Interpreting Substantive Effects via the Simulation Method
Zurich Summer School for Women in Political Methodology 2017

Exercise: Greed and grievance in civil war

For this problem set you will replicate and explore the results of the article "Greed and grievance in civil war", by Collier and Hoeffler[1]. This article uses a number of institutional, geographic and social variables which have been hypothesized to predict the onset of civil conflict. The basic argumentation is summarized by Ward et al. (2010: 365):

> Collier & Hoeffler (2004: 564) argue that civil wars and rebellions are explained not by motive, but by the atypical circumstances that generate profitable opportunities. This suggests that civil wars occur where and when rebel groups have the opportunity to raise revenues, most commonly where and when these groups are able to exploit (loot) natural resources; where and when they can take advantage of high levels of unemployment and poverty and, thus, readily available rebel recruits; and where and when they have ethnic diasporas willing to financially support them. In this view, rebels are rational agents, driven by opportunity and greed, rather than grievances

Variable	Dataset
Onset of Civil War	`warsa`
Commodity Dependence	`sxp`
Squared Commodity Dependence	`sxp2`
Male Secondary Schooling	`secm`
GDP Growth	`gy1`
Peace Duration	`peace`
Geographic Dispersion	`geogia`
Population	`lnpop`
Social Fractionalization	`frac4590`
Ethnic Dominance	`etdo4590`

Table 1: Variable included in Collier and Hoeffler model

The standard model in Collier and Hoeffler includes the variables[2] in Table 1. Onsets of Civil War is the dependent variable. You will find all of them in the dataset `ch.RData`. The second column in Table 1 describes the variable names in the Dataset.

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[1]Oxford Economic Papers (2004). 56 (4): 563-595
[2]Based on Collier and Hoeffler, 2004: Table 5, column 5.

Part 1: Dichotomous Dependent Variables

First we want to estimate a logit model to replicate table 1 one of the article.

1. Implement the R-Code to replicate the Results in the table.

2. Make a regression table. Which effects appear meaningfull?

Part 2: Substantive Interpretation using Quantities of Interest

Apart from decorating our higly significant results with stars, we would like to present our estimated effects using quantities of interest. To evaluate the role of various explanatory variables in increasing the risk of civil war, we will calculate some expected values and first differences.

1. Simulate the expected difference in probability of civil war onset between a country with a dominant ethnicity and without a dominant ethnicity. Provide a 95% confidence interval based on the appropriate quantiles of the simulations. Do you find a systematic difference?

2. Simulate the expected probability of civil war onset with GDP Growth increases from -10 to +10 percent. Plot these results in a clearly labeled graph with the probability of onset on the y-axis and GDP per capita on the x-axis. Also add 95% confidence bounds to the lines you plotted using the appropriate quantiles of your simulations.