

# **Supplemental Appendix: Public Sector Salaries and the Quality of Governance: Evidence from Frontline Bureaucrats in India**

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## Appendix for Online Publication

### DATA APPENDIX

#### *A.1. Roster of Public Sector Employees*

Data on which secretary held which office at what time is constructed from four listings of all the employees in the GP and mandal public servants. These were published in May 2020, May 2021, December 2021, and March 2023. Each listing has an employee ID, which allows us to track employees when they are transferred from one GP to another or if they were transferred from a secretary position to a different role within the PRRD Department. We use this to create a panel dataset with 4 time periods for each secretary.

We determine the gender of each secretary using the 2020 data on the employee's gender. Caste information comes from the March 2023 data as well as an incomplete dataset from April 2020. These variables are used for the heterogeneity analysis described in Section IV.

#### *A.2. Performance Indicators*

**SUPERVISOR SCORE.** — We construct supervisor evaluation scores using data from supervisor inspections. Following the government aggregation of the data, we create 10 components, each representing a key responsibility of the secretary. The supervisors left 11% of sub-scores missing. In order for the supervisor score to reflect the performance of the PS, and not the extent to which the supervisor filled out the assessment, our main variable is a percentage score for each category calculated by dividing the total attained score by the maximum possible score among the non-missing sub-scores. In Appendix Table A21, we show that setting the missing sub-scores to zero and dividing the sums by the maximum possible score among all (missing and non-missing) sub-scores does not change our main conclusion. The scores are aggregated to the GP-month level. For details about each of the components and how they are aggregated, see Table A4.

**SELF-REPORTED PERFORMANCE.** — Self-reported performance scores are constructed from data that is self-reported by GP secretaries. The self-reported indicators are aggregated by the government score into 12 categories. We then apply the government's weights across categories to construct a weighted average total score, and normalize it as a percentage out of 100. The scores are available at the GP-month level. The categories in the self-reported score are the same as those in the supervisor evaluations, except that it additionally includes a National Rural Employment Guarantee Act (NREGA) score, which tracks NREGA social welfare scheme implementation by the secretary. The self-reported indicators generally

have high overlap with the supervisor-collected indicators, but there are some which cannot be verified by the supervisor (e.g. self-declared frequency of road and drain cleaning). For details about each of the components and how they are aggregated, see Table A4.

**SCORE INFLATION.** — Each supervisor assessment component has a corresponding self-reported assessment component. We create a separate secretary score that is used for inflation calculations, creating sub-components that are analogous to the supervisor score components using inspection data. This allows us to examine the inflation of specific secretary score components. For a given month and year, we calculate inflation only for the components that overlap between the secretary and supervisor scores. We determine the inflation percent by calculating the absolute difference in the overlapping components, and then express this as a percentage of the total possible score. This percentage represents the amount by which the secretary's score exceeds or falls short of the supervisor's score. The inflation formula is described in Section II.C.

**BUREAUCRAT EFFORT.** — As a proxy for effort, we measure the reporting rate of secretaries. Secretaries are required to submit a daily sanitation report. We create a daily panel with a dummy variable indicating whether each secretary submitted a report for each working day of 2021. This covers a period 20 weeks before and after the policy of salary increase took place. This panel was then averaged at the GP-week level. Due to the daily reporting requirement, the effort proxy is at a higher frequency than the other performance measures.

**STATE-LEVEL AUDITOR SCORE.** — State-level scores are calculated from sub-scores that state-level auditors give on their visits to GP (which happen, on average, of thrice a year for any given GP). These ratings are scores given out of 10, for the quality or cleanliness of roads, drains, institutions, street lights, plantations, plant nurseries, waste segregation and garbage segregation. These scores are individually converted to percentages out of 100 and then averaged to create the state-level auditor score. Finally, they are averaged to create a panel at the GP-month level. For details about each of the components and how they are aggregated, see Table A4.

**CITIZEN SCORE.** — The third performance indicator is a citizen survey. 10,607 citizens were surveyed in a total of 4,673 GPs. These surveys took place via phone and were conducted by a survey company contracted by the PRRD Department. GPs were first randomly sampled from all mandals. Then, within each sampled GP, citizens were randomly sampled based on phone numbers in the Dharani and Public Distribution System database, which maintain property records and beneficiary lists for subsidized food respectively. These databases together cover over 90% of rural households.

**SUBJECTIVE SCORES FOR SECRETARIES BY SUPERVISORS.**— Supervisors were also asked for their overall opinion on secretaries on a 0 to 5 scale. These scores were averaged on a village-month level, and then standardized. As these scores are less objective in how they measure the performance and less comparable across supervisors we use them as a secondary outcome. We show the results using these subjective scores as the outcome variables in Appendix Figure A6 and Appendix Table A5.

**OVERALL SCORES FOR GPs BY SUPERVISORS, STATE-LEVEL AUDITORS, AND CITIZENS.**— In the same visits by supervisors and state-level auditors, they were asked about their general opinion of the village. Supervisors gave scores on a 0 to 5 scale, which was averaged on a GP-month level, and then standardized. State-level auditor scores were scores out of 10, which was converted to percentage out of 100%, and then averaged on a GP-month level. Citizens also gave their subjective opinion on their overall satisfaction of their village in the survey above, these scores were averaged at the GP-month level and then standardized. Appendix Table A9, Appendix Figures A9, and A10, show results for these outcome variables.

**BASELINE SCORES FOR HETEROGENEITY.**— The averages of the supervisor scores from the months before July 2021, are used to classify an above or below-median performing village secretary, which is then used in the heterogeneity analysis in Section IV. We use supervisor evaluations to establish baseline performance, as these have the widest coverage of GPs.

### *A.3. GP Secretary Satisfaction*

The survey about PSES' work conditions and job satisfaction took place between April-May 2021. 9,474 out of the 12,770 secretaries responded. Of the respondents, 7,114 (75.1%) were treated secretaries who later received the pay increase and 2,360 (24.9%) were comparison secretaries whose salary remained unchanged. Of the 9,474 respondents, 7,093 (74.9%) left a free text comment as a response. Of the comments mentioning salary, 87.5% were by treated secretaries (who initially received the lower salary and would later receive the pay increase) and 12.5% were comparison secretaries (who were already receiving the higher salary). It is not surprising that treated secretaries were more likely to make salary complaints since they were paid less at the time of the survey.

This survey also asked secretaries about their general morale and job satisfaction. We construct indicators for whether a secretary was dissatisfied with their job and whether they commented about salary. This information is used in the heterogeneity analyses in Section IV. We classify a secretary as dissatisfied if they chose one of the bottom two options on the satisfaction scale: "very dissatisfied" or "dissatisfied." Secretaries were classified as having commented about salary

in the free-text response if their complaint mentioned any of the following terms: “salaries,” “pay,” “wage,” “compensation,” “earnings,” “income,” “remuneration,” “package,” “benefits,” “bonus,” “allowance,” or “pay scale.” Secretaries were classified as having commented about promotion in the free-text response if their complaint mentioned any of the following terms: “regularisation,” “regularised,” “regularized,” “regularization,” “regular PS,” or “job security.”

#### *A.4. Pay Increase in Net Present Value Terms*

While we have no explicit data on PSes’ expectations about regularization, it is clear that regularization was far from guaranteed. Before entering service, all Junior PSes signed an Agreement Bond affirming that they “will not have any claim or right to be appointed on a regular basis and such appointment will be made without prejudice to the regular appointments that may be made in future.” Moreover, this contract explicitly stated that “regularization of service [...] cannot be for all, but will be subject to the assessment and evaluation of their performance by a committee appointed by Government and those whose performance is found to be satisfactory can only be regularized.” As late as April 2023, the PRRD Department sent a circular to all Junior PSes reminding them of their contractual terms. This was not just cheap talk: in a separate instance, the PRRD Department did not renew the contracts of many employees tasked with implementing the NREGA, an important social protection programme, due to substandard performance.

Eventually, after their 4-year contract was completed, the Junior PSes went on strike to force the government’s hand. In response, the PRRD Department created a committee to determine regularization criteria. Junior PSes who were assessed to perform well during their contract period — according to a variety of metrics — were regularized as Grade IV PSes. Overall, our understanding is that approximately 90% of Junior PSes were regularized in late 2023. We believe that it is reasonable to assume that in 2021 PSes thought there was a 50-80% chance that they would be regularized and show NPV changes for these probabilities. Even the most extreme assumptions, that PSes thought there was either no chance or complete certainty that they would be regularized leads to a 91% or 11% change in the NPV, holding the other assumptions constant.

#### *A.5. Misappropriation Data*

Every GP keeps a record of all financial expenditures. From these transaction data, we generate the following measures of misappropriation at the GP-month level.

SHARE OF MULTI-PURPOSE WORKERS WITH THE SAME NAME AS SARPANCH. — This is the share of multipurpose-worker expense transactions where the worker’s name

contains part of the Sarpanch's name. Transactions are tagged as being to multipurpose workers if the description includes any of the following terms: "mpw," "multiple," "multi," or "mult." This variable varies at the GP-month level. Following Lehne, Shapiro and Eynde (2018), we consider this a proxy for nepotism in GP hiring. This is certainly an imperfect measure, since certain names may be more common and some GPs may be more ethnically or culturally homogeneous. However, these biases are most likely to be time-invariant. Since our empirical strategy is a DiD design, these time-invariant biases should be netted out. While our results remain vulnerable to time-varying measurement biases, we believe these biases are less obvious (at least it is harder to construct obvious reasons for these) and we also see no clear time trends in our data.

SECRETARY REIMBURSEMENT SHARE. — This is the monthly share of the value of all expenditures that are for the purpose of reimbursing the secretary for personal expenses in a given month. Transactions are tagged as secretary transactions if the expense description mentions "secretary." This is also a GP-month level variable.

#### A.6. *SHRUG Data*

The Socioeconomic High-resolution Rural-Urban Geographic Platform for India (SHRUG) (Asher et al., 2021) was used to obtain baseline covariates for both descriptive statistics in A3 as well as for testing for heterogeneous effects. GP latitude and longitude coordinates were merged with the SHRUG Shapefiles using a spatial join to match each GP to their respective SHRUG polygon. Following this, using the SHRUG identifiers, multiple datasets were merged in including 2011 population census data (Census of India, 2011), 2011-2012 socio-economic and caste census (Socio Economic and Caste Census, 2011), relative wealth estimates predicted by facebook data (Chi et al., 2022), and levels of night lights (Henderson, Storeygard and Weil, 2011). Furthermore, public goods indices for education, health, sanitation, connectivity, and overall public goods are calculated by scaling relevant variables and taking their means. The Education Index included variables related to various educational institutions, while the Health Index considered multiple healthcare facilities. The Sanitation Index accounted for sanitation and water facilities, and the Connectivity Index covered infrastructure like roads, communication, and transport services.

### A.7. *GenericML Procedure*

Since our baseline DiD specification includes GP and month fixed effects, we demean our outcome variables (supervisor score, staying rate, etc) to mimic the DiD specification. For the machine learning implementation, we specified a random forest model with 128 trees and applied the GenericML function with 100 sample splits. The propensity score was based on the share of secretaries who received the pay increase (approximately 71%). The predictors used in our model included the baseline supervisor scores, self-assessed scores, reporting rates, gender and caste of secretaries, dummies for baseline dissatisfaction and salary complaints, and the SHRUG covariates displayed in Table A3 (e.g. population, public goods indices, consumption, wealth, etc).

For each sample split, we first randomly split the data into two disjoint sets, Sample A and Sample M. In Sample A, we train machine learning models (in our case, random forest models) to obtain estimates  $B(Z)$  and  $S(Z)$ , which correspond to the baseline conditional average  $b_0(Z)$  (expected value of  $Y$  given  $Z$  when the treatment  $D$  is absent) and the conditional average treatment effect  $s_0(Z)$  (captures the difference in the expected value of  $Y$  between those who receive the treatment ( $D=1$ ) and those who do not ( $D=0$ ), given  $Z$ ), respectively.

We focus on estimating and making inferences about the key features of  $s_0(Z)$  in Sample M. Specifically, for each secretary in Sample M, we calculate the predicted treatment effect by comparing the observed outcome in her actual group (e.g., treatment) with the predicted counterfactual outcome had she been in the other group (e.g., control). This difference provides a predicted treatment effect for each individual. Since there are two main sources of uncertainty—estimation uncertainty from the model training on Sample A and splitting uncertainty from the initial data partitioning—we repeat this process multiple times across 100 different splits to obtain more reliable estimates of the key features of the treatment effect. Taking the median predicted treatment effect for each secretary across splits, we then group secretaries into quintiles, defining cutoffs at the 20th, 40th, 60th and 80th percentiles. We then plot the distribution of the Sorted Group Average Treatment Effects (GATES). The confidence interval for each quintile is between the 5th and 95th percentiles of treatment effects, when the sample is restricted to this quintile and the baseline DiD regression is estimated on it.

Having assigned each secretary a quintile based on their predicted treatment effect, we conduct a Classification Analysis (CLAN), comparing the characteristics (i.e. predictor variables) of secretaries in the 5th quintile vs the 1st quintile. This tells us the difference between secretaries predicted to have the most positive treatment effects and the most negative treatment effects. The CLAN figures present these differences in coefficient plot form, with blue shading indicating that the group difference for that characteristic is statistically significant in at least 90% of sample splits.

## ADDITIONAL FIGURES

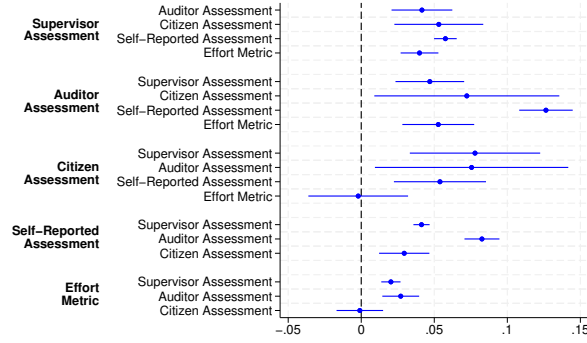


FIGURE A1. COEFFICIENT PLOT OF PAIRWISE REGRESSIONS OF MAIN OUTCOME VARIABLES

*Note:* This figure illustrates the correlation between our main performance variables. This figure presents beta coefficients from pairwise regressions involving five variables: supervisor assessments, auditor assessments, citizen assessments, self-reported assessments, and our proxy for effort. For each variable, four regressions were conducted, treating it as the dependent variable and each of the other three as the independent variable. For example, the first regression from the top is estimated as  $SupervisorAssessment_{it} = \alpha + \beta \times AuditorAssessment_{it} + \tau_t + \varepsilon_{it}$ , with analogous models for the other permutations. The figure illustrates the beta coefficients from these regressions along with their 95% confidence intervals constructed using standard error clustered at the GP level. To ensure comparability among the groups, all variables have been standardized to have a mean of zero and standard deviation of one before the regressions. As the self-reported assessment and the effort metric are mechanically correlated we do not present these coefficients, although they are large and statistically significant. See discussion in Section II.

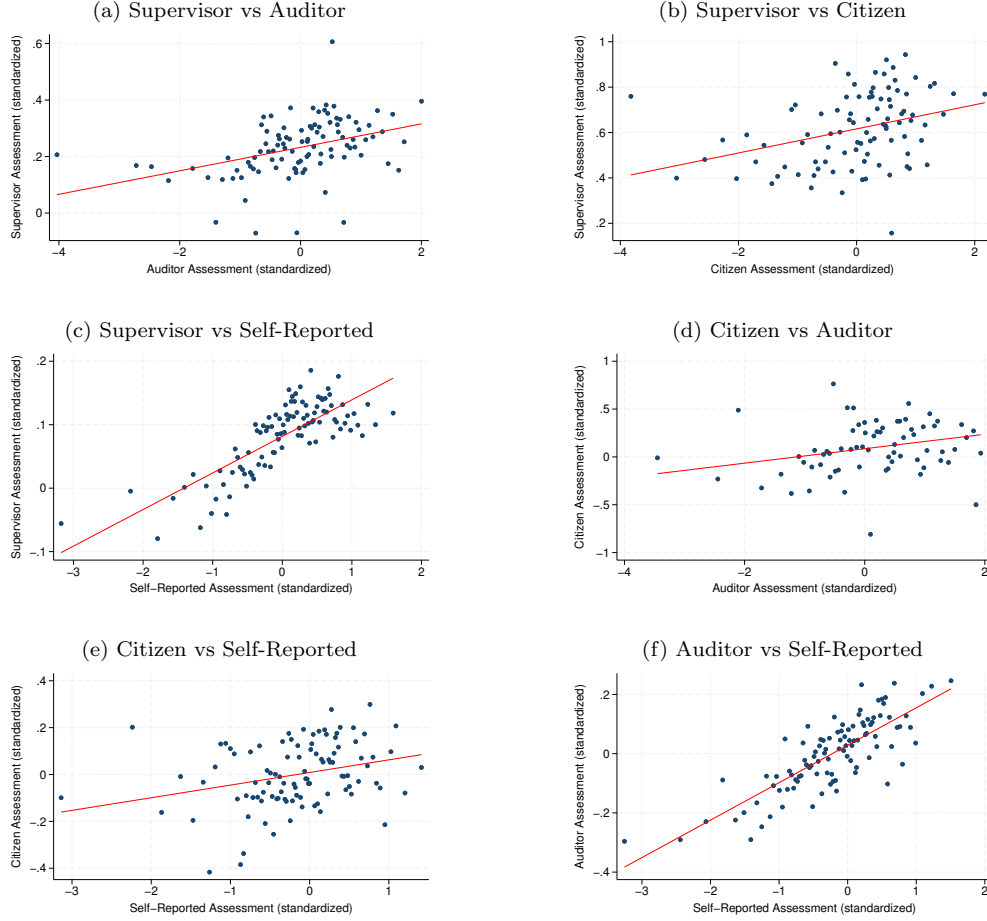


FIGURE A2. BINNED SCATTER PLOTS OF PAIRWISE COMPARISONS OF MAIN OUTCOME VARIABLES

*Note:* This figure shows binned scatterplots of four standardized performance measures—supervisor, citizen, auditor, and self-reported assessments—aggregated at the monthly level. For each measure, we partial out month fixed effects and convert it into a standardized variable. The scatterplots use 100 equal-sized bins, with each point representing a bin. See discussion in Section II.

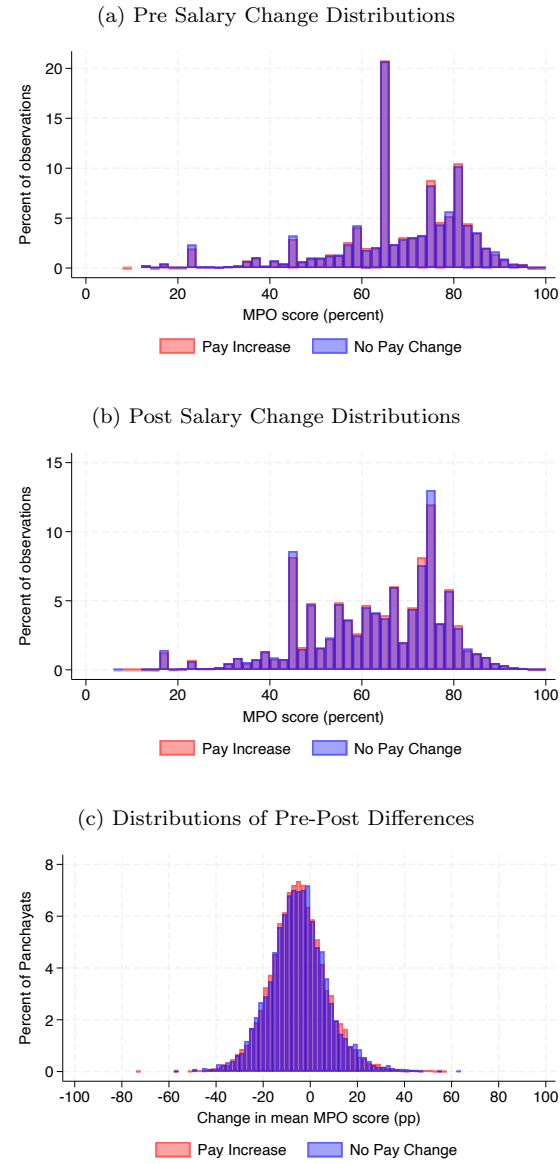


FIGURE A3. DISTRIBUTIONS OF SUPERVISOR ASSESSMENTS

*Note:* This histogram shows the distribution of the supervisor assessment for secretaries that received a pay increase and those that did not in the pre salary change period. See discussion in Section II.A.

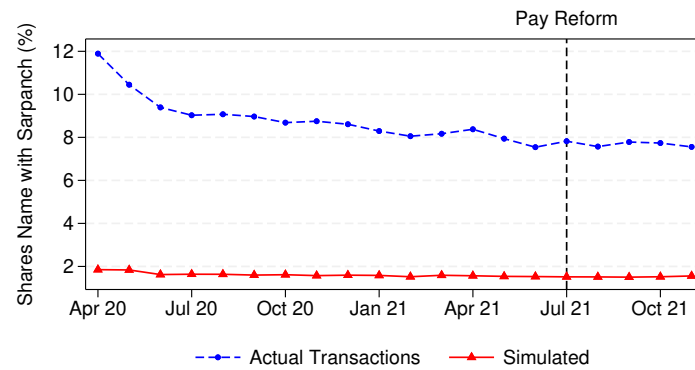


FIGURE A4. SARPANCH AND WORKER WITH THE SAME NAME: ACTUAL VS BENCHMARK

*Note:* This figure shows the share of multi-purpose workers employed by the GP who share a name with the Sarpanch. The blue dashed line shows actual transactions. The red solid line shows transactions where, instead of using the actual Sarpanch's name, we selected a random sarpanch name from our sample. The solid red line illustrates the rate at which the Sarpanch and multipurpose workers would have the same name if the GP hired multipurpose workers at random from the citizenry and there was no nepotism or corruption. See discussion in Section II.C

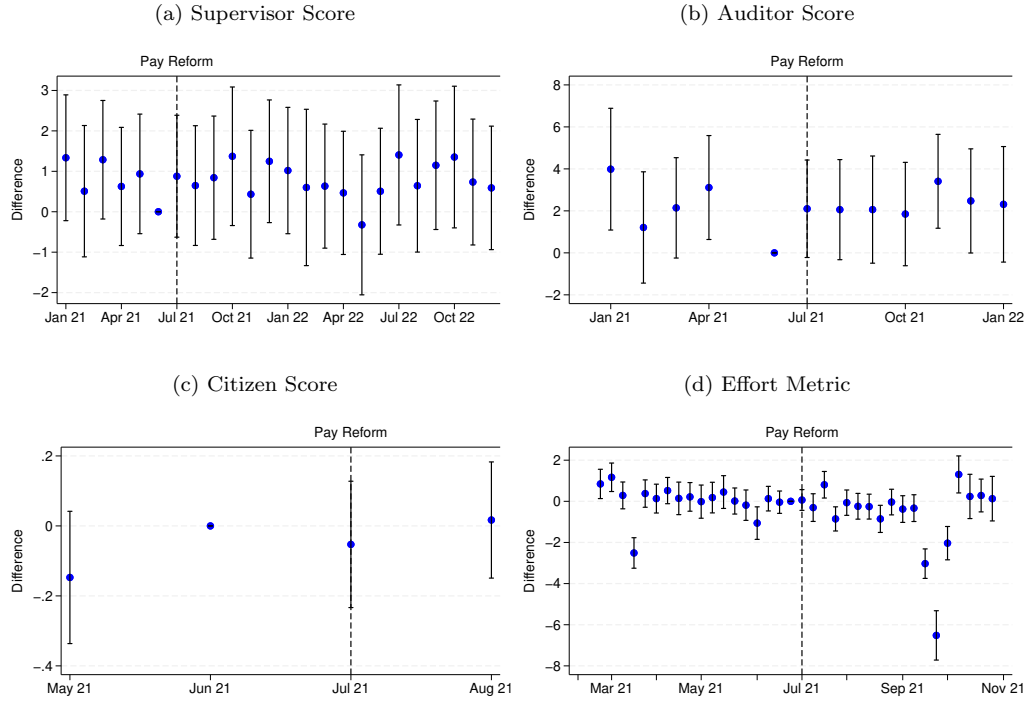


FIGURE A5. EFFECT OF SALARY INCREASE ON PERFORMANCE

*Note:* This figure presents visualizations for the effect of the salary increase on secretary performance. We estimate Equation (2) and present dynamic DiD diagrams showing the coefficient for each month. The base month is June 2021, the month before the salary increase. In Sub-figure (a), the dependent variable is the supervisor evaluation score, which is on a 0 to 100 scale. In Sub-figure (b), the dependent variable is the auditor evaluation score, also on a 0 to 100 scale. In Sub-figure (c), the dependent variable is the citizen evaluation score, which is a standardized index constructed from a Likert scale. In Sub-figure (d), the dependent variable is the daily reporting rate, which is a proxy for the secretaries' effort. Table 2 shows the results from DiD regressions using these outcome variables. Results are discussed in Section III.A.

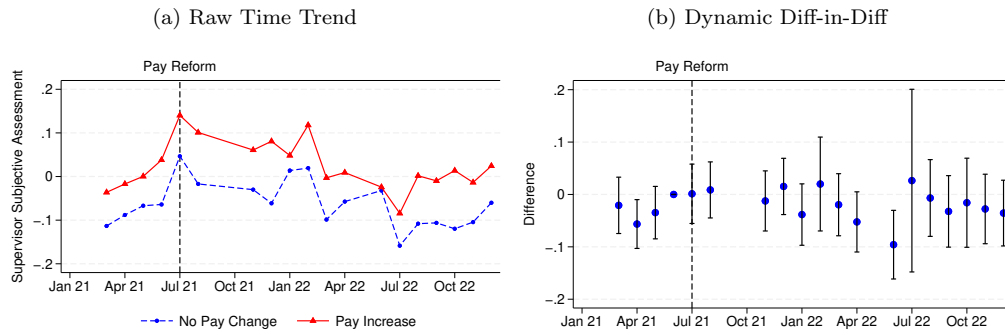


FIGURE A6. EFFECT OF SALARY INCREASE ON SUBJECTIVE PERFORMANCE EVALUATION OF GP SECRETARY

*Note:* This figure presents visualizations of the effect of the salary increase on subjective secretary performance. Sub-figure (a) shows time trends of the subjective supervisor assessment using minimally processed data. Sub-figure (b) presents dynamic DiD coefficient estimates for subjective supervisor assessment from estimating Equation (2). In Sub-figure (a), the outcomes are expressed as SDs from the mean. Table A5 shows the results from DiD regressions using these outcome variables. See discussion in Section III.A.

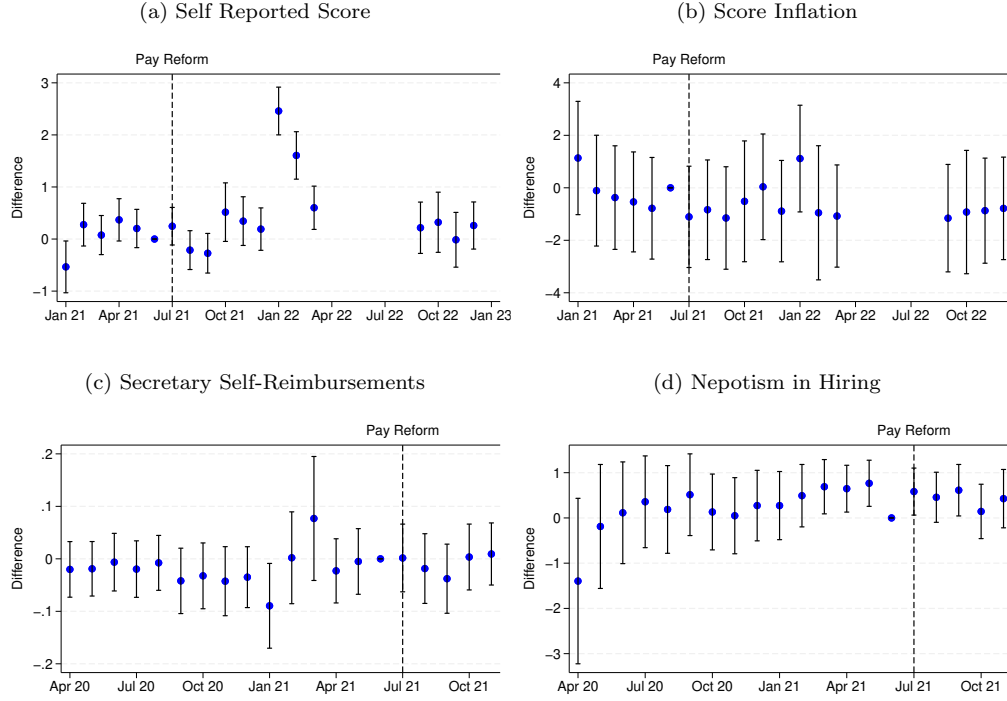


FIGURE A7. EFFECT OF SALARY INCREASE ON HONESTY AND CORRUPTION

*Note:* We estimate Equation (2) using the honesty and corruption outcomes and present the dynamic DiD coefficients for each month. The base month is June 2021. Sub-figure (a) shows the DID timelines for the secretaries' self-reported assessment. Sub-figure (b) shows the DID timelines of secretaries' score inflation for overlapping components, as defined in Section II.C. In Sub-figure (c), the outcome variable is the share of GP expenditure that was spent reimbursing the GP secretary for personal expenses. In Sub-figure (d), the outcome variable is the share of multipurpose workers employed by the GP who share a name with the GP Sarpanch. The vertical lines indicate July 2021, the month of the salary increase. Table 3 shows the results from DiD regressions using these outcome variables. Figure 2 shows the time trends for these outcomes using minimally processed data. Results are discussed in Section III.B.

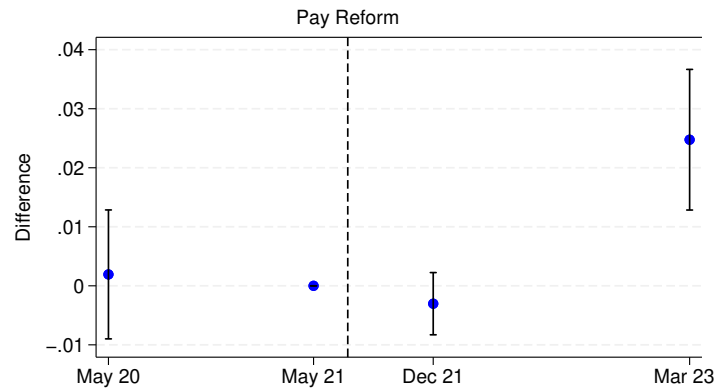


FIGURE A8. EFFECT OF SALARY INCREASE ON GP SECRETARY RETENTION (DYNAMIC DIFF-IN-DIFF)

*Note:* This figure presents DiD coefficients from estimating Equation (2). The base month is May 2021, the last pre-period. The dependent variable is a dummy indicating whether bureaucrat  $i$  is employed by the PRRD Department in period  $t$ . See discussion in Section III.C.

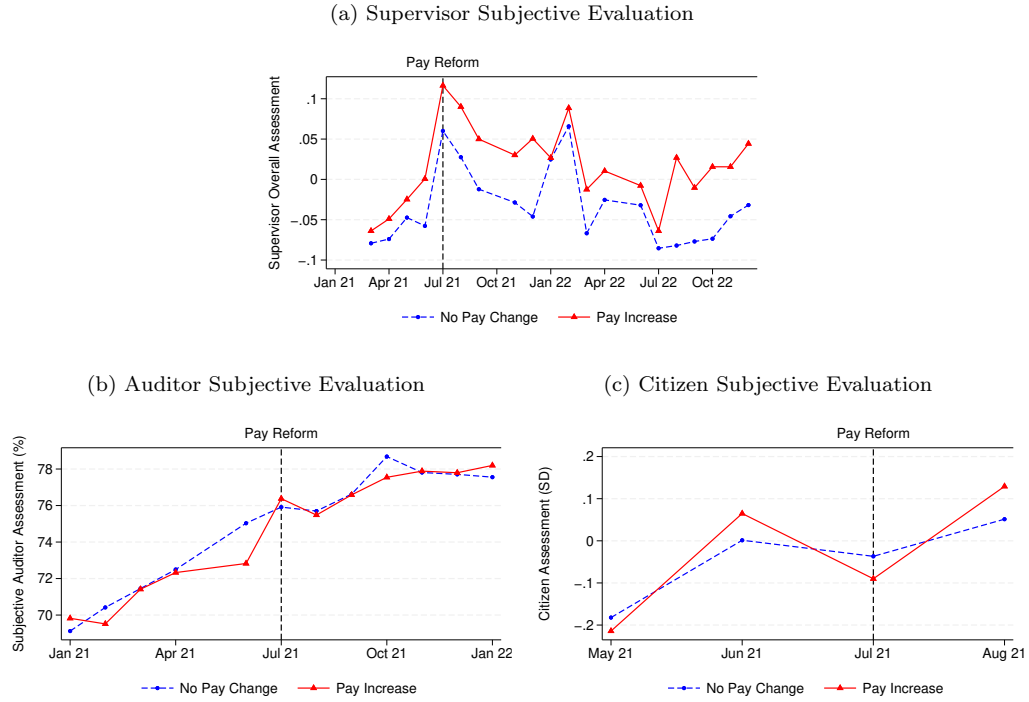


FIGURE A9. EFFECT OF SALARY INCREASE ON SUBJECTIVE PERFORMANCE EVALUATION

*Note:* This figure presents time trends of subjective performance evaluations using minimally processed data. Sub-figure (a) shows time trends for the subjective performance evaluation by supervisors. In Sub-figure (b), the dependent variable is subjective evaluations by state-level auditors. In Sub-figure (c), the outcome variable is citizens' subjective evaluation of their GP secretary. The outcome in Sub-figure (b) is expressed as a percentage out of 100. In Sub-figure (a) and (c) the outcomes are expressed as SDs from the mean. Table A9 shows the DiD regression results using these outcome variables. See discussion in Section III.D.

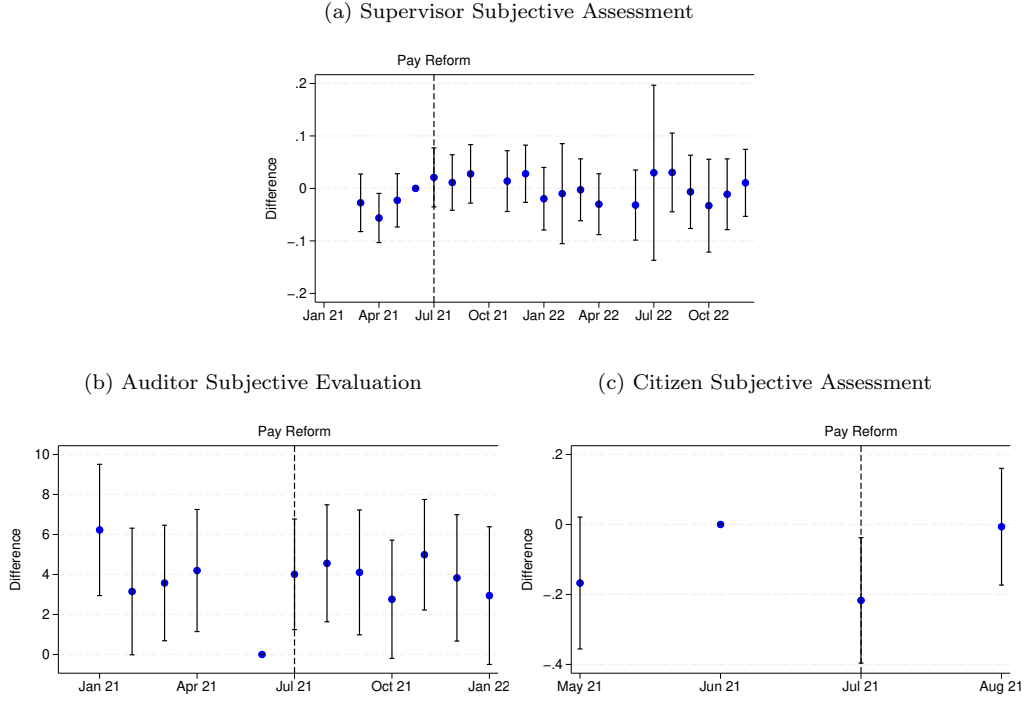


FIGURE A10. EFFECT OF SALARY INCREASE ON SUBJECTIVE PERFORMANCE EVALUATIONS

*Note:* This figure presents visualizations for the effect of the salary increase on subjective overall performance. We present DiD diagrams from estimating Equation (2). In Sub-figure (a), the outcome variable is the supervisors' subjective evaluation of secretaries. In Sub-figure (b), the dependent variable is state-level auditors' subjective evaluation. In Sub-figure (c), the dependent variable is citizens' subjective evaluation. The outcome in Sub-figure (a) and (c) is expressed as SDs from the mean. In Sub-figure (b), the outcome is expressed as a percentage out of 100. Table A9 shows the results from DiD regressions using these outcome variables. See discussion in Section III.D.

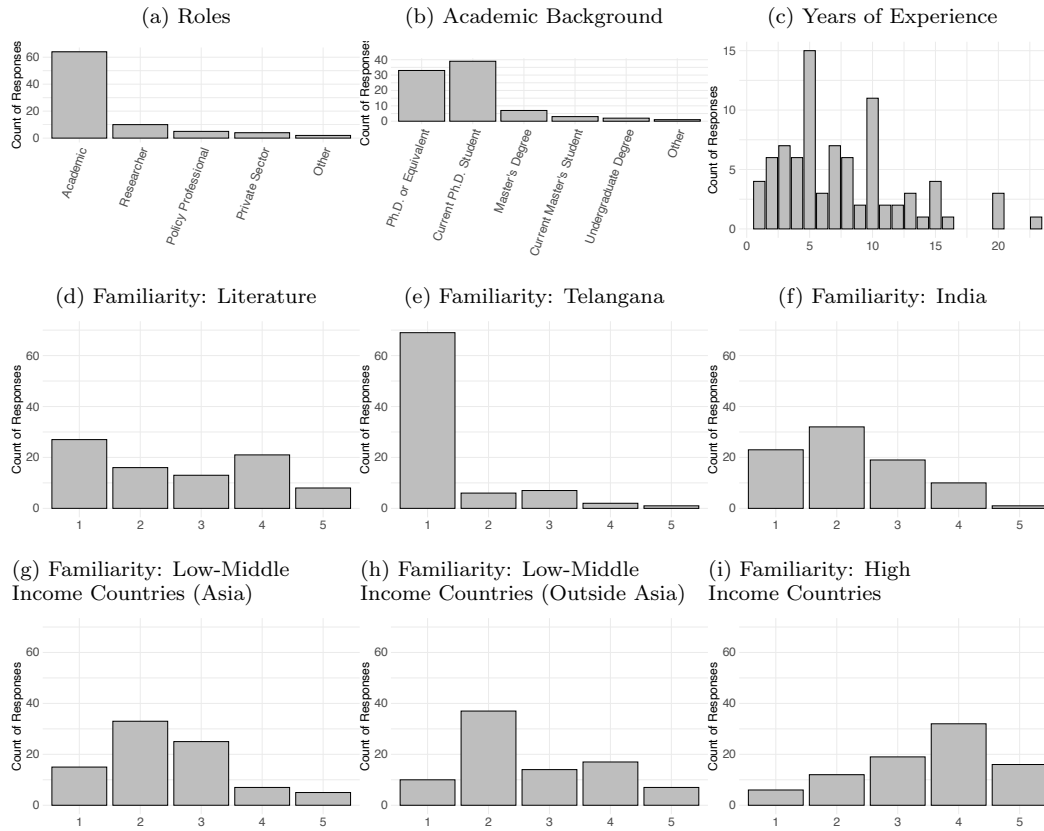


FIGURE A11. FORECASTER CHARACTERISTICS

*Note:* This figure presents summary statistics on the characteristics of experts who made forecasts via the Social Science Prediction Platform. A total of 85 respondents completed our survey. Table 5 shows summary statistics on the forecasts. For Sub-figures (c) to (g), values 1 to 5 correspond to the following responses: “Not familiar at all,” “Slightly familiar,” “Moderately familiar,” “Very familiar,” and “Extremely familiar.” Results are discussed in Section III.E.

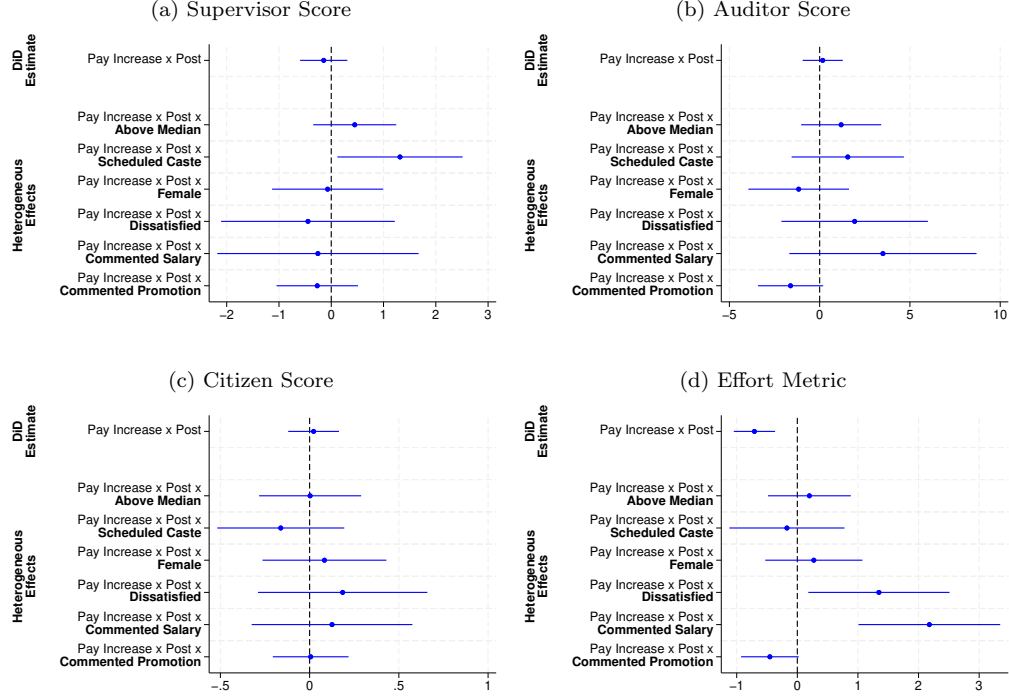


FIGURE A12. EFFECT OF SALARY INCREASE ON PERFORMANCE — HETEROGENEITY

*Note:* We present coefficient plots of the DiD estimates from Equation (1). The outcome variables are the performance measures based on supervisor, auditor and citizen evaluations and the effort proxy. In each Sub-figure, the first coefficient is the DiD Estimate, which presents the base DiD estimate. The *Heterogeneous Effects* coefficients present the coefficient on the triple interaction between *Pay Increase*, *Post* and the secretary characteristics highlighted in bold. For the characteristic *Commented Promotion*, the interaction term *Post*  $\times$  *Commented Promotion* is excluded due to collinearity. Each coefficient comes from a different regression (i.e, we run one regression for each dimension of heterogeneity). These regression coefficients are also presented in tables A15 and A16. Refer to the discussion in Section IV.

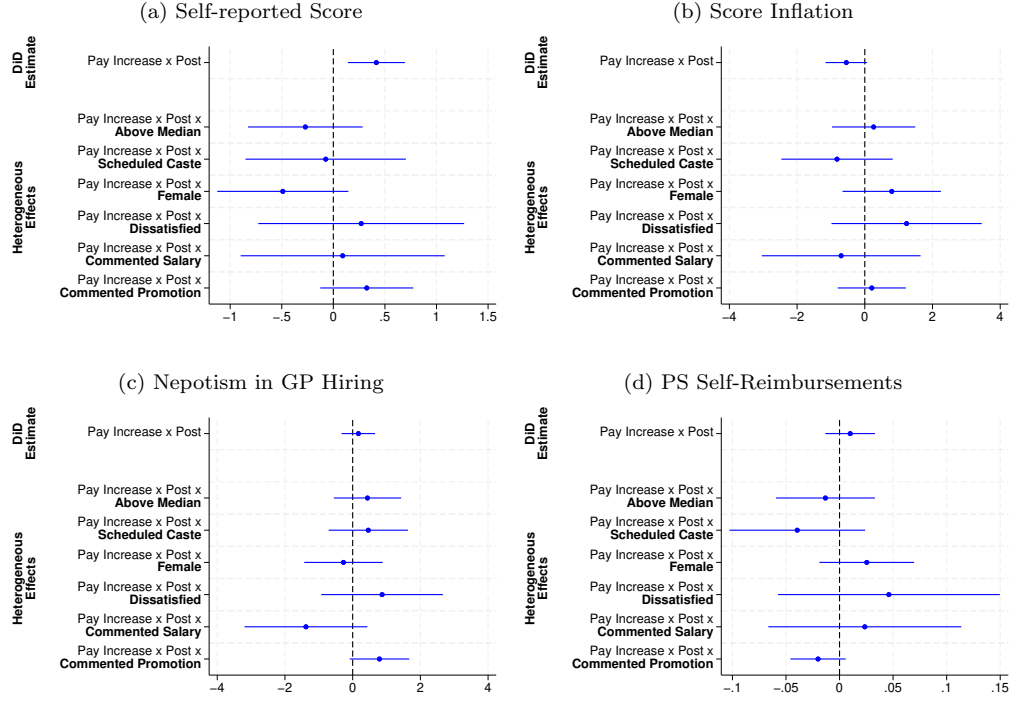


FIGURE A13. HETEROGENEITY IN THE EFFECT ON HONESTY AND CORRUPTION

*Note:* We present coefficient plots of the DiD estimates from Equation (1). The outcome variables in Sub-figures (a)-(b) are measures of honesty: self-reported performance score in Sub-figure (a) and score inflation in Sub-figure (b). The outcome variables in Sub-figures (c)-(d) are proxies of corruption: the share of GP multi-purpose workers who share the Sarpanch's name in (c) and the share of GP expenditure reimbursed to the secretary for personal expenses in (d). In each Sub-figure, the first coefficient is the DiD Estimate, which presents the base DiD estimate. The *Heterogeneous Effects* coefficients present the coefficient on the triple interaction between *Pay Increase*, *Post* and the secretary characteristics highlighted in bold. Each coefficient comes from a different regression (i.e., we run one regression for each dimension of heterogeneity). For the characteristic *Commented Promotion*, the interaction term *Post*  $\times$  *Commented Promotion* is excluded due to collinearity. These regression coefficients are also presented in tables A17 and A18. Refer to the discussion in Section IV.

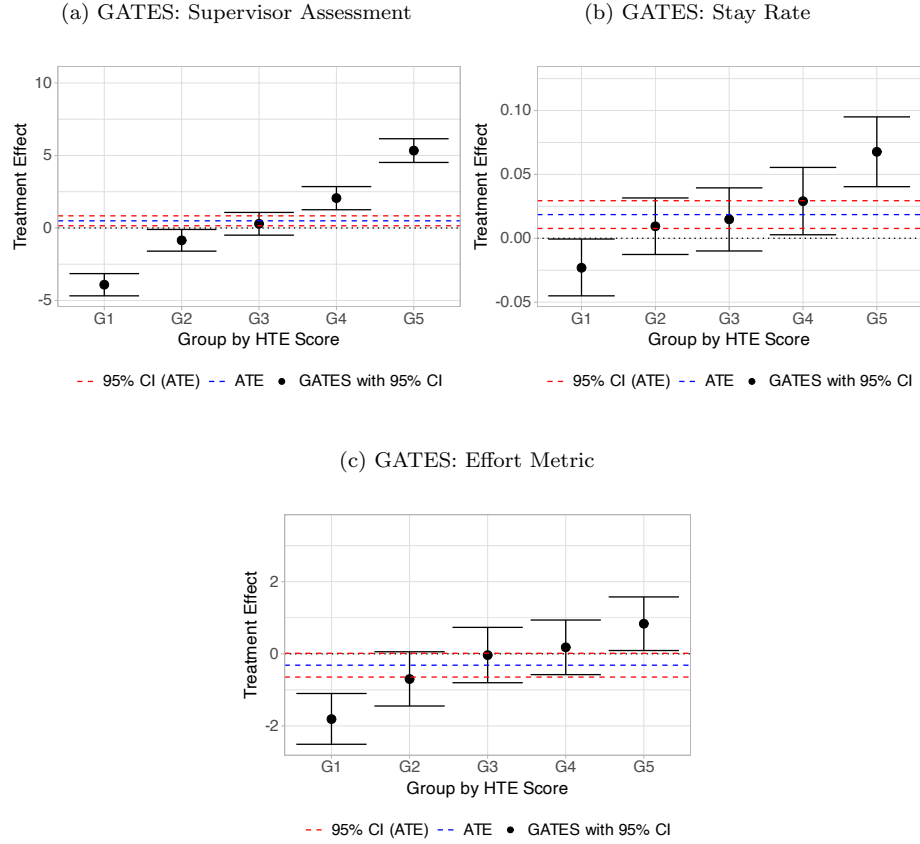


FIGURE A14. GENERICML PREDICTED TREATMENT EFFECTS ON SUPERVISOR EVALUATION, RETENTION, AND EFFORT

*Note:* This figure displays Sorted Grouped Average Treatment Effects (GATES), as described in Section A.7. We use the GenericML model to predict treatment effects for each secretary and sort secretaries into five groups, or quintiles, based on their predicted treatment effect for that outcome. We present the GATES generated by GenericML for three variables: supervisor score, secretary stay rate, and the daily reporting rate, our measure of bureaucrat effort. The x-axis represents the quintile of the predicted treatment effect. Results are discussed in Section IV.

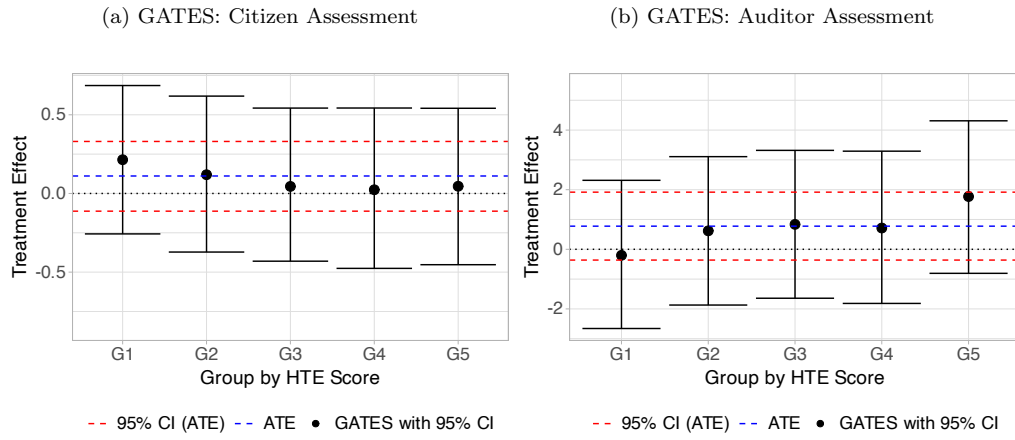


FIGURE A15. PREDICTED TREATMENT EFFECTS — CITIZEN AND AUDITOR EVALUATIONS

*Note:* This figure displays Sorted Grouped Average Treatment Effects (GATES), as described in Section A.7. We use the GenericML model to predict treatment effects for each secretary and sort secretaries into 5 groups (quintiles) based on their predicted treatment effect for that outcome. We present the GATES generated by GenericML for two outcomes: auditor evaluations and citizen evaluations. The x-axis represents the quintile of the predicted treatment effect. Results are discussed in Section IV.

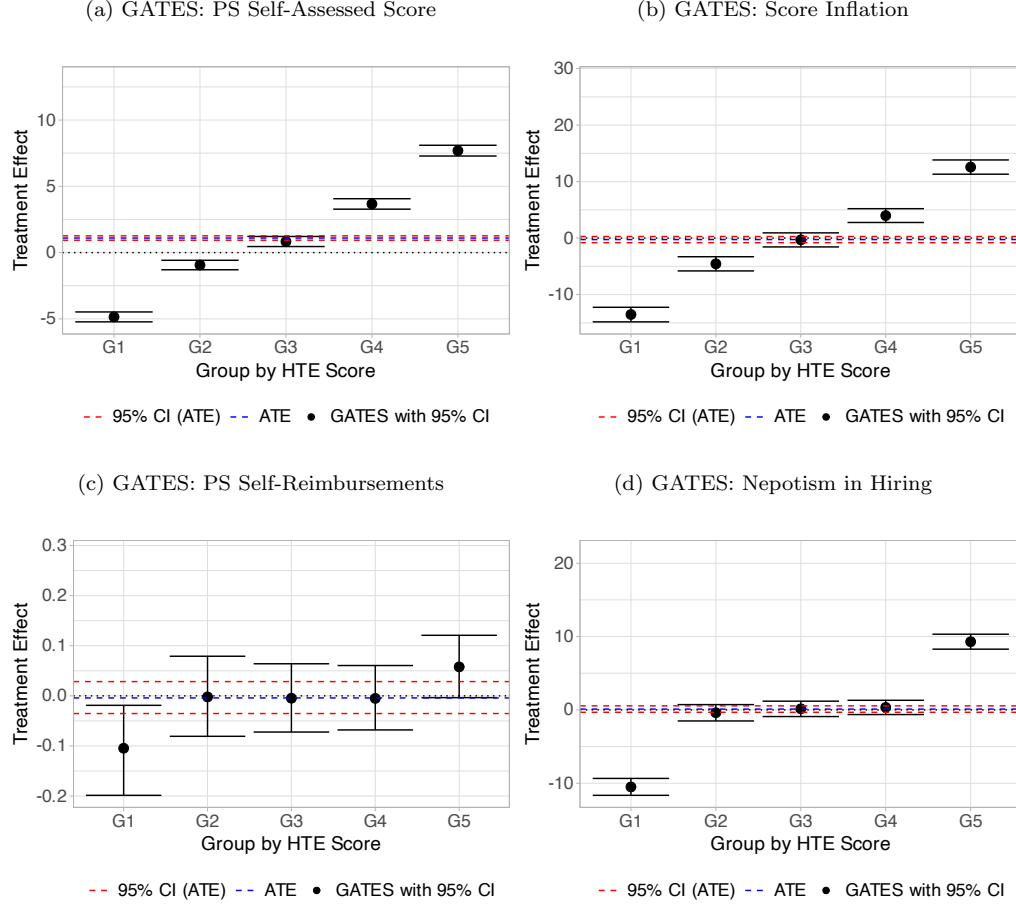


FIGURE A16. PREDICTED TREATMENT EFFECTS — HONESTY AND CORRUPTION OUTCOMES

*Note:* This figure displays Sorted Grouped Average Treatment Effects (GATES), as described in Section A.7. We use the GenericML model to predict treatment effects for each secretary and sort secretaries into 5 groups (quintiles) based on their predicted treatment effect for that outcome. We present the GATES generated by GenericML for four variables: self-reported performance, score inflation, share of expenditure reimbursed to the secretary for personal expenses, and the share of multipurpose workers employed by the GP who share a name with the Sarpanch. The x-axis represents the quintile of the predicted treatment effect. Results are discussed in Section IV.

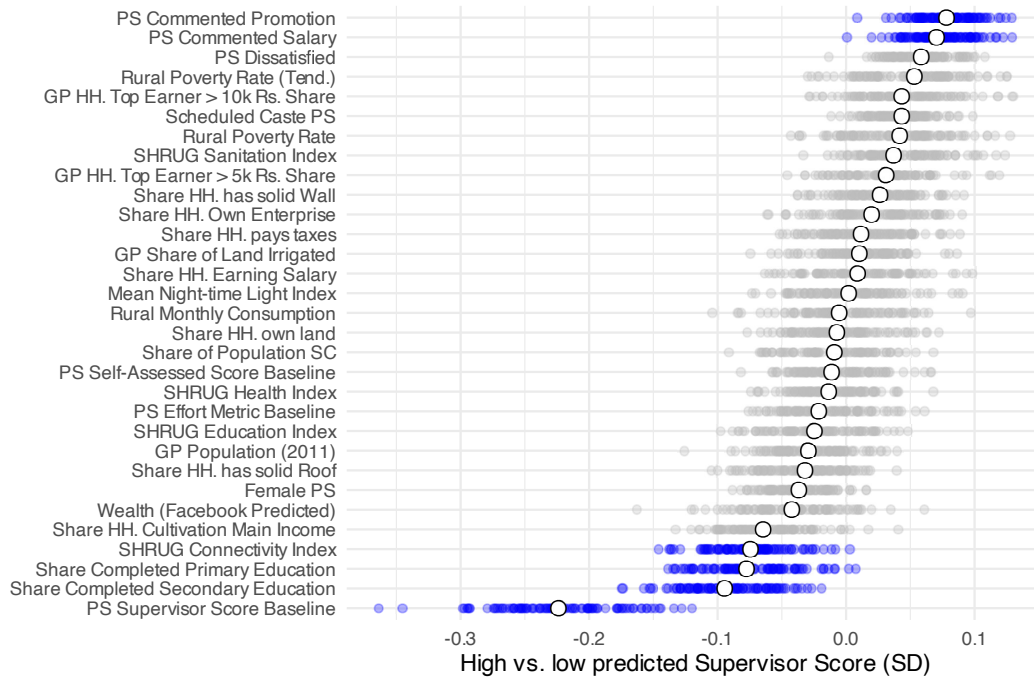


FIGURE A17. GENERICML CLASSIFICATION ANALYSIS — SUPERVISOR EVALUATION

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is supervisor evaluation scores. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are coloured blue. Results are discussed in Section IV.

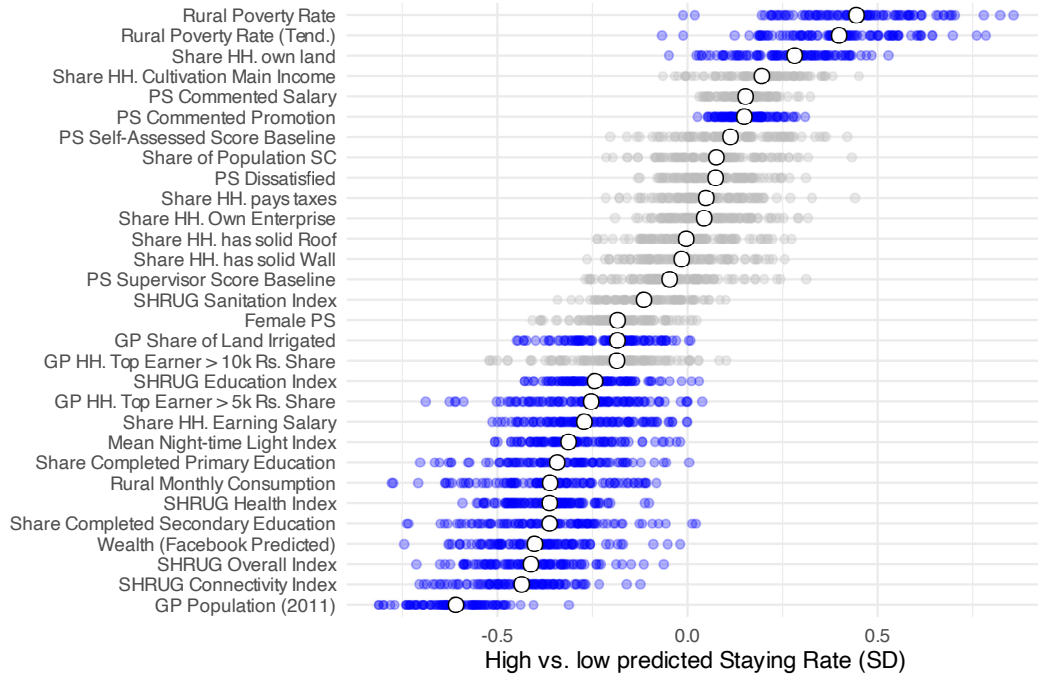


FIGURE A18. GENERICML CLASSIFICATION ANALYSIS — STAY RATES

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is GP secretary stay rates. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are coloured blue. Results are discussed in Section IV.

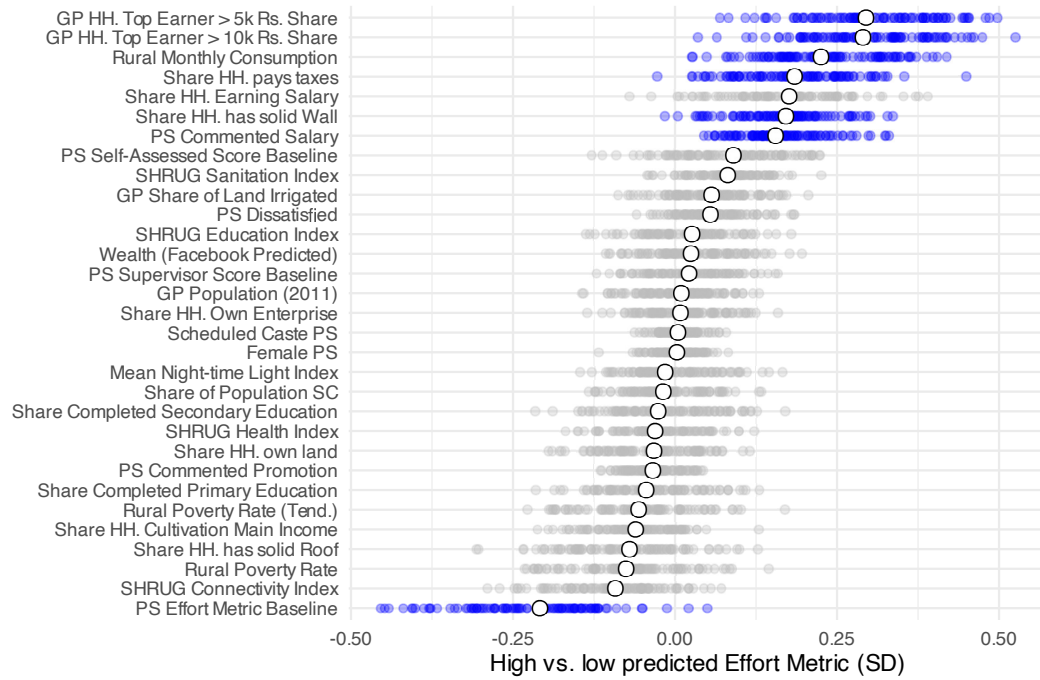


FIGURE A19. GENERICML CLASSIFICATION ANALYSIS — EFFORT

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is the daily reporting rate, our measure of bureaucrat effort. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of are coloured blue. Results are discussed in Section IV.

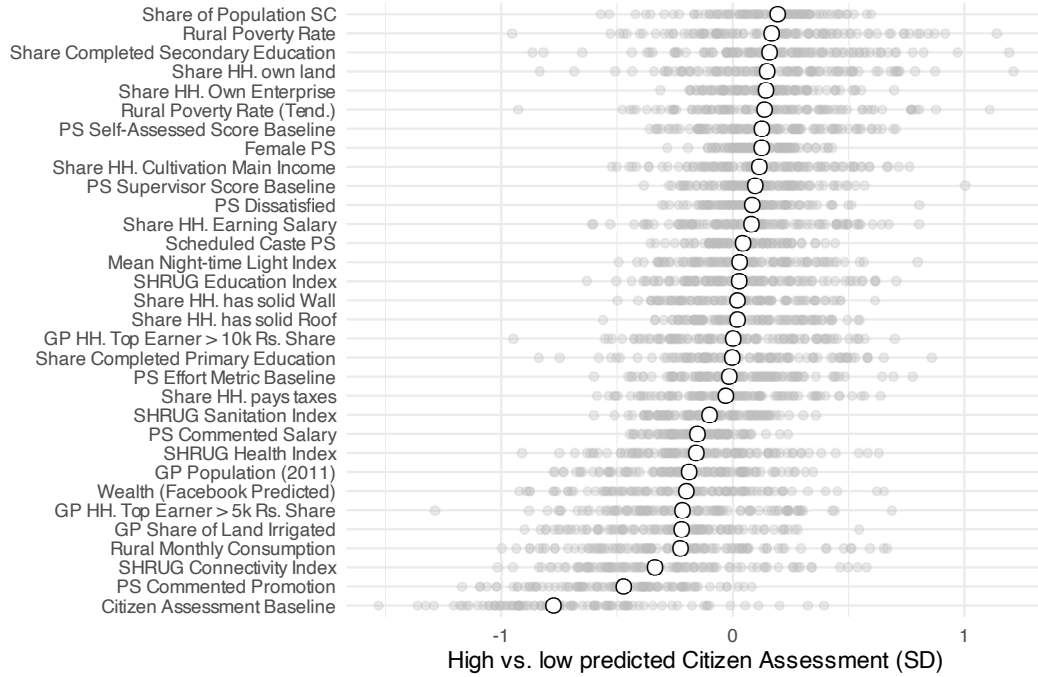
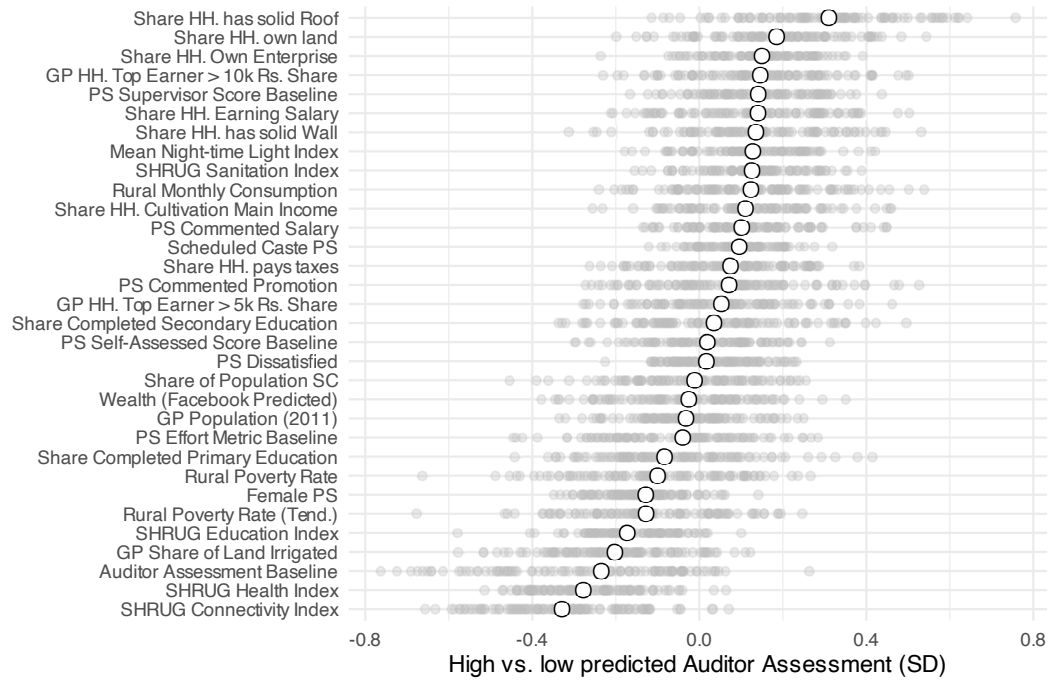


FIGURE A20. GENERICML CLASSIFICATION ANALYSIS — CITIZEN EVALUATIONS

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is citizen evaluation scores. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are coloured blue. Results are discussed in Section IV.

FIGURE A21. GENERICML CLASSIFICATION ANALYSIS — AUDITOR EVALUATIONS



*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is auditor evaluation scores. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are coloured blue. Results are discussed in Section IV.

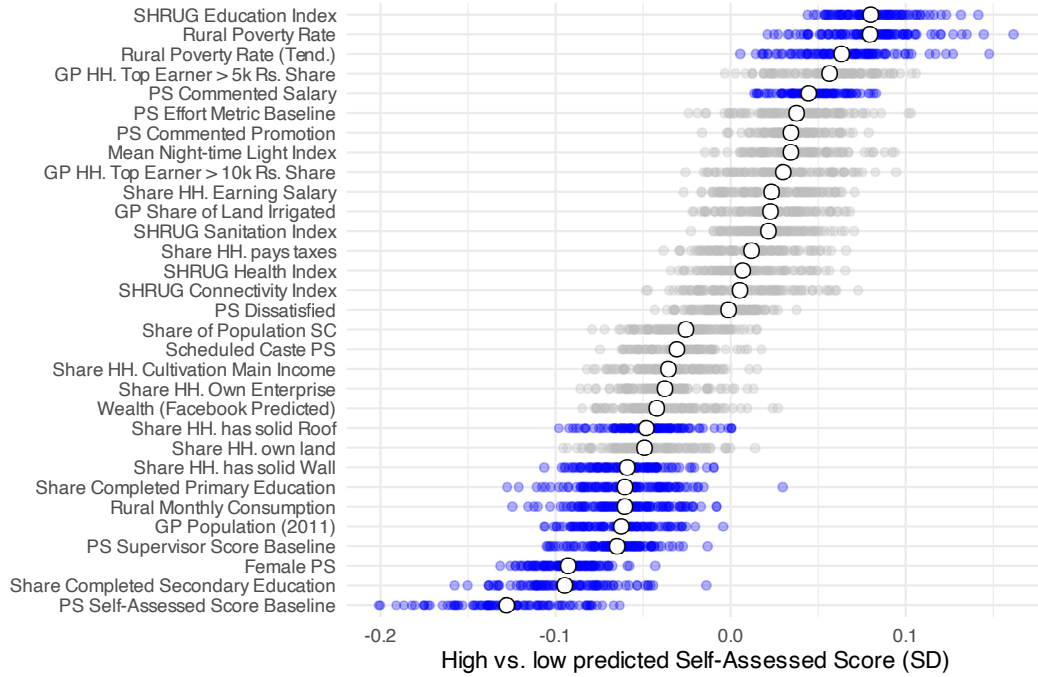


FIGURE A22. GENERICML CLASSIFICATION ANALYSIS — SELF-REPORTED SCORE

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is self-assessed performance scores. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are coloured blue. Results are discussed in Section IV.

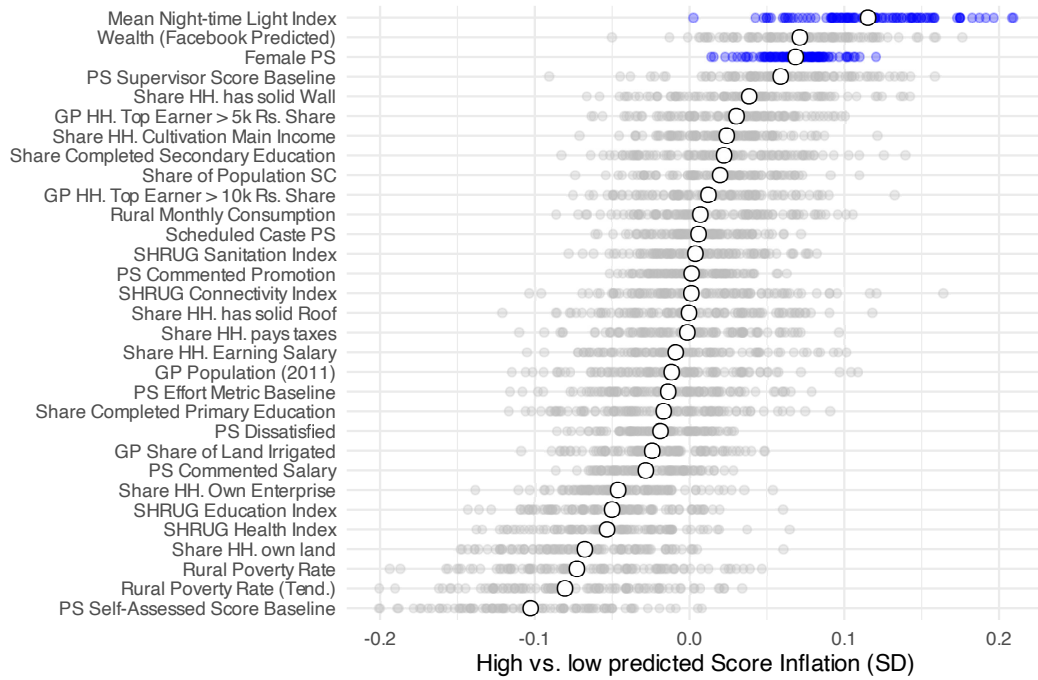


FIGURE A23. GENERICML CLASSIFICATION ANALYSIS — SCORE INFLATION

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is score inflation. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are coloured blue. Results are discussed in Section IV.

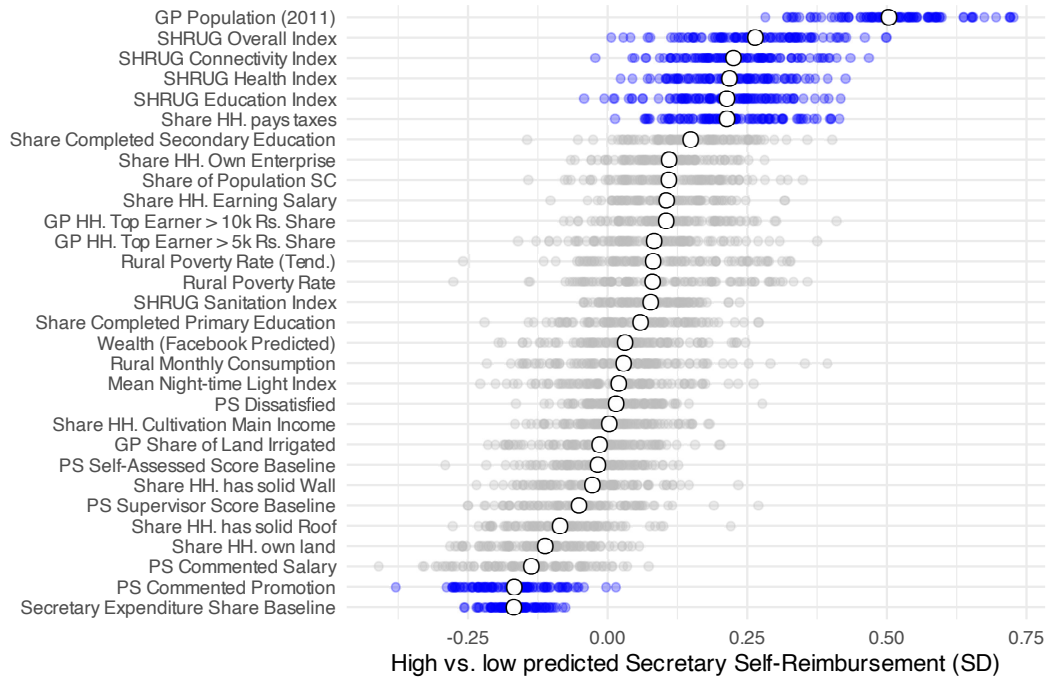


FIGURE A24. GENERICML CLASSIFICATION ANALYSIS — SECRETARY SELF-REIMBURSEMENT

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is the share of GP expenditure on reimbursing the secretary for personal expenses, a proxy for corruption. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are coloured blue. Results are discussed in Section IV.

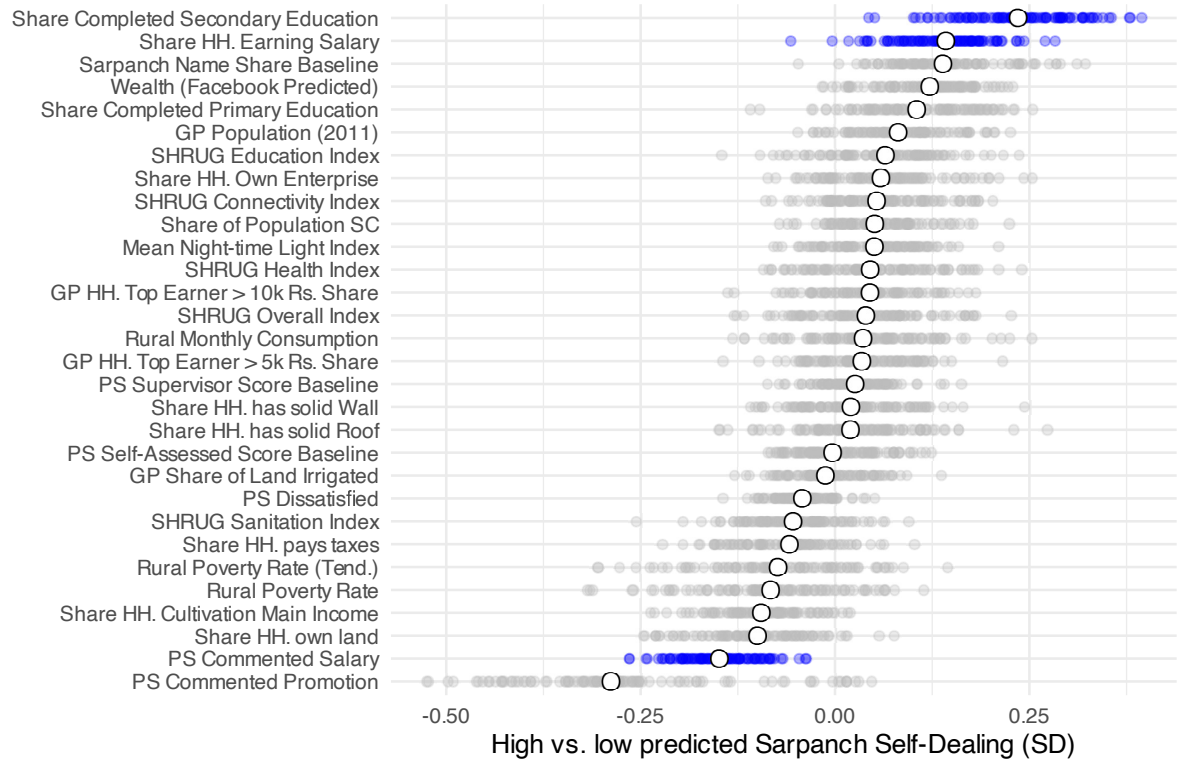


FIGURE A25. GENERICML CLASSIFICATION ANALYSIS — NEPOTISM IN HIRING

*Note:* This figure presents Classification Analysis (CLAN) estimates from the GenericML model, as described in Section A.7. The outcome is share of multipurpose workers hired by the GP who share a name with the Sarpanch, a proxy for nepotism in hiring and corruption. Each row is a baseline secretary or GP characteristic that is used as a predictor in the GenericML model. For each characteristic, we show the mean difference between observations (i.e. secretaries/GPs) predicted to be in the top quintile of treatment effects and observations (i.e. secretaries/GPs) predicted to be in the bottom quintile of treatment effects. We standardise each variable so readers can easily interpret magnitudes. For each sample split (i.e. iteration of the GenericML estimation), we obtain different predicted treatment effects and a different high vs low mean difference. Each dot plots one split for a given covariate. Large circles with white centers plot the median difference across all sample splits. Covariates for which the mean difference is statistically significant (at the 5% level) in  $\geq 90\%$  of splits are colored blue. Results are discussed in Section IV.

## ADDITIONAL TABLES

TABLE A1—SECRETARY TIME USE AND PERCEPTIONS OF MOST IMPORTANT TASKS

| Variable                                         | Mean  | Median | P25   | P75    | SD    | N    |
|--------------------------------------------------|-------|--------|-------|--------|-------|------|
| <b>Panel A: Most Important Tasks - Secretary</b> |       |        |       |        |       |      |
| Road and drain cleanliness                       | 55.24 | 100.00 | 0.00  | 100.00 | 49.73 | 9474 |
| Household waste management                       | 35.28 | 0.00   | 0.00  | 100.00 | 47.79 | 9474 |
| Plantations and nurseries                        | 51.45 | 100.00 | 0.00  | 100.00 | 49.98 | 9474 |
| Streetlights                                     | 12.24 | 0.00   | 0.00  | 0.00   | 32.78 | 9474 |
| NREGA                                            | 14.29 | 0.00   | 0.00  | 0.00   | 35.00 | 9474 |
| Administrative tasks                             | 72.85 | 100.00 | 0.00  | 100.00 | 44.47 | 9474 |
| <b>Panel B: Most Important Tasks - Citizen</b>   |       |        |       |        |       |      |
| Household waste management                       | 48.17 | 50.00  | 0.00  | 100.00 | 44.96 | 50   |
| Water-tank                                       | 49.50 | 50.00  | 0.00  | 100.00 | 44.87 | 50   |
| Streetlight                                      | 47.17 | 50.00  | 0.00  | 100.00 | 42.58 | 50   |
| Road and drain cleanliness                       | 57.17 | 70.83  | 0.00  | 100.00 | 45.98 | 50   |
| Plantations and nurseries                        | 81.33 | 100.00 | 62.50 | 100.00 | 34.61 | 50   |
| <b>Panel C: Time Use Share</b>                   |       |        |       |        |       |      |
| Sanitation                                       | 12.47 | 11.27  | 8.33  | 15.00  | 6.04  | 9471 |
| Greenery                                         | 8.86  | 8.33   | 6.67  | 10.45  | 3.65  | 9471 |
| Streetlights and water-tank                      | 6.78  | 6.49   | 4.92  | 8.22   | 3.06  | 9471 |
| NREGA                                            | 16.95 | 15.38  | 11.11 | 21.05  | 8.29  | 9471 |
| Elected representative interaction               | 5.75  | 5.71   | 4.13  | 7.21   | 2.38  | 9471 |
| Citizen interaction                              | 7.13  | 7.06   | 5.36  | 8.47   | 2.80  | 9471 |
| Administrative tasks                             | 21.90 | 21.95  | 17.91 | 25.21  | 6.20  | 9471 |
| Miscellaneous tasks                              | 20.16 | 20.41  | 16.67 | 23.75  | 5.31  | 9471 |

*Note:* This table presents summary statistics on PSes' perceptions of the most important aspects of their job, citizens' expectations of PSes and PS time use. Panel A reports the percentage of PSes who name a given task among the most important. Respondents could select multiple tasks, so the reported percentages across tasks do not sum to 100%. Panel B reports the share of citizens who hold the PS partially or wholly responsible for this governance activity. Panel C reports the average share of weekly time PSes allocate to specific tasks. The share is calculated based on the aggregate time reported across these categories. When summing the duration of each task, the average total hours worked is 90.1.

TABLE A2—SUMMARY STATISTICS — BASELINE CHARACTERISTICS OF GP SECRETARIES

|                                             | Pay Increase      |                  | No Pay Change     |                  |                  |
|---------------------------------------------|-------------------|------------------|-------------------|------------------|------------------|
|                                             | Obs.<br>(Cluster) | Mean<br>(SD)     | Obs.<br>(Cluster) | Mean<br>(SD)     | Diff.<br>(SE)    |
| Panel A. Baseline Performance               |                   |                  |                   |                  |                  |
| Supervisor Assessment (%)                   | 8,976<br>(8,976)  | 67.69<br>(11.58) | 3,645<br>(3,645)  | 67.51<br>(11.93) | 0.179<br>(0.23)  |
| Supervisor Overall GP Assmt. (SD)           | 8,496<br>(8,496)  | 0.01<br>(1.00)   | 3,476<br>(3,476)  | -0.02<br>(1.00)  | 0.028<br>(0.02)  |
| Supervisor Subjective Secretary Assmt. (SD) | 8,499<br>(8,499)  | 0.02<br>(1.00)   | 3,478<br>(3,478)  | -0.06<br>(1.00)  | 0.080<br>(0.02)  |
| Self-reported Assessment (%)                | 9,081<br>(9,081)  | 69.04<br>(7.10)  | 3,689<br>(3,689)  | 67.99<br>(7.18)  | 1.052<br>(0.14)  |
| Citizen Assessment (SD)                     | 1,707<br>(1,707)  | -0.06<br>(0.86)  | 688<br>(688)      | -0.05<br>(0.86)  | -0.013<br>(0.04) |
| Citizen Overall Assessment (SD)             | 1,678<br>(1,678)  | -0.04<br>(0.88)  | 680<br>(680)      | -0.11<br>(0.89)  | 0.066<br>(0.04)  |
| Reporting Rate (%)                          | 9,081<br>(9,081)  | 70.95<br>(8.80)  | 3,689<br>(3,689)  | 70.31<br>(10.14) | 0.639<br>(0.19)  |
| Auditor Assessment (%)                      | 4,263<br>(4,263)  | 71.98<br>(12.42) | 1,723<br>(1,723)  | 71.77<br>(13.34) | 0.207<br>(0.37)  |
| Auditor Overall Assessment (%)              | 4,262<br>(4,262)  | 71.07<br>(13.83) | 1,723<br>(1,723)  | 71.27<br>(13.89) | -0.205<br>(0.40) |
| Score Inflation (%)                         | 8,976<br>(8,976)  | 9.53<br>(14.78)  | 3,645<br>(3,645)  | 8.98<br>(15.19)  | 0.552<br>(0.30)  |
| Sarpanch Self-Dealing (%)                   | 7,125<br>(7,125)  | 9.26<br>(23.04)  | 2,727<br>(2,727)  | 6.20<br>(18.66)  | 3.058<br>(0.45)  |
| Secretary Self-Reimbursements (%)           | 9,080<br>(9,080)  | 0.09<br>(0.82)   | 3,689<br>(3,689)  | 0.09<br>(0.82)   | 0.001<br>(0.02)  |
| Panel B. PS Demographics                    |                   |                  |                   |                  |                  |
| Female (%)                                  | 8,785<br>(8,785)  | 31.34<br>(46.39) | 3,393<br>(3,393)  | 23.73<br>(42.55) | 7.612<br>(0.88)  |
| Age                                         | 8,100<br>(8,100)  | 31.15<br>(4.30)  | 2,692<br>(2,692)  | 40.98<br>(7.23)  | -9.833<br>(0.15) |
| Years in Service                            | 8,099<br>(8,099)  | 1.95<br>(0.45)   | 2,680<br>(2,680)  | 11.81<br>(6.97)  | -9.864<br>(0.13) |
| Scheduled Castes (%)                        | 9,081<br>(9,081)  | 17.85<br>(38.30) | 3,688<br>(3,688)  | 16.08<br>(36.74) | 1.771<br>(0.73)  |
| Scheduled Tribes (%)                        | 9,081<br>(9,081)  | 12.43<br>(33.00) | 3,688<br>(3,688)  | 7.16<br>(25.78)  | 5.274<br>(0.55)  |
| Panel C. PS Satisfaction Survey             |                   |                  |                   |                  |                  |
| Dissatisfied (%)                            | 7,114<br>(7,114)  | 15.36<br>(36.06) | 2,360<br>(2,360)  | 12.12<br>(32.64) | 3.25<br>(0.80)   |
| Commented Salary (%)                        | 7,114<br>(7,114)  | 20.23<br>(40.17) | 2,360<br>(2,360)  | 8.69<br>(28.17)  | 11.54<br>(0.75)  |
| Commented Promotion (%)                     | 7,114<br>(7,114)  | 13.90<br>(34.60) | 2,360<br>(2,360)  | 2.67<br>(16.12)  | 11.23<br>(0.53)  |

*Note:* This table shows baseline summary statistics for treated secretaries (who received the pay increase) and comparison secretaries (who did not). Panel A shows the means of the performance indicators. Panel B shows summary statistics for the secretaries' demographics. Panel C shows average responses to questions about job satisfaction in the secretary survey. See discussion in Section I.D.

TABLE A3—SUMMARY STATISTICS — BASELINE GP CHARACTERISTICS

|                                                          | Pay Increase      |                         | No Pay Change     |                         | Diff.<br>(SE)       |
|----------------------------------------------------------|-------------------|-------------------------|-------------------|-------------------------|---------------------|
|                                                          | Obs.<br>(Cluster) | Mean<br>(SD)            | Obs.<br>(Cluster) | Mean<br>(SD)            |                     |
| Panel A. GP Statistics                                   |                   |                         |                   |                         |                     |
| Total Population (2011)                                  | 9,075<br>(9,075)  | 1,326.56<br>(942.85)    | 3,685<br>(3,685)  | 2,270.40<br>(2,028.94)  | -943.835<br>(34.86) |
| Share Completed Secondary Education (2012)               | 8,812<br>(8,812)  | 0.18<br>(0.08)          | 3,552<br>(3,552)  | 0.19<br>(0.08)          | -0.008<br>(0.00)    |
| Share Completed Primary Education (2012)                 | 8,812<br>(8,812)  | 0.45<br>(0.11)          | 3,552<br>(3,552)  | 0.46<br>(0.11)          | -0.009<br>(0.00)    |
| Share of Scheduled Caste (2012)                          | 8,812<br>(8,812)  | 0.05<br>(0.04)          | 3,552<br>(3,552)  | 0.06<br>(0.05)          | -0.002<br>(0.00)    |
| Rural Monthly Consumption per capita (2011-12)           | 8,792<br>(8,792)  | 22,346.89<br>(4,308.54) | 3,541<br>(3,541)  | 22,396.52<br>(4,303.53) | -49.626<br>(85.68)  |
| Consumption <31 INR per day per capita (2011-12)         | 8,792<br>(8,792)  | 0.11<br>(0.08)          | 3,541<br>(3,541)  | 0.11<br>(0.08)          | -0.000<br>(0.00)    |
| Mean Night-time Light Index (2020)                       | 8,885<br>(8,885)  | 0.75<br>(0.77)          | 3,603<br>(3,603)  | 0.89<br>(1.20)          | -0.145<br>(0.02)    |
| Wealth Index (Facebook Predicted) 2021                   | 8,881<br>(8,881)  | -0.16<br>(0.24)         | 3,601<br>(3,601)  | -0.12<br>(0.27)         | -0.046<br>(0.01)    |
| Panel B. 2012 Household Statistics (Share of Households) |                   |                         |                   |                         |                     |
| Highest Earner >= 5k Rs                                  | 8,792<br>(8,792)  | 0.21<br>(0.19)          | 3,541<br>(3,541)  | 0.21<br>(0.19)          | -0.000<br>(0.00)    |
| Share of total land irrigated                            | 8,737<br>(8,737)  | 0.50<br>(0.17)          | 3,517<br>(3,517)  | 0.49<br>(0.17)          | 0.005<br>(0.00)     |
| Earning any Salaried Wage                                | 8,792<br>(8,792)  | 0.05<br>(0.08)          | 3,541<br>(3,541)  | 0.05<br>(0.09)          | -0.005<br>(0.00)    |
| Owning Enterprises                                       | 8,792<br>(8,792)  | 0.03<br>(0.09)          | 3,541<br>(3,541)  | 0.03<br>(0.09)          | 0.000<br>(0.00)     |
| Main Income is Cultivation                               | 8,792<br>(8,792)  | 0.32<br>(0.23)          | 3,541<br>(3,541)  | 0.31<br>(0.23)          | 0.004<br>(0.00)     |
| House has solid wall                                     | 8,812<br>(8,812)  | 0.89<br>(0.16)          | 3,552<br>(3,552)  | 0.88<br>(0.16)          | 0.004<br>(0.00)     |
| House has solid roof                                     | 8,812<br>(8,812)  | 0.71<br>(0.29)          | 3,552<br>(3,552)  | 0.70<br>(0.28)          | 0.008<br>(0.01)     |
| Pays Income or Professional Taxes                        | 8,792<br>(8,792)  | 0.05<br>(0.12)          | 3,541<br>(3,541)  | 0.05<br>(0.12)          | 0.000<br>(0.00)     |
| Owning Land                                              | 8,792<br>(8,792)  | 0.51<br>(0.21)          | 3,541<br>(3,541)  | 0.50<br>(0.21)          | 0.015<br>(0.00)     |
| Panel C. 2011 Census Indices                             |                   |                         |                   |                         |                     |
| Education Index                                          | 8,801<br>(8,801)  | -0.01<br>(0.37)         | 3,547<br>(3,547)  | 0.03<br>(0.39)          | -0.04<br>(0.01)     |
| Health Index                                             | 8,801<br>(8,801)  | -0.02<br>(0.35)         | 3,547<br>(3,547)  | 0.04<br>(0.43)          | -0.06<br>(0.01)     |
| Sanitation Index                                         | 8,801<br>(8,801)  | -0.02<br>(0.39)         | 3,547<br>(3,547)  | -0.00<br>(0.38)         | -0.02<br>(0.01)     |
| Connectivity Index                                       | 8,801<br>(8,801)  | -0.02<br>(0.40)         | 3,547<br>(3,547)  | 0.04<br>(0.41)          | -0.06<br>(0.01)     |

*Note:* This table shows baseline statistics for treated GPs whose secretaries received a pay raise and comparison GPs whose secretaries did not. Panels A and B show GP statistics. Panel C shows the means of indices created from public goods availability variables in the SHRUG data. We describe how the data is collected in Section A.6. See discussion in Section I.D.

TABLE A4—DETAILS ON COMPONENTS OF PERFORMANCE INDICATORS

| Supervisor Assessment                                                                                                                                                                                                          | Self-Reported Assessment                                                                                                                                                              | Auditor Assessment                                                    | Citizen Assessment                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Road cleanliness:</b><br>Road considered clean if supervisor gave assessment of 3 or more (out of 5) and did not find litter, dung, or waste, and made no negative remark. The score is binary. Weight: 13.5%               | <b>Road cleanliness:</b><br>On each day, 2 roads should be cleaned. The score is the average of how many roads were cleaned per day on the best 18 days of the month. Weight: 8.2%    | <b>Road cleanliness:</b><br>Likert scale (0 to 10). Weight: 12.5%     | <b>Cleanliness Satisfaction:</b><br>Likert scale (1 to 5) on road and drain cleanliness. Weight: 16.7% |
| <b>Drain cleanliness:</b><br>Drain considered clean if supervisor gave assessment of 3 or more (out of 5) and classified drain as clean, desilted, and maintained, without negative remark. The score is binary. Weight: 13.5% | <b>Drain cleanliness:</b><br>On each day, 2 drains should be cleaned. The score is the average of how many drains were cleaned per day on the best 18 days of the month. Weight: 8.2% | <b>Drain cleanliness:</b><br>Likert scale (0 to 10). Weight: 12.5%    |                                                                                                        |
| <b>Institution Cleanliness:</b><br>Proportion of clean institutions visited. Weight: 11.5%                                                                                                                                     | <b>Institution Cleanliness:</b><br>Proportion cleaned on the best 18 days. Weight: 7.1%                                                                                               | <b>Institution Cleanliness:</b> Likert scale (0 to 10). Weight: 12.5% |                                                                                                        |

| Supervisor Assessment                                                                                                                                      | Self-Reported Assessment                                                                                                                                 | Auditor Assessment                                                  | Citizen Assessment                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>Compost Score:</b><br>Measures if composting has taken place. Full score if procedure is followed. Half score if initiated but incomplete. Weight: 7.7% | <b>Household waste segregation:</b> Based on whether segregated garbage was collected from at least one household. Average of best 18 days. Weight: 4.7% | <b>Waste Segregation Rating:</b> Likert scale (0–10). Weight: 12.5% |                                                                       |
| <b>Streetlight functioning:</b><br>Proportion of working streetlights. Adjusted to zero if below 0.6. Weight: 15.4%                                        | <b>Streetlight functioning:</b> Based on days when selected roads are fully functioning. Average of best 18 days. Weight: 9.3%                           | <b>Streetlight functioning:</b> Likert scale (0–10). Weight: 12.5%  | <b>Streetlight satisfaction:</b><br>Likert scale (1–5). Weight: 16.7% |
| <b>Water tanks:</b> Share of water tanks deemed clean. Weight: 3.8%                                                                                        | <b>Water tanks:</b><br>Proportion of water tanks cleaned in month. Weight: 2.4%                                                                          |                                                                     |                                                                       |

TABLE A4—DETAILS ON COMPONENTS OF PERFORMANCE INDICATORS (CONTINUED)

| Supervisor Assessment                                                                                                                               | Self-Reported Assessment                                                                                                                                                                                        | Auditor Assessment                                                                                                                                            | Citizen Assessment                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Nursery infrastructure:</b><br>Availability of water, fencing, and cattle traps. Weight: 11.5%                                                   | <b>Nursery infrastructure:</b><br>Proportion of water source, fencing, and cattle traps availability. Weight: 7.1%                                                                                              | <b>Nursery Rating:</b><br>Likert scale (0–10) which assesses whether or not the plant nursery infrastructure is available and working properly. Weight: 12.5% | <b>Greenery Satisfaction:</b><br>Likert scale (1–5) about satisfaction with nurseries and plantations. Weight: 16.7%     |
| <b>Plantation fencing:</b><br>This score aggregates three aspects of plantation fencing: avenue, community, and institutional fencing. Weight: 3.8% | <b>Plantation fencing:</b> Score given if each of the 3 plantation types have fencing. Weight: 2.4%                                                                                                             |                                                                                                                                                               |                                                                                                                          |
| <b>Government plants:</b> Plant survival rate in avenues, community, and institutions (85%). Overall assessment (15%). Weight: 13.5%                | <b>Government plants:</b><br>Plant survival rate in avenues, community, and institutions (58%).<br>Watering of plants (42%).<br>Weight: 14.0%                                                                   | <b>Government plants:</b> Likert scale (0–10) of government plants including watering and fencing. Weight: 12.5%                                              |                                                                                                                          |
|                                                                                                                                                     | <b>NREGA:</b> Number of workdays per active beneficiary. First graded as a percentage of best performing GP in Mandal, later graded as a percentage of the 90th percentile performing GP in Mandal. Weight: 18% |                                                                                                                                                               | <b>NREGA Satisfaction:</b><br>Likert scale (1–5) about satisfaction regarding the implementation of NREGA. Weight: 16.7% |

TABLE A4—DETAILS ON COMPONENTS OF PERFORMANCE INDICATORS (CONTINUED)

| Supervisor Assessment                                                                                      | Self-Reported Assessment                                                                                                                                                                                                                                                                                                                                                                                         | Auditor Assessment                                                                                                               | Citizen Assessment                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Meetings:</b> Gram Sabha meeting (33%) and GP meetings (67%) in current or previous month. Weight: 5.8% | <b>Administration:</b> Gram Sabha meeting (16.7%) and GP meetings (8.3%) in current or previous month. Proportional of registers that are up to date (16.7%). Proportions of births and deaths registered and certificates issued within timelines (25%). Proportion of daily sanitation records inspections submitted (16.7%). Cheques issued and bank token generated for all due bills (16.7%). Weight: 14.0% |                                                                                                                                  | <b>Administration:</b> Likert scale (1–5) which asks about satisfaction regarding how regular gram sabha meetings are taken place and how timely citizen services like birth registration is carried out. Weight: 16.7% |
|                                                                                                            | <b>Garbage Transport:</b> On each day, garbage is supposed to be transported to a shed. The score is the average of whether or not this was followed for the best 18 days of the month. Weight: 4.7%                                                                                                                                                                                                             | <b>Garbage Transport:</b> Likert scale (0–10) on how well garbage has been transported away from collection areas. Weight: 12.5% | <b>Garbage Satisfaction:</b> Likert scale (1–5). Very poor to excellent. The score is a 5-point Likert scale which asks about satisfaction regarding household garbage collection. Weight: 16.7%                        |

*Note:* This table shows details about the components and how they are aggregated to performance indicators. For the Supervisor Assessment and Self-Reported Assessment, the weights used to aggregate the different components into one score are the same weights as used by the PRRD Department. Refer to the discussion in Section II.A.

TABLE A5—EFFECT OF SALARY INCREASE ON SUPERVISORS' SUBJECTIVE PERFORMANCE ASSESSMENT

|                     | (1)<br>Supervisor Subjective<br>Assessment |
|---------------------|--------------------------------------------|
| Pay Increase x Post | 0.00706<br>(0.0169)                        |
| Observations        | 77,575                                     |
| Clusters            | 12,409                                     |
| Time FE             | Yes                                        |
| Panchayat FE        | Yes                                        |
| Dep. Var. Mean      | 0                                          |

*Note:* This table shows the estimated effects of the salary increase on supervisors' subjective assessments of the secretary. The outcome is expressed as SDs from the mean. Standard errors are clustered at the GP level. See discussion in Section III.A.

TABLE A6—EFFECT OF SALARY INCREASE ON SELF-REPORTED ASSESSMENTS — VERIFIABLE AND NON-VERIFIABLE SCORE COMPONENTS

|                     | (1)<br>Self-Reported<br>Assessment<br>No-Overlap | (2)<br>Self-Reported<br>Assessment<br>Overlap | (3)<br>Supervisor<br>No Overlap | (4)<br>Supervisor<br>Overlap |
|---------------------|--------------------------------------------------|-----------------------------------------------|---------------------------------|------------------------------|
| Pay Increase x Post | 1.195<br>(0.271)                                 | -0.280<br>(0.249)                             | -1.324<br>(0.548)               | 0.267<br>(0.196)             |
| Observations        | 226,922                                          | 89,239                                        | 39,266                          | 89,239                       |
| Clusters            | 12,770                                           | 12,639                                        | 10,810                          | 12,639                       |
| Time FE             | Yes                                              | Yes                                           | Yes                             | Yes                          |
| Panchayat FE        | Yes                                              | Yes                                           | Yes                             | Yes                          |
| Dep. Var. Mean      | 80.89                                            | 79.36                                         | 70.36                           | 61.4                         |

*Note:* This table illustrates the impact of pay increases on the misreporting of both verifiable and non-verifiable score components. In columns (2) and (4), we present effects on verifiable score components — components that are both self-reported by the secretary and evaluated by the supervisor during her inspection (e.g. cleanliness of a particular street). In Column (2), the dependent variable is the self-reported score for these overlapping score components, and in Column (4), it is the supervisor evaluation for these components. Specifically, for each month, these scores are created as the percentage of the maximum possible total, where the total depends on which sub-components between the self-reported score and the supervisor score are both present and non-missing. In columns (1) and (3), we present effects on non-overlapping score components — score components where the variable reported by the secretary cannot be directly verified by the supervisor (e.g. frequency of garbage collection or drain cleaning). In Column (1), we report the effects of the salary increase on self-reported scores for non-overlapping components, while in Column (3) we report supervisor evaluations of non-overlapping components (these are things assessed by the supervisor but that the secretary is not required to report on in their daily submission). These non-overlapping scores are also calculated as the percentage of the max possible total. The reason for the absence of certain sub-components in certain months, is due to data availability of the sub-components in that particular month or can be caused by incomplete supervisor assessments during a particular supervisor inspection. Results are discussed in Section III.B.

TABLE A7—TRADITIONAL HETEROGENEITY — EFFECT OF SALARY INCREASE ON RETENTION

|                                        |                  | Employed          |                   |                   |                   |                   |                  |
|----------------------------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
|                                        | (1)              | (2)               | (3)               | (4)               | (5)               | (6)               | (7)              |
| Pay Increase x Post<br>x Heterogeneity |                  | -0.000<br>(0.009) | -0.003<br>(0.012) | -0.035<br>(0.010) | 0.010<br>(0.017)  | 0.011<br>(0.019)  | 0.007<br>(0.006) |
| Pay Increase x Post                    | 0.010<br>(0.005) | 0.004<br>(0.006)  | -0.002<br>(0.005) | 0.009<br>(0.005)  | 0.012<br>(0.005)  | 0.010<br>(0.005)  | 0.011<br>(0.005) |
| Post x Heterogeneity                   |                  | 0.005<br>(0.008)  | -0.006<br>(0.010) | 0.004<br>(0.009)  | -0.033<br>(0.016) | -0.003<br>(0.018) |                  |
| Observations                           | 46,340           | 44,740            | 44,660            | 44,660            | 31,216            | 31,216            | 31,216           |
| Clusters                               | 11,431           | 11,045            | 11,012            | 11,012            | 7,697             | 7,697             | 7,697            |
| Employee FE                            | Yes              | Yes               | Yes               | Yes               | Yes               | Yes               | Yes              |
| Time FE                                | Yes              | Yes               | Yes               | Yes               | Yes               | Yes               | Yes              |
| Heterogeneity                          |                  | Above Med.        | Caste             | Female            | Dissatisfied      | Salary            | Promotion        |

*Note:* This table shows treatment effect heterogeneity on stay rates. We examine heterogeneity based on five characteristics: Above Med. corresponds to whether or not a secretary had an above median baseline score in their supervisor assessment score. Caste corresponds to whether or not a secretary belongs to a scheduled caste. Female corresponds to whether or not a secretary is female. Dissatisfied corresponds to whether or not a secretary indicated that they were dissatisfied in the baseline secretary survey. Salary corresponds to whether or not the secretary complained about their salary, remuneration, etc. during the baseline survey. The coefficient of interest is the triple interaction, i.e. Pay Increase x Post x Heterogeneity. The corresponding DiD figure is 3b. Refer to the discussion in Section III.C.

TABLE A8—ROBUSTNESS OF BASELINE RESULTS TO TIME TRENDS

| Panel A: Linear Time Trends      | (1)<br>Supervisor<br>Assessment | (2)<br>Auditor<br>Assessment | (3)<br>Citizen<br>Assessment | (4)<br>Effort<br>Metric |
|----------------------------------|---------------------------------|------------------------------|------------------------------|-------------------------|
| Pay Increase x Post              | -0.0390<br>(0.2786)             | 0.5627<br>(0.9529)           | -0.1620<br>(0.1401)          | -0.0296<br>(0.2669)     |
| Time x Pay Increase              | -0.0087<br>(0.0222)             | -0.0614<br>(0.1232)          | 0.1033<br>(0.0647)           | -0.0376<br>(0.0142)     |
| Observations                     | 111,223                         | 12,221                       | 9,512                        | 459,720                 |
| Clusters                         | 12,697                          | 4,851                        | 3,114                        | 12,770                  |
| Panchayat FE                     | Yes                             | Yes                          | Yes                          | Yes                     |
| Time FE                          | Yes                             | Yes                          | Yes                          | Yes                     |
| Dep. Var. Mean                   | 64.5                            | 75.7                         | .019                         | 66.634                  |
| Panel B: Quadratic Time Trends   | (1)<br>Supervisor<br>Assessment | (2)<br>Auditor<br>Assessment | (3)<br>Citizen<br>Assessment | (4)<br>Effort<br>Metric |
| Pay Increase x Post              | 0.3151<br>(0.4005)              | 1.6734<br>(1.0975)           | -0.1613<br>(0.1402)          | -0.0296<br>(0.2669)     |
| Time <sup>2</sup> x Pay Increase | 0.0030<br>(0.0028)              | 0.0522<br>(0.0239)           | -0.0194<br>(0.0321)          | 0.0002<br>(0.0009)      |
| Time x Pay Increase              | -0.0992<br>(0.0878)             | -0.8985<br>(0.4217)          | 0.3607<br>(0.4293)           | -0.0482<br>(0.0439)     |
| Observations                     | 111,223                         | 12,221                       | 9,512                        | 459,720                 |
| Clusters                         | 12,697                          | 4,851                        | 3,114                        | 12,770                  |
| Panchayat FE                     | Yes                             | Yes                          | Yes                          | Yes                     |
| Time FE                          | Yes                             | Yes                          | Yes                          | Yes                     |
| Dep. Var. Mean                   | 64.5                            | 75.7                         | .019                         | 66.634                  |

*Note:* This table shows the robustness of our results to controlling for time trends. We estimate Equation (1) and present DiD estimates. The dependent variables are supervisor performance evaluation (Column 1), auditor performance evaluation (Column 2), citizen evaluation (Column 3) and daily reporting rate, our effort proxy (in Column 4). Panel A controls for linear time trends while Panel B controls for quadratic time trends. Results are discussed in Section III.D.

TABLE A9—EFFECT OF SALARY INCREASE ON SUBJECTIVE PERFORMANCE EVALUATION

|                     | (1)<br>Supervisor Overall<br>Assessment | (2)<br>Auditor Overall<br>Assessment | (3)<br>Citizen Overall<br>Assessment |
|---------------------|-----------------------------------------|--------------------------------------|--------------------------------------|
| Pay Increase x Post | 0.0299<br>(0.0170)                      | 0.458<br>(0.635)                     | -0.0639<br>(0.0709)                  |
| Observations        | 81,526                                  | 12,213                               | 9,111                                |
| Clusters            | 12,447                                  | 4,847                                | 3,013                                |
| Time FE             | Yes                                     | Yes                                  | Yes                                  |
| Panchayat FE        | Yes                                     | Yes                                  | Yes                                  |
| Dep. Var. Mean      | 0                                       | 74.932                               | 0                                    |

*Note:* This table shows the estimated effects of the salary increase on supervisors', auditors' and citizens' overall evaluation of the village. In both columns 1 and 3, the outcomes are expressed as SDs from the mean. The outcome in Column (2) is expressed as a percentage out of 100. Standard errors are clustered at the employee level. Figure A9 shows the timelines for these variables. Figure A10 shows the DiD figures for these variables. See discussion in Section III.D.

TABLE A10—ROBUSTNESS OF BASELINE RESULTS TO MANDAL X MONTH FIXED EFFECTS

|                     | (1)<br>Supervisor<br>Assessment | (2)<br>Auditor<br>Assessment | (3)<br>Citizen<br>Assessment | (4)<br>Effort<br>Metric |
|---------------------|---------------------------------|------------------------------|------------------------------|-------------------------|
| Pay Increase x Post | -0.0787<br>(0.175)              | -1.016<br>(0.552)            | -0.0222<br>(0.0987)          | -0.626<br>(0.157)       |
| Observations        | 110,764                         | 10,717                       | 9,177                        | 459,648                 |
| Clusters            | 12,686                          | 4,181                        | 3,004                        | 12,768                  |
| Time FE             | Yes                             | Yes                          | Yes                          | Yes                     |
| Panchayat FE        | Yes                             | Yes                          | Yes                          | Yes                     |
| Mandal-Time FE      | Yes                             | Yes                          | Yes                          | Yes                     |
| Dep. Var. Mean      | 64.5                            | 75.61                        | .029                         | 66.637                  |

*Note:* This table presents DiD coefficients from estimating Equation (1). However, unlike the baseline results, which only include GP and month fixed effects, in this regression we additionally include mandal x month fixed effects. In Column (1), the outcome variable is performance as measured by supervisor evaluations, in Column (2), it is auditor evaluation scores, in Column (3), it is citizen evaluation scores, and in Column (4) it is the daily reporting rate, our proxy for effort. Standard errors are clustered at the GP level. See discussion in Section III.A.

TABLE A11—ROBUSTNESS OF PERFORMANCE RESULTS TO RESTRICTING COMPARISON GROUP TO PSES HIRED FROM 2016 AND ONWARDS

|                     | (1)<br>Supervisor<br>Assessment | (2)<br>Auditor<br>Assessment | (3)<br>Citizen<br>Assessment | (4)<br>Effort<br>Metric |
|---------------------|---------------------------------|------------------------------|------------------------------|-------------------------|
| Pay Increase x Post | -0.585<br>(0.394)               | -0.981<br>(0.860)            | -0.0596<br>(0.123)           | -0.302<br>(0.272)       |
| Observations        | 87,468                          | 9,611                        | 7,414                        | 363,996                 |
| Clusters            | 10,051                          | 3,840                        | 2,439                        | 10,111                  |
| Time FE             | Yes                             | Yes                          | Yes                          | Yes                     |
| Panchayat FE        | Yes                             | Yes                          | Yes                          | Yes                     |
| Dep. Var. Mean      | 64.51                           | 75.81                        | .02                          | 66.77                   |

*Note:* This table presents DiD coefficients from estimating equation (1). However, unlike the baseline results, which includes all GPs with PSES that did not experience salary increases in the comparison group, in this regression we exclude all GPs with PSES that joined government service prior to 2016. In Column (1), the outcome variable is performance as measured by supervisor evaluations, in column (2), it is auditor evaluation scores, in column (3), it is citizen evaluation scores, and in column (4) it is the daily reporting rate, our proxy for effort. Standard errors are clustered at the GP level. See discussion in Section III.A.

TABLE A12—ROBUSTNESS OF RETENTION EFFECT TO CONTROLLING FOR AGE

|                     | (1)<br>Employed      | (2)<br>Employed         |
|---------------------|----------------------|-------------------------|
| Pay Increase x Post | 0.00989<br>(0.00452) | 0.0134<br>(0.00577)     |
| Post x Age          |                      | 0.000361<br>(0.000395)  |
| Age                 |                      | -0.000165<br>(0.000198) |
| Observations        | 46,340               | 46,320                  |
| Clusters            | 11,431               | 11,426                  |
| Time FE             | Yes                  | Yes                     |
| Individual FE       | Yes                  | Yes                     |
| Dep. Var. Mean      | .922                 | .922                    |

*Note:* This table shows the robustness of the estimated effect of the salary increase on retention of PSES as public sector employees to controlling for age. Column (1) shows our baseline specification. Column (2) additionally controls for GP secretary age and the interaction between secretary age and the post indicator variable. Standard errors are clustered at the employee level. See discussion in Section III.D.

TABLE A13—IMPACT OF SALARY INCREASE FOR GPs WITH NO CHANGE IN SECRETARY

|                | (1)                   | (2)                | (3)                | (4)               | (5)<br>Self-<br>reported | (6)                    | (7)<br>Sarpanch<br>Self-<br>Dealing (%) | (8)<br>Secretary<br>Self-<br>Reimb. (%) |
|----------------|-----------------------|--------------------|--------------------|-------------------|--------------------------|------------------------|-----------------------------------------|-----------------------------------------|
|                | Supervisor<br>Assess. | Auditor<br>Assess. | Citizen<br>Assess. | Effort<br>Metric  | Assess.                  | Score<br>Inflation (%) |                                         |                                         |
| Pay Increase x |                       |                    |                    |                   |                          |                        |                                         |                                         |
| Post           | 0.156<br>(0.331)      | 0.0392<br>(0.823)  | -0.0451<br>(0.105) | -0.678<br>(0.237) | 0.348<br>(0.196)         | -0.870<br>(0.451)      | 0.151<br>(0.377)                        | 0.0195<br>(0.0183)                      |
| Observations   | 65,361                | 7,095              | 5,494              | 269,172           | 142,063                  | 52,432                 | 83,549                                  | 145,134                                 |
| Clusters       | 7,436                 | 2,793              | 1,795              | 7,477             | 7,477                    | 7,406                  | 6,213                                   | 7,477                                   |
| Time FE        | Yes                   | Yes                | Yes                | Yes               | Yes                      | Yes                    | Yes                                     | Yes                                     |
| Panchayat FE   | Yes                   | Yes                | Yes                | Yes               | Yes                      | Yes                    | Yes                                     | Yes                                     |
| Dep. Var. Mean | 64.61                 | 75.78              | .037               | 67.2              | 76.8                     | 18.1                   | 8.6                                     | .04                                     |

*Note:* This table shows the estimated effects of the salary increase on the performance of the secretaries who stayed in the same GP from May 2020 to March 2023. We present DiD coefficients from estimating Equation (1). In Column (1) the outcome variable is the performance score constructed from the supervisors' assessments, in Column (2), it is the performance score constructed from assessments by state-level auditors. For Column (3), it is the score constructed from the citizen assessments, and in Column (4) it is the percentage of days the secretary files the required daily sanitation report, which we consider a proxy for effort. In Column (5), the outcome variable is the performance index constructed from the self-reported performance indicators, expressed as a percentage out of 100. In Column (6), the outcome variable is score inflation, as defined in Section II.C, expressed as a percentage out of 100. Column (7) shows the changes over time for the share of multipurpose workers hired sharing a name with the GP Sarpanch, and Column (8) shows the share of GP expenditure that was spent in reimbursing the GP secretary, expressed as the percent of total monthly expenditure. Standard errors are clustered at the GP level. See discussion in Section III.D.

TABLE A14—PREDICTIONS BY FORECASTERS' SUBJECT EXPERTISE, CONTEXTUAL KNOWLEDGE, AND EDUCATION

| <b>Panel A. Respondents Familiar with Literature (n = 29)</b> |        |           |           |
|---------------------------------------------------------------|--------|-----------|-----------|
| Outcome                                                       | Median | Mean      | Std. Dev. |
| Supervisor Assessment                                         | 0.25   | 0.27      | (0.22)    |
| Self-reported Assessment                                      | 0.31   | 0.33      | (0.22)    |
| Secretary Corruption Proxy                                    | 4.11   | 3.90      | (3.24)    |
| Share of Predictions (%)                                      |        |           |           |
|                                                               | Worsen | Unchanged | Improves  |
| Selection                                                     | 10.30  | 13.80     | 75.90     |
| Decreases      Unchanged      Increases                       |        |           |           |
| Secretary Corruption Proxy                                    | 72.40  | 17.20     | 10.30     |
| Sarpanch Corruption Proxy                                     | 48.30  | 27.60     | 24.10     |
| <b>Panel B. Respondents Familiar with India (n = 11)</b>      |        |           |           |
| Outcome                                                       | Median | Mean      | Std. Dev. |
| Supervisor Assessment                                         | 0.22   | 0.18      | (0.26)    |
| Self-reported Assessment                                      | 0.30   | 0.30      | (0.30)    |
| Stay-rate                                                     | 5.70   | 4.62      | (3.75)    |
| Share of Predictions (%)                                      |        |           |           |
|                                                               | Worsen | Unchanged | Improves  |
| Selection                                                     | 18.20  | 18.20     | 63.60     |
| Decreases      Unchanged      Increases                       |        |           |           |
| Secretary Corruption Proxy                                    | 81.80  | 9.10      | 9.10      |
| Sarpanch Corruption Proxy                                     | 45.50  | 36.40     | 18.20     |
| <b>Panel C. Respondents with a PhD (n = 33)</b>               |        |           |           |
| Outcome                                                       | Median | Mean      | Std. Dev. |
| Supervisor Assessment                                         | 0.22   | 0.24      | (0.16)    |
| Self-reported Assessment                                      | 0.30   | 0.31      | (0.19)    |
| Stay-rate                                                     | 3.17   | 3.68      | (3.09)    |
| Share of Predictions (%)                                      |        |           |           |
|                                                               | Worsen | Unchanged | Improves  |
| Selection                                                     | 21.20  | 15.20     | 63.60     |
| Decreases      Unchanged      Increases                       |        |           |           |
| Secretary Corruption Proxy                                    | 81.80  | 9.10      | 9.10      |
| Sarpanch Corruption Proxy                                     | 51.50  | 30.30     | 18.20     |

*Note:* This table presents forecasts from our Social Science Prediction Platform survey. Panel A shows the predictions of respondents who say they are extremely familiar or very familiar with the existing literature on public sector pay. Panel B shows the predictions of respondents stating that they are extremely familiar or very familiar with the Indian context. Panel C shows the predictions of respondents who have a PhD. Predictions for supervisor assessment and self-reported assessment are in SDs from the mean. Predictions for stay rate are in percentage points. For the average predictions of all forecasters, refer to Table 5. Results are discussed in Section III.E.

TABLE A15—TRADITIONAL HETEROGENEITY — EFFECT OF SALARY INCREASE ON PERFORMANCE (SUPERVISOR AND AUDITOR EVALUATIONS)

| Panel A:                               |                   | Supervisor Assessment |                   |                   |                   |                   |                   |
|----------------------------------------|-------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                        | (1)               | (2)                   | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                   | 0.449<br>(0.405)      | 1.315<br>(0.611)  | -0.069<br>(0.542) | -0.445<br>(0.848) | -0.255<br>(0.982) | -0.268<br>(0.397) |
| Pay Increase x Post                    | -0.144<br>(0.231) | -0.271<br>(0.315)     | -0.357<br>(0.264) | -0.096<br>(0.279) | -0.391<br>(0.296) | -0.401<br>(0.294) | -0.378<br>(0.283) |
| Post x Heterogeneity                   |                   | -11.205<br>(0.341)    | -0.954<br>(0.515) | -0.062<br>(0.473) | 1.198<br>(0.755)  | 0.323<br>(0.923)  |                   |
| Observations                           | 111,223           | 110,620               | 105,826           | 105,826           | 84,353            | 84,353            | 84,353            |
| Clusters                               | 12,697            | 12,573                | 12,107            | 12,107            | 9,425             | 9,425             | 9,425             |
| Panchayat FE                           | Yes               | Yes                   | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes               | Yes                   | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                   | Above Med.            | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |
| Panel B:                               |                   | Auditor Assessment    |                   |                   |                   |                   |                   |
|                                        | (1)               | (2)                   | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                   | 1.191<br>(1.130)      | 1.556<br>(1.586)  | -1.163<br>(1.422) | 1.939<br>(2.069)  | 3.504<br>(2.645)  | -1.613<br>(0.921) |
| Pay Increase x Post                    | 0.171<br>(0.566)  | -0.440<br>(0.797)     | -0.024<br>(0.644) | 0.610<br>(0.667)  | 0.061<br>(0.767)  | -0.033<br>(0.754) | 0.415<br>(0.730)  |
| Post x Heterogeneity                   |                   | -1.441<br>(0.969)     | -1.286<br>(1.393) | 0.036<br>(1.273)  | -3.302<br>(1.883) | -4.137<br>(2.521) |                   |
| Observations                           | 12,221            | 12,119                | 11,580            | 11,580            | 9,257             | 9,257             | 9,257             |
| Clusters                               | 4,851             | 4,810                 | 4,613             | 4,613             | 3,638             | 3,638             | 3,638             |
| Panchayat FE                           | Yes               | Yes                   | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes               | Yes                   | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                   | Above Med.            | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |

*Note:* This table shows treatment effect heterogeneity on performance as measured by supervisor and auditor evaluations. Panel A shows the heterogeneous effects of the pay increase on the Supervisor Assessment Score. Panel B shows treatment effect heterogeneity on Auditor Assessment. We examine heterogeneity based on five characteristics: “Above Med.” corresponds to whether or not a secretary had an above median baseline score in their supervisor assessment score. “Caste” corresponds to whether or not a secretary belongs to a scheduled caste. “Female” corresponds to whether or not a secretary is female. “Dissatisfied” corresponds to whether or not a secretary indicated that they were dissatisfied in the baseline secretary survey. “Salary” corresponds to whether or not the secretary complained about their salary, remuneration, etc. during the baseline survey. “Promotion” corresponds to whether or not the secretary complained about promotion, regularization, etc. during their baseline survey. For “Promotion,” the interaction term *Post* × *Commented Promotion* is excluded due to collinearity. The coefficient of interest is the triple interaction, i.e. Pay Increase × Post × Heterogeneity. The corresponding DiD figure is Figure A12. Refer to the discussion in Section IV.

TABLE A16—TRADITIONAL HETEROGENEITY — EFFECT OF SALARY INCREASE ON PERFORMANCE (CITIZEN EVALUATIONS AND EFFORT)

| Panel A:                               |                   | Citizen Assessment |                   |                   |                   |                   |                   |
|----------------------------------------|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                        | (1)               | (2)                | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                   | 0.003<br>(0.146)   | -0.162<br>(0.181) | 0.083<br>(0.177)  | 0.185<br>(0.242)  | 0.126<br>(0.230)  | 0.006<br>(0.108)  |
| Pay Increase x Post                    | 0.022<br>(0.073)  | 0.030<br>(0.103)   | 0.035<br>(0.085)  | -0.017<br>(0.088) | 0.020<br>(0.094)  | 0.027<br>(0.094)  | 0.037<br>(0.089)  |
| Post x Heterogeneity                   |                   | -0.000<br>(0.126)  | 0.325<br>(0.154)  | -0.040<br>(0.158) | -0.238<br>(0.219) | -0.123<br>(0.206) |                   |
| Observations                           | 9,512             | 9,445              | 9,047             | 9,047             | 7,099             | 7,099             | 7,099             |
| Clusters                               | 3,114             | 3,085              | 2,957             | 2,957             | 2,312             | 2,312             | 2,312             |
| Panchayat FE                           | Yes               | Yes                | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes               | Yes                | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                   | Above Med.         | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |
| Panel B:                               |                   | Effort Metric      |                   |                   |                   |                   |                   |
|                                        | (1)               | (2)                | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                   | 0.199<br>(0.349)   | -0.171<br>(0.484) | 0.272<br>(0.409)  | 1.346<br>(0.594)  | 2.178<br>(0.596)  | -0.453<br>(0.242) |
| Pay Increase x Post                    | -0.707<br>(0.174) | -0.805<br>(0.255)  | -0.734<br>(0.197) | -0.772<br>(0.210) | -0.452<br>(0.192) | -0.462<br>(0.194) | -0.224<br>(0.186) |
| Post x Heterogeneity                   |                   | -0.049<br>(0.302)  | 0.072<br>(0.425)  | -1.029<br>(0.363) | -1.288<br>(0.532) | -2.299<br>(0.553) |                   |
| Observations                           | 459,720           | 454,356            | 438,408           | 438,408           | 341,064           | 341,064           | 341,064           |
| Clusters                               | 12,770            | 12,621             | 12,178            | 12,178            | 9,474             | 9,474             | 9,474             |
| Panchayat FE                           | Yes               | Yes                | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes               | Yes                | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                   | Above Med.         | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |

*Note:* This table shows treatment effect heterogeneity on performance as measured by citizen evaluations and effort. Panel A shows the heterogeneity in the effect of pay increase on the Citizen Assessment. Panel B shows heterogeneity in the effect of higher salaries on the daily reporting rate, our proxy for effort. We examine heterogeneity based on five characteristics: Above Med. corresponds to whether or not a secretary had an above median baseline score in their supervisor assessment score. Caste corresponds to whether or not a secretary belongs to a scheduled caste. Female corresponds to whether or not a secretary is female. Dissatisfied corresponds to whether or not a secretary indicated that they were dissatisfied in the baseline secretary survey. Salary corresponds to whether or not the secretary complained about their salary, remuneration, etc. during the baseline survey. Promotion corresponds to whether or not the secretary complained about promotion, regularization, etc. during their baseline survey. For the characteristic Promotion, the interaction term *Post*  $\times$  *Commented Promotion* is excluded due to collinearity. The coefficient of interest is the triple interaction, i.e. Pay Increase x Post x Heterogeneity. The corresponding DiD figure is A12. Refer to the discussion in Section IV.

TABLE A17—TRADITIONAL HETEROGENEITY — EFFECT OF SALARY INCREASE ON HONESTY

| Panel A:                               |                   | Self-Reported Assessment |                   |                   |                   |                   |                   |
|----------------------------------------|-------------------|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                        | (1)               | (2)                      | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                   | -0.271<br>(0.283)        | -0.074<br>(0.397) | -0.490<br>(0.324) | 0.270<br>(0.509)  | 0.091<br>(0.504)  | 0.324<br>(0.230)  |
| Pay Increase x Post                    | 0.417<br>(0.141)  | 0.568<br>(0.210)         | 0.441<br>(0.160)  | 0.587<br>(0.172)  | 0.567<br>(0.171)  | 0.598<br>(0.173)  | 0.564<br>(0.165)  |
| Post x Heterogeneity                   |                   | -0.308<br>(0.240)        | -0.066<br>(0.341) | -0.090<br>(0.280) | 0.013<br>(0.454)  | -0.068<br>(0.462) |                   |
| Observations                           | 242,630           | 239,799                  | 231,382           | 231,382           | 180,006           | 180,006           | 180,006           |
| Clusters                               | 12,770            | 12,621                   | 12,178            | 12,178            | 9,474             | 9,474             | 9,474             |
| Panchayat FE                           | Yes               | Yes                      | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes               | Yes                      | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                   | Above Med.               | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |
| Panel B:                               |                   | Score Inflation (%)      |                   |                   |                   |                   |                   |
|                                        | (1)               | (2)                      | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                   | 0.261<br>(0.627)         | -0.820<br>(0.840) | 0.796<br>(0.742)  | 1.235<br>(1.132)  | -0.699<br>(1.196) | 0.207<br>(0.514)  |
| Pay Increase x Post                    | -0.546<br>(0.313) | -0.689<br>(0.466)        | -0.384<br>(0.356) | -0.727<br>(0.375) | -0.592<br>(0.391) | -0.330<br>(0.392) | -0.482<br>(0.374) |
| Post x Heterogeneity                   |                   | 0.933<br>(0.535)         | 1.326<br>(0.718)  | -0.751<br>(0.653) | -1.269<br>(1.014) | 0.136<br>(1.119)  |                   |
| Observations                           | 89,239            | 88,836                   | 84,896            | 84,896            | 67,656            | 67,656            | 67,656            |
| Clusters                               | 12,639            | 12,527                   | 12,051            | 12,051            | 9,386             | 9,386             | 9,386             |
| Panchayat FE                           | Yes               | Yes                      | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes               | Yes                      | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                   | Above Med.               | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |

*Note:* This table shows treatment effect heterogeneity on honesty. Panel A shows heterogeneity in the effect of pay increase on the Self-Reported score. Panel B shows the heterogeneity of the effect of pay increase on inflation. We examine heterogeneity based on five characteristics: Above Med. corresponds to whether or not a secretary had an above median baseline score in their supervisor assessment score. Caste corresponds to whether or not a secretary belongs to a scheduled caste. Female corresponds to whether or not a secretary is female. Dissatisfied corresponds to whether or not a secretary indicated that they were dissatisfied in the baseline secretary survey. Salary corresponds to whether or not the secretary complained about their salary, remuneration, etc. during the baseline survey. Promotion corresponds to whether or not the secretary complained about promotion, regularization, etc. during their baseline survey. For the characteristic Promotion, the interaction term *Post* × *Commented Promotion* is excluded due to collinearity. The coefficient of interest is the triple interaction, i.e. Pay Increase x Post x Heterogeneity. The corresponding DiD figure is A13. Refer to the discussion in Section IV.

TABLE A18—TRADITIONAL HETEROGENEITY — EFFECT ON SALARY INCREASE ON CORRUPTION

| Panel A:                               |                  | Sarpanch Self Dealing (%)         |                   |                   |                   |                   |                   |
|----------------------------------------|------------------|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                        | (1)              | (2)                               | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                  | 0.438<br>(0.508)                  | 0.461<br>(0.598)  | -0.272<br>(0.591) | 0.869<br>(0.916)  | -1.380<br>(0.926) | 0.792<br>(0.449)  |
| Pay Increase x Post                    | 0.168<br>(0.252) | -0.023<br>(0.364)                 | 0.145<br>(0.292)  | 0.312<br>(0.300)  | -0.022<br>(0.302) | 0.260<br>(0.309)  | -0.006<br>(0.297) |
| Post x Heterogeneity                   |                  | -0.424<br>(0.405)                 | -0.608<br>(0.450) | -0.071<br>(0.486) | -0.473<br>(0.793) | 1.137<br>(0.832)  |                   |
| Observations                           | 139,045          | 137,407                           | 133,343           | 133,343           | 105,459           | 105,459           | 105,459           |
| Clusters                               | 10,503           | 10,383                            | 10,050            | 10,050            | 7,861             | 7,861             | 7,861             |
| Employee FE                            | Yes              | Yes                               | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes              | Yes                               | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                  | Above Med.                        | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |
| Panel B:                               |                  | Secretary Self Reimbursements (%) |                   |                   |                   |                   |                   |
|                                        | (1)              | (2)                               | (3)               | (4)               | (5)               | (6)               | (7)               |
| Pay Increase x Post<br>x Heterogeneity |                  | -0.013<br>(0.024)                 | -0.039<br>(0.032) | 0.025<br>(0.023)  | 0.046<br>(0.053)  | 0.024<br>(0.046)  | -0.020<br>(0.013) |
| Pay Increase x Post                    | 0.010<br>(0.012) | 0.019<br>(0.018)                  | 0.019<br>(0.012)  | 0.004<br>(0.014)  | 0.011<br>(0.013)  | 0.017<br>(0.015)  | 0.020<br>(0.014)  |
| Post x Heterogeneity                   |                  | 0.011<br>(0.019)                  | 0.048<br>(0.029)  | -0.004<br>(0.016) | -0.025<br>(0.044) | -0.039<br>(0.044) |                   |
| Observations                           | 247,766          | 244,886                           | 236,313           | 236,313           | 184,011           | 184,011           | 184,011           |
| Clusters                               | 12,770           | 12,621                            | 12,178            | 12,178            | 9,474             | 9,474             | 9,474             |
| Employee FE                            | Yes              | Yes                               | Yes               | Yes               | Yes               | Yes               | Yes               |
| Time FE                                | Yes              | Yes                               | Yes               | Yes               | Yes               | Yes               | Yes               |
| Heterogeneity                          |                  | Above Med.                        | Caste             | Female            | Dissatisfied      | Salary            | Promotion         |

*Note:* This table shows treatment effect heterogeneity on corruption. Panel A shows heterogeneity in the effect of pay increase on nepotism in hiring, as measured by the share of multipurpose workers who share a name with the Sarpanch. Panel B shows the heterogeneity in the effect of pay increase on Secretary Self-Reimbursements. We examine heterogeneity based on five characteristics: Above Med. corresponds to whether or not a secretary had an above median baseline score in their supervisor assessment score. Caste corresponds to whether or not a secretary belongs to a scheduled caste. Female corresponds to whether or not a secretary is female. Dissatisfied corresponds to whether or not a secretary indicated that they were dissatisfied in the baseline secretary survey. Salary corresponds to whether or not the secretary complained about their salary, remuneration, etc. during the baseline survey. Promotion corresponds to whether or not the secretary complained about promotion, regularization, etc. during their baseline survey. For the characteristic Promotion, the interaction term *Post*  $\times$  *Commented Promotion* is excluded due to collinearity. The coefficient of interest is the triple interaction, i.e. Pay Increase x Post x Heterogeneity. The corresponding DiD figure is A13. Refer to the discussion in Section IV.

TABLE A19—GENERICML HETEROGENEITY — CORRELATION AMONG PREDICTED TREATMENT EFFECTS

|               | (1)                  | (2)                   | (3)                 | (4)                      |
|---------------|----------------------|-----------------------|---------------------|--------------------------|
|               | Supervisor TE        | Effort TE             | Corruption TE       | Retention TE             |
| Effort TE     | 0.0695<br>(0.0279)   |                       | -0.0446<br>(0.0333) | 0.000389<br>(0.000312)   |
| Retention TE  | 1.991<br>(1.160)     | 0.816<br>(0.655)      | -1.881<br>(1.498)   |                          |
| Corruption TE | -0.0213<br>(0.00937) | -0.00554<br>(0.00411) |                     | -0.000112<br>(0.0000887) |
| Supervisor TE |                      | 0.0156<br>(0.00623)   | -0.0384<br>(0.0169) | 0.000213<br>(0.000123)   |
| Observations  | 7,163                | 7,163                 | 7,163               | 7,163                    |

*Note:* This table shows the correlation between the predicted treatment effects for different outcomes. *Supervisor TE* denotes each secretary’s median predicted treatment effect on supervisor evaluations using Chernozhukov et al. (2025)’s GenericML approach. Specifically, from each sample split, we obtain a predicted TE for each secretary. The median predicted TE is simply the median of the predicted TEs across all sample splits. *Effort TE* and *Retention TE* are variables that respectively denote each secretary’s median predicted TE on the reporting rate and stay rate. *Corruption TE* denotes each secretary’s median predicted TE on self-dealing (share of GP expenditure paid to the secretary for personal expenses). Refer to the discussion in Section IV.

TABLE A20—PREDICTED TREATMENT EFFECTS ON COMBINATION OF OUTCOMES

| Category         | Performance | Stay rate | Effort    | Honesty   | #(+) | #(-) | Share of secretaries |                  |
|------------------|-------------|-----------|-----------|-----------|------|------|----------------------|------------------|
|                  |             |           |           |           |      |      | Overall              | Salary complaint |
| Clearly Positive | +           | +         | +         | +         | 4    | 0    | 0%                   | 0%               |
| Weakly Positive  | + or 0      | + or 0    | + or 0    | + or 0    | > 0  | 0    | 21.4%                | 29.1%            |
| Tradeoff         | +, 0 or -   | +, 0 or - | +, 0 or - | +, 0 or - | > 0  | > 0  | 3.7%                 | 4.3%             |
| Weakly Negative  | - or 0      | - or 0    | - or 0    | - or 0    | 0    | > 0  | 15.6%                | 11.3%            |
| Clearly Negative | -           | -         | -         | -         | 0    | 4    | 0%                   | 0%               |
| No effect        | 0           | 0         | 0         | 0         | 0    | 0    | 59.3%                | 55.3%            |

*Note:* This table summarizes the predicted treatment effects across different outcomes. The first row (*Very Good*) refers to secretaries for whom predicted treatment effects on all four outcomes — performance, stay rates, effort and honesty — are positive and statistically significant. The second row (*Weakly Good*) refers to secretaries for whom higher salaries are predicted to have positive and significant effects on at least one outcome and have negative and significant on none. The third row (*Tradeoffs*) refers to secretaries where predicted treatment effects are positive and significant for at least one outcome and are negative and significant for at least one outcome. *Weakly Negative* refers to secretaries with at least one negative and significant predicted treatment effect and no positive and significant treatment effects. *Clearly Negative* refers to secretaries predicted to have negative and significant treatment effects on all four outcomes. *No effect* refers to secretaries predicted to have null effects on all four outcomes. The final three columns indicate the share of secretaries in each category. The *Overall* column contains shares on the full sample of secretaries. The *Salary Complaint* column shows shares for secretaries who had a baseline salary complaint. Refer to the discussion in Section IV.

TABLE A21—ROBUSTNESS OF MAIN RESULT TO ALTERNATIVE TREATMENT OF MISSING DATA

|                     | (1)                      | (2)                                  |
|---------------------|--------------------------|--------------------------------------|
|                     | Supervisor<br>Assessment | Supervisor<br>Assessment<br>Impute 0 |
| Pay Increase x Post | -0.144<br>(0.231)        | 0.0984<br>(0.260)                    |
| Observations        | 111,223                  | 111,223                              |
| Clusters            | 12,697                   | 12,697                               |
| Time FE             | Yes                      | Yes                                  |
| Panchayat FE        | Yes                      | Yes                                  |
| Dep. Var. Mean      | 64.5                     | 57.9                                 |

*Note:* This table shows the robustness of our main result for supervisor assessment scores to setting missing sub-components of the assessment to zero. We estimate Equation (1) and the results are comparable to Column (1) of Table 2. Standard errors are clustered at the GP level. Refer to the discussion in Section A.2.

## SOCIAL SCIENCE PREDICTION PLATFORM SURVEY

We collect expert forecasts via the Social Science Prediction Platform (SSPP), whose mission is to enable the systematic collection and assessment of expert forecasts of the effects of untested social programs.<sup>1</sup> Our main goal with the SSPP survey was to understand how our findings compared with the priors of scholars who are informed about the Indian context and academic literature on public sector pay. Participants were provided with background information about the policy reform and the geographical context. After being asked a round of demographic and background questions the respondents were asked to predict the effect of the salary increase on:

- Secretaries' performance as assessed by supervisor evaluations on a sliding scale from -1 to 1 standard deviations
- Self-reported performance on a sliding scale from -1 to 1 standard deviations
- Stay rate in government service on a scale from -10 to +10 percentage points
- The quality of secretaries who remain in local government service. The options provided as answers to these questions were directional: improve, worsen, or no effect
- Corruption related to hiring and the awarding of contracts. The options provided as answers to this questions were directional: increase, decrease, or no effect
- Corruption as measured by self-dealing by the GP secretary. The options provided as answers to this questions were directional: increase, decrease, or no effect

For each question, the respondents were also asked to provide their confidence in the prediction on a five-point Likert scale from Extremely Confident to Not at All Confident .

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<sup>1</sup>For more information see: <https://socialscienceprediction.org/>

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