Hot Under the Collar: a Latent Measure of Interstate Hostility
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Goal
• The goal of this project is to create a latent measure of interstate hostility that could be used to study interstate conflict dynamics

Overview
• This project presents a latent measure of international hostility created using a Bayesian Item Response Theory model and data on international interactions
• The measurement model solves the problem of temporal variation in events data coverage through a model structure in which human-coded data is used as a benchmark to correct for biases in machine-coded data
• By providing a granular, conceptually precise, and validated measure of hostility, the presented model will enhance the ability of researchers to understand factors affecting conflict escalation and de-escalation

Research Design
• Unit of Analysis: interstate dyads (pairs of countries)
• Time period: 1946-2015

Data
• Militarized Interstate Disputes (MID) dataset (Palmer et al 2015)
  ➢ Information about conflicts in which one or more states threaten, display, or use force against one or more other states
  ➢ Accurate, but temporally aggregated
• The Cline Center Historical Phoenix Event Data (Althaus, Bajjalieh, Carter, Peyton, and Salamon 2017)
  ➢ Machine coded political event data
  ➢ Noisy, but temporally disaggregated

Methodological approach
• One of the problems with using machine-coded event data is reporting bias caused by an increase in the availability of news documents starting in the 1980s.
• Ignoring temporal variation in the events data may lead to the incorrect inferences. E.g., increasing number of conflicts over time
  The Phoenix Data Indicate that Hostility is Increasing

Results
• Temporal variation in the level of the global hostility shows that (contrary to the Phoenix data) the world has become less hostile over time

Decline in the level of global hostility (1946-2015):

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Model
\[ P[y_{ij} = 1] = F(\alpha_{jk} - \beta_j \theta_k) \]
\[ \vdots \]
\[ P[y_{ij} = k] = F(\alpha_{jk} - \beta_j \theta_k) - F(\alpha_{jk-1} - \beta_j \theta_k) \]
\[ \vdots \]
\[ P[y_{ij} = K_j] = 1 - F(\alpha_{jk-1} - \beta_j \theta_k) \]

Conclusion
• This project presents a new latent measure of interstate hostility that can be used to study conflict dynamics
• The results show that scholars should be cautious when using machine-coded datasets to make comparisons across time
• Good news: global hostility is declining!