How do Civilian Population Movements Affect Combatant Strategies in a Civil Conflict? Evidence from Syria

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While population is widely considered by political scientists to be a relevant factor affecting the overall propensity civil conflict, little research has been conducted on the effect of changes in population on the spatial distribution of violence. This project uses the Syrian civil war as a case study to investigate how shocks to the size of the civilian population affect the behavior of government and rebel forces during a civil war. It exploits the sudden and unanticipated closure of official border crossings in Turkey and Iraq in the summer of 2012 to proxy for an exogenous increase population of non-combatants in the regions near these crossings. Using a difference-in-difference design and comparing regions near the Turkish and Iraqi borders with regions near the Lebanese and Jordanian borders, which were unaffected by the closure, I find that the increase in civilian population benefited Syrian rebels by reducing government attacks, consistent with theoretical expectations. This resulted in a significant decrease in civilian and rebel deaths compared to regions where the nearest border crossings remained open. I do not find that government forces responded to the shocks by escalating coercion of non-combatants.

How Population Affects Combatant Behavior

- Population long acknowledged as a factor affecting civil war outcomes (Fearon and Laitin, 2003). For example, refugee movements are seen as a source of conflict, both civil and international (Salehyan, 2008; Salehyan and Gleditsch, 2006).
- Large populations commonly assumed to favor rebel groups
  - Increases the government's surveillance costs (rebels can more easily avoid government coercion) (Fearon and Laitin, 2003).
  - Increases the pool of available recruits for a rebellion.
- However, existing studies only examine population as a risk factor for civil war onset. Little empirical work addresses population movement and behavior *during* a civil war.
- This despite extensive theoretical development in recent years on the interaction between rebels, governments and non-combatants (e.g. Kalyvas, 2006)
  - It is unclear whether population changes *during* a conflict clearly benefit rebels. Civil wars are dynamic systems. Governments can react to nullify rebel gains from a large population by escalating coercion of non-combatants (Azam and Hoeffler, 2002; Zhukov, 2013)
- The absence of empirical research is partially due to data scarcity and challenges in identification
  - Almost no data exists on population movements during civil wars. Estimates of refugee and IDP camp size are sporadic and rarely available for multiple time periods.
  - Population change is endogenous to violence. Non-combatants will likely tend to flee areas of high conflict to areas of low conflict.

Empirical Strategy

- This project proposes a solution to both the data and identification challenges through a micro-level study of the Syrian civil war.
  - Because of extensive media coverage, there exists a substantial amount of data on conflict events occurring within Syria. The Global Database of Events, Language and Tone (GDELT) dataset contains thousands of geocoded interactions between government and rebel forces covering the full timeframe.
  - As a consequence of sudden changes in Turkish and Iraqi policy toward accepting Syrian refugees, the regions around these borders likely received a sudden and unexpected influx of civilians. NGO reports suggest that these restrictions were due to domestic concerns and not a response to greater violence along the borders.
- Because there is spatial variation in which border crossings were closed, one can identify the effect of population shocks using a difference-in-difference design.
- I examine the effect on four dependent variables: death counts, government attacks on rebels, rebel attacks on governments and government coercion of civilians
- Events are aggregated at the district level and districts' smallest centroid distance from an open border crossing is used as a proxy for an exogenous shock in population.
- Key identifying assumptions:
  - Border crossing closures affect outcomes only by their effect on population. Somewhat plausible since closures primarily affected refugee and not non-refugee traffic.
  - Conditional on district and time fixed-effects, border crossing closures are independent of potential outcomes. Plausible, but possible lurking variable affecting conflict in north relative to south - need more data.

Data

- Event counts for government and rebel fighting obtained from GDELT and matched to districts and months using the latitude/longitude coordinates and dates associated with each event.
- Casualty data obtained from Syria Tracker project (voluntary reports submitted online).
- Border crossing status determined from NGO and news media reports. Crossings are coded as closed in the first full month of closure. Because information about the status of some crossings from May 2013 to the present is unclear, I limit the sample of observations to June 2011 (start of hostilities) to April 2013.

Trends in Conflict

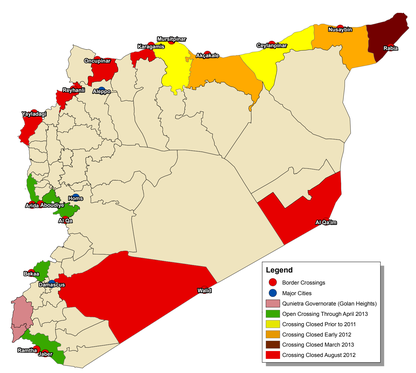
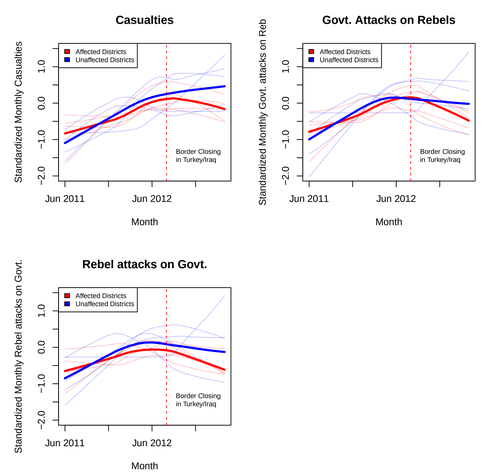


Figure 1: Map of Official Border Crossing Closures - June 2011 - April 2013



Note: Affected districts near Reyhanli, Kilis and Al'Qaim crossings. Unaffected districts near Ramtha/Jaber, Bekaa and Arida crossings

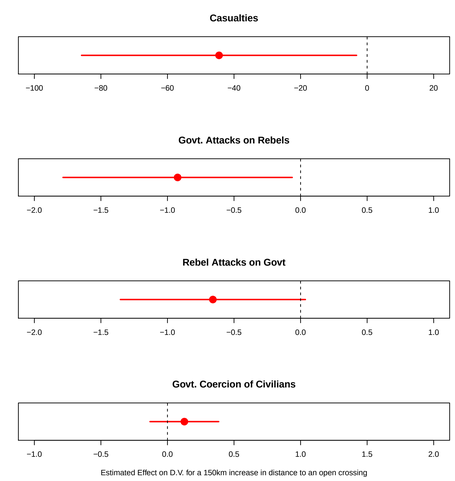
Figure 2: Smoothed trends in 5 districts near Turkish/Iraqi border crossings (affected) vs. 5 districts near Lebanese/Jordanian border crossings (unaffected)

Regression Estimation

Following Dube et. al. (2013), I estimate a standard fixed effects difference-in-difference linear regression of the following form

$$Y_{it} = \beta_0 + \beta_1 D_i + \beta_2 Z_{it-1} + \alpha_i + \delta_t$$

where α_i and δ_t are district and month fixed-effects respectively, D_i indicates the centroid distance from district i to the nearest official border crossing, and Z_{it-1} indicates the centroid distance from district i to the nearest open official crossing in time $t-1$. For changes in Z_{it} to be considered reasonably well-defined treatments, I limit the regression sample to districts within $40km$ of the border. Effect estimates are presented for a $150km$ increase in distance from an open crossing.



Note: Standard errors clustered on district. Lines denote 95% confidence intervals. 150km is approximately the distance between the Lebanese and Turkish borders.

Figure 3: Regression-estimated effect of a 150km increase in distance from an open border crossing.