

## APPENDIX

### “Obstacle to Peace? Ethnic geography and effectiveness of Peacekeeping”

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## **A1. CROSS-NATIONAL RESULTS**

Table A1 is a replication of country-month analysis by Hultman et al (HKS)<sup>1</sup>, with the addition of the polarization index and its interaction with military peacekeepers. Yearly data on ethnic polarization is from Bove and Elia.<sup>2</sup> Model A1 in Table A1 is a replication of the HKS' negative binomial. As in Hultman et al, UN troops report a consistently negative coefficient but their curbing-capacity against one-sided violence, as found in the manuscript, appears to be conditional on national levels of ethnic polarization. As polarization grows (Figure A1), the effect of peacekeepers becomes larger, suggesting that higher polarization creates conditions for more effective PoC (protection of civilians) tasks. As polarization approaches 0.4, confidence intervals get very large and the effect vanishes, but this is due to the fact that in this sample observations up to the 95<sup>th</sup> percentile are below 0.39.

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<sup>1</sup> Hultman et al 2013.

<sup>2</sup> Bove and Elia 2017.

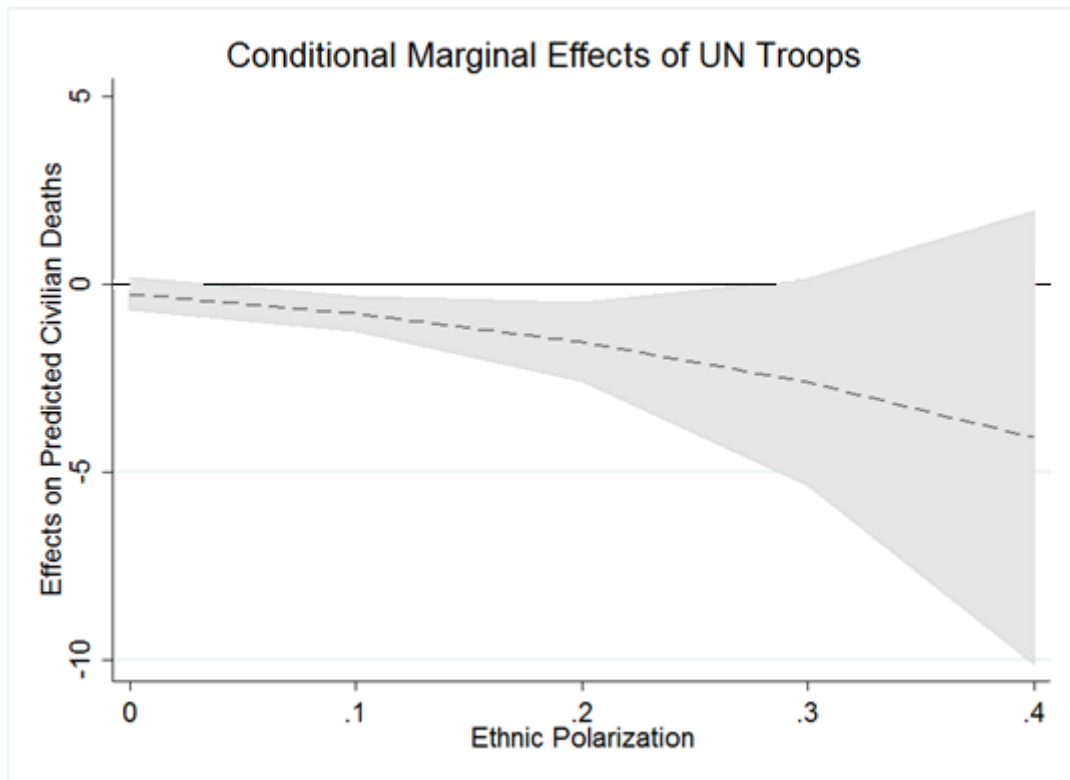
**Table A1. Cross-National Models with all PKO missions in Sub-Saharan Africa (1991-2008)**

| Model A1                              |                   |
|---------------------------------------|-------------------|
| Variables                             | Neg. Bin.         |
| Ethnic Polarization                   | 5.561+<br>2.909   |
| UN Troops/1,000                       | -0.023<br>0.023   |
| Ethnic Polarization # UN Troops       | -0.331+<br>0.196  |
| UN Police/1,000                       | -0.733*<br>0.279  |
| UN Observers/1,000                    | 1.357*<br>0.231   |
| Battle-related Deaths                 | 0.000<br>0.000    |
| OSV (t-1)                             | 6.774*<br>0.330   |
| UCDP Incompatibility (1=Terr; 2=Govt) | 2.344*<br>0.424   |
| Duration of Conflict Episode          | -0.004<br>0.003   |
| Population (nat. log)                 | 0.870*<br>0.178   |
| Constant                              | -13.172*<br>2.139 |
| Observations                          | 254               |
| AIC                                   | 2083.782          |
| BIC                                   | 2126.230          |

Standard Errors in parenthesis

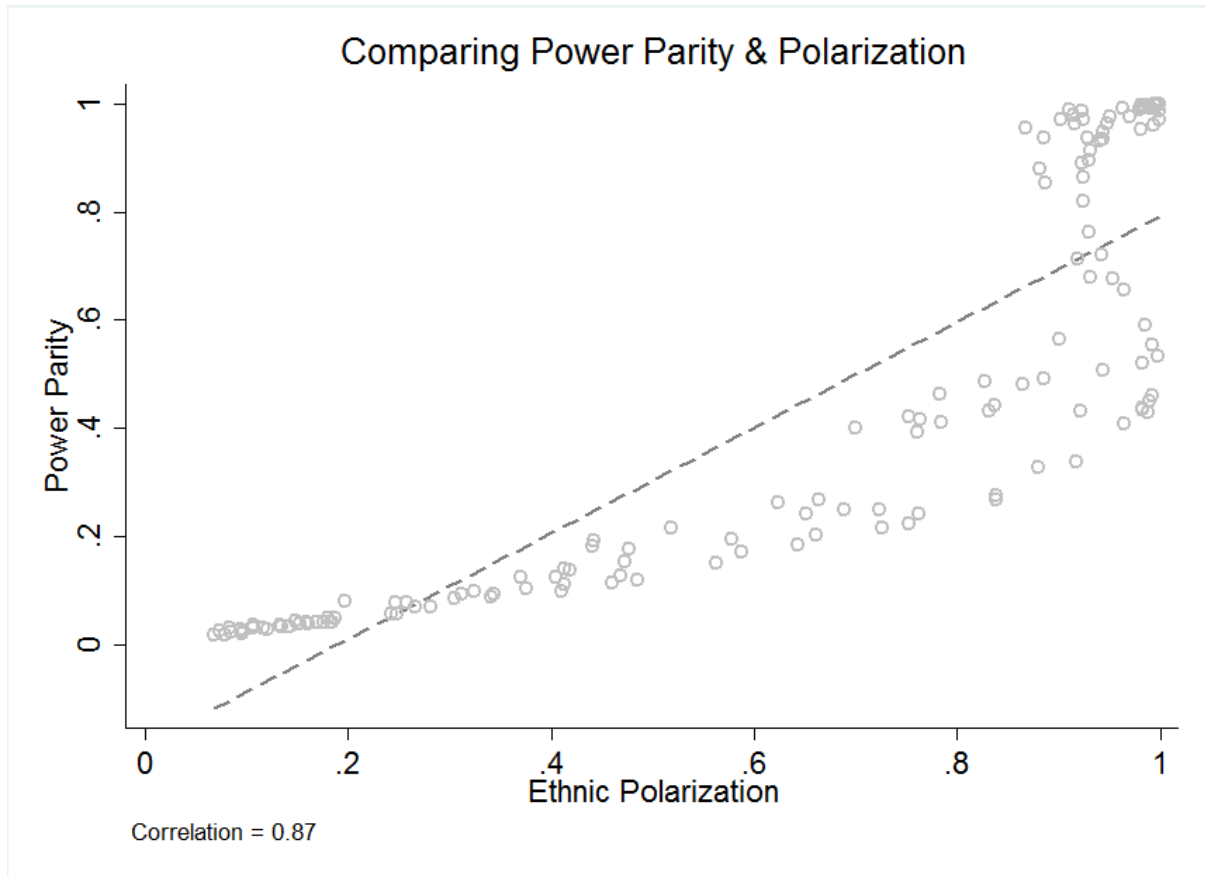
\* p<0.05, + p<0.10

Figure A1. Marginal Effects of UN Troops conditional on level of polarization (Model A1)



## A2. ETHNIC POLARIZATION AND ETHNIC POWER PARITY

Figure A2.1 . Scatterplot comparing indexes of ethnic power parity and polarization



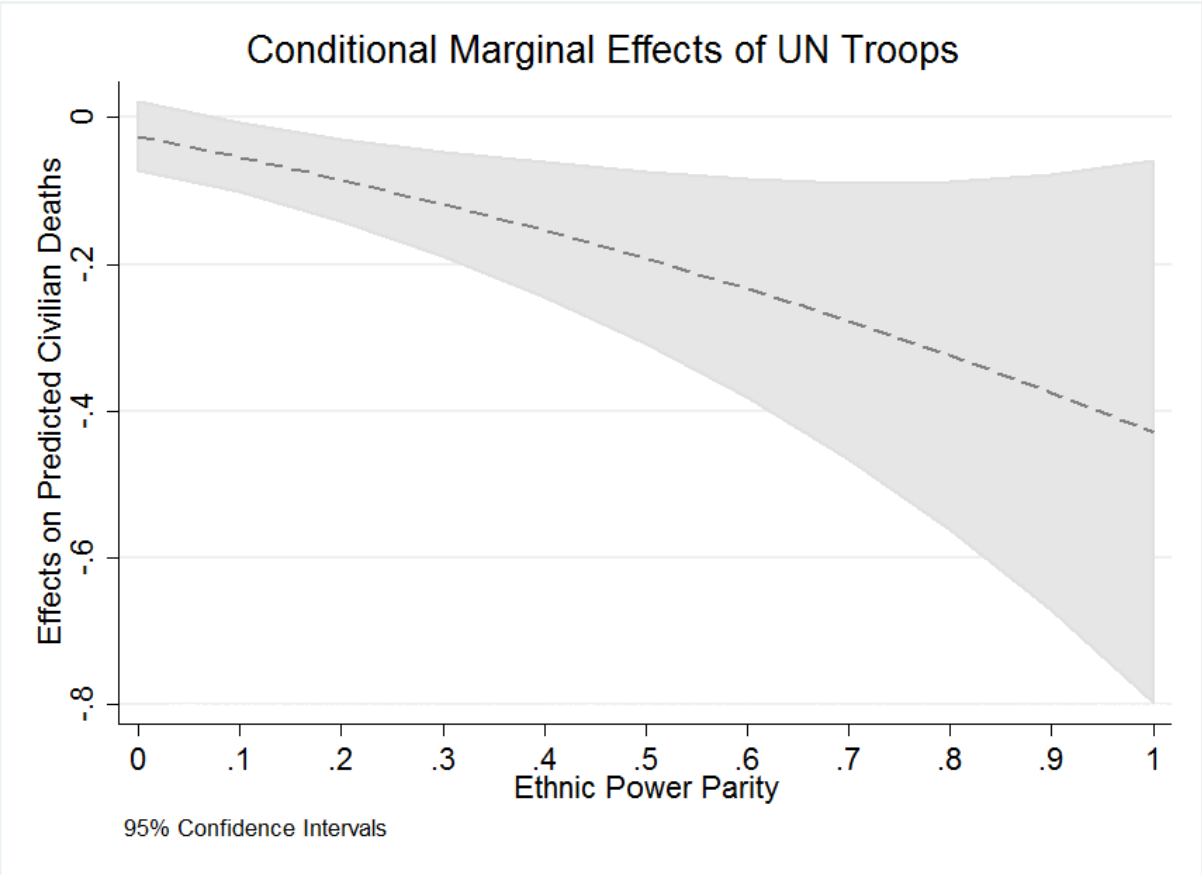
**Table A 2. Replication of Model 5 in Table III with ethnic power parity**

| Variables                             | Model A2<br>Replication of Model 5 |
|---------------------------------------|------------------------------------|
| Ethnic Power Parity                   | 0.663<br>0.578                     |
| UN Troops (log)                       | -0.151<br>0.136                    |
| Ethnic Power Parity # UN Troops (log) | -1.579*<br>0.655                   |
| Civilian Deaths                       | 0.025<br>0.020                     |
| Population (log)                      | 0.446<br>0.379                     |
| Purchase Power Parity (log)           | 130.320*<br>38.378                 |
| Capital Distance                      | 0.004<br>0.004                     |
| Nightlights Emissions                 | 1.369<br>37.722                    |
| Diamonds (primary)                    | -1.710*<br>0.651                   |
| Prior Violence                        | -0.001<br>0.002                    |
| Civilian Deaths (spatial lag)         | 0.181*<br>0.063                    |
| Excluded Groups (EPR)                 | 0.367<br>0.984                     |
| UN Troops (spatial lag)               | -0.002<br>0.001                    |
| Constant                              | -7.083+<br>3.683                   |
| Inalpha                               | 3.952*<br>0.615                    |
| N                                     | 7655                               |
| AIC                                   | 5376.827                           |
| BIC                                   | 5480.973                           |

Clustered Standard Errors in parenthesis

\* p<0.05, + p<0.1

Figure A2.2 . Marginal Effect of UN Troops by levels of ethnic power parity (Model A2, Table A2)



### **A3. POLARIZATION AND SEGREGATION**

One of the assumptions made in the operationalization of territorial control as ethnic polarization is the degree of segregation at different levels of polarization. I argue that in chiefdoms with high polarization level, groups have similar size and will confront each other militarily along relatively clear separation lines. On the other hand, when polarization is low, there is usually asymmetry in size. While having two large groups makes it easier for individuals to move towards their co-ethnics and, thus, segregate, this is more complicated for minority groups that are surrounded by a dominant group. As result, low polarization corresponds also to intermingling of the minority group in areas inhabited by the majority group.

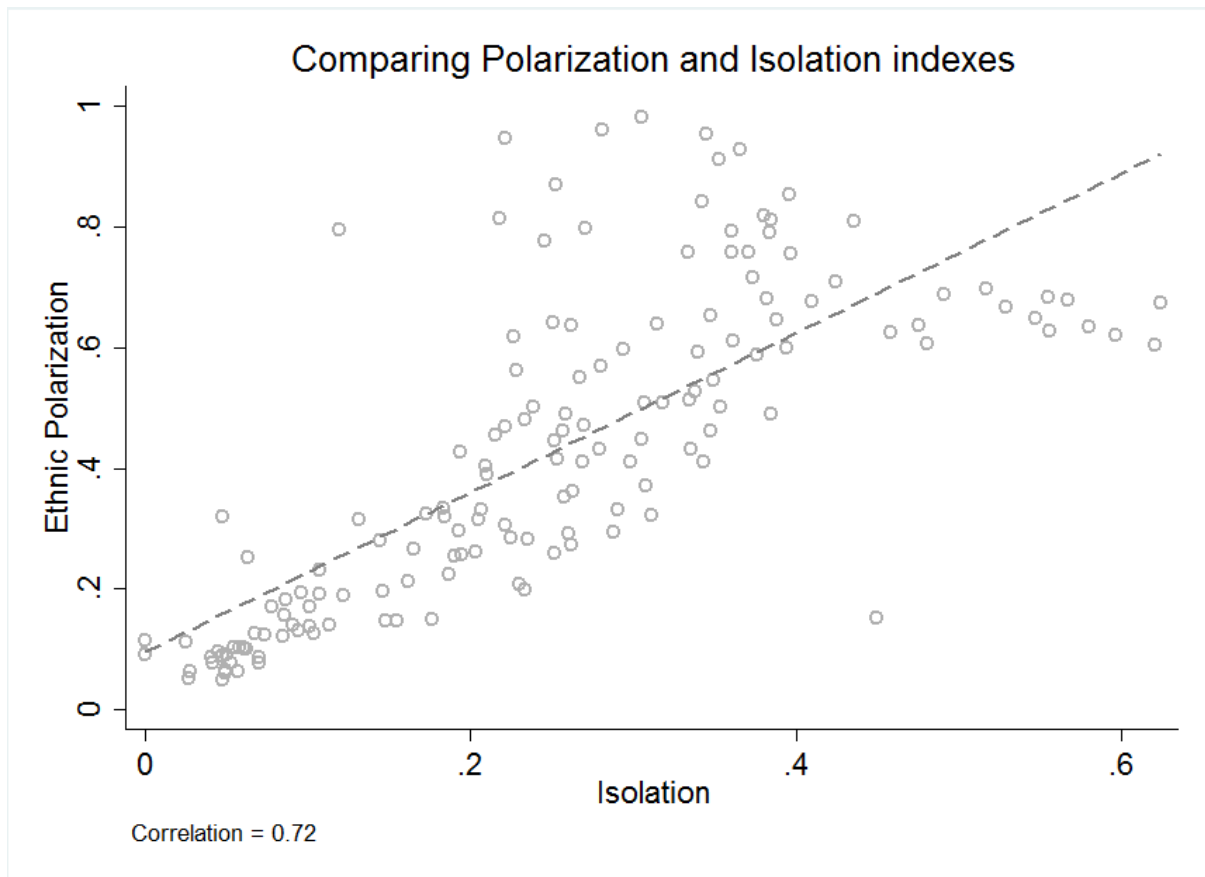
Ethnic polarization does not measure the degree of segregation. In this section, I show that, in the case of Sierra Leonean chiefdoms, ethnic polarization strongly correlates with segregation index. As measure of segregation, I use the isolation index provided by Glennerster, Miguel, and Rothenberg in their replication dataset.<sup>3</sup>The isolation index measures the exposure of a minority group to the majority group in a given unit. If there is high segregation (groups are physically), the index will approach 1. As intermingling increases, the index decreases toward 0. As depicted in Figure A3, in more polarized chiefdoms groups are more segregated, meaning they are separated and inhabit homogenous areas within the chiefdom. Conversely, as segregation shrinks, polarization follows the same reduction. Notice that segregation indexes do not consider relative size of groups and thus are a poor measure for local balance of power.

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<sup>3</sup> Glennerster, Miguel, and Rothenberg 2013.



Figure A3. Scatterplot comparing indexes of ethnic isolation and polarization



#### A4. TOTAL UN ARMED PERSONNEL

Table A 3. Negative Binomial model with both UN Troops and Police

| Variables                     | Model A3<br>Total PK Armed Personnel |
|-------------------------------|--------------------------------------|
| UN PK (Troops&Police)         | -0.008<br>0.237                      |
| Ethnic Polarization           | 0.786<br>0.508                       |
| Ethnic Polarization # UN PK   | -0.997*<br>0.419                     |
| Civilian Deaths               | 0.053*<br>0.020                      |
| Population (log)              | 0.412<br>0.338                       |
| Purchase Power Parity (log)   | 95.297<br>62.701                     |
| Capital Distance              | -0.001<br>0.003                      |
| Nightlights Emissions         | 43.377+<br>24.017                    |
| Diamonds (primary)            | 0.791<br>0.489                       |
| Prior Violence                | -0.000<br>0.002                      |
| Civilian Deaths (spatial lag) | 0.212*<br>0.072                      |
| Excluded Groups (EPR)         | -0.341<br>0.398                      |
| UN Troops (spatial lag)       | -0.537+<br>0.292                     |
| Constant                      | -7.468*<br>2.770                     |
| Inalpha                       | 4.933*<br>0.130                      |
| N                             | 8791                                 |
| AIC                           | 3344.700                             |
| BIC                           | 3450.922                             |

Clustered Standard Errors in parenthesis

\* p<0.05, + p<0.1

## References

- Bove, Vincenzo, and Leandro Elia. 2017. "Migration, Diversity, and Economic Growth." *World Development* 89: 227–39.
- Glennerster, Rachel, Edward Miguel, and Alexander D. Rothenberg. 2013. "Collective Action in Diverse Sierra Leone Communities." *The Economic Journal* 123(568): 285–316.
- Hultman, Lisa, Jacob Kathman, and Megan Shannon. 2013. "United Nations Peacekeeping and Civilian Protection in Civil War." *American Journal of Political Science* 57(4): 875–91.