Empirical Project: Replicating and Extending "Democracy Does Cause Growth"

Due: December 4, 2020.

You will find on Moodle replication data for Acemoglu, Naidu, Restrepo, and Robinson (2019), Democracy Does Cause Growth" (henceforth DDCG). Your mission is to replicate and extend/verify the analysis using prescriptions from recent papers that look at differences-in-differences, synthetic control and ML based counterfactuals.

1. Replicate columns 1-3 of Table 2 and columns 1-7 in Table 5 of DDCG.

2. Make difference-in-difference event study pictures analogous to Figure 3 in DDCG with standard errors (not using propensity score weights), with and without controlling for four lags of GDP.

   - NOTE: you should have run a cross-sectional regression for each data point, where the oucome is the CHANGE in GDP between time s and time -1 for different values of s.

3. Replicate the propensity score reweighted, and doubly-robust, version using 4 lags (as in Figure 4, 5) and Table 5 using teffects in Stata or ipw or equivalent in R.

4. Conduct separate analyses for each democratization (exclude reversals), using only "clean controls" (i.e. countries that have not themselves experienced political transitions in the past, and do not at least 20 years after the event date).

   (a) Plot the histogram of effects separately for "democratizations" (excluding reversals). Pick a window of time that lets you include 4 lags of GDP and look at 15-19 years averaged after treatment. Is there substantial heterogeneity?

   (b) Conduct inference on the event-by-event regressions using the "Inference in Difference-in-Differences with Few Treated Groups" framework of Ferman and Pinto (2017), and as implemented in Cengiz et al. (2019). Plot a figure showing event-by-event estimates and CI like Cengiz et al. (2019) Figure D.1.

   - NOTE:

   (c) Stack each event (single treatment+clean controls - data in wide format so 1 observaton per country within each event). Estimate the model with a common treatment coefficient (like Table 5, column 5) but with event FE. How does this estimate compare with Table 5, column 5?

   - NOTE: a stacked dataset means you stack datasets by event. Each event-specific dataset has: 1 observation per treated unit, and 1 observations for each of the k clean control countries. Again, your outcome should be in $s-$year DIFFERENCES, so you don't need to include country or time fixed effects. BUT, you need to include dummy for each event. [You should think about this very carefully, and convince yourself you understand why.]

5. Using the stacked data as in 4 (a), estimate synthetic control weights for donors using 4 and 10 years of pre-treatment GDP. Following Arkhangelsky et al. estimate a pooled regression where donors weights are used to make a figure like Figure 4. This is an implementation of the synthetic DID estimate. How do the findings compare with the original DD

- NOTE: you need to run a separate synthetic control model for each of the treatment events. Again, in a stacked dataset, control countries enter up to as many times as the number of treatment events. So they will get different weights depending on the events.

6. [OPTIONAL but ENCOURAGED!] Using the stacked data but in "long" form (so it's like a regular panel data), use the R library MCPanel to estimate the a counterfactual for each event, and then estimate the pooled 15-19 year out estimates. (Do randomization inference by estimating (say) placebo effects from (say) 10 random donors; then simulate the distribution of the estimates by randomly drawing 1 placebo for each event, and averaging, and caluclate the SD of effects from these placebos to get the SE).