

README

This is the replication package for the document “Command and Can’t Control Assesing Centralized Accountability in the Public Sector”, by:

- Saad Gulzar
- Juan Felipe Ladino
- Muhammad Zia Mehmood
- Daniel Rogger

Data statement

All data used are restricted and not included in the reproducibility package. Replicators interested in getting access to the data may contact the School Education Department of Punjab.

Datasets used:

- **Monthly performance reports on primary schools - Punjab, Pakistan:** Data collected by the Program Monitoring and Implementation Unit - School Education Department of Punjab, on a monthly basis in a random set of schools per Markaz. The data was collected between 2009 and 2018.
- **District school performance ranking - Punjab, Pakistan:** Data collected by the Program Monitoring and Implementation Unit - School Education Department of Punjab, on a quarterly basis on the average performance of the schools in each District in the previous three months and the district ranking based on the average performance. The data was collected between 2011 and 2015.
- **Annual school census - Punjab, Pakistan:** Data collected by the Program Monitoring and Implementation Unit - School Education Department of Punjab, on a yearly basis on all primary schools in Punjab. The data was collected between 2011 and 2018.

Folders

1. **Code:** contains the do-files for replicating the results
 - **0_setup:** initializes the folder, set the path and run the other do-files. Additional instructions in the do-file
 - **1_stack_data:** processes the base data to create the main data structures for analysis
 - **2_descriptive:** run the descriptive figures and tables
 - **3_main_regressions:** run the regression for the main analysis and appendix

2. **Processed:** in the original reproducibility package (RP), it contains the base dataset “cc_datapacks” and the resulting datasets from processing it (by running 1_stack_data). In the published version of the RP, this folder is empty due to the impossibility of making the project data public. However, the original folder structure is kept and described as follows:

- **Data:** contains alternative or auxiliary data files to be used in the analysis
- **Figures, Tables:** are used to keep the figures and tables resulting from running the respective codes

List of exhibits from the main text and code output linkage

- Figures
 - Figure 3: figures/descriptive/3_scoredist_district
 - Figure 4:
 - * Panel A - figures/descriptive/1_tpresevol
 - * Panel B - figures/descriptive/1_sattevol
 - * Panel C - figures/descriptive/1_facevol
 - * Panel D - figures/descriptive/1_mathevol
 - * Panel E - figures/descriptive/1_engevol
 - * Panel F - figures/descriptive/1_urduevol
 - Figure 5:
 - * Panel A - figures/causal/1_tpresflagging_tpres
 - * Panel B - figures/causal/1_sattflagging_satt
 - * Panel C - figures/causal/1_facflagging_fac
 - * Panel D - figures/causal/1_mathflagging_math
 - * Panel E - figures/causal/1_engflagging_eng
 - * Panel F - figures/causal/1_urduflagging_urdu
 - Figure 6:
 - * Panel A - figures/causal/3_tpresbottom_district
 - * Panel B - figures/causal/3_sattbottom_district
 - * Panel C - figures/causal/3_facbottom_district
 - * Panel D - figures/causal/3_tprestop_district
 - * Panel E - figures/causal/3_satttop_district
 - * Panel F - figures/causal/3_factop_district
 - Figure 7:
 - * Panel A - figures/causal/1_tpresflagging_tpres_dip
 - * Panel B - figures/causal/1_sattflagging_satt_dip

- * Panel C - figures/causal/1_facflagging_fac_dip
- * Panel D - figures/causal/1_mathflagging_math_dip
- * Panel E - figures/causal/1_engflagging_eng_dip
- * Panel F - figures/causal/1_urduflagging_urdu_dip
- Tables
 - Table 1:
 - * Panel A - tables/descriptive/1_sumstatsgeneral_school
 - * Panel B - tables/descriptive/1_sumstatsgeneral_mar
 - * Panel C - tables/descriptive/3_sumstatsscore_district
 - Table 2 (by row):
 - * Teacher presence - tables/descriptive/2_sumvariationtpres_school
 - * Student attendance - tables/descriptive/2_sumvariationsatt_school
 - * Functional facilities - tables/descriptive/2_sumvariationfact_school
 - * Math score - tables/descriptive/2_sumvariationmath_school
 - * English score - tables/descriptive/2_sumvariationeng_school
 - * Urdu score - tables/descriptive/2_sumvariationurdu_school
 - Table 3:
 - * Panel A - tables/causal/1_flagging_outcomes
 - * Panel B - tables/causal/1_flagging_scores
 - Table 4:
 - * Panel A - tables/causal/3_ranking_bottom
 - * Panel B - tables/causal/3_ranking_top

List of exhibits from the Appendix B and code output linkage

- Figures
 - Figure A2:
 - * Panel A - figures/descriptive/4_distdata_tpres
 - * Panel B - figures/descriptive/4_distdata_satt
 - * Panel C - figures/descriptive/4_diffdata_fac
 - * Panel D - figures/descriptive/4_diffdata_tpres
 - * Panel E - figures/descriptive/4_diffdata_satt
 - Figure B1:
 - * Panel A - figures/descriptive/11_trend_tpres
 - * Panel B - figures/descriptive/11_trend_satt
 - * Panel C - figures/descriptive/11_trend_fac
 - Figure B2:
 - * Panel A - figures/causal/10_tpresflagging_tpres_first
 - * Panel B - figures/causal/10_sattflagging_satt_first
 - * Panel C - figures/causal/10_facflagging_fac_first
 - Figure B3:
 - * Panel A - figures/causal/10_tpresflagging_tpres_neigh

- * Panel B - figures/causal/10_sattflagging_satt_neigh
- * Panel C - figures/causal/10_facflagging_fac_neigh
- Figure B4:
 - * Panel A - figures/causal/6_tpresflagging_tpres_multiple
 - * Panel B - figures/causal/6_sattflagging_satt_multiple
 - * Panel C - figures/causal/6_facflagging_fac_multiple
- Figure B5:
 - * Panel A - figures/causal/2_tpresflagging_tpres_short
 - * Panel B - figures/causal/2_sattflagging_satt_short
 - * Panel C - figures/causal/2_facflagging_fac_short
 - * Panel D - figures/causal/2_mathflagging_math_short
 - * Panel E - figures/causal/2_engflagging_eng_short
 - * Panel F - figures/causal/2_urduflagging_urdu_short
- Figure B6:
 - * Panel A - figures/causal/11_tpresflagging_didsun
 - * Panel B - figures/causal/11_sattflagging_didsun
 - * Panel C - figures/causal/11_facflagging_didsun
 - * Panel D - figures/causal/11_mathflagging_didsun
 - * Panel E - figures/causal/11_engflagging_didsun
 - * Panel F - figures/causal/11_urduflagging_didsun
- Figure B7:
 - * Panel A - figures/causal/11_tpresflagging_dechais
 - * Panel B - figures/causal/11_sattflagging_dechais
 - * Panel C - figures/causal/11_facflagging_dechais
 - * Panel D - figures/causal/11_mathflagging_dechais
 - * Panel E - figures/causal/11_engflagging_dechais
 - * Panel F - figures/causal/11_urduflagging_dechais
- Figure B8:
 - * Panel A - figures/causal/4_tpresflagging_tpres_orange
 - * Panel B - figures/causal/4_sattflagging_satt_orange
 - * Panel C - figures/causal/4_facflagging_fac_orange
 - * Panel D - figures/causal/4_mathflagging_math_orange
 - * Panel E - figures/causal/4_engflagging_eng_orange
 - * Panel F - figures/causal/4_urduflagging_urdu_orange
- Figure B9:
 - * Panel A - figures/causal/5_tpresflagging_tpres_tehsil
 - * Panel B - figures/causal/5_sattflagging_satt_tehsil
 - * Panel C - figures/causal/5_facflagging_fac_tehsil
 - * Panel D - figures/causal/5_mathflagging_math_tehsil
 - * Panel E - figures/causal/5_engflagging_eng_tehsil
 - * Panel F - figures/causal/5_urduflagging_urdu_tehsil
- Figure B10:
 - * Panel A - figures/causal/7_tpresflaggingtpres_month
 - * Panel B - figures/causal/7_sattflaggingsatt_month
 - * Panel C - figures/causal/7_facflaggingfac_month
 - * Panel D - figures/causal/7_mathflaggingmath_month

- * Panel E - figures/causal/7_engflaggingeng_month
- * Panel F - figures/causal/7_urduflaggingurdu_month
- Figure B11:
 - * Panel A - figures/causal/8_tpresflaggingtpres_anticipation
 - * Panel B - figures/causal/8_sattflaggingsatt_anticipation
 - * Panel C - figures/causal/8_facflaggingfac_anticipation
 - * Panel D - figures/causal/8_mathflaggingmath_anticipation
 - * Panel E - figures/causal/8_engflaggingeng_anticipation
 - * Panel F - figures/causal/8_urduflaggingurdu_anticipation
- Figure B12:
 - * Panel A - figures/causal/12_tpresbayesianmain
 - * Panel B - figures/causal/12_sattbayesianmain
 - * Panel C - figures/causal/12_facbayesianmain
- Tables
 - Table B1:
 - * Panel A - tables/causal/1_flagging_outcomes_flaghist
 - * Panel B - tables/causal/1_flagging_scores_flaghist
 - Table B2:
 - * Panel A - tables/causal/1_flagging_outcomes_dp1
 - * Panel B - tables/causal/1_flagging_outcomes_dp2
 - * Panel C - tables/causal/1_flagging_outcomes_dp3
 - Table B3:
 - * Panel A - tables/causal/3_ranking_bottomflag
 - * Panel B - tables/causal/3_ranking_topflag
 - Table B4:
 - * Panel A - tables/causal/4_voterclose_prob
 - * Panel B - tables/causal/4_voterclose_outcomes
 - Table B5:
 - * Panel A - tables/causal/4_flagging_outcomes_admin
 - * Panel B - tables/causal/4_flagging_scores_admin
 - Table B6:
 - * Panel A - tables/causal/10_flagging_outcomes_admin_big
 - * Panel B - tables/causal/10_flagging_outcomes_admin_worse
 - * Panel C - tables/causal/10_flagging_outcomes_admin_missing
 - Table B7:
 - * Panel A
 - Num times flagged (teacher presence) - tables/causal/17_budget_tpres
 - Num times flagged (student attendance) - tables/causal/17_budget_satt

- Num times flagged (functional facilities) - tables/causal/17_budget_fac
- * Panel B
 - Num times flagged (teacher presence) - tables/causal/17_budget_tpres_iv
 - Num times flagged (student attendance) - tables/causal/17_budget_satt_iv
 - Num times flagged (functional facilities) - tables/causal/17_budget_fac_iv
- Table B8:
 - * Panel A - tables/causal/6_flagging_outcomes_headteacher
 - * Panel B - tables/causal/6_flagging_scores_headteacher
- Table B9: tables/causal/3_5_ranking_change
- Table B10: tables/causal/3_5_ranking_ranking