Pre-Analysis Plan for Balance of Randomisation analysis for "Rural Institutional Innovation: Can Village Courts in Bangladesh Accelerate Access to Justice and Improve Socio-Economic Outcomes?"

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March 7, 2017

Abstract

Judicial institutions are responsible for upholding the rule of law, a necessary condition for economic development. However, the academic literature provides little guidance for policy makers wanting to improve judicial systems and there is little rigorous evidence on what judicial reforms work in low-income contexts. We seek to close this knowledge gap by carefully studying the socio-economic impact of introducing "Village Courts" in Bangladesh using a randomized controlled trial. Village Courts are anchored in the lowest tier of government and are designed to resolve smaller disputes in a quick and inexpensive way while still having the enforcement capabilities of the state.

This pre-analysis plan will specify how we will compare treatment and control areas in our balance of randomization analysis for the research project.

1 List of of acronyms

- Union Parishad (UP)
- Village Court (VC)
- District Court (DC)

2 Pre-analysis plan for Balance of Randomization analysis

In our balance of randomization table we will show that the treatment and control UPs are balanced on the means of the main outcome variables as well and standard demographic variables. We have selected variables into the balance of randomization table keeping two rationales in mind. The first is that the main outcome variables should be included since if these are unbalanced that may raise questions about the main results. The second is to include variables that are important to give the reader a overview of our study population such as age, household size and income.

2.1 Variables for the balance of randomization tests

Household level variables:

- Average age in household (in years)
- Number of individuals in household
- Natural logarithm of per capita household income (winzorised at the 99th percentile)
- Yes to the question if there is a functional VC in the UP (binary variable)
- Putting VC as the institution where to resolve hypothetical disputes within the VC jurisdiction (sum of 3 binary variables)
- Total number of disputes (ongoing or resolved within the last year)

- Number of disputes resolved using Shalish (within the last year)
- Number of disputes resolved using VC (within the last year)
- Number of disputes resolved using DC (within the last year)
- Number of disputes resolved without an institution (within the last year)
- Number of unresolved disputes
- Total amount of resources spent on dispute resolution within the last year (winzorised at the 99th percentile)
- Percentage of households that have been the victim of a crime (within the last year)
- Total amount of investment within the last year (winzorised at the 99th percentile)
  - of which: was made jointly with a business partner
- Total outstanding amount of money lent out to friends and family
- Total outstanding amount of money borrowed from friends and family
- Satisfaction with overall justice system (Scale 1 to 5)
- Satisfaction with the UP chair (Scale 1 to 5)

UP level variables:

- UP population (number of households)
- Fraction of randomly selected households with a dispute (ongoing or resolved within last year)
- What fraction of the VC records did the UP keep updated
- What fraction of the knowledge question on how to conduct a VC could the UP chair respond to correctly?
- What fraction of the knowledge question on how to conduct a VC could the UP members respond to correctly?
- Number of cases from UP that has gone to the DC (Number collected from DCs administrative records)

2.2 Statistical tests and interpretation

In the balance of randomization table we will test for equality of means between the treatment and control groups by running the following regression for each outcome variable:

$$outcome_i = \alpha + \beta treat_i + \varepsilon_i$$

Where the null hypothesis will be that $\beta = 0$. The standard errors will be heteroskedasticity robust and clustered at the UP level.

In addition we will perform two tests for joint orthogonality, one for the household level data and one for the UP level data, by running the following linear OLS regressions:

$$treat_i = \alpha + \beta_1 outcome.1_i + \beta_2 outcome.2_i + ... + \beta_k outcome.k_i + \varepsilon_i$$

We will then use an F-test to test the joint null hypothesis $\beta_1 = \beta_2 = ... = \beta_k = 0$. As long as less than 4 individual tests rejects the null at the 95% significance level (the probability of 4 or more tests rejecting the null when the null is true is 0.026) and that neither of the tests for joint orthogonality reject the null hypothesis at the 95% level, we will interpret the results as the treatment and control areas being balanced.

If our result is that the treatment and control areas are balanced we will proceed with the analysis as outlined in the pre-analysis plan that we will submit after having analyzed the baseline data. If we it turns out that by change the treatment and control areas are not balanced we will control for all the baseline values of the variables that are unbalanced in the baseline data through out our analysis.

2.3 Potential changes of the variables in the balance of randomization table

Since the pre-analysis plan in this section was written before the baseline data was collected there may be some changes to the variables in the balance of randomisation table depending on what outcome variables we choose to use in our full pre-analysis plan and final paper. In the interest of full transparency, if any variables are dropped from the original list, we will publish the results of the statistical tests described above using the original list of variables as a footnote to the balance of randomization table.