

Variation in Economic Growth From Civil Conflict

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April 17, 2015

Puzzle

High variation in economic performance between countries in the midst of internal armed conflict

- Mexico
- India
- Nicaragua

Spatial Context of Conflicts

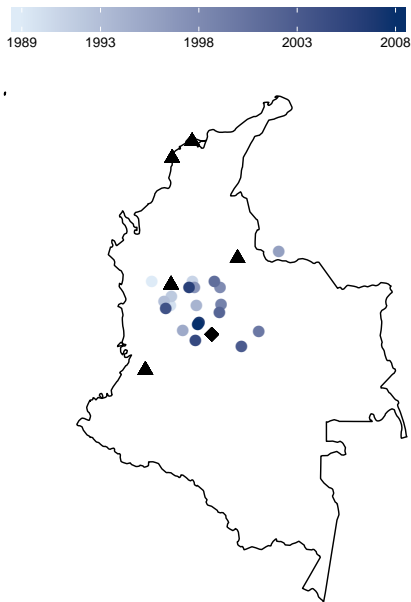
- Krugman 1991; Henderson 2000; Hanson 2005 - Cities are important drivers of economic growth
- Heterogeneity in effect of conflict on growth is due to spatial proximity of conflict relative to major urban centers

- Civil War → Economic Performance
 - Collier (1999) - *destruction, disruption, diversion, dissaving, portfolio substitution*
 - Imai & Weinstein (2005) - *geographical spread of conflict*
- Economic Performance → Civil War
 - Collier et al. (2003) - the conflict trap
 - Fearon & Laitin (2003) - poor economic growth conducive for civil war
- Disaggregating Civil Wars
 - Pierskalla & Hollenbach (2013) - cell phone coverage → rebel mobilization

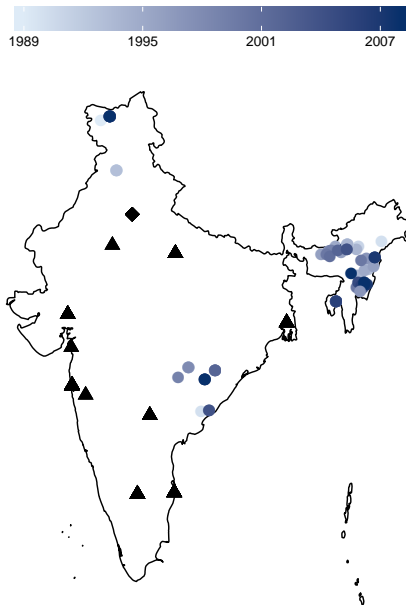
- Cities → Growth
 - Marshall (1920) - geographic clustering promotes valuable learning and exchange between actors
 - Lucas (1998) & Glaeser et al. (1992) - accumulation of human capital generates positive spillovers
 - Venables (2005) - economy consists of “lumps” of productivity and swaths of areas contributing little to growth
- Cities & Conflict → Growth
 - conflicts have heterogeneous effects on economic growth
 - effects determined by spatial proximity to economically relevant centers such as cities

FARC's strategy and [beliefs have] always been to make economic pressure on both, multinational companies and the Colombian government. This has been done by attacking oil and natural gas infrastructure affecting companies such as Pacific Rubiales Energy, Oxy and Ecopetrol. For non-fuel related international companies with subsidiaries in Colombia, such as Goodyear, Nestle, Microsoft, Toyota, among others, FARC's modus operandi was mainly racketeering, kidnappings and extortion. (Flannery 2012)

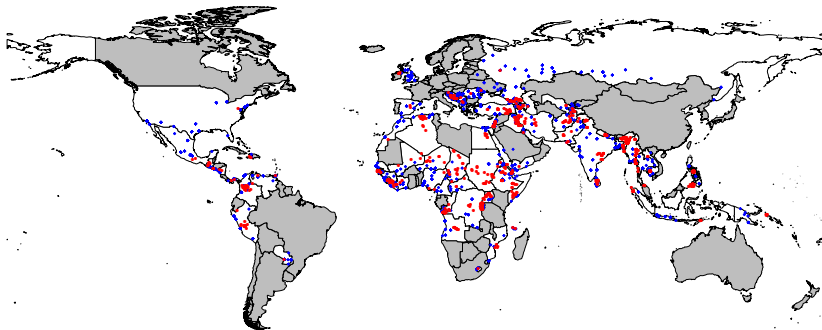
Spread of Conflict: Colombia



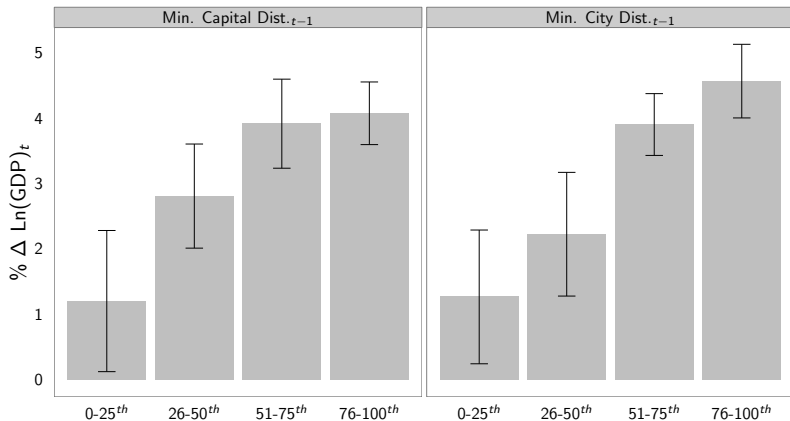
Spread of Conflict: India



Conflict & City Data

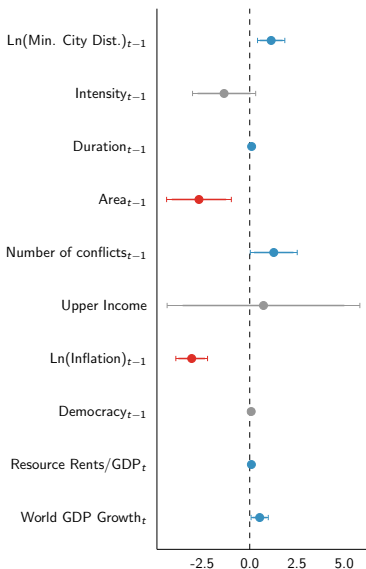
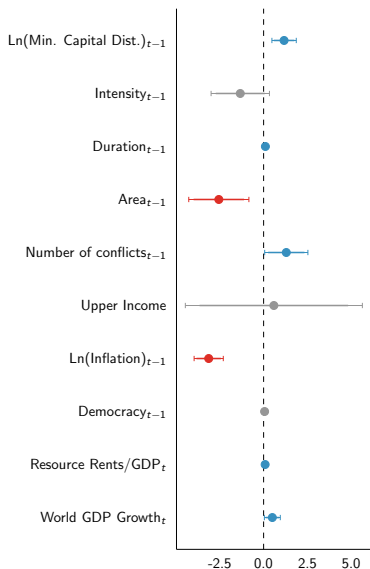


Bivariate Relationship?

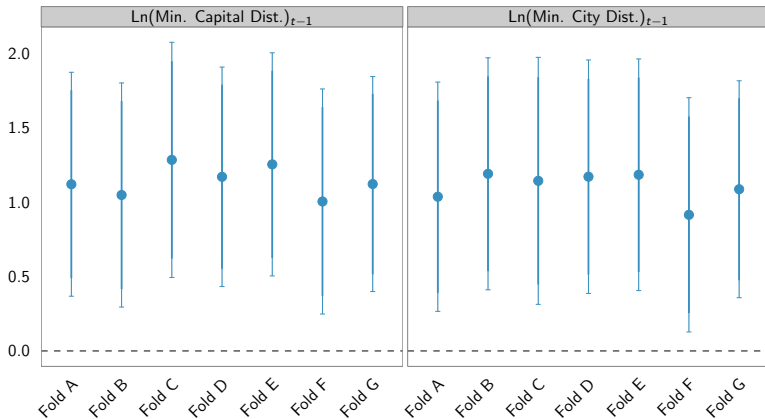


$$\begin{aligned}\% \Delta \text{Ln}(GDP)_{i,t} = & \beta_1(\text{Ln}(\text{Min. Conflict Dist.})_{i,t-1}) \\ & + \beta_2(\text{Conflict Intensity}_{i,t-1}) \\ & + \beta_3(\text{Conflict Duration}_{i,t-1}) \\ & + \beta_4(\text{Conflict Area}_{i,t-1} / \text{Land Area}_{i,t-1}) \\ & + \beta_5(\text{Number of Conflicts}_{i,t-1}) \\ & + \beta_6(\text{Upper Income}_{i,t}) \\ & + \beta_7(\text{Inflation}_{i,t-1}) + \beta_8(\text{Democracy}_{i,t-1}) \\ & + \beta_9(\text{Resource Rents}/GDP_{t-1}) \\ & + \beta_{10}(\text{World GDP Growth}_t) + \mu_{i,t} + \epsilon_{i,t}\end{aligned}$$

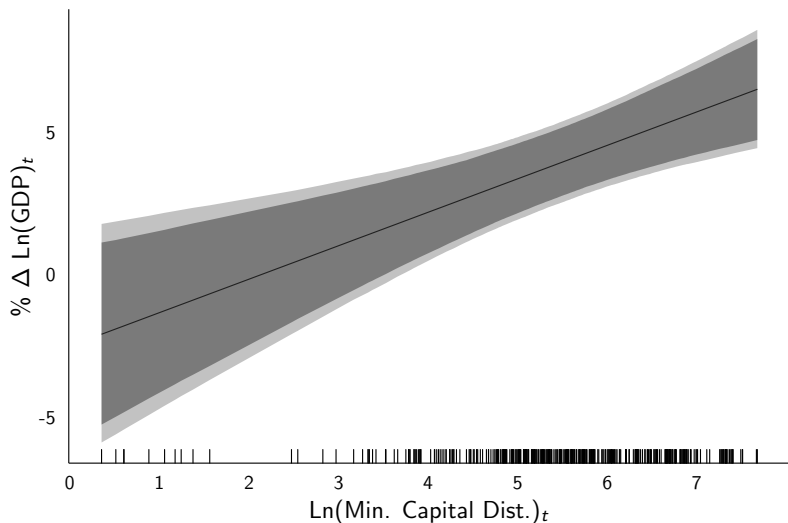
Findings



Cross-Validation of Parameter Estimates



Substantive Effects: Capital Distance



Conclusions

- Novel approach in the study of civil conflict to distinguish between spatially dissimilar events
- Proximity of conflict to major cities explains disparate economic outcomes

Next Steps

- Account for other economically important locations (e.g., oil fields)
- Alternative methods to address aggregation problem
- More refined analysis within a country using subnational economic data