1973), p. 46.
RUANDA
1. Trouwborst, A. A., Mercel d'Hertefelt & J. H. Scherer (1962), *Les Anciens royaumes de la zone interlacustre méridionale, Rwanda, Burundi, Buha*, p. 41.
SAFWA
1. Willis, Roy G. (1966), *The Fipa and Related Peoples*, p. 71.
SAGARA
1. Beidelman, T. O. (1967), *Matrilineal Peoples of Eastern Tanzania*, pp. 42-43.
SOGA
1. Fallers, Marcaret Chave (1968), *The Eastern Lacustrine Bantu (Ganda, Soga)*, pp. 59-60.
SONGHAI
1. Rouch, Jean (1954), *Les Songhay*, p. 35.
SOTHO
1. Sheddick, V.G.J. (1953), *The Southern Sotho*, pp. 26-33 esp. 28.
TEITA
1. Prins, A. H. J. (1952), *The Coastal Tribes of the North-Eastern Bantu*, pp. 112, 114-122.
2. Eisenstadt, Shmuel Noah (2009), *From Generation to Generation*, p. 119.
TEM
1. Alexandre, Pierre (1963), "Organisation politique des Kotokoli du Nord-Togo," *Cahiers d'etudes africaines* 4(14), pp. 233-237.
TENDA
1. Burssens, Herman (1956), *Les peuplades de l'entre Congo-Ubangi (Ngbandi, Ngbaka, Mbanja,*

Ngombe et Gens d'Eau), p. 118.
TIV
1. Bohannan, Laura (1969), *The Tiv of Central Nigeria*, pp. 19-22.
2. Sahlin's, Marshall (1961), "The Segmentary Lineage: An Organization of Predatory Expansion," *American Anthropologist* 63(2), p. 322.
TURKANA
1. Southall, Aidan (2004), *Alur Society: A Study in Processes and Types of Domination*, p. 242.
2. *Changing Identifications And Alliances In North-east Africa*, eds. Günther Schlee & Elizabeth E. Watson p. 9
WOLOF
1. Gamble, David (1957), *The Wolof of Senegambia*, pp. 46-52.
YAKO
1. Smith, M. G. (1956), "On Segmentary Lineage Systems" *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 86(2), p. 40.
2. Douglass, Mary & Phyllis Kaberry (1969), *Man in Africa* p. xxii.
YORUBA
1. Forde, C. Daryll (1951), *The Yoruba Speaking Peoples of South Western Nigeria*, pp. 10-15.
ZANDE
1. Vansina, Jan M. (1990), *Paths in the Rainforest*, p. 116.
ZIGULA
1. Beidelman, T. O. (1967), *Matrilineal Peoples of Eastern Tanzania*, p. 68.
ZULU
1. Laband, John (2007), *Kingdom in Crisis: The Zulu Response to the British Invasion of 1879*, p. 23.
2. Radcliffe-Brown, A. R. & Daryll Forde (1950), *African Systems of Kinship and Marriage*, p. 186.

Not segmentary lineage societies:

AKYEM
1. Bamfo, Napoleon (2000), "The Hidden Elements of Democracy among Akyem Chieftaincy: Enstoolment, Destoolment, and Other Limitations of Power," *Journal of Black Studies* 31(2), pp. 1156-1157
BAGIRMI
1. Azevedo, M. J. (2005), *The Roots of Violence: A History of War in Chad*, pp. 28-33.
2. Encyclopedia Britannica, "Kingdom of Bagirmi," "Bagirmi."
BAKAKARI
1. Gunn, Harold D. & F. p. Conant (1960), *Peoples of the Middle Niger Region: Northern Nigeria*, pp. 39-40
BAMILEKE
1. Littewood, Margaret (1954), "Bamum and Bamileke" in *Peoples of the Central Cameroons* ed. Merran McCulloch, pp. 102-3
BASA
1. Gunn, Harold D. & F. p. Conant (1960), *Peoples of the Middle Niger Region: Northern Nigeria*, pp. 79-80.
BEMBA
Whiteley, Wilfred Howell, and J. Slaski (1950). *Bemba and Related Peoples of Northern Rhodesia*.
BENA
1. Swartz, Mark J. (2012), "Legitimacy and Coercion in Bena Politics" in *Government and Rural Development in East Africa: Essays on Political Penetration*, eds. Cliffe, L., J. S. Coleman, and M. R. Doornbos p. 285.

2. Swartz, Mark J. (2002) “Bena of Southwestern Tanzania" in *Encyclopedia of World Cultures Supplement 2002*.

BIROM

1. Gunn, Harold D. (1953), *Peoples of the Plateau Area of the Northern Nigeria*, pp. 86-87.

BUBI

1. Sundiata, Ibrahim (1994), *State Formation and Trade: The Rise and Fall of the Bubi Polity, c. 1840-1910*, pp. 508-509.

CHAGA

1. Moore, Sally Falk and Paul Puritt (1977), *The Chagga and Meru of Tanzania*, pp. 27, 29.

ELOYI

1. The Joshua Project, “Eloyi/Afo in Nigeria."

FIA

1. Dughast, I. (1954), “Banen, Bafia [Fia] and Balom." in *Peoples of the Central Cameroons* ed. Merran McCulloch p. 160.

FIPA

1. Willis, Roy G. (1966), *The Fipa and Related Peoples of South-West Tanzania and North-East Zambia*, p. 21.

FON

1. Argyle, William John (1966), *The Fon of Dahomey: A History and Ethnography of the Old Kingdom*, esp. pp. 120-126.

GURMA

1. Skutsch, Carl (2013), *Encyclopedia of the World’s Minorities*, p. 534.

HAYA

1. Taylor, Brian K. (1962), *The Western Lacustrine Bantu*, p. 134.

IBIBIO

1. Forde, Darryll & G.I. Jones (1967), *The Ibo and Ibibio Speaking Peoples of South Eastern Nigeria*, pp. 72-73.

IGALA

1. Armstrong, Robert G. (1955), “The Igala" in *Peoples of the Niger-Benue Confluence* ed. Darryll Forde, pp. 86-87.

IGBIRA

1. Brown, Paula (1955), “The Igbira" in *Peoples of the Niger-Benue Confluence* ed. Darryll Forde, pp. 63-64.

IRAQW

1. Huntingford, G.W.B. (1969), *The Southern Nilo-Hamites*, p. 130.

JERAWA, CHAWAI (SW)

1. Gunn, Harold D. (1953), *Peoples of the Plateau Area of the Northern Nigeria*, p. 23.

KABRE

1. Piot, Charles D. (1993), “Secrecy, Ambiguity, and the Everyday in Kabre Culture" *American Anthropologist* 95(2), pp. 355-356.

KAMUKU

1. Gunn, Harold D. & F. p. Conant (1960), *Peoples of the Middle Niger Region: Northern Nigeria*, pp. 65-66.

KANEMBU

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KATAB

1. Gunn, Harold D. (1956), *Pagan Peoples of the Central Area of Northern Nigeria*, pp. 67, 74, 85.

KORANKO
1. McCulloch, Merran (1950), *The Peoples of the Sierra Leone Protectorate*, pp. 91-92.
KORO
1. Gunn, Harold D. & F. p. Conant (1960), Peoples of the Middle Niger Region: Northern Nigeria, p. 120.
KPE
1. Ardener, Edwin (1956), *The Coastal Bantu of the Cameroons*, pp. 54, 71.
KUBA
1. Vansina, Jan (1978), "The Kuba State," in *The Early State* eds. H.J.M. Claessen & Peter Skalink, pp. 359-360.
KUKU
1. Huntingford, G.W.B. (1968), *The Northern Nilo-Hamites*, pp. 45-46, 48.
KUNG
1. Lee, Richard B. (1972), "The Intensification of Social Life Among the !Kung Bushmen," in *Population growth: Anthropological implications* ed. B. Spooner, pp. 346-348.
KURAMA, GURE (NE)
1. Gunn, Harold D. (1956), *Pagan Peoples of the Central Area of Northern Nigeria*, pp. 42-43.
LELE
1. Douglas, Mary (1963), *The Lele of Kasai*, p. 51.
LOTUKO
1. Somerset, Fitz R.R. (1918), "The Lotuko" in *Sudan Notes and Records* 1(3), p. 155.
LOZI
1. Turner, V.W. (1954), *The Lozi Peoples of North-Western Rhodesia*, p. 33.
LUBA
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LUNDA
1. McCulloch, Merran (1978), *The Southern Lunda and Related Peoples*, pp. 11-12, 19.
LUCHAZI
1. McCulloch, Merran (1978), *The Southern Lunda and Related Peoples*, p. 67.
MAKONDE
1. Douglas, Mary (1950), *The Peoples of the Lake Nyasa Region*, p. 28.
MAKUA
1. Douglas, Mary (1950), *The Peoples of the Lake Nyasa Region*, p. 25.
MAMVU
1. Geluwe, H. van (1957), *Mamvu-Mangutu et Balese-Mvuba*, pp. 56, 61.
MASAI
1. Huntingford, George W. B. (1969), *The Southern Nilo-Hamites*, pp. 112-113.
2. Southall, Aidan (2004), *Alur Society: A Study in Processes and Types of Domination*, p. 243.
MATAKAM
1. Lembezat, B. (1950), *Lew Populations Paiennes du Nord-Cameroun*, pp. 37-39.
MBUNDU
1. McCulloch, Merran (1952), *The Ovimbundu of Angola*, pp. 17, 29.
MENDE
1. McCulloch, Merran (1950), *The Peoples of the Sierra Leone Protectorate*, p. 16.
MUM
1. Littewood, Margaret (1954), "Bamum and Bamileke" in *Peoples of the Central Cameroons* ed. Merran McCulloch p. 66.
MUNDANG
1. Schilder, Kees (1993), "Local Rulers in Northern Cameroon: The Interplay of Politics and

Conversion" *Afrika Focus* 9(1-2), pp. 44-45.
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1. Hughes, A.J.B. & J. van Velsen (1954), *The Shona and Ndebele of Southern Rhodesia*, pp. 63-64.
NEN
1. Dugast, I. (1954), "Banen, Bafia, and Balom" in *Peoples of the Central Cameroons* ed. Merran McCulloch, p. 141.
NGWATO (TSWANA)
1. Schapera, Isaac & John L. Comaroff (1953), *The Tswana*, p. 34.
NKOLE
1. Steinhart, Edward I. (1978), "Ankole: Pastoral Hegemony," in *The Early State* eds. Claessen, H.J.M., and Peter Skalník, pp. 132-135 & throughout. 2. Encyclopedia Britannica, "Nkole."
NUPE
1. Forde, Darryll (1955), "The Nupe" in *Peoples of the Niger-Benue Confluence* ed. Darryll Forde, p. 32.
NYAKYUSA
1. Douglas, Mary (1950), *The Peoples of the Lake Nyasa Region*, p. 80.
NYAMWEZI
1. Abrahams, R. G. (1967), *The Peoples of Greater Unyamwezi, Tanzania*, p. 43.
NYANJA
1. Douglas, Mary (1950), *The Peoples of the Lake Nyasa Region*, p. 43.
NYORO
1. Taylor, Brian K. (1963), *The Western Lacustrine Bantu*, pp. 21-22, 25.
PIMBWE
1. Seel, Sarah-Jane, Peter Mgawe, Monique Mulder, & Mizengo K.P. Pinda, (2014), *The History and Traditions of the Pimbwe*, p. 20 & throughout.
SANDAWE
1. Raa, Eric Ten (1970), "The Couth and the Uncouth: Ethnic, Social and Linguistic Deviations Among the Sandawe of Central Tanzania" *Anthropos* 65(1-2), pp. 145-146.
SHERBRO
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SHILLUK
1. Butt, Audrey (1952), *The Nilotes of the Anglo-Egyptian Sudan and Uganda* pp. 48-50.
SINZA
1. Taylor, Brian K. (1963), *The Western Lacustrine Bantu*, p. 146.
SONINKE
1. Juang, Richard M. (2002), *Africa and the Americas: Culture, Politics, and History*, p. 522.
2. Alexander, Leslie (2010) *Encyclopedia of African American History.* p. 79.
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C. ***Geographic variables (ethnicity level)***

- **Land Area.** The land area occupied by each ethnic group calculated in square kilometers from the Murdock Map (Murdock, 1959).

- **Distance to National Border.** Distance calculated in kilometers from the centroid of each ethnic group in the Murdock Map (Murdock, 1959) to the nearest national border.

- **Latitude & Longitude.** Calculated at the centroid of each ethnic group in the Murdock Map (Murdock, 1959).

- **Split Ethnic Group Indicator.** An indicator that equals 1 when at least 10% of an ethnic group's land area partitioned into different countries. This variable is motivated by Michalopoulos and Papaioannou (2016).

- **Elevation.** Calculated as the mean elevation in kilometers in each ethnic group as defined by the boundaries on the Murdock Map (Murdock, 1959). Data are from GTOPO30, a "global digital elevation model (DEM) with a horizontal grid spacing of 30 arc seconds," which can be accessed at: https://lta.cr.usgs.gov/GTOPO30.

- **Temperature.** Calculated as the mean temperature in degrees Celsius within an ethnic group's boundaries as defined by Murdock (1959). The data used for this measure are from

Alsan (2015), and originally from the University of East Anglia Climatic Research Unit: http://www.cru.uea.ac.uk/data.

- **Malaria Ecology Index.** The malaria ecology index is computed from a model incorporating both the "human biting tendency" of the mosquito and the mortality rate; data used to compute the index are collected from field studies and incorporate the most prevalent mosquito type in a given area. These data are from Alsan (2015), and originally from Kiszewski, A.Mellinger, Spielman, Malaney, Sachs and Sachs (2004).

- **Agricultural Suitability Index.** This suitability index is calculated by the Food and Agriculture Organization (FAO) for rain-fed crops. We computed the average suitability for each ethnic group using the shapefile associated with Plate 46 that can be accessed at: http://webarchive.iiasa.ac.at/Research/LUC/GAEZ/index.htm.

- **Precipitation.** The rainfall data are from the Tropical Rainfall Measuring Mission (TRMM) satellite. Wherever possible, TRMM data are also validated using data from "ground-based radar, rain gauges and disdrometers" (https://pmm.nasa.gov/TRMM/ground-validation). The TRMM precipitation data are available at a 0.25-by-0.25-degree resolution at three-hour intervals. We first calculate the average daily precipitation (mm) in each month and grid-cell. We then calculate the average daily precipitation for each month and ethnic group by taking the average over all grid-cells that fall within the land occupied by each ethnicity, where ethnic group land area is defined by Murdock (1959). The data can be accessed at https://pmm.nasa.gov/data-access/downloads/trmm. The relevant download is the "3B42 RT: 3-Hour Realtime TRMM Multi-satellite Precipitation Analysis."

D. ***Historical and contemporary characteristics (ethnicity level)***

- **Levels of Jurisdictional Hierarchy Beyond the Local Community.** Variable v33 from Murdock's Ethnographic Atlas. This variable takes integer values from 0-4.

- **Settlement Complexity.** Variable v30 from Murdock's Ethnographic Atlas. This variable takes integer values from 1-8 increasing in pre-colonial settlement complexity.

- **Historical Dependence on Gathering, Hunting, Fishing, Animal Husbandry, and Agriculture.** Variables v1-v5 respectively in Murdock's Ethnographic Atlas. The variables take

integer values from 0-9 increasing in percent dependence on the food source. For example, the integer 0 indicates 0-5% dependence while 9 indicates 86-100% dependence.

- **Intensity of Agriculture.** Variable v28 from Murdock's Ethnographic Atlas. The variable takes integer values from 1-6 increasing in agricultural intensity.

- **Female Participation in Agriculture.** Coded from variable v54 in Murdock's Ethnographic Atlas. We construct from v54 a variable that takes integer values from 1-5 increasing in female participation in agriculture. The raw v54 variable takes integer values ranging from 1-9. We exclude groups where v45>6. No ethnic groups in the Ethnographic Atlas are coded as 7 or 8, and groups are coded as 9 if agriculture is an "absent or unimportant activity." We also combine groups coded as 3 or 4 into a single category, since both suggest equal participation of men and women in agriculture.

- **Election of Local Headman.** Coded from variable v72 in Murdock's Ethnographic Atlas. We construct an indicator variable that equals 1 if v72=6 (that is, if succession to the office of local headman determined by "election or other formal consensus, nonhereditary").

- **Presence of Active God.** Coded from variable v34 in Murdock's Ethnographic Atlas. We construct an indicator that equals 1 if v34=3 or 4 (i.e. if there is a high god that is either "active in human affairs but not supportive of human morality" or "supportive of human morality.")

- **Historical Slave Exports.** We use ethnic group-level measures of Atlantic and Indian Ocean slave exports from Nunn and Wantchekon (2011): https://scholar.harvard.edu/nunn/pages/data-0. Following Nunn (2008), we normalize slave exports by land area using ethnic group land area in the map from (Murdock, 1959).

- **Patrilineality and Matrilineality.** Coded from variable v43 in Murdock's Ethnographic Atlas as indicator variables that equals 1 when v43 = 1 or 3 respectively.

- **Patrilocality and Matrilocality.** Coded from variable v12 in Murdock's Ethnographic Atlas as indicator variables that equals 1 when v12=8 or 5 respectively.

- **Major City in 1800.** An indicator that equals 1 if a major city fell within the Murdock boundary of the ethnic group in 1800. Geospatial data on city location – defined as locations

with over 20,000 inhabitants – are from Chandler (1987) (as used in Nunn and Wantchekon (2011), Alsan (2015), Michalopoulos and Papaioannou (2016)).

- **Pre-Colonial Conflict.** An indicator that equals 1 for ethnic groups that experienced a pre-colonial conflict (1400-1700). Conflicts were linked to ethnic groups using the location of each conflict and the map from (Murdock, 1959). Conflict data are from Besley and Reynal-Querol (2014).

- **Population Density.** Ethnic group population density, parameterized as log (0.01 + population per square kilometer), was computed for both 1960 and 2000. The data, from the UN Environment Programme / Global Resource Information Database (UNEP/GRID), can be accessed at: https://na.unep.net/siouxfalls/datasets/datalist.php.

- **Muslim Majority.** We construct an indicator that equals 1 if the majority of an ethnic group's population is Muslim. This was coded individually for each ethnic group using the World Religion Database: http://www.worldreligiondatabase.org/wrd_default.asp.

- **Light Density.** Following Michalopoulos and Papaioannou (2013), we compute light density as the average luminosity across pixels that fall within an ethnic group's boundaries in Murdock (1959). For the empirical analysis, we take the log of ethnicity-level light density normalized by population. We use data from the U.S. National Oceanic and Atmospheric Administration/National Geophysical Data Center Earth Observation Group, which can be accessed at: https://ngdc.noaa.gov/eog/.

E. ***Grid-cell level characteristics***

- **Self-Reported Ethnicity.** Self reported ethnicity, used in Figure 7, is from a geo-referenced version of Round 3 of the Afrobarometer Survey used in Nunn and Wantchekon (2011). Individuals in the Afrobarometer survey were matched to grid cells based on their location (latitude and longitude). To construct Figure 7, for each grid cell in a segmentary lineage society (based on the Murdock Map and our coding) in our sample, we computed the fraction of individuals from the Afrobarometer survey whose self-reported ethnicity matched the segmentary lineage society. For each grid cell in a non-segmentary lineage society, we computed the fraction of individuals from the Afrobarometer survey whose self reported

ethnicity matched the adjacent segmentary lineage society. This variable is on the y-axis in Figure 7.

- **Latitude and Longitude.** Latitude and longitude are computed at the centroid of each grid cell.

- **Agricultural Suitability Index.** This suitability index is calculated by the Food and Agriculture Organization (FAO) for rain-fed crops. We computed the average suitability for each grid cell using the shapefile associated with Plate 46 that can be accessed at: http://webarchive.iiasa.ac.at/Research/LUC/GAEZ/index.htm.

- **Split Grid Cell.** An indicator that equals 1 if a grid cell is intersected by an international border. This variable is motivated by Michalopoulos and Papaioannou (2016).

- **Elevation and Slope.** Data for both elevation (m) and slope (degrees) are from GTOPO30, a "global digital elevation model (DEM) with a horizontal grid spacing of 30 arc seconds," which can be accessed at: https://lta.cr.usgs.gov/GTOPO30. To compute slope, we take the absolute value of each cell in the GTOPO30 data and compute the average over all cells within each grid cell. This an uphill slope measure equivalent to, for example, the measure used in Nunn and Puga (2012).

- **Temperature.** Average grid-cell level temperature in degrees Celsius was calculated for the period 2000–2010 from the University of East Anglia Climatic Research Unit, http://www.cru.uea.ac.uk/data.

- **Water Coverage.** We constructed an indicator that equals 1 if a grid cell is intersected by a body of water. Data on the distribution of land water is from the Inland Water Area Features dataset published by Global Mapping International (GMI). GMI shut down in June 2017.

- **Sorghum Suitability and Cereal Suitability.** Agro-ecological suitability for both sorghum and a composite measure for cereal is from the FAO GAEZ. The cereal composite measure incorporates the suitability of wheat, wetland rice, dryland rice, maize, barley, rye, pearl millet, foxtail millet, sorghum, oat, and buckwheat. We computed average suitability for each grid cell for both measures. The data can be accessed at: http://gaez.fao.org/Main.html#.

- **Land Cultivation.** Data on the distribution of cultivated land, including both irrigated and rain-fed crops, are from the FAO GAEZ. For each grid cell, we compute the fraction of land under cultivation based on FAO estimates. The data can be accessed at http://gaez.fao.org/Main.html#.

- **Mission Stations.** Data on the location of Catholic and Protestant mission states are from Nunn (2010), originally from Roome (1924). We computed the number of mission stations in each grid cell using the digitized geo-coded map from Nunn (2010).

- **Railway Lines.** Data on the location of colonial railways are from Nunn and Wantchekon (2011), and originally from Century Company (1911). We computed an indicator that equals 1 if a grid cell is intersected by a colonial railway line.

- **Petroleum.** We compute an indicator that equals 1 if there is an oil field in the grid cell. Data on the distribution of oil fields is from the Petroleum Dataset published by the Peace Research Institute Oslo (PRIO), and can be accessed at: https://www.prio.org/Data/Geographical-and-Resource-Datasets/Petroleum-Dataset/.

- **Diamond Mines.** We compute an indicator that equals 1 if there is a diamond mine in the grid cell. Data on the distribution of diamond mines is from the Diamond Resources dataset published by the Peace Research Institute Oslo (PRIO), and can be accessed at: https://www.prio.org/Data/Geographical-and-Resource-Datasets/Diamond-Resources/

Summary statistics of all variables calculated at the ethnicity-level are reported in Table A1 and summary statistics of variables calculated at the grid-cell-level are reported in Table A9.

A3. Alternative Strategies to Investigate Causal Relationships

While the RD analysis presented in the text results is our primary estimation strategy, in this section we report several additional estimates that provide some evidence for the validity of our baseline estimates. First, we employ a strategy adapted by Nunn and Wantchekon (2011) from Altonji, Elder and Taber (2005) that allows us to determine how much stronger selection on unobservables would have to be compared to selection on observables in order to fully explain away our result. To perform this test, we calculate the ratio $\hat{\beta_F}/(\hat{\beta_R} - \hat{\beta_F})$, where $\hat{\beta_F}$ is our coefficient of interest from a regression that includes a full set of controls while $\hat{\beta_R}$ is our

coefficient of interest from a regression that includes a restricted set of controls. In the first three columns of Table A2, we report the results for each of the 12 outcome variables from Table 2 of the text. The country fixed effects, geographic controls, and historical controls are included in the full set of controls, while the restricted set of controls only includes country fixed effects.

In total, this yields 12 ratios that range from -160.24 to 193.71. In some cases, the coefficient in the controlled model is larger than that on the uncontrolled model giving a negative ratio. In general, these ratios suggest that the influence of unobservable characteristics would have to be far greater than the influence of observable characteristics to fully account for our findings.

We also use results from Oster (2017) in order to calculate a lower bound for our coefficient of interest (columns 4–6). Oster's result relies on the assumption that observables and unobservables have the same explanatory power in the outcome variable, then the following estimator is a consistent estimator:

$$\beta^* = \hat{\beta_F} - (\hat{\beta_R} - \hat{\beta_F}) \times \frac{R^2_{max} - R^2_F}{R^2_F - R^2_R},$$

where $\hat{\beta_F}$ and $\hat{\beta_R}$ are as defined above, R^2_F is the R^2 from the fully controlled regression, and R^2_R is the R^2 from the regression with restricted controls. R^2_{max} is the R^2 from a regression that includes all observable and unobservable controls. R^2_{max} is unobserved; however, we know that the maximum value for R^2_{max} is 1 and this value yields the most conservative estimate of β^*. While recent research, such as Gonzalez and Miguel (2015) has shown that Oster's R^2_{max} should be below 1, which thereby raises the lower bound for β^*, in this analysis we assume $R^2_{max} = 1$ and rely only on the most conservative lower bound estimate.

We report lower bound estimates corresponding to the fully controlled and restricted regressions in columns 4–6 of Table A2. All lower bound estimates remain positive and economically significant. These results indicate that it is unlikely that our OLS estimates are biased by the presence of some unobservable factor, and suggest that the relationship that we have identified between segmentary lineage organization and conflict is indeed causal.

A second strategy is to use nearest neighbor matching to compare each segmentary lineage society to the non-segmentary lineage society that is most similar, based on a range of observable characteristics. We measure distance using Mahalanobis distance, which is defined as $D_{ij} = \sqrt{(X_i - X_j)' S^{-1} (X_i - X_j)}$, where X_i and X_j are vectors of observable covariates and S^{-1} is the variance-covariance matrix of X_j.

Table A3 presents the results from this approach using different choices of X_i and X_j. In

column 1, X_i and X_j consist of latitude and longitude. In column 2, they consist of our baseline set of geographic and historical controls. Finally, in the column 3, we continue to match ethnic groups based on all geographic and historical controls, and we additionally impose the requirement that members of a matched pair have the same number of levels of jurisdictional hierarchy beyond the local community. As discussed in the body of the paper, levels of jurisdictional hierarchy is of particular interest as a potential confounder. These results are similarly robust.

A4. Robustness of the OLS Estimates

Since all of the conflict outcome variables are count variables, we check that our baseline estimates are robust to the use of count models instead of OLS. In Table A4 we reports estimates of our most stringent specification but using using either Poisson (columns 1–3) or negative binomial (columns 4–6) regression models. For all outcome variables, our results remain robust to these alternative estimation strategies. In all cases but one, the coefficient of interest is positive and significant.

One criticism of the ACLED conflict data is that it includes conflict events that do not result in fatalities (e.g. Depetris-Chauvin, 2014). Other geo-referenced conflict data, like the UCDP-GED dataset, only includes a conflict if it has at least one fatality. This criticism results in part from the fact that conflict events without fatalities are more difficult to geocode accurately. While the ACLED data provide rich additional information that we use in our main analysis, it is important to establish the robustness of our results to coding differences. One test is to calculate the outcome variables using the ACLED data but excluding conflict events that are "non-violent." Excluded event types, based on ACLED's classification, include (*i*) instances when a headquarters or base is established, (*ii*) non-violent activity by a conflict actor, and (*iii*) a non-violent transfer of territory. Results from this check are reported in Panel A of Table A5. The results are very similar to our baseline estimates.

We also test the robustness of our results by using the UCDP-GED data. Panel B of Table A5 reports the results of this exercise for three of our outcome variables, (log of) total conflict incidents, (log of) total fatalities and (log of) years of conflict. The results are very similar to our results using the ACLED dataset both in the size of the coefficients and in their levels of statistical significance, which is reassuring.

Another concern could be that our results are being driven by outliers or conflicts which have

very large numbers of fatalities and last for longer stretches of time, such as those involving the Lord's Resistance Army in Uganda, in the territory of segmentary lineage societies such as the Acholi. Although Figure 4 suggests that this is not an obvious concern, we also take a more systematic approach to testing for the robustness of our estimates to outliers. One strategy is to drop observations with high Cook's Distance, which is a commonly used measure of the leverage of an observation. Following Bollen (1990), we drop observations with Cook's Distance greater than $4/n$ where $n = 141$ is the number of observations in the regression. These estimates are reported in panel A of Table A6. Our results are largely the same, aside from a drop in significance of the segmentary lineage indicator for outcome variables related to civil conflicts.

As an additional robustness test, we re-estimate the fully-controlled specification for each outcome variable after removing observations whose value for the dependent variable falls in the top 5 percent. As reported in Panel B of Table A6, the estimates remain robust to this procedure.

Another potential concern is that the results are biased by conflict incidents that are incorrectly or imprecisely geocoded in the ACLED database. To address this, we re-estimate our baseline regression after excluding conflict incidents coded in the ACLED data as having low geographic precision. Low precision incidents make up 4.75% of the overall ACLED data. While a minimum level of geographic information about a conflict incident is required for inclusion in the ACLED data, an incident is considered to have low geographic precision if the conflict can only be traced to a "larger region" within a province. These results, which are reported in panel C of Table A6, are very similar to the baseline estimates.

An additional check of our cross-ethnic group results is to examine the sensitivity of the OLS estimates to the inclusion of potentially endogenous variables. Given the evidence from Besley and Reynal-Querol (2014) that historical conflict is correlated with post-colonial conflict, we use their pre-colonial conflict data to control for the intensity of historical conflicts in our baseline regressions. It is possible that segmentary lineage organization increased conflict in the past, which results in more present-day conflict. Table A7 reports estimates where we control for historical conflict in our baseline regression, using the most conservative specification from Table 3. The estimated coefficient for our variable of interest remains significant and very similar in magnitude, suggesting that historical conflict and its relationship to current conflict is not a primary channel.

Next, we examine economic prosperity and religion as potential channels. If segmentary

lineage organization is linked to prosperity or religion, it is possible that our baseline results are capturing the relationship between prosperity or religion and conflict rather than a direct effect of segmentary lineage organization. To investigate this possibility, we include two measures of prosperity and a measure of the prevalence of Islam in our baseline regressions. The measures of prosperity are (log of) light density at night normalized by population, measured in 2000 (Henderson, Storeygard and Weil, 2012, Michalopoulos and Papaioannou, 2013, 2014) and population density in 2000. Using the *World Religion Database*, we also construct an indicator variable that equals one if Islam is the majority religion of the ethnic group today.

Estimates of our baseline regression with these controls included are presented in Table A8. The point estimate of interest remains positive and its magnitude declines by approximately 10–60%. While the largest decline occurs for civil conflict incidents, the decline is much more limited for non-civil conflicts or within-group conflicts. The change in coefficient magnitude seems to be driven primarily by the inclusion of population density, which is positive and significant in all regressions. Moreover, segmentary lineage organization is associated with higher population density today (but not Islam or light density).[1] Therefore, one possible explanation for the lower magnitude of the effect of segmentary lineage organization is that segmentary lineage organization is correlated with population density and higher population density today is associated with more conflict today, especially civil conflict.

A5. Robustness of the RD Estimates

Since the RD analysis estimates differences in conflict intensity between regions that are geographically close, it may be particularly sensitive to imprecision in the geocoding of conflict events. To address this potential concern, we re-estimated our baseline RD regression, but excluding conflict events coded in the ACLED data as having a low level of geographic precision. Results from this robustness check are reported in Table A10 and look very similar to the baseline results.

In the main text, we conducted a series of balance tests accompanying the RD analysis, showing that a range of observable characteristics do not vary discontinuously at borders between segmentary lineage and non-segmentary lineage societies. In Figure A1, we present these results graphically. We find no indication of a discontinuous change in any of the characteristics that we

[1]The correlations coefficients for the relationships between the control variables and segmentary lineage are: light density (coef$= 0.087$, $p = 0.29$); population density (coef$= 0.163$, $p = 0.05$); Islam (coef$= -0.020$, $p = 0.81$).

examine.

In Figure 8 of the paper, we show that there is a sharp increase in the fraction of the population surveyed by Afrobarometer that identify as a member of a segmentary lineage society just inside Murdock's approximation of the society's boundary. We aggregate over all borders between segmentary lineage and non-segmentary lineage societies and graph this discontinuity in self-reported ethnic affiliation at these borders. This aggregation is perhaps less intuitive than showing the discontinuity at any single border. While for many individual borders we do not have sufficient data to document a significant trend, in Figure A2 we graph the discontinuity for two individual borders with sufficient data. First, we show the border between the Soga and the Ganda – the outcome variable is the fraction of the population that identifies as Ganda and on the x-axis, positive values indicate kilometers into Ganda territory. This graph presents a clear discontinuity in self-reported ethnicity at the border, and suggests a magnitude for the discontinuity that is very similar to Figure 8. Next, we present the same graph for the border between the Zulu and Sotho – the outcome variable is the fraction of the population that identifies as Sotho. Again, a sharp discontinuity is apparent and the magnitude is very similar. Interestingly here, for most observations inside of Murdock's Zulu territory, the fraction of the Afrobarometer population that identifies as Sotho is zero.

Finally, in our placebo RD analysis, we construct principal components to separate ethnic groups into treatment and control categories based on a broad range of historical characteristics. These principal components are used in panels C and D of Table 7. Table A11 reports the factor loading of both principal components used to construct the treatment variables for the placebo RD estimates. The first principal component (panel C of Table 8) is constructed from 12 indicator variables for each level of jurisdictional hierarchy and level of historical settlement complexity. The second principal component (panel D of Table 8) adds to these twelve variables additional ethnic group level historical characteristics.

A6. Additional Rainfall Shock Specifications

In the main text of the paper, we show that low rainfall has a more pronounced positive effect on conflict in segmentary lineage societies. These estimates are reported in Table 10. As our baseline regression, we selected a conservative specification that includes group and time fixed effects, group-specific linear time trends, and six lags of the outcome variable on the right-hand side. We

test the robustness of our findings to the use of alternative specifications. The estimates, which are reported in Table A12, show that we obtain similar estimates with these alternative specifications. We find a positive effect of adverse rainfall on conflict when the outcome is either all conflicts or civil conflicts, and this effect is significantly more pronounced in segmentary lineage societies. When either non-civil conflict or within-group conflict is the outcome, we find no significant direct effect of adverse rainfall on conflict. However, when within-group conflict is the outcome, the interaction with segmentary lineage organized is positive and (weakly) significant.

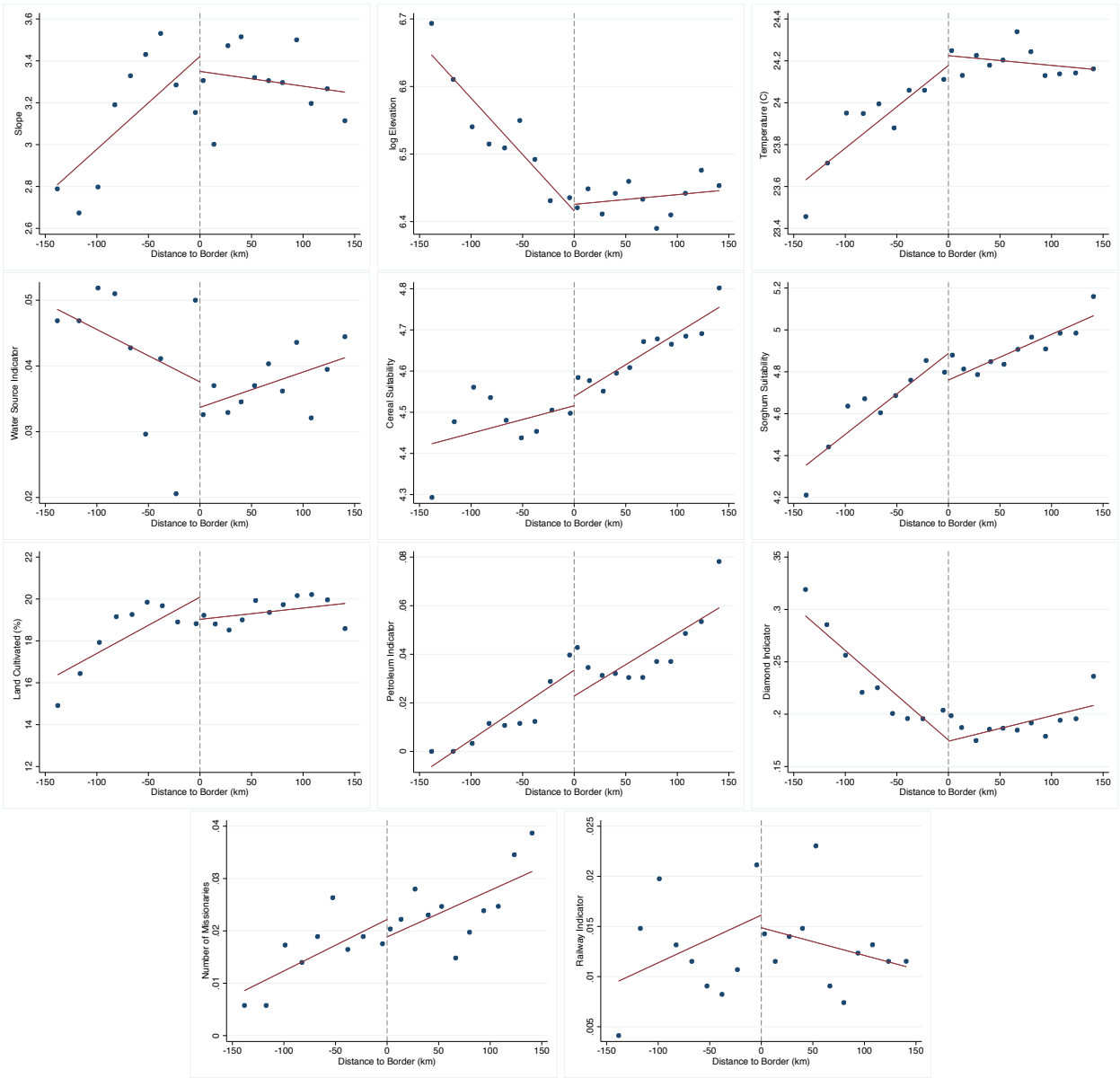

Figure A1: This figure presents graphical results from the balance tests accompanying the RD analysis. We examine whether there are discontinuities in observable characteristics at the borders between segmentary lineage and non-segmentary lineage societies. The x-axis is measured in kilometers and reports geographic distance from the borders between segmentary lineage and non-segmentary lineage societies. Positive values indicate kilometers into the segmentary lineage territor. The border is at kilometer 0. The characteristics are (beginning from the top left): land slope, (log of) elevation, temperature, an indicator that equals one if there is a water source in the grid cell, cereal suitability, sorghum suitability, the fraction of land under cultivation, an indicator that equals one if there is petroleum in a grid cell, an indicator that equals one if there are diamond deposits in a grid cell, the number of missionaries, and an indicator that equals one if a railway passes through a grid cell.

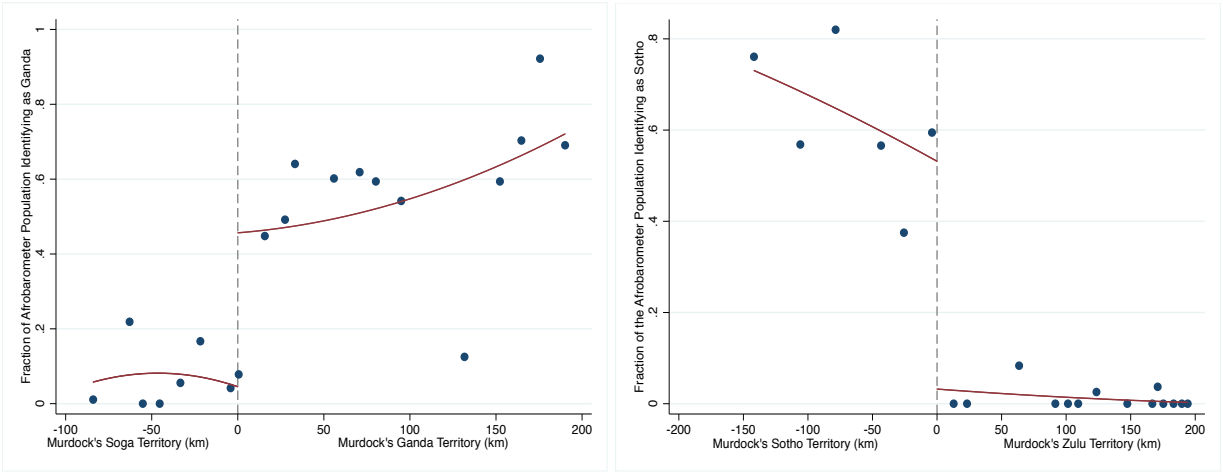

Figure A2: This figure presents the relationship between self-reported ethnicity and geographic location based on survey data from Round 3 of the Afrobarometer Survey at two individual Murdock borders: the border between the Soga and the Ganda and the border between the Sotho and the Zulu. The x-axis reports geographic distance – the borders are at kilometer 0. In the left-hand graph, the y-axis is the fraction of the surveyed population that identifies as Ganda. On the righthand graph, it is the fraction of the surveyed population that identifies as Sotho.

Table A1: Summary statistics, ethnicity-level variables.

	(1) Obs.	(2) Mean.	(3) St. Dev	(4) Min	(5) Max
		Ethnicity-Level Variables			
ln (1+Deadly Conflict Incidents):					
All Conflicts	145	2.556	1.798	0	6.685
Civil Conflicts	145	1.848	1.848	0	6.846
Non-Civil Conflicts	145	2.024	1.577	0	5.852
Within-Group Conflicts	145	1.266	1.299	0	5.094
ln (1+Conflict Deaths):					
All Conflicts	145	4.006	2.761	0	11.723
Civil Conflicts	145	3.109	2.817	0	11.688
Non-Civil Conflicts	145	3.046	2.369	0	8.289
Within-Group Conflicts	145	2.196	2.243	0	8.152
ln (1+Months of Deadly Conflict):					
All Conflicts	145	2.158	1.445	0	4.836
Civil Conflicts	145	1.631	1.398	0	4.625
Non-Civil Conflicts	145	1.674	1.307	0	4.543
Within-Group Conflicts	145	1.128	1.121	0	4.025
Geographic Variables:					
ln Land Area	145	9.718	1.145	7.424	12.310
Mean Altitude	145	0.365	0.342	0.002	1.676
ln Distance to National Border	145	4.401	1.099	0.575	6.293
Agricultural Suitability Index	145	0.564	0.170	0.913	0.857
Split Ethnic Group (10%)	145	0.317	0.467	0	1
Absolute Latitude	145	7.700	5.364	0	29
Longitude	145	19.679	15.994	-17	48
Historical Variables:					
Levels of Jurisdictional Hierarchy	141	1.270	0.992	0	4
Settlement Pattern	145	5.821	1.727	0	8
Endogenous Variables:					
Pre-Colonial Conflict Indicator	145	0.083	0.276	0	1
ln(1+Light Density Per Capita)	145	-6.038	0.909	-6.908	-1.679
ln(Pop. Density in 2000)	145	3.744	1.298	-1.133	7.432
Islam Indicator	145	0.200	0.401	0	1

Notes: Columns 1-5 report summary statistics for the variables listed on the left side of the table. All variables listed are calculated at the level of the ethnic group.

Table A2: Assessing the importance of bias from unobservables by controlling for observable characteristics.

		(1)	(2)	(3)	(4)	(5)	(6)
Robustness Test:		**Coeff. Ratio Test (after Altonji, Elder and Taber 2005)**			**Minimum Coeff. Lower Bound (after Oster 2015)**		
Controls in Restricted Set	Controls in Full Set	ln (1+Deadly Conflict	ln (1+Conflict Deaths)	ln (1+Months of Conflict)	ln (1+Deadly Conflict	ln (1+Conflict Deaths)	ln (1+Months of Conflict)
				Panel A: All Conflicts			
FE	FE, Geo., Hist.	10.916	5.282	10.001	0.881	0.827	0.69
				Panel B: Civil Conflicts			
FE	FE, Geo., Hist.	2.806	2.858	3.132	0.156	0.172	0.19
				Panel C: Non-Civil Conflicts			
FE	FE, Geo., Hist.	-12.917	-21.67	-22.546	1.153	1.74	0.862
				Panel D: Within-Group Conflicts			
FE	FE, Geo., Hist.	-160.239	11.882	193.709	0.806	0.845	0.654

Notes: Each cell in columns 1-3 report ratios based on the coefficient for the segmentary lineage indicator in two regressions; in one regression a restricted set of controls (country fixed effects) is included and in the other, a "full" set of controls is included. If B_R is the coefficient in the restricted set and B_F is the coefficient in the full set, then the ratio is B_F/(B_R-B_F). The controls included in each set are listed on the left side of the table and the dependent variables are listed at the top. In panels A-D, the dependent variable is constructed using all ACLED conflict, civil conflicts, non-civil conflicts, and within-group conflicts respectively. Each cell in columns 4-6 report coefficient lower bounds based on Oster (2015). If we define R2_R as the R2 for the regression with the restricted set of controls and R2_F as the R2 for the regression with the full set of controls, then the minimum coefficient lower bound is: B_F-(B_R-B_F)*((1-R2_F)/(R2_F-R2_R)). Again, the controls in the full and restricted sets are listed on the left side of the table, dependent variables are listed at the top, and in each panel the dependent variable is constructed using a different conflict type.

Table A3: Nearest Neighbor Matching.

	(1)	(2)	(3)
	Nearest Neighbor Matching		
	Geographic Proximity	Geographic & Historical Controls	Geographic & Historical Controls; Exact Jurisd. Hierarchy
ln (1+Deadly Conflict Incidents):			
All conflicts	1.005***	1.289***	1.449***
	(0.352)	(0.372)	(0.380)
Civil conflicts	0.653*	0.565	0.701*
	(0.337)	(0.401)	(0.372)
Non-civil conflicts	0.843***	0.990***	1.121***
	(0.304)	(0.333)	(0.355)
Within-group conflicts	0.687***	1.085***	1.243***
	(0.240)	(0.249)	(0.248)
ln (1+Conflict Deaths):			
All conflicts	1.367***	1.562**	1.691**
	(0.503)	(0.644)	(0.671)
Civil conflicts	1.046*	0.938	1.096*
	(0.539)	(0.642)	(0.638)
Non-civil conflicts	1.522***	1.882***	2.014***
	(0.457)	(0.502)	(0.559)
Within-group conflicts	1.275***	1.817***	2.035***
	(0.399)	(0.463)	(0.499)
ln (1+Months of Conflict):			
All conflicts	0.769***	1.010***	1.154***
	(0.295)	(0.308)	(0.314)
Civil conflicts	0.615**	0.733**	0.839***
	(0.275)	(0.294)	(0.283)
Non-civil conflicts	0.726***	1.018***	1.150***
	(0.271)	(0.264)	(0.280)
Within-group conflicts	0.567**	0.927***	1.072***
	(0.220)	(0.223)	(0.215)
Observations	145	141	140

Notes: Column 1 reports the average treatment effect on the treated between segmentary lineage and non-segmentary lineage societies across the 12 conflict variables listed on the left side of the table using nearest neighbor matching, where ethnic groups are matched using the Mahalanobis distance function based on their latitude and longitude. Column 2 reports the average treatment effect on the treated using nearest neighbor matching, where ethnic groups are matched using the Mahalanobis distance function based on all 'geographic' and 'historical' controls. Column 3 reports the average treatment effect on the treated using nearest neighbor matching, where ethnic groups are matched using the Mahalanobis distance function based on all 'geographic' and 'historical' controls and ethnic groups are matched exactly based on their jurisdictional hierarchy measure. In Columns 2 and 3, estimates are corrected for bias due to matching on multiple continuous variables (Abadie and Imbens 2006, 2011). *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table A4: Segmentary lineage societies and conflict: Negative binomial and poisson estimates.

	(1)	(2)	(3)	(4)	(5)	(6)
	Poisson			Negative Binomial		
	Number of incidents	Number of deaths	Months of conflict	Number of incidents	Number of deaths	Months of conflict
			Panel A: All Conflicts			
Segmentary Lineage	0.818***	1.144**	0.657***	0.847***	0.805**	0.663***
	(0.297)	(0.496)	(0.213)	(0.286)	(0.344)	(0.215)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dependent Var.	56.95	1639.93	21.16	56.95	1639.93	21.16
Observations	141	141	141	141	141	141
			Panel B: Civil Conflicts			
Segmentary Lineage	1.125***	1.025*	0.675***	0.670**	0.415	0.510**
	(0.374)	(0.541)	(0.234)	(0.320)	(0.395)	(0.246)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dependent Var.	49.71	1393.48	13.06	49.71	1393.48	13.06
Observations	141	141	141	141	141	141
			Panel C: Non-Civil Conflicts			
Segmentary Lineage	0.888***	1.454**	0.686***	0.909***	1.472***	0.737***
	(0.331)	(0.580)	(0.227)	(0.263)	(0.404)	(0.215)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dependent Var.	26.14	230.58	11.67	26.14	230.58	11.67
Observations	141	141	141	141	141	141
			Panel D: Within-Group Conflicts			
Segmentary Lineage	1.022***	1.700***	0.827***	1.096***	2.601***	0.907***
	(0.314)	(0.630)	(0.261)	(0.264)	(0.461)	(0.230)
Country FE	Yes	Yes	Yes	Yes	No	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dependent Var.	9.26	123.7	5.54	9.26	123.7	5.54
Observations	141	141	141	141	141	141

Notes: The unit of observation is the ethnic group and the right hand side variable of interest is an indicator variable that equals one if an ethnic group is a segmentary lineage society. Along with the segmentary lineage variable, all regressions include country fixed effects, 'geographic controls' (log of the land area occupied by the ethnic group, the log of the minimum distance between the ethnic group centroid and a national border, an indicator variable that equals one if the ethnic group is split by a national border, mean altitude, absolute latitude, longitude and an agricultural suitability index), and 'historical controls' (historical political centralization -- jurisdictional hierarchy beyond the local community -- and historical settlement pattern complexity). Columns 1-3 present results from a Poisson regression model and columns 4-6 present results from a negative binomial model. In Panel A, the dependent variables are constructed using all conflicts in the ACLED data; in Panel B, they are constructed using civil conflicts; in Panel C, they are constructed using non-civil conflicts; and in Panel D they are constructed using within-group conflicts. In order for the negative binomial model to converge, in column 5 of Panel D, we remove country fixed effects. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table A5: Segmentary lineage societies and conflict: Robustness of OLS estimates to the use of UCDP-GED conflict data.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	ln (1+Conflict Incidents)		ln (1+Conflict Deaths)		ln (1+Months)	
	Panel A: Dep. Var. Constructed from ACLED Data Excluding "Non-Violent" Incidents					
Segmentary Lineage	1.028***	0.675***	1.330***	0.855**	0.791***	0.496***
	(0.250)	(0.232)	(0.432)	(0.411)	(0.201)	(0.180)
Observations	141	141	141	141	141	141
Mean of Dependent Var.	2.69	2.69	4.00	4.00	2.26	2.26
R-squared	0.724	0.802	0.699	0.769	0.725	0.809
	Panel B: Dep. Var. Constructed from UCDP-GED Conflict Data					
Segmentary Lineage	0.922***	0.687**	1.778***	1.451***	0.484***	0.367**
	(0.256)	(0.262)	(0.475)	(0.497)	(0.149)	(0.150)
Observations	141	141	141	141	141	141
Mean of Dependent Var.	1.96	1.96	3.30	3.30	1.20	1.20
R-squared	0.741	0.769	0.720	0.743	0.745	0.769
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Contemporary Controls	No	Yes	No	Yes	No	Yes

Notes: This table tests the sensitivity of our results to alternative calculations of the dependent variables. In Panel A, outcome varaibles are constructed using the ACLED data but all "non-violent" forms of conflict are excluded from the calculation. Excluded conflict types, based on ACLED's classification, include (i) Headquarters or base established, (ii) Non-violent activity by a conflict actor, and (iii) Non-violent transfer of territory. In Panel B, dependent variables are constructed using all conflict data from the UCDP-GED conflict data set. All dependent variables are constructed from all conflict incidents in their respective data sets (i.e. without restricting to civil conflicts, non-civil conflicts, within group conflicts). All regressions include a set of country fixed effects , 'geographic controls' (including the log of the land area occupied by the ethnic group, the log of the minimum distance between the ethnic group centroid and a national border, mean altitude, absolute latitude, longitude, an agricultural suitability index, and an indicator that equals one if an ethnic group is split by a national border), and 'historical controls' (historical political centralization -- jurisdictional hierarchy beyond the local community -- and historical settlement pattern complexity). Columns 2, 4 and 6 add to these a set of contemporary controls, log of light density per capita in 2000, log of population density in 2000, and an indicator variable that equals one if Islam is the majority religion. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table A6: Segmentary lineage societies and conflict: Robustness of OLS estimates to restricted samples.

Dependent Variable, as ln(1+x):	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	All Conflict			Civil Conflict			Non-Civil Conflict			Within-Group Conflict		
	Incidents	Deaths	Months	Incidents	Deaths	Months	Incidents	Deaths	Months	Incidents	Deaths	Months
Panel A: Excluding Observations with Cook's Distance > 4/n (n=141)												
Segmentary Lineage	0.971***	1.051***	0.707***	0.474*	0.409	0.335*	0.871***	1.397***	0.536***	0.628***	1.002***	0.577***
	(0.229)	(0.366)	(0.175)	(0.247)	(0.374)	(0.187)	(0.170)	(0.297)	(0.177)	(0.155)	(0.287)	(0.151)
Observations	125	124	124	129	126	125	128	129	126	127	131	128
R-squared	0.771	0.806	0.789	0.768	0.808	0.816	0.810	0.786	0.795	0.755	0.742	0.766
Panel B: Excluding Top 5% of Each Dependent Variable Variable												
Segmentary Lineage	1.080***	1.382***	0.777***	0.566**	0.910**	0.419*	0.992***	1.474***	0.798***	0.683***	0.982***	0.602***
	(0.241)	(0.424)	(0.205)	(0.259)	(0.442)	(0.225)	(0.214)	(0.329)	(0.185)	(0.185)	(0.334)	(0.165)
Observations	133	133	133	133	133	133	133	133	133	133	133	133
R-squared	0.676	0.670	0.684	0.654	0.599	0.603	0.696	0.701	0.657	0.634	0.659	0.653
Panel C: Excluding Conflict Events with Low Geographic Precision												
Segmentary Lineage	1.036***	1.360***	0.811***	0.668**	0.939**	0.512**	0.986***	1.595***	0.790***	0.782***	1.339***	0.646***
	(0.250)	(0.434)	(0.202)	(0.261)	(0.452)	(0.218)	(0.225)	(0.375)	(0.193)	(0.202)	(0.374)	(0.170)
Observations	141	141	141	141	141	141	141	141	141	141	141	141
R-squared	0.706	0.694	0.716	0.656	0.656	0.647	0.689	0.669	0.699	0.680	0.658	0.693
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Historical controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The unit of observation is the ethnic group and the right hand side variable of interest is an indicator variable that equals one if an ethnic group is a segmentary lineage society. Along with the segmentary lineage variable, all columns we include a set of country fixed effects and language group fixed effects, 'geographic controls' (including the log of the land area occupied by the ethnic group, the log of the minimum distance between the ethnic group centroid and a national border, mean altitude, absolute latitude, longitude, an agricultural suitability index, and an indicator that equals one if an ethnic group is split by a national border), and 'historical controls' (including historical political centralization (jurisdictional hierarchy beyond the local community), historical settlement pattern complexity, and an indicator variable that equals one if the ethnic group is "split" by a national border). The dependent variable is listed at the top of the column. In Panel A, we exclude ethnic groups (observations) with a Cook's Distance value greater than 4/n (where n=141 is the sample size) in the baseline regression. In Panel B, in each column we exclude ethnic groups in the top 5% in the corresponding dependent variable. In Panel C, we calculate each outcome variable excluding conflict events coded in the ACLED data as having low geographic precision (geographic precision score of 3). *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table A7: Segmentary lineage societies and conflict: Robustness of OLS estimates to controlling for pre-colonial conflict.

	(1)	(2)	(3)	(4)	(5)	(6)
	ln (1+Incidents)	ln (1+Deaths)	ln (1+Months)	ln (1+Incidents)	ln (1+Deaths)	ln (1+Months)
	Panel A: All Conflicts & Civil Conflicts					
	All conflicts			Civil conflicts		
Segmentary Lineage	0.980***	1.199**	0.727***	0.570**	0.949*	0.470**
	(0.268)	(0.458)	(0.215)	(0.273)	(0.479)	(0.233)
Pre-colonial Conflict	0.330	-0.171	0.440	0.273	-0.067	0.270
	(0.438)	(0.841)	(0.327)	(0.480)	(0.849)	(0.391)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	141	141	141	141	141	141
R-squared	0.787	0.769	0.805	0.768	0.732	0.741
	Panel B: Non-Civil Conflicts & Within-Group Conflicts					
	Non-Civil Conflicts			Within-Group Conflicts		
Segmentary Lineage	0.950***	1.710***	0.722***	0.790***	1.381***	0.623***
	(0.246)	(0.394)	(0.206)	(0.221)	(0.411)	(0.190)
Pre-colonial Conflict	0.217	-0.607	0.424	0.001	-0.372	0.215
	(0.349)	(0.577)	(0.304)	(0.316)	(0.540)	(0.284)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	141	141	141	141	141	141
R-squared	0.802	0.747	0.794	0.747	0.707	0.749

Notes: The unit of observation is the ethnic group and the right hand side variable of interest is an indicator variable that equals one if an ethnic group is a segmentary lineage society. Along with the segmentary lineage variable, all columns we include a set of country fixed effects fixed effects, 'geographic controls' (including the log of the land area occupied by the ethnic group, the log of the minimum distance between the ethnic group centroid and a national border, mean altitude, absolute latitude, longitude, an agricultural suitability index, and an indicator that equals one if an ethnic group is split by a national border), and 'historical controls' (including historical political centralization (jurisdictional hierarchy beyond the local community) and historical settlement pattern complexity). We also control for pre-colonial conflict using data from Besley and Reynal-Querol (2014). In columns 1-3 of Panel A, the dependent variables are constructed using all conflicts in the ACLED data; in columns 4-6 of Panel A, they are constructed using civil conflicts; in columns 1-3 of Panel B, they are constructed using non-civil conflicts; and in columns 4-6 of Panel B they are constructed using within group conflicts. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table A8: Segmentary lineage societies and conflict: OLS estimates conditioning on light density, population density, and Islam.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variables, parameterized as ln(1+X):	Number of incidents	Number of deaths	Months of conflict	Number of incidents	Number of deaths	Months of conflict
	Panel A: All Conflicts & Civil Conflicts					
	All conflicts			Civil conflicts		
Segmentary Lineage	0.687***	0.885**	0.510***	0.270	0.387	0.200
	(0.235)	(0.408)	(0.181)	(0.252)	(0.424)	(0.202)
Jurisdictional Hierarchy	-0.138	-0.415**	-0.0765	-0.236*	-0.481**	-0.186*
	(0.133)	(0.197)	(0.101)	(0.139)	(0.199)	(0.102)
Contemporary Controls:						
ln Light Density pc	0.198	0.118	0.198*	0.330**	0.424*	0.331***
	(0.141)	(0.253)	(0.107)	(0.142)	(0.254)	(0.119)
ln Population Density	0.599***	0.888***	0.485***	0.488***	0.812***	0.427***
	(0.132)	(0.221)	(0.0989)	(0.132)	(0.227)	(0.104)
Islam Indicator	-0.338	-0.404	-0.260	-0.101	-0.0307	-0.108
	(0.275)	(0.435)	(0.226)	(0.277)	(0.466)	(0.237)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	141	141	141	141	141	141
R-squared	0.787	0.769	0.805	0.768	0.732	0.741
	Panel B: Non-Civil Conflicts & Within-Group Conflicts					
	Non-Civil Conflicts			Within-Group Conflicts		
Segmentary Lineage	0.674***	1.221***	0.538***	0.574***	1.014***	0.481***
	(0.203)	(0.348)	(0.176)	(0.190)	(0.355)	(0.168)
Jurisdictional Hierarchy	0.0617	-0.0402	0.0433	-0.0596	-0.159	-0.0545
	(0.121)	(0.190)	(0.105)	(0.121)	(0.232)	(0.104)
Contemporary Controls:						
ln Light Density pc	0.147	0.00892	0.146	0.232*	0.230	0.205*
	(0.142)	(0.254)	(0.113)	(0.138)	(0.237)	(0.111)
ln Population Density	0.554***	0.777***	0.453***	0.313***	0.504**	0.255***
	(0.121)	(0.203)	(0.0973)	(0.108)	(0.199)	(0.0900)
Islam Indicator	-0.296	-0.610	-0.322	-0.522**	-1.003**	-0.389*
	(0.265)	(0.425)	(0.221)	(0.243)	(0.433)	(0.214)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	141	141	141	141	141	141
R-squared	0.802	0.747	0.794	0.747	0.707	0.749

Notes: The unit of observation is the ethnic group and the right hand side variable of interest is an indicator variable that equals one if an ethnic group is a segmentary lineage society. All regressions include country fixed effects, 'geographic controls' (log of the land area occupied by the ethnic group, the log of the minimum distance between the ethnic group centroid and a national border, an indicator variable that equals one if the ethnic group is split by a national border, mean altitude, absolute latitude, longitude, and an agricultural suitability index), 'historical controls' (historical political centralization -- jurisdictional hierarchy beyond the local community -- and historical settlement pattern complexity) and the following 'contemporary controls': log of light density per capita in 2000, the log of population density in 2000, and an indicator that equals one if Islam is the majority religion. In columns 1-3 of Panel A, the dependent variables are constructed using all conflicts in the ACLED data; in columns 4-6 of Panel A, they are constructed using civil conflicts; in columns 1-3 of Panel B, they are constructed using non-civil conflicts; and in columns 4-6 of Panel B they are constructed using within-group conflicts. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table A9: Summary statistics, grid-cell level.

	(1) Obs.	(2) Mean.	(3) St. Dev	(4) Min	(5) Max
	Grid-Cell Level Variables (Base Sample, <60 km from Border)				
ln (1+Deadly Conflict Incidents):					
All Conflicts	10739	0.088	0.382	0	5.220
Civil Conflicts	10739	0.059	0.319	0	5.024
Non-Civil Conflicts	10739	0.040	0.231	0	4.585
Within-Group Conflicts	10739	0.020	0.157	0	3.296
ln (1+Conflict Deaths):					
All Conflicts	10739	0.158	0.709	0	8.619
Civil Conflicts	10739	0.103	0.588	0	8.619
Non-Civil Conflicts	10739	0.077	0.460	0	7.910
Within-Group Conflicts	10739	0.042	0.345	0	6.753
ln (1+Months of Deadly Conflict):					
All Conflicts	10739	0.077	0.325	0	4.554
Civil Conflicts	10739	0.051	0.268	0	4.060
Non-Civil Conflicts	10739	0.037	0.208	0	4.111
Within-Group Conflicts	10739	0.019	0.142	0	2.944
Geographic Variables:					
ln Elevation	10739	6.445	0.991	0	8.375
Agricultural Suitability Index	10739	4.033	1.876	0	9
Split Grid Cell	10739	0.050	0.217	0	1
Slope	10739	3.351	4.600	0	47.684
Mean Temperature	10739	24.135	2.748	14.200	30.100
Water Indicator	10739	0.037	0.189	0	1
Land Cultivated	10739	19.189	18.022	0	84.315
Petroleum Indicator	10739	0.030	0.170	0	1
Diamond Indicator	10739	0.190	0.392	0	1
Historical Variables:					
Mission Stations	10739	0.022	0.157	0	3
Railway Indicator	10739	0.015	0.121	0	1
Explorer Route Indicator	10739	0.047	0.211	0	1
Fraction SL, Self Reported	275	0.285	0.381	0	1

Notes: Columns 1-5 report summary statistics for the variables listed on the left side of the table. All variables listed are calculated at the level of the 10km-by-10km grid-cell, and the summary statisics are reported for the sample used in the baseline regression discontinuity analysis, consisting of all grid-cells within 60km of a border.

Table A10: Baseline RD Estimates Excluding Conflict Events with Low Geographic Precision

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Sample: Observations <60 km from Ethnic Group Boundary								
	Linear Running Variable in Euclidean Distance to the Border								
Dependent Variable:	ln(1+Deadly Conflict Incidents)			ln(1+Conflict Deaths)			ln(1+Months of Deadly Conflict)		
	Panel A: All Conflicts								
Segmentary Lineage	0.0421***	0.0385**	0.0389***	0.0875***	0.0804***	0.0817***	0.0327***	0.0295**	0.0298**
	(0.0146)	(0.0148)	(0.0145)	(0.0280)	(0.0280)	(0.0275)	(0.0119)	(0.0121)	(0.0120)
R-squared	0.088	0.091	0.092	0.084	0.088	0.089	0.090	0.093	0.094
	Panel B: Civil Conflicts								
Segmentary Lineage	0.0314***	0.0283**	0.0283**	0.0589**	0.0527**	0.0529**	0.0244***	0.0214**	0.0213**
	(0.0117)	(0.0119)	(0.0118)	(0.0234)	(0.0234)	(0.0230)	(0.00919)	(0.00934)	(0.00930)
R-squared	0.092	0.096	0.096	0.089	0.094	0.094	0.092	0.097	0.098
	Panel C: Non-Civil Conflicts								
Segmentary Lineage	0.0228***	0.0215**	0.0219***	0.0591***	0.0565***	0.0575***	0.0203**	0.0193**	0.0197**
	(0.00852)	(0.00844)	(0.00829)	(0.0172)	(0.0165)	(0.0163)	(0.00802)	(0.00794)	(0.00779)
R-squared	0.049	0.051	0.052	0.046	0.049	0.050	0.051	0.053	0.054
	Panel D: Within-Group Conflicts								
Segmentary Lineage	0.0128**	0.0125**	0.0126**	0.0300**	0.0285**	0.0287**	0.00999*	0.00984*	0.00985*
	(0.00567)	(0.00572)	(0.00566)	(0.0128)	(0.0125)	(0.0123)	(0.00513)	(0.00517)	(0.00510)
R-squared	0.034	0.036	0.036	0.034	0.036	0.036	0.037	0.038	0.038
Ethnic Groups	80	80	80	80	80	80	80	80	80
Observations	10,739	10,739	10,739	10,739	10,739	10,739	10,739	10,739	10,739
Ethnic Group Pair FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Geographic Controls	No	No	Yes	No	No	Yes	No	No	Yes

Notes: In columns 1-3, the dependent variable is the number of conflicts that resulted in at least one death; in columns 4-6, the dependent variable is the number of conflict deaths; and in columns 7-9, the dependent variable is the number of months during the sample period with at least one conflict, all parameterized as ln(1+x). All dependent variables are constructed excluding conflicts with low geographic precision based on the precision coding in the ACLED data. The unit of observation is a 10km grid cell. All regressions include a linear polynomial in latitude and longitude, interacted with ethnic group cluster indicator variable, and ethnic group pair fixed effects (68 pairs total). In Panel A, the dependent variables are constructed using all conflict types in the ACLED data; in Panel B, they are constructed using civil conflicts; in Panel C, they are constructed using non-civil conflicts; and in Panel D, they are constructed using within-group conflicts. All dependent variables are parameterized as ln(1+x). Geographic controls include elevation, agricultural suitability, and an indicator variable that equals one if a grid cell intersects with a national border. Robust standard errors clustered at the ethnicity level are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Table A11: Factor loadings of principal components used in placebo RD estimates (Table 8)

Principal Components Reported		
	Panel C	Panel D
Levels of Jurisdictional Hierarchy:		
0	0.0406	0.0235
1	-0.6203	-0.2411
2	0.4705	0.1979
3	0.2351	0.0649
Settlement Complexity:		
Nomadic or fully migratory	-0.334	-0.4275
Seminomadic	-0.2621	-0.2222
Semisendentary	0.0197	0.0015
Compact but impermanent settlements	0.2207	0.0364
Neighborhoods of dispersed family homesteads	0.2767	0.0848
Separated hamlets, forming a single community	-0.1095	0.1769
Compact and relatively permanent settlements	0.1334	0.0978
Complex settlements	-0.0346	0.0651
Dependence on Agriculture	-	0.5104
Dependence on Husbandry	-	-0.4875
Major City in 1800	-	0.0433
ln Slave exports (/land area)	-	0.2193
ln Pop. Density 1960	-	0.2071
Split by National Border	-	-0.1455
Proportion of Variation Explained:	**16.40%**	**18.90%**

Notes: Columns 1 and 2 report the factor loadings for the principal component used to construct the treatment variable in Panels C and D of Table 8 respectively. Variables used to construct the principal component are listed on the left side of the table. The first twelve variables are indicators that equal one if an ethnic group has the listed number of levels of jurisdictional hierarchy or historical settlement complexity. The proportion of variation explained by the first principal component used for the analysis is listed at the bottom of each column.

Table A12: Robustness of estimates of the differential effect of adverse rainfall shocks on conflict.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	ln (1+Deadly Conflict Incidents)								ln (1+Conflict Deaths)							
	All		Civil		Non-Civil		Within-Group		All		Civil		Non-Civil		Within-Group	
Panel A: Ethnicity FE & Linear Trends																
Negative Rainfall Shock (1000 mm/day)	0.633*	-0.188	0.765**	0.221	0.0283	-0.275	0.0460	-0.175	1.015	-0.767	1.288**	0.168	0.159	-0.753	0.224	-0.524
	(0.372)	(0.337)	(0.296)	(0.252)	(0.307)	(0.312)	(0.132)	(0.158)	(0.766)	(0.658)	(0.614)	(0.540)	(0.672)	(0.692)	(0.344)	(0.366)
Negative Rainfall Shock x SL		**1.843****		**1.220***		**0.681**		**0.497***		**4.002****		**2.514****		**2.048**		**1.680****
		(0.755)		**(0.620)**		**(0.635)**		**(0.265)**		**(1.546)**		**(1.270)**		**(1.379)**		**(0.688)**
Ethnic Group FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Ethnicity-Specific Linear Time Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6 Lags of Dependent Variable	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Observations	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580
R-squared	0.319	0.319	0.281	0.281	0.264	0.264	0.202	0.202	0.270	0.270	0.254	0.254	0.206	0.206	0.146	0.146
Panel B: Ethnicity FE & Time FE																
Negative Rainfall Shock (1000 mm/day)	0.433	-0.308	0.700**	0.223	-0.251	-0.491	-0.0903	-0.296	0.0770	-1.193	0.805	0.0286	-0.797	-1.282	-0.145	-0.786*
	(0.410)	(0.398)	(0.321)	(0.309)	(0.335)	(0.358)	(0.140)	(0.181)	(0.796)	(0.792)	(0.631)	(0.663)	(0.678)	(0.782)	(0.352)	(0.420)
Negative Rainfall Shock x SL		**1.731****		**1.114***		**0.560**		**0.480***		**2.966***		**1.814**		**1.134**		**1.498****
		(0.772)		**(0.622)**		**(0.647)**		**(0.267)**		**(1.592)**		**(1.288)**		**(1.402)**		**(0.702)**
Ethnic Group FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity-Specific Linear Time Trends	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
6 Lags of Dependent Variable	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Observations	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580
R-squared	0.229	0.229	0.197	0.197	0.184	0.184	0.120	0.121	0.200	0.200	0.178	0.178	0.151	0.151	0.096	0.096
Panel C: Ethnicity FE, Time FE & Linear Trends																
Negative Rainfall Shock (1000 mm/day)	0.660*	-0.0431	0.831***	0.335	-0.0271	-0.229	0.00356	-0.154	0.531	-0.914	1.092*	0.143	-0.388	-0.991	0.0178	-0.571
	(0.386)	(0.367)	(0.305)	(0.282)	(0.313)	(0.336)	(0.130)	(0.169)	(0.740)	(0.725)	(0.592)	(0.595)	(0.624)	(0.727)	(0.332)	(0.398)
Negative Rainfall Shock x SL		**1.640****		**1.157***		**0.471**		**0.368**		**3.371****		**2.215***		**1.408**		**1.375****
		(0.744)		**(0.609)**		**(0.632)**		**(0.262)**		**(1.534)**		**(1.244)**		**(1.375)**		**(0.686)**
Ethnic Group FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity-Specific Linear Time Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6 Lags of Dependent Variable	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Observations	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580	29,580
R-squared	0.334	0.335	0.291	0.291	0.278	0.278	0.216	0.216	0.285	0.285	0.264	0.264	0.219	0.219	0.157	0.157
Panel D: Ethnicity FE, Time FE, Linear Trends & 6 Lags of the Dependent Variable																
Negative Rainfall Shock (1000 mm/day)	0.768**	-0.144	0.747***	0.165	0.184	-0.199	0.113	-0.102	1.008	-0.957	1.084**	-0.0619	0.130	-0.866	0.209	-0.496
	(0.372)	(0.349)	(0.262)	(0.255)	(0.313)	(0.303)	(0.140)	(0.161)	(0.741)	(0.697)	(0.535)	(0.553)	(0.660)	(0.675)	(0.353)	(0.384)
Negative Rainfall Shock x SL		**2.129*****		**1.360****		**0.896**		**0.502***		**4.590*****		**2.675****		**2.327**		**1.646****
		(0.735)		**(0.602)**		**(0.620)**		**(0.280)**		**(1.593)**		**(1.316)**		**(1.462)**		**(0.733)**
Ethnic Group FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity-Specific Linear Time Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6 Lags of Dependent Variable	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538	29,538
R-squared	0.452	0.452	0.440	0.440	0.388	0.388	0.254	0.254	0.379	0.379	0.380	0.380	0.295	0.295	0.181	0.182

Notes: All columns present results from a 216 month panel (1997-2014) of all ethnic groups in the sample. The ethnic group level negative rainfall shock variable is included in every column -- this is cacluated as realized monthly rainfall subtracted from the ethnic group average over the sample period. In even numbered colums, an interaction between negative rainfall and the segmentary lineage indicator is also included. In columns 1-8, the dependent variable is deadly conflict incidents and in columns 9-16, it is conflict deaths, both parameterized as ln(1+x). In columns 1-2 & 9-10, the dependent variable is constructed using all conflicts; in columns 3-4 & 11-12, it is constructed using civil conflicts; in columns 5-6 & 13-14 it is constructed using non-civil conflicts; and in columns 7-8 & 15-16, it is constructed using within-group conflicts. Each panel has a different set of controls included on the right hand side. All regressions include ethnic group fixed effects. Panel A also includes linear group-specific time trends. Panel B includes time fixed effects. Panel C includes both the linear trends and time fixed effects. Panel D includes time fixed effects, linear time trends, and 6 lags of the dependent variable. Standard errors clustered at the ethnic group level are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

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