Property Tax Project: Transfers and Postings

Ballot Information

June 3, 2015

1 Year 1

1. The sample consists of all circles existing in 2014-Q1 excluding:

   (a) Lahore C (approx. 40 circles), DG Khan (approx. 20 circles), Sahiwal (approx. 20 circles).

   (b) Circles in which the inspector was retiring in 2014 or 2015 (approx. 25 circles). These circles are identified in the *main_exclude* variable in the "Punjab Compiled Quarterly For FY2014 Transfers & Postings Ballot FULL" datasets.

   (c) Circles under litigation (1 in Pindi; 1 in Multan).

   (d) Circles selected for the pilot (10 in Lahore; 10 in Multan).

   After accounting for the exclusions above, we're left with 410 circles in the sample. These are identified in the crosswalk by the *ballot_circle_id* variable.

2. The general procedure for the ballot is to allocate circles within each division into groups of approximately 10. We want the groups to be roughly balanced by size so we stratify by log total recovery. Each circle is assigned a *stratum_id* in the do-file "130815 Preparation Cleaning for FY2014 Transfers and Postings Ballot.do" (Line 1285 onwards).

3. After stratifying, we allocate circles into groups by stratified randomization. This occurs in the files "130725 Lahore_Main_Ballot.do" and "130728OtherDivisions_Main_Ballot.do". At the end of these files, each circle has a group ID, marked by the *group* variable.

4. We next assign treatment status to groups. This occurs in the files "130728 Lahore_Assign_Treatment_Ballot.do" and "130728OtherDivisions_Assign_Treatment_Ballot.do". In Lahore, 4 groups are selected for treatment, of which 2 are assigned to ranking by recovery and 2 are assigned to ranking by demand. In all remaining divisions aside from Sarghoda, 2 groups are selected for treatment, of which 1 is assigned to ranking by recovery and 1 is assigned to ranking by demand. Sarghoda has one group selected for treatment with ranking by recovery.

5. The ballot do files save a dataset with group and treatment assignment. These are located in the DON'T TOUCH Transfers and Postings folder with the appropriate seed (seeds are listed in the document "Final Seeds.docx").

2 Year 2

1. The sample consists of Year 1 circles *plus* the previously excluded divisions and circles. The file "140713 Create Dataset for New Groups Ballot.do" creates a dataset for these exclusions. We start off by pulling in 2014-Q3 data for the excluded divisions (Lahore C, DG Khan, Sahiwal) and stratify based on 2014-Q3 log total recovery. Data is stored in "140804 New Groups Ballot.dta". Next we pull in excluded circles from *Year 1 data*. We assign to strata using the Year 1 strata cutoffs. Excluded circles are marked by the *excluded* variable. Data is stored in "140804 Excluded Circles Ballot.dta."

2. We create groups for circles in previously excluded divisions. This occurs in "140723 Excluded Divisions and Control Groups Ballot.do". The procedure is the same as Year 1. We allocate previously excluded circles to *existing* control groups in the same do-file (Line 186 onwards). Sarghoda is a unique case because we move from having 1 group to 2 groups within the division due to the addition of previously excluded circles. In the remaining divisions, no new groups are created but the composition of some groups may change due to the addition of a previously excluded circle.

3. Next we assign Year 2 treatment status to Year 1 treatment circles. This occurs in "140702 Year2 Ballot 1 (For Treated Groups).do". We randomly select existing groups to continue treatment in Year 2. Note that the *ranking method remains the same* in Year 2, i.e. if a demand group from Year 1 is selected then it will be ranked by demand in Year 2. Randomization is stratified by ranking method to ensure balance.

4. Finally, we assign Year 2 treatment status to Year 1 control circles (which now include the previously excluded divisions). This occurs in "140821 Year2 Ballot 2 (For Control Circles).do". Note that this ballot is *based on* the results from the ballot for Year 1 treated groups. For example, suppose a Year 1 treatment group by ranking method demand was selected for Year 2 treatment. In the control circles ballot, we will assign the group selected for Year 2 treatment within that division to be ranked by the *opposite* method, which in this example is recovery.