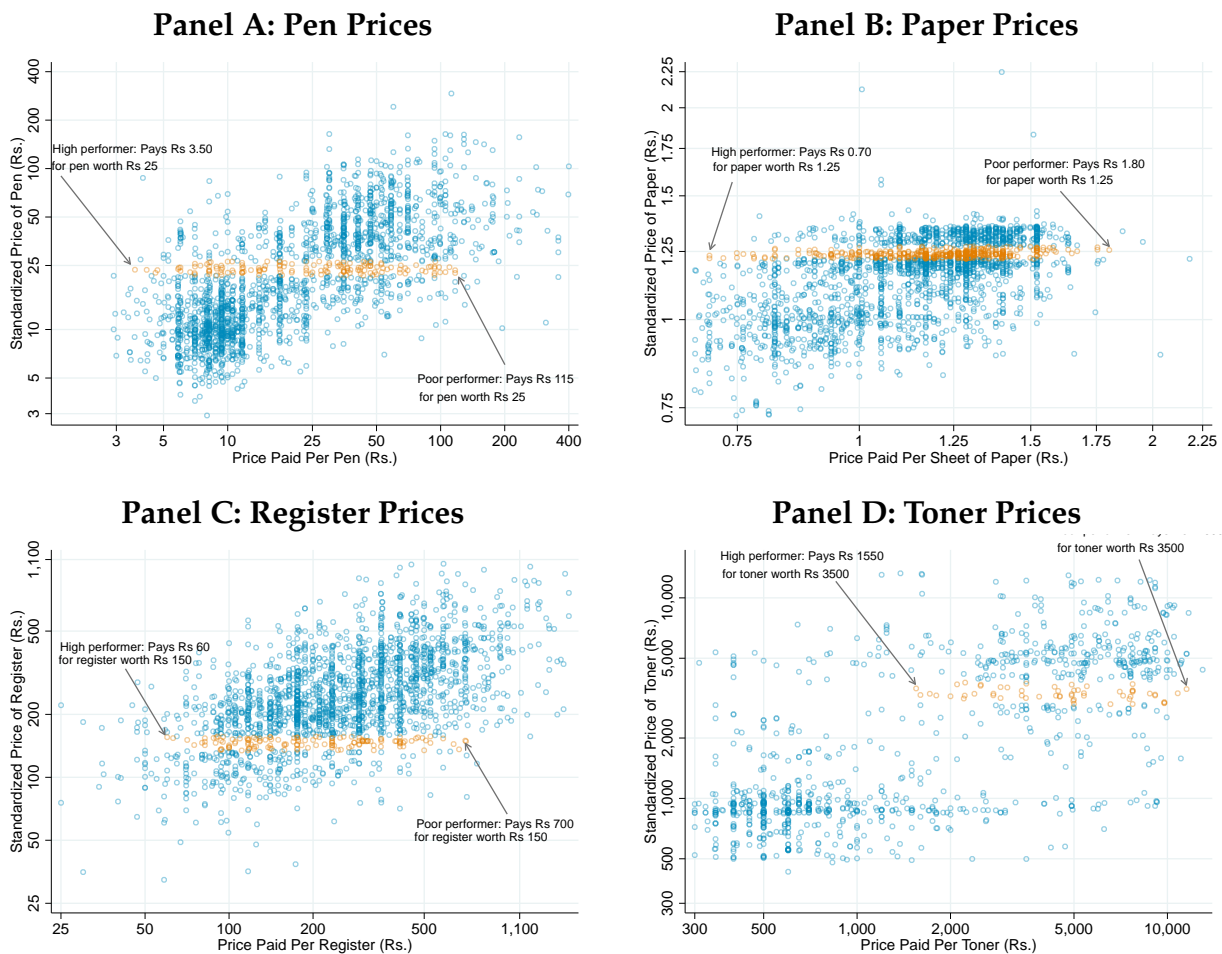


Web Appendix (Not For Publication)

A Supplementary Figures and Tables

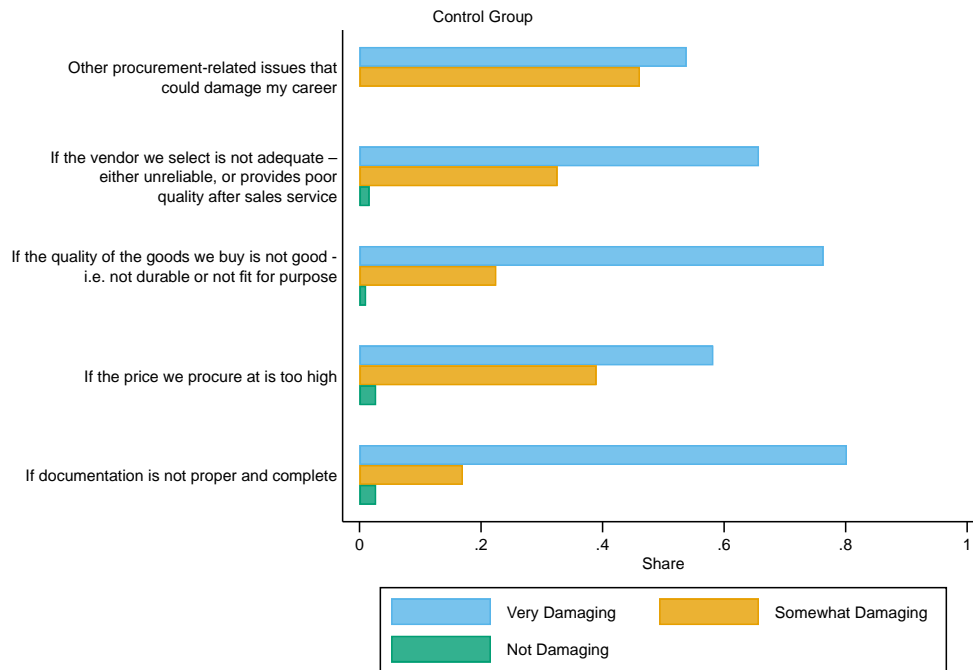
FIGURE A.1: PRICES PAID VARY WILDLY. EVEN FOR THE SAME VARIETY OF ITEM



Notes: The figure shows the distribution of unit prices and standardized prices for four of the homogeneous items in our data. Each circle in the figures is a purchase. The horizontal axes display the actual price paid, while the vertical axes display the standardized prices using the scalar item variety measure described in section 5.1. Intuitively, this measure is our prediction of how much the item would have cost on average if it had been purchased in the control group, a standardized measure of the item's variety. The orange circles highlight a set of purchases with the same standardized value, illustrating the striking heterogeneity in prices even for the same item.

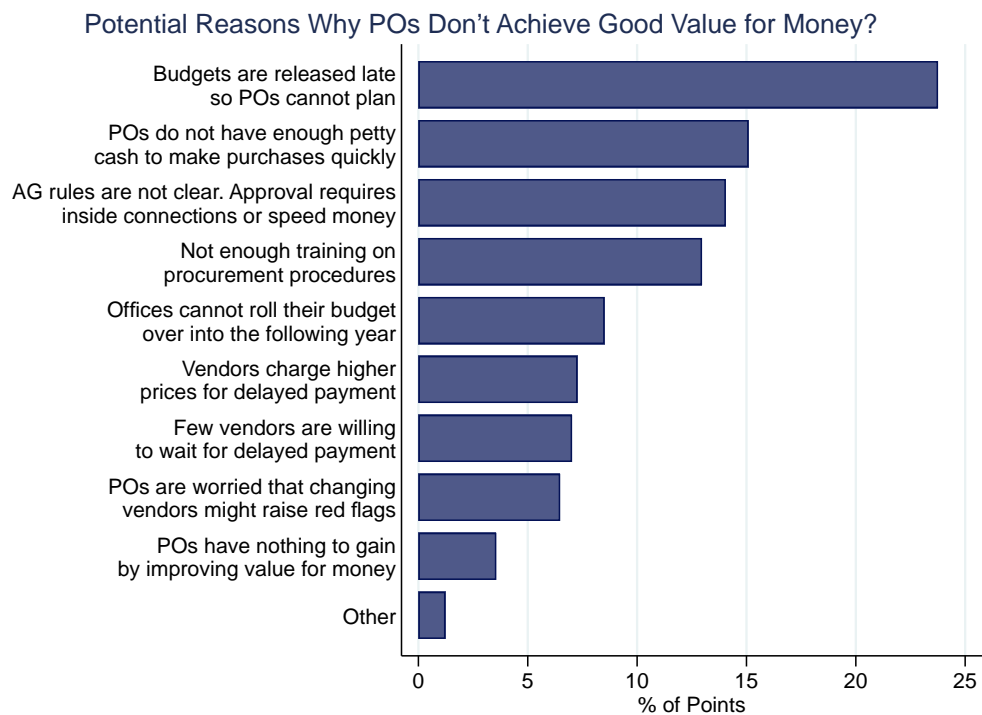
FIGURE A.2: HOW POOR PROCUREMENT PERFORMANCE CAN DAMAGE CAREERS

Please Rate How Damaging Each of the Following Could Be For Your Career Prospects



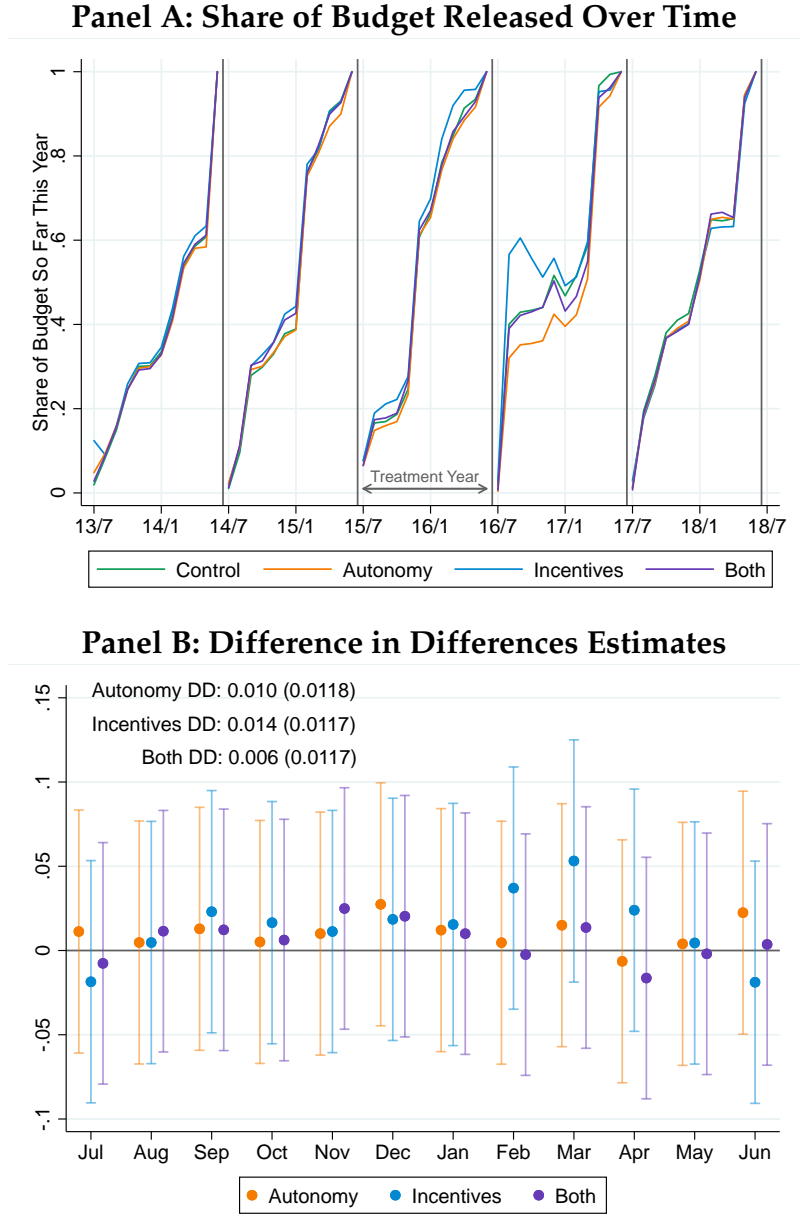
Notes: The figure shows responses among the control group in the endline survey to a question asking them about whether various types of poor performance in procurement could damage their careers. Each bar shows the share of respondents picking that option.

FIGURE A.3: CONTROL GROUP REASONS FOR LOW VALUE FOR MONEY



Notes: The figure shows responses among the control group in the endline survey to a question asking them about the reasons they felt that value for money was not being achieved in public procurement. Respondents were asked to allocate 100 points among the 10 options in proportion to how important they thought each option was. Each bar shows the mean number of points allocated to that option.

FIGURE A.4: BUDGET RELEASE TIMING UNAFFECTED

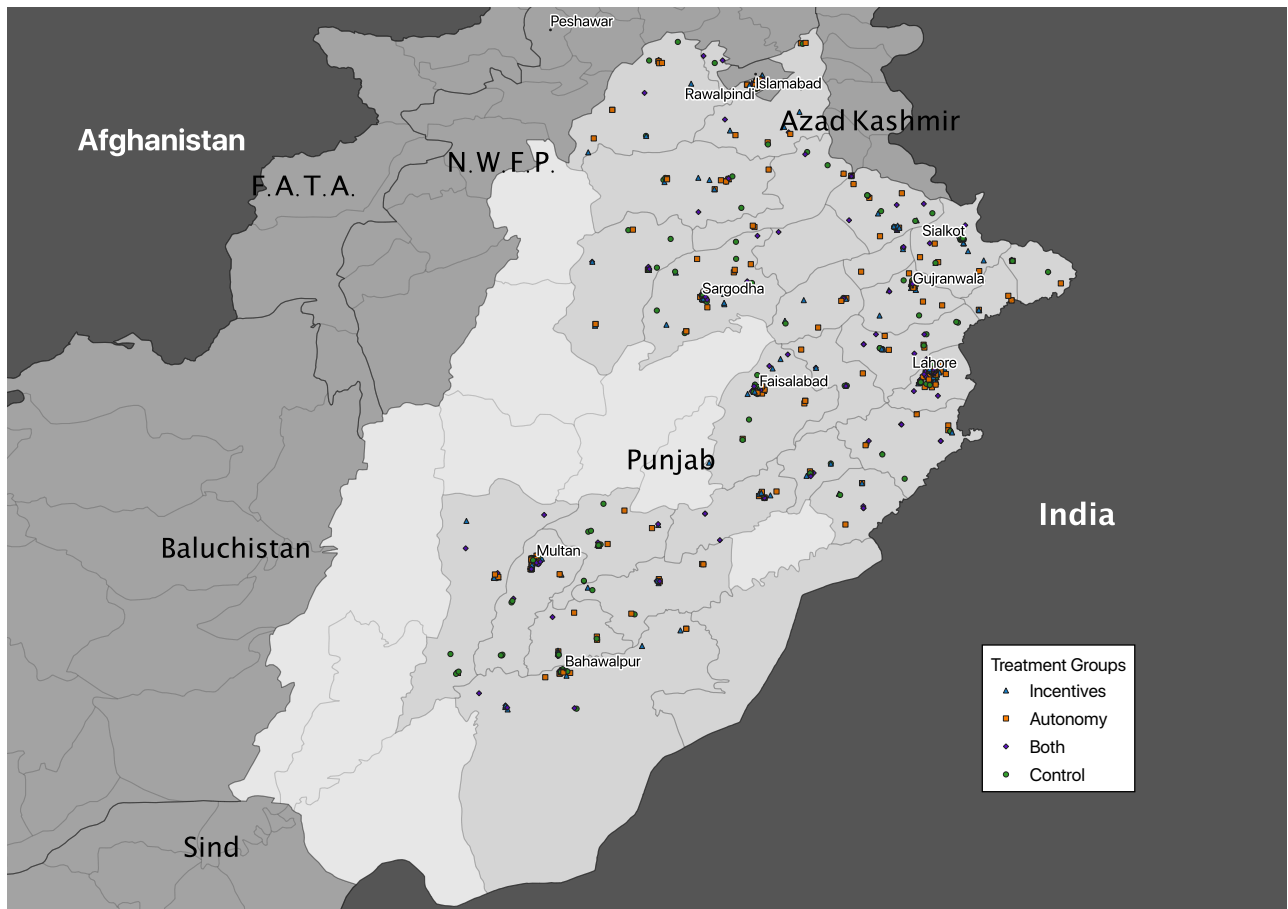


Notes: The figure shows that the timing of budget releases to the offices in the study was unaffected. A third component of the autonomy treatment attempted to improve the frequency and regularity of budget releases, but it was not possible to implement this. Panel A shows how the average share of offices' annual budget evolves over each year in each treatment group. The treatment year (July 2015–June 2016) does not look visibly different from the other years, and any slight differences from other years appear to have affected all four groups in the same way. Panel B shows estimates of the η_{km} coefficients from a differences in differences estimation of

$$s_{ot} = \sum_{k=1}^3 \sum_{m=Jul}^{Jun} \eta_{km} \text{Treatment}_o^k \times 1 \{ \text{Month of year} = m \} \times 1 \{ \text{Fiscal Year 2015-16} \} + \delta_t + \gamma_o + \varepsilon_{ot}$$

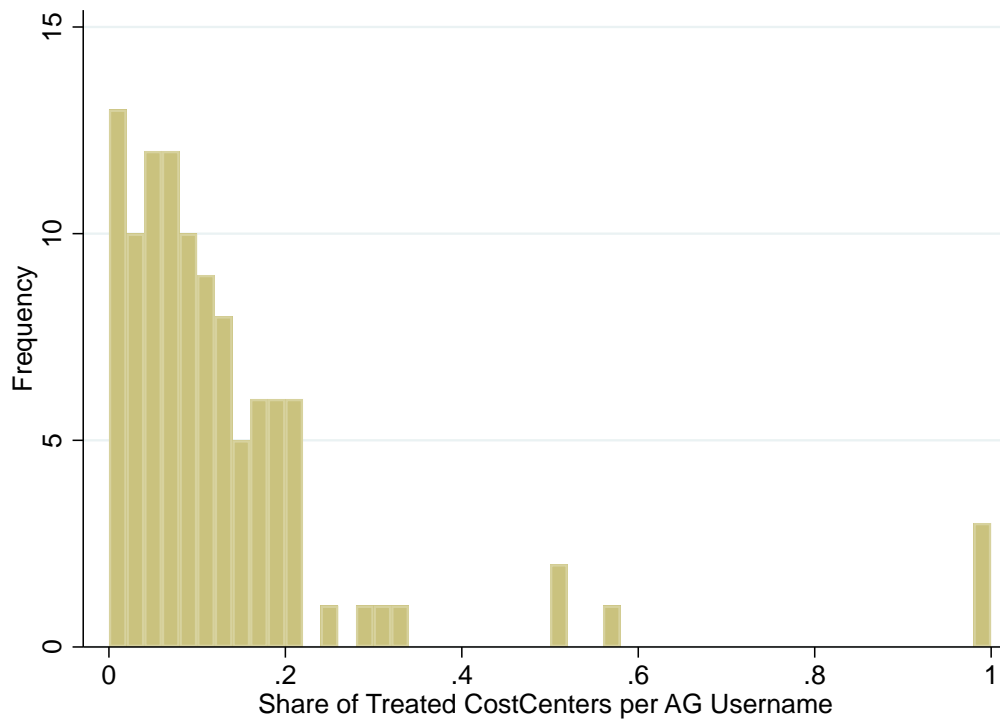
where s_{ot} is the share of office o 's annual budget that has been released to it by month t , δ_t are month fixed effects, γ_o are office fixed effects and ε_{ot} are residuals. Overlaid on the figure are estimates of difference in difference coefficients of the average effect in the 2015–16 fiscal year in each treatment group.

FIGURE A.5: LOCATION OF SAMPLE OFFICES



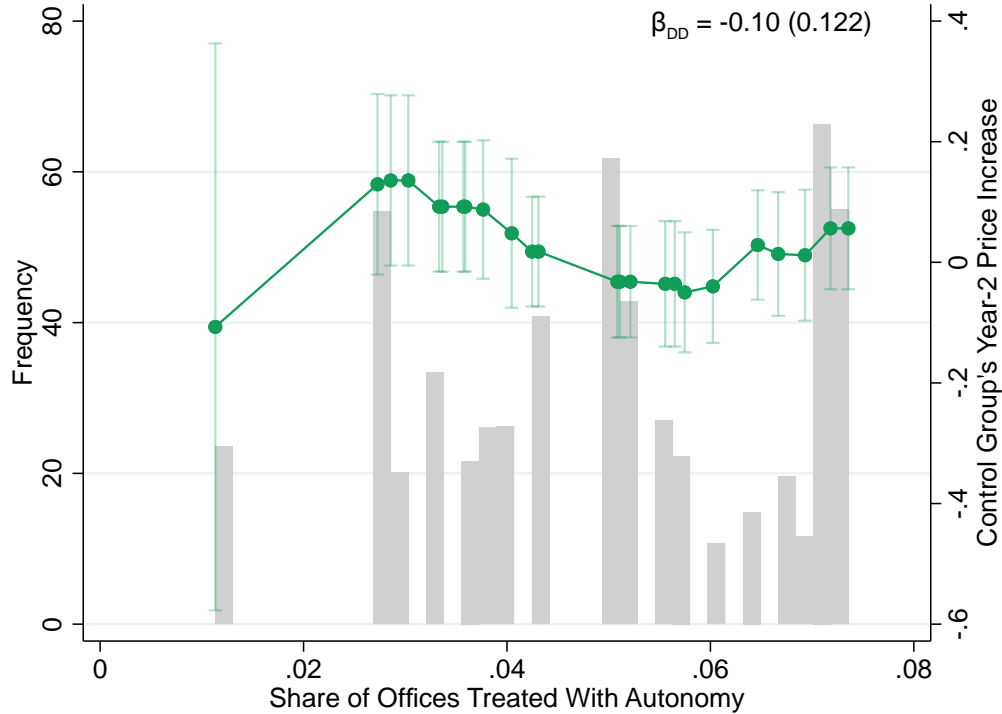
Notes: The figure shows the location of the offices in the study. The offices are located in 26 of the 36 districts in Punjab. Green dots denote control offices, orange dots the autonomy group, blue dots the performance pay group, and purple dots the combined treatment.

FIGURE A.6: SAMPLE OFFICES ARE A SMALL SHARE OF THE OFFICES OVERSEEN BY USERS AT THE ACCOUNTANT GENERAL'S OFFICE



Notes: Each transaction approved by the accountant general's office is associated with a particular officer's username. The figure shows the share of cost centers associated with each username that are in the treated groups of our experiment. The figure shows that for the vast majority of users at the accountant general's office, fewer than 20% of their offices are treated.

FIGURE A.7: PRICE CHANGES IN THE CONTROL GROUP ARE NOT LARGER WHEN MORE OFFICES RECEIVE THE AUTONOMY TREATMENT

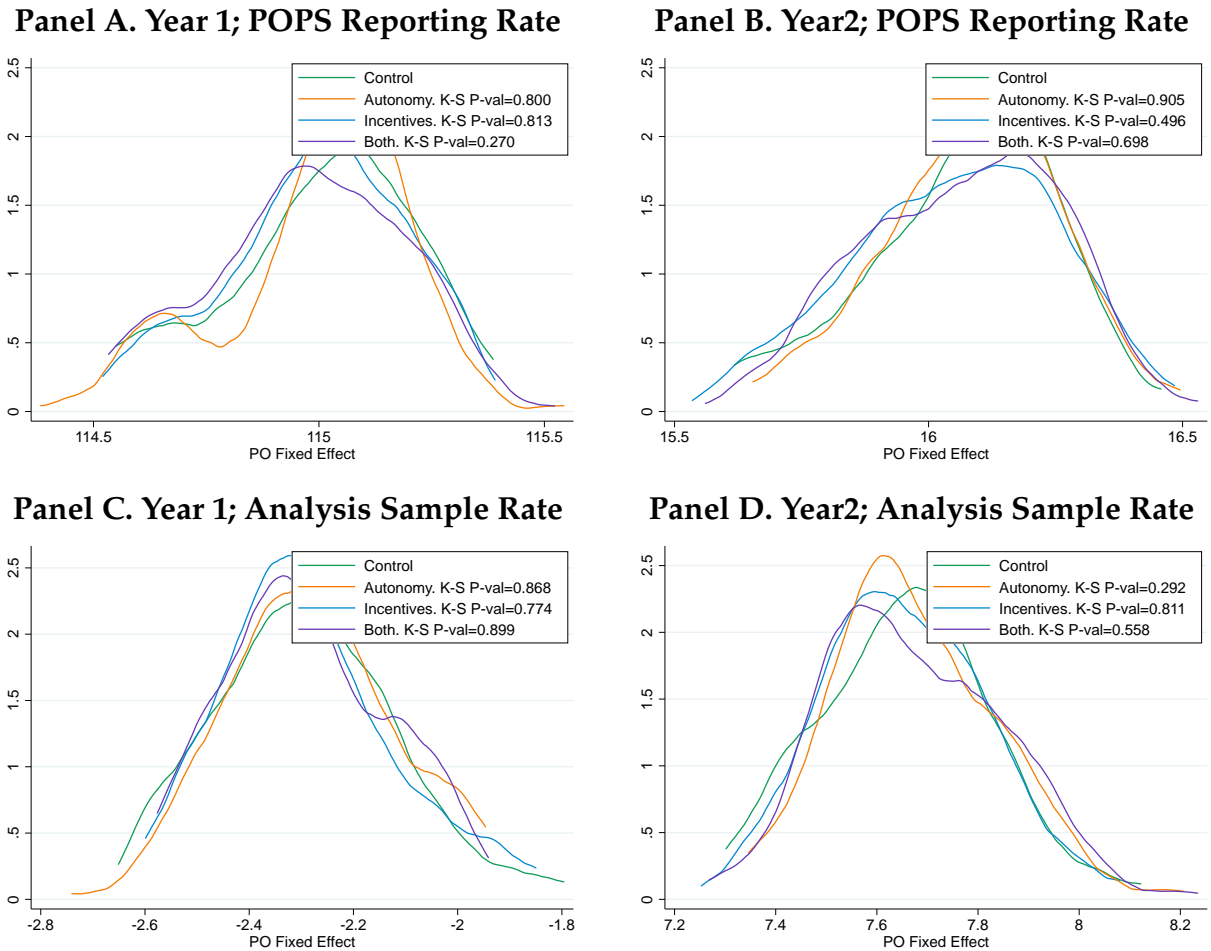


Notes: The figure shows how prices change between year 1 (before the rollout of the autonomy treatment) and year 2 (after the rollout) in offices in the control group as a function of the share of the offices monitored by an accountant general that receive the autonomy treatment. For each accountant general's office, we run the regression $p_{igto} = \alpha \hat{v}_{igto}^{\text{scalar}} + \beta_{Y2} \text{Year}2_t + \gamma_g + \rho_g q_{igto} + \varepsilon_{igto}$, where \hat{v}_{igto} is the scalar measure of item variety, in a sample of control group procurement offices supervised by an accountant general with a share of offices in the autonomy group within 0.01 of the office in question. The figure presents these estimates with their 95% confidence intervals in green. We also overlay on the picture the difference in differences estimate of β_{DD} in the following regression

$$p_{igto} = \alpha \hat{v}_{igto}^{\text{scalar}} + \beta_{Y2} \text{Year}2_t + \beta_{DD} \text{Year}2_t \times \text{AutonomyShare}_o + \gamma_g + \rho_g q_{igto} + \delta_g t + \varepsilon_{igto}$$

where AutonomyShare_o is the share of procurement officers monitored by the same accountant general as officer o who receive the autonomy treatment and the regression is run only amongst procurement officers in the control group.

FIGURE A.8: BALANCE OF THE DISTRIBUTION OF ATTRITION RATES ACROSS OFFICES



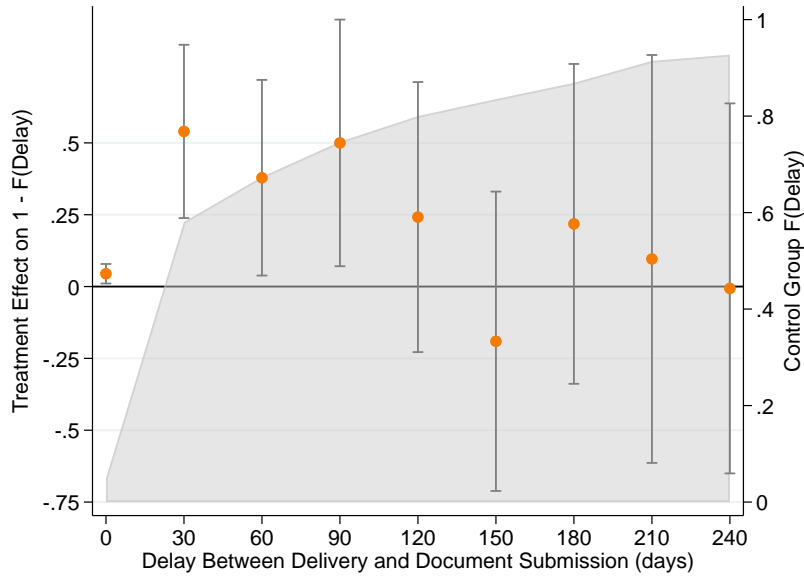
Notes: The figure shows the distribution of procurement office fixed effects δ_o in regressions of the form

$$s_{bco} = \mathbf{X}_{bco}\beta + \gamma_c + \delta_o + \varepsilon_{bco}$$

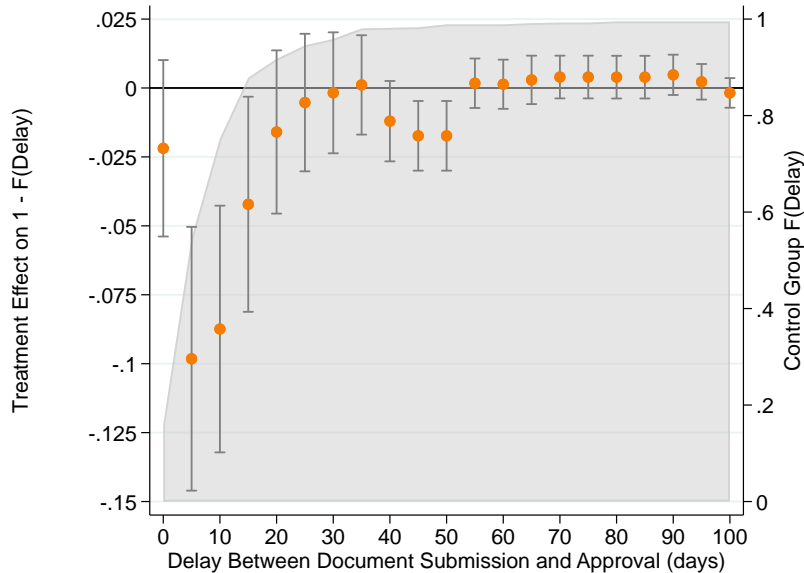
where s_{bco} is the share of a transaction (bill) b by office c in an accounting code o that is reported in POPS (panels A and B) or that is represented in our analysis sample (panels C and D); \mathbf{X}_{bco} are quadratic time and bill amount controls, γ_c are accounting code fixed effect, δ_o are procurement office fixed effects, and ε_{bco} is an error term. Panels A and C use bills from year 1 of the experiment, while panels B and D analyze year 2. The panels show kernel density estimates of the distributions of the procurement office fixed effects in the 3 treatment groups and the control group. The panels also show exact P-values from Kolmogorov-Smirnov tests of the equality of each treatment group's distribution and the control group's.

FIGURE A.9: DECOMPOSING AUTONOMY EFFECTS ON APPROVAL DELAYS

Panel A: Delay Between Delivery and Document Submission



Panel B: Delay Between Document Submission and Approval



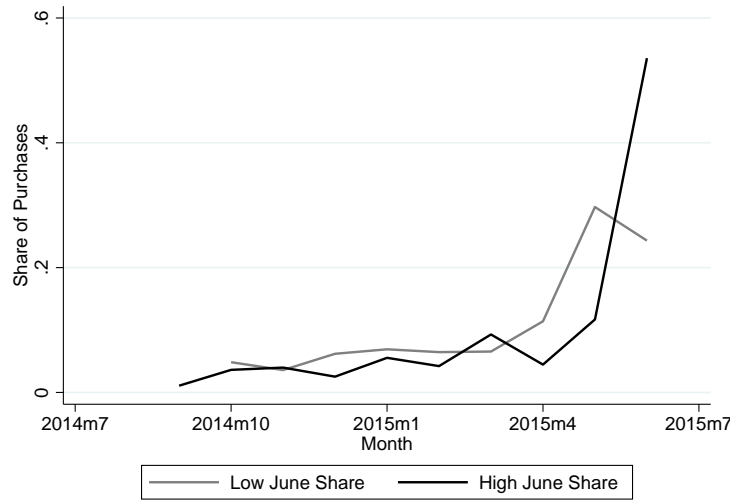
Notes: The figure decomposes the effects of the autonomy treatment on the delay between a purchased item's delivery and the approval of the purchase by the Accountant General (AG) into the delay between the item's delivery and the submission of the documents for approval (Panel A) and the delay between the document's submission and their approval by the AG (Panel B). The estimates come from a series of seemingly unrelated distributional regressions of the probability of delay of at least j days in year 2 normalized by the probability of a delay of at least j days in the control group in year 1 on treatment dummies, strata fixed effects γ_s and good fixed effects γ_g :

$$\frac{\mathbf{1}\{\text{delay}_{igo} \geq j\}}{\mathbb{P}(\text{delay} \geq j | \text{Control, Year1})} = \alpha + \sum_{k=1}^3 \eta_k \text{Treatment}_o^k + \gamma_s + \gamma_g + \varepsilon_{igo}$$

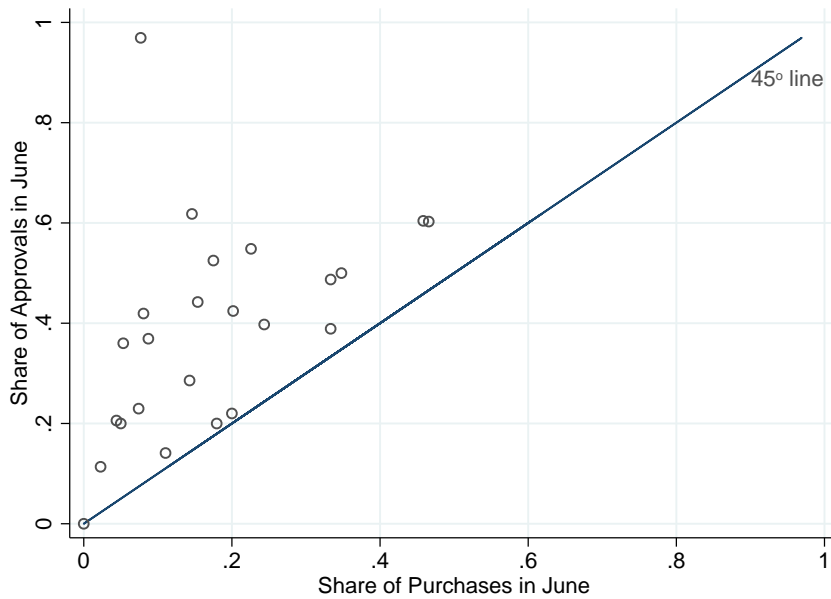
the panel also shows the CDF of delays in the control group in year 1 for reference.

FIGURE A.10: VARIATION IN JUNE APPROVAL RATES

Panel A: High and Low Approval Rate Districts

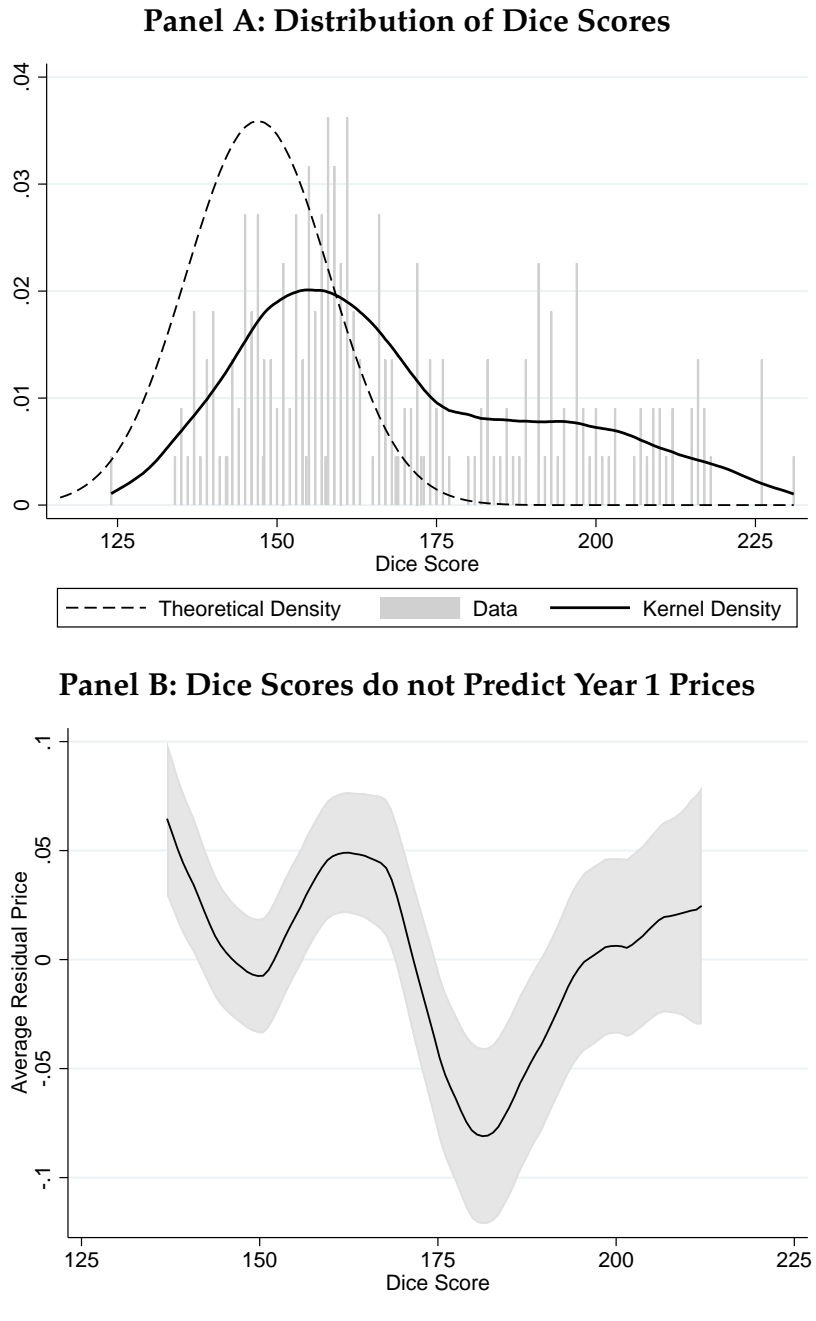


Panel B: Sources of Variation in June Approval Rates



Notes: The figure shows the variation in our proxy for AG type, the share of approvals done in June. Panel A compares the approval rates in districts with high (above median) and low (below median) shares of transactions approved in June. Panel B shows the variation across districts' AG offices in the share of transactions made in June (the last month of the fiscal year) and the share of transactions approved in June (our proxy for the misalignment of the AG). Both aggregates are calculated in the control group in year 1.

FIGURE A.11: DICE SCORES AS A PROXY FOR PO TYPE DO NOT PREDICT YEAR 1 PRICES



Notes: The figure shows that the dice scores in the lab in the field measure of dishonesty studied in [Fischbacher & Föllmi-Heusi \(2013\)](#) and [Hanna & Wang \(2017\)](#) are a poor proxy for PO type in our setting. The dice scores come from a game in which subjects privately roll a die 42 times and report each roll. In each roll they are free to report the number either on the top or the bottom of the die. Subjects play against each other and those achieving the highest scores win prizes. The dashed line in panel A shows the theoretical distribution of the total scores if a fair die is rolled 42 times. The histogram and the solid line (kernel density) show the totals achieved by our subjects. Panel B shows a semi-parametric regression of log unit prices in year 1 in the control group and the autonomy group on controls and the dice scores, showing that the dice scores do not predict prices in year 1. Together, the findings in panel A and B suggest that while there is significant variation in the dice scores in our sample, it is not predictive of procurement performance and hence is a poor proxy for PO type in our setting.

TABLE A.1: UNIVERSE OF GENERIC GOODS ACCOUNTING CODES

Code	Category	Description
Panel A: A03 Operating Expenses		
A03004 A03070	Other	Furnace Oil - Non Operational Others
A03170	Fees	Others
A03204 A03205 A03206 A03270	Communication	Electronic Communication Courier And Pilot Service Photography Charges Others
A03304 A03305 A03370	Utilities	Hot And Cold Weather POL For Generator Others
A03401 A03405 A03408 A03410 A03470	Occupancy Costs	Charges Rent Other Than Building Rent Of Machine & Equipment Security Others
A03501 A03502 A03503 A03504 A03506 A03570	Operating Leases	Machinery And Equipment Buildings Motor Vehicles Computers Medical Machinery And Technical Equipment Others
A03901 A03902 A03904 A03905 A03907 A03919 A03921		Stationery Printing And Publication Hire Of Vehicles Newspapers Periodicals And Books Advertising & Publicity Payments To Others For Service Rendered Unforeseen Exp. For Disaster Preparedness

General

Continued on next page

Table A.1 – *Continued from previous page*

Code	Category	Description
A03927		Purchase Of Drug And Medicines
A03933		Service Charges
A03940		Unforeseen Expenditure
A03942		Cost Of Other Stores
A03955		Computer Stationary
A03970		Others
A03971		Cost Of State Trading Medicines
A03972		Expenditure On Diet For Patient
A03978		Free Text Books
Panel B: A09 Physical Assets		
A09105		Transport
A09107	Purchase of Physical Assets	Furniture And Fixtures
A09108		Livestock
A09170		Others
A09204		Computer Accessories
A09302		Fertilizer
A09303	Commodity Purchases	Coal
A09370		Others
A09401		Medical Stores
A09402		Newsprint
A09403		Tractors
A09404		Medical And Laboratory Equipment
A09405		Workshop Equipment
A09406		Storage And Carrying Receptacles
A09407		Specific Consumables
A09408	Other Stores and Stock	Generic Consumables
A09409		Medical Stocks
A09410		Life Saving Medical Supplies
A09411		General Utility Chemicals
A09412		Specific Utility Chemicals
A09413		Drapery Fabrics Clothing And Allied Materials

Continued on next page

Table A.1 – Continued from previous page

Code	Category	Description
A09414		Insecticides
A09470		Others
A09501		Transport
A09502	Transport	Diplomatic Cars
A09503		Others
A09601		Plant And Machinery
A09602	Plant & Machinery	Cold Storage Equipment
A09603		Signalling System
A09604		Railways Rolling Stock
A09701		Furniture And Fixtures
A09702	Furniture & Fixtures	Unkempt Furnishings
A09801		Livestock
A09802	Livestock	Purchase Of Other Assets - Others
A09803		Meters & Services Cables
A09899		Others
Panel C: A13 Repairs and Maintenance		
A13101		Machinery And Equipment
A13199	Machinery & Equipment	Others
A13201	Furniture & Fixture	Furniture And Fixture
A13370	Buildings & Structure	Others
A13470	Irrigation	Others
A13570	Embankment & Drainage	Others
A13701		Hardware
A13702	Computer Equipment	Software
A13703		I.T. Equipment
A13920	Telecommunication	Others

TABLE A.2: PROJECT TIMELINE

Year 1: July 2014 – June 2015	
06/14	Cost Centers allocated to treatment arms
07–08/14	Trainings on POPS and treatment brochures
08–09/14	Follow-up trainings on POPS
02/15	Performance Evaluation Committee midline meeting
05–06/15	AG checklist rolled out

Year 2: July 2015 – June 2016	
07–10/15	Refresher trainings on treatments and POPS
10/15	Higher cash balance rolled out
04/16	Performance Evaluation Committee midline meeting
06/16	Experiment ends

Post-Experiment	
08-09/16	Endline survey part 1 & Missing data collection
02/17	Performance Evaluation Committee endline meeting
02–03/17	Endline survey part 2

TABLE A.3: DIFFERENCE IN DIFFERENCES TREATMENT EFFECTS

	Variety			Unit Price				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Autonomy \times Year 2	-0.009 (0.023) [0.720]	0.015 (0.029) [0.564]	-0.013 (0.012) [0.283]	-0.128 (0.047) [0.010]	-0.130 (0.043) [0.003]	-0.122 (0.043) [0.007]	-0.132 (0.045) [0.004]	-0.127 (0.047) [0.003]
Both \times Year 2	0.019 (0.027) [0.505]	0.049 (0.033) [0.131]	0.006 (0.012) [0.608]	-0.098 (0.050) [0.045]	-0.117 (0.042) [0.005]	-0.112 (0.043) [0.016]	-0.102 (0.045) [0.025]	-0.099 (0.049) [0.045]
Item Type Control	Scalar	Coarse	ML	None	Attribs	Scalar	Coarse	ML
p(All = 0)	0.736	0.478	0.408	0.053	0.008	0.021	0.031	0.048
p(Autonomy = Both)	0.238	0.270	0.097	0.542	0.741	0.831	0.535	0.578
Observations	21,183	21,183	21,182	21,183	21,183	21,183	21,183	21,182

Notes: The table shows difference in differences estimates of the treatment effect of the introduction of the autonomy treatment in year 2 of the experiment. The estimates in columns 1–3 are of regressions of the form

$$y_{igto} = \alpha + \sum_{k=1}^3 \eta_k \text{Treatment}_o^k \times \text{Year}2_t + \mathbf{X}_{igto}\beta + \rho_g q_{igto} + \gamma_g + \delta_t + \lambda_o + \varepsilon_{igto}$$

where y_{igto} is the outcome of interest. In columns 1–3 it is the scalar (column 1), coarse (column 2) or machine learning (column 3) measure of good variety, while in columns 4–8 it is the log unit price. Treatment_o^k indicates the three treatment groups (though we only report coefficients for the autonomy and both treatments since the incentives treatment was already in place in year 1); $\text{Year}2_t$ indicates purchases in year 2; \mathbf{X}_{igto} are purchase-level controls; q_{igto} is the quantity purchased; γ_g , δ_t and λ_o are good-, year- and office-fixed effects, respectively; and ε_{igto} are residuals clustered by office. Column 5 controls for the full vector of item attributes, column 6 for the scalar item variety measure, column 7 for the coarse item variety measure, and column 8 uses the machine learning measure of item variety. Below each coefficient we report standard errors clustered by office in parentheses and the p-values from randomization inference on the hypothesis that the treatment effect is zero for all offices.

TABLE A.4: DYNAMIC TREATMENT EFFECTS ON PRICES PAID

	Unit Price																	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Autonomy	-0.028 (0.042) [0.783]	-0.034 (0.043) [0.662]	-0.037 (0.044) [0.700]	-0.034 (0.041) [0.545]	-0.056 (0.037) [0.395]	-0.053 (0.039) [0.395]	-0.148 (0.057) [0.130]	-0.155 (0.053) [0.075]	-0.159 (0.055) [0.108]	-0.149 (0.050) [0.048]	-0.139 (0.049) [0.042]	-0.150 (0.051) [0.048]	-0.121 (0.048) [0.049]	-0.127 (0.046) [0.020]	-0.129 (0.048) [0.035]	-0.145 (0.049) [0.062]	-0.143 (0.045) [0.033]	-0.151 (0.047) [0.046]
Incentives	-0.052 (0.046) [0.622]	-0.036 (0.043) [0.706]	-0.051 (0.045) [0.641]	-0.023 (0.037) [0.596]	-0.023 (0.035) [0.612]	-0.031 (0.038) [0.539]	-0.078 (0.073) [0.510]	-0.078 (0.052) [0.500]	-0.088 (0.064) [0.534]	-0.038 (0.055) [0.622]	-0.037 (0.042) [0.591]	-0.039 (0.049) [0.640]	-0.013 (0.077) [0.860]	-0.038 (0.051) [0.500]	-0.027 (0.064) [0.684]	-0.050 (0.064) [0.611]	-0.052 (0.047) [0.579]	-0.055 (0.056) [0.635]
Both	-0.063 (0.041) [0.436]	-0.033 (0.046) [0.730]	-0.054 (0.044) [0.594]	0.075 (0.045) [0.296]	0.069 (0.043) [0.351]	0.073 (0.047) [0.375]	-0.170 (0.057) [0.083]	-0.164 (0.053) [0.067]	-0.178 (0.055) [0.063]	-0.129 (0.043) [0.046]	-0.140 (0.044) [0.021]	-0.142 (0.044) [0.030]	-0.080 (0.051) [0.171]	-0.079 (0.049) [0.158]	-0.080 (0.051) [0.183]	-0.184 (0.056) [0.039]	-0.176 (0.053) [0.025]	-0.190 (0.054) [0.030]
Autonomy × Time	0.078 (0.055) [0.654]	0.024 (0.086) [0.856]	0.078 (0.056) [0.423]	0.078 (0.056) [0.423]	-0.034 (0.090) [0.699]	0.113 (0.070) [0.513]	0.113 (0.070) [0.513]	0.045 (0.128) [0.740]	0.045 (0.128) [0.740]	0.113 (0.059) [0.317]	0.102 (0.095) [0.362]	0.102 (0.095) [0.362]	0.072 (0.061) [0.333]	0.022 (0.100) [0.833]	0.022 (0.100) [0.833]	0.113 (0.061) [0.414]	0.113 (0.061) [0.414]	0.079 (0.114) [0.520]
Incentives × Time	0.105 (0.057) [0.523]	0.113 (0.089) [0.349]	0.086 (0.050) [0.207]	0.086 (0.050) [0.207]	0.054 (0.072) [0.434]	0.112 (0.103) [0.639]	0.112 (0.103) [0.639]	0.071 (0.165) [0.664]	0.071 (0.165) [0.664]	0.024 (0.075) [0.844]	0.022 (0.111) [0.905]	0.018 (0.128) [0.905]	-0.015 (0.111) [0.897]	-0.078 (0.177) [0.716]	-0.078 (0.177) [0.716]	0.054 (0.089) [0.777]	0.054 (0.089) [0.777]	0.029 (0.150) [0.853]
Both × Times	0.179 (0.056) [0.096]	0.217 (0.104) [0.093]	-0.029 (0.070) [0.795]	-0.029 (0.070) [0.795]	-0.042 (0.077) [0.588]	0.180 (0.078) [0.377]	0.180 (0.078) [0.377]	0.142 (0.145) [0.417]	0.142 (0.145) [0.417]	0.084 (0.057) [0.493]	0.102 (0.066) [0.467]	0.014 (0.118) [0.836]	0.014 (0.118) [0.836]	0.088 (0.066) [0.342]	0.030 (0.069) [0.747]	0.069 (0.111) [0.593]	0.115 (0.064) [0.513]	0.047 (0.122) [0.741]
Autonomy × Order	0.095 (0.062) [0.497]	0.075 (0.097) [0.412]	0.124 (0.056) [0.179]	0.154 (0.095) [0.135]	0.154 (0.095) [0.135]	0.154 (0.095) [0.135]	0.131 (0.073) [0.613]	0.093 (0.138) [0.615]	0.093 (0.138) [0.615]	0.102 (0.066) [0.467]	0.102 (0.066) [0.467]	0.014 (0.106) [0.905]	0.014 (0.106) [0.905]	0.088 (0.066) [0.342]	0.030 (0.069) [0.747]	0.069 (0.111) [0.593]	0.115 (0.064) [0.513]	0.047 (0.122) [0.741]
Incentives × Order	0.079 (0.055) [0.619]	-0.012 (0.087) [0.874]	0.092 (0.048) [0.203]	0.048 (0.072) [0.578]	0.048 (0.072) [0.578]	0.048 (0.072) [0.578]	0.118 (0.070) [0.696]	0.061 (0.131) [0.742]	0.061 (0.131) [0.742]	0.022 (0.056) [0.927]	0.022 (0.056) [0.927]	0.008 (0.109) [0.942]	0.008 (0.109) [0.942]	0.030 (0.069) [0.747]	0.092 (0.134) [0.611]	0.059 (0.060) [0.848]	0.059 (0.060) [0.848]	0.036 (0.121) [0.803]
Both × Order	0.128 (0.066) [0.439]	-0.056 (0.118) [0.626]	0.016 (0.067) [0.924]	0.016 (0.067) [0.924]	0.016 (0.067) [0.924]	0.016 (0.067) [0.924]	0.173 (0.071) [0.386]	0.053 (0.143) [0.738]	0.053 (0.143) [0.738]	0.105 (0.061) [0.422]	0.105 (0.061) [0.422]	0.029 (0.129) [0.566]	0.029 (0.129) [0.566]	0.014 (0.073) [0.885]	0.014 (0.073) [0.885]	0.002 (0.124) [0.987]	0.165 (0.070) [0.237]	0.041 (0.142) [0.766]
Item Variety Control	Scalar	Scalar	Scalar	Coarse	Coarse	Coarse	None	None	None	Attribs	Attribs	Attribs	Scalar	Scalar	Scalar	Coarse	Coarse	Coarse
p(All = 0)	0.463	0.833	0.687	0.292	0.160	0.321	0.499	0.501	0.703	0.275	0.251	0.500	0.340	0.276	0.560	0.268	0.210	0.430
Observations	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771	11,771

Notes: The table shows estimates of dynamic treatment effects on prices paid and varieties purchased. The estimates are from regressions of the form

$$y_{i,t,o} = \alpha + \sum_{k=1}^3 \left(\eta_k \text{Treatment}_o^k + \kappa_k \text{Treatment}_o^k \times \text{Time}_{i,t,o} \right) + \mathbf{X}_{i,t,o} \beta + \rho_g q_{i,t,o} + \delta_s + \gamma_g + \varepsilon_{i,t,o}$$

where Treatment_o^k are dummies for office o being in treatment k ; $\text{Time}_{i,t,o}$ is a measure of time, calendar time (scaled to be 0 at the beginning of the fiscal year and 1 at the end of the year) and/or the order of the purchase made by the office (scaled to be between 0 and 1); $\mathbf{X}_{i,t,o}$ is a vector of controls; $q_{i,t,o}$ is the quantity purchased, δ_s and γ_g are strata and good fixed effects, respectively, and $\varepsilon_{i,t,o}$ are residuals clustered by office. Columns 1–6 estimate dynamic treatment effects on the variety purchased using the scalar measure (columns 1–3) and coarse measure (columns 4–6) described in section 5.1. Columns 7–18 estimate dynamic treatment effects on log unit prices paid, not controlling for the variety purchased (columns 7–9), or controlling for the variety purchased using the full vector of good attributes (columns 10–12), the scalar variety measure (columns 13–15), or the coarse variety measure (16–18).

TABLE A.5: HETEROGENEITY OF TREATMENT EFFECTS BY SHARE OF BUDGET ALLOCATED TO GENERIC GOODS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Autonomy	-0.035 (0.080) [0.654]	-0.058 (0.064) [0.459]	-0.044 (0.064) [0.500]	-0.051 (0.068) [0.440]	-0.045 (0.071) [0.519]	-0.035 (0.049) [0.561]	-0.039 (0.051) [0.470]	-0.056 (0.057) [0.320]	-0.033 (0.079) [0.681]	-0.037 (0.055) [0.597]	-0.034 (0.058) [0.578]	-0.048 (0.064) [0.478]
Incentives	-0.004 (0.071) [0.964]	0.009 (0.052) [0.901]	0.011 (0.061) [0.876]	0.029 (0.061) [0.654]	0.007 (0.069) [0.905]	0.015 (0.050) [0.833]	0.018 (0.058) [0.761]	0.029 (0.060) [0.644]	0.002 (0.072) [0.976]	0.015 (0.052) [0.845]	0.017 (0.061) [0.812]	0.033 (0.063) [0.612]
Both	-0.021 (0.067) [0.762]	-0.033 (0.053) [0.572]	-0.027 (0.053) [0.626]	-0.024 (0.065) [0.725]	0.002 (0.069) [0.980]	-0.005 (0.054) [0.935]	-0.002 (0.056) [0.976]	0.006 (0.067) [0.933]	0.000 (0.071) [0.993]	-0.009 (0.055) [0.903]	-0.004 (0.056) [0.934]	0.004 (0.069) [0.962]
Autonomy × Generic Budget Share 14–15	-0.089 (0.113) [0.405]	-0.057 (0.089) [0.577]	-0.065 (0.093) [0.477]	-0.055 (0.098) [0.540]					-0.085 (0.166) [0.625]	0.008 (0.149) [0.960]	-0.035 (0.149) [0.838]	-0.048 (0.151) [0.747]
Incentives × Generic Budget Share 14–15	-0.027 (0.113) [0.810]	-0.077 (0.079) [0.465]	-0.069 (0.095) [0.511]	-0.098 (0.099) [0.313]					0.067 (0.186) [0.717]	-0.019 (0.138) [0.910]	0.005 (0.172) [0.975]	-0.045 (0.160) [0.790]
Both × Generic Budget Share 14–15	-0.089 (0.102) [0.348]	-0.099 (0.080) [0.324]	-0.083 (0.082) [0.322]	-0.114 (0.100) [0.243]					0.061 (0.161) [0.764]	0.073 (0.130) [0.698]	0.076 (0.158) [0.707]	0.082 (0.152) [0.664]
Autonomy × Generic Budget Share 15–16					-0.072 (0.102) [0.448]	-0.099 (0.074) [0.288]	-0.075 (0.076) [0.354]	-0.048 (0.084) [0.567]	-0.008 (0.151) [0.963]	-0.104 (0.139) [0.517]	-0.050 (0.133) [0.730]	-0.014 (0.137) [0.921]
Incentives × Generic Budget Share 15–16					-0.049 (0.110) [0.630]	-0.089 (0.074) [0.371]	-0.083 (0.090) [0.420]	-0.099 (0.097) [0.326]	-0.107 (0.182) [0.582]	-0.070 (0.129) [0.604]	-0.086 (0.164) [0.636]	-0.061 (0.157) [0.695]
Both × Generic Budget Share 15–16					-0.128 (0.105) [0.189]	-0.149 (0.083) [0.133]	-0.129 (0.085) [0.143]	-0.167 (0.103) [0.085]	-0.186 (0.168) [0.334]	-0.215 (0.138) [0.171]	-0.198 (0.167) [0.279]	-0.244 (0.158) [0.156]
Item Variety Control	None	Attribs	Scalar	Coarse	None	Attribs	Scalar	Coarse	None	Attribs	Scalar	Coarse
p(All Interactions = 0)	0.327	0.120	0.216	0.183	0.282	0.081	0.149	0.140	0.500	0.232	0.371	0.308
Observations	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666

Notes: The table shows estimates of heterogeneous treatment effects on prices paid and by the share of the office's budget that is allocated to generic goods. The estimates are from regressions of the form

$$y_{igto} = \alpha + \sum_{k=1}^3 \left(\eta_k \text{Treatment}_o^k + \kappa_k \text{Treatment}_o^k \times \text{BudgShare}_o \right) + \mathbf{X}_{igto} \beta + \rho g_{igto} + \delta_s + \gamma_g + \varepsilon_{igto}$$

where Treatment_o^k are dummies for office o being in treatment k ; BudgShare_o is the share of the office's budget allocated to generic goods (in either Fiscal Year 2014–15, the first year of the experiment, or Fiscal Year 2015–16, the second year of the experiment); \mathbf{X}_{igto} is a vector of controls; g_{igto} is the quantity purchased, δ_s and γ_g are strata and good fixed effects, respectively, and ε_{igto} are residuals clustered by office. Columns 1–4 estimate heterogeneity treatment effects by the office's budget share in Fiscal Year 2014–15, the first year of the experiment. Columns 5–8 estimate heterogeneity by the budget share in Fiscal Year 2015–16, the second year of the experiment. Columns 9–12 combine both years. The first column in each set does not control for item variety, the second uses all the items' attributes, the third uses the scalar variety measure, and the fourth uses the coarse variety measure.

TABLE A.6: BALANCE OF ATTRITION OF ITEMS

	All Generics				Analysis Objects			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Incentives	0.006 (0.015)	0.003 (0.017)	-0.003 (0.013)	0.005 (0.012)	0.009 (0.018)	0.005 (0.020)	-0.002 (0.015)	0.006 (0.015)
Autonomy	-0.011 (0.016)	-0.009 (0.016)	-0.009 (0.013)	-0.003 (0.012)	-0.010 (0.018)	0.000 (0.019)	-0.008 (0.015)	-0.001 (0.015)
Both	-0.038* (0.018)	-0.013 (0.018)	-0.017 (0.014)	-0.001 (0.013)	-0.041* (0.020)	-0.013 (0.020)	-0.020 (0.016)	-0.002 (0.017)
Assets: Fertilizer	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)				
Assets: General Utility Chemicals	-0.061 (0.053)	-0.108* (0.053)	0.019 (0.022)	-0.014 (0.019)				
Assets: Insecticides	0.111 (0.067)	-0.174*** (0.049)	-0.019** (0.007)	-0.011 (0.006)				
Assets: Lab Equipment	-0.263*** (0.055)	-0.422*** (0.046)	0.069** (0.026)	0.066* (0.029)				
Assets: Other Commodity	0.073 (0.093)	-0.053 (0.068)	-0.019 (0.012)	-0.020* (0.009)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Assets: Other Stocks and Stores	-0.068 (0.138)	-0.188 (0.150)	0.044 (0.036)	0.009 (0.015)				
Assets: Purchase of Furniture & Fixture	-0.108 (0.067)	-0.248*** (0.066)	0.047* (0.019)	0.104*** (0.021)	-0.167 (0.114)	-0.132 (0.097)	0.081*** (0.020)	0.168*** (0.031)
Assets: Purchase of Plant & Machinery	-0.273***	-0.420***	0.079***	0.039	-0.301**	-0.341***	0.122***	0.078**

	(0.071)	(0.079)	(0.021)	(0.025)	(0.111)	(0.094)	(0.022)	(0.027)
Assets: Purchase of Transport	-0.288***	-0.442***	0.032	0.087***				
	(0.061)	(0.051)	(0.029)	(0.020)				
Assets: Specific Utility Chemicals	-0.055	-0.282***	0.008	0.037**	-0.120	-0.199*	0.031	0.077**
	(0.084)	(0.073)	(0.010)	(0.012)	(0.123)	(0.092)	(0.017)	(0.024)
OpEx: Advertising	-0.124*	-0.314***	0.217***	0.238***	-0.203	-0.266***	0.232***	0.254***
	(0.058)	(0.046)	(0.023)	(0.023)	(0.105)	(0.073)	(0.026)	(0.025)
OpEx: Courier	-0.455***	-0.735***	-0.055	-0.139**				
	(0.090)	(0.062)	(0.049)	(0.042)				
OpEx: Electricity	0.138*	-0.135**	0.495***	0.437***	0.055	-0.090	0.506***	0.450***
	(0.061)	(0.046)	(0.027)	(0.025)	(0.105)	(0.073)	(0.027)	(0.025)
OpEx: Electronic Communication	-0.382***	-0.678***	-0.000	-0.088*				
	(0.092)	(0.101)	(0.037)	(0.039)				
OpEx: Medicines	-0.196***	-0.422***	0.134***	0.119***				
	(0.055)	(0.045)	(0.014)	(0.015)				
OpEx: Newspapers	0.147*	-0.156***	0.289***	0.309***	0.070	-0.107	0.301***	0.324***
	(0.064)	(0.046)	(0.022)	(0.024)	(0.107)	(0.073)	(0.022)	(0.024)
OpEx: Other	0.009	-0.256***	0.197***	0.177***	-0.065	-0.209**	0.214***	0.194***
	(0.055)	(0.043)	(0.015)	(0.016)	(0.105)	(0.072)	(0.018)	(0.018)
OpEx: Other Stores	-0.148**	-0.366***	0.070***	0.058***	-0.212*	-0.310***	0.093***	0.080***
	(0.055)	(0.043)	(0.015)	(0.013)	(0.104)	(0.072)	(0.016)	(0.015)
OpEx: Other Stores: Computer/Stationery	0.090	-0.167**	0.367***	0.371***	0.014	-0.118	0.385***	0.388***
	(0.070)	(0.061)	(0.050)	(0.048)	(0.112)	(0.084)	(0.049)	(0.047)
OpEx: Other Utilities	-0.245***	-0.420***	0.071*	0.137	-0.339**	0.123	0.066**	0.590***
	(0.058)	(0.103)	(0.033)	(0.082)	(0.104)	(0.110)	(0.025)	(0.133)

OpEx: Payments for Services	-0.298***	-0.574***	0.058***	-0.009				
	(0.054)	(0.043)	(0.015)	(0.015)				
OpEx: Printing	-0.044	-0.270***	0.173***	0.125***	-0.120	-0.219**	0.190***	0.143***
	(0.054)	(0.045)	(0.016)	(0.019)	(0.104)	(0.073)	(0.019)	(0.020)
OpEx: Rent not on Building	-0.437***	-0.604***	0.003	0.020				
	(0.064)	(0.069)	(0.021)	(0.024)				
OpEx: Rent of Machine	-0.443***	-0.625***	-0.007	0.023				
	(0.065)	(0.069)	(0.021)	(0.023)				
OpEx: Stationery	0.076	-0.138**	0.352***	0.372***	0.002	-0.091	0.369***	0.389***
	(0.056)	(0.042)	(0.018)	(0.015)	(0.104)	(0.072)	(0.019)	(0.020)
Repairs: Computer Hardware	-0.155*	-0.304***	0.107**	0.116**	-0.237	-0.249*	0.124**	0.136**
	(0.079)	(0.086)	(0.041)	(0.045)	(0.121)	(0.100)	(0.041)	(0.045)
Repairs: Computer Software	-0.328***	-0.538***	0.042	-0.019				
	(0.058)	(0.088)	(0.021)	(0.017)				
Repairs: Furniture & Fixtures	-0.380***	-0.651***	-0.006	-0.077***	-0.459***	-0.606***	0.009	-0.063***
	(0.055)	(0.043)	(0.015)	(0.015)	(0.103)	(0.072)	(0.015)	(0.016)
Repairs: IT Equipment	-0.220	-0.053	0.085	0.199***	-0.290	0.018	0.103	0.230***
	(0.123)	(0.167)	(0.066)	(0.040)	(0.153)	(0.170)	(0.068)	(0.040)
Repairs: Machinery & Equipment	-0.321***	-0.569***	0.020	-0.026	-0.399***	-0.521***	0.035*	-0.009
	(0.055)	(0.044)	(0.016)	(0.015)	(0.104)	(0.072)	(0.016)	(0.016)
Repairs: Other Building	-0.142**	-0.485***	0.150***	0.058*				
	(0.053)	(0.052)	(0.012)	(0.026)				
Date	-0.007	-0.001***	0.004	-0.000***	-0.005	-0.001***	0.006	-0.000***
	(0.006)	(0.000)	(0.006)	(0.000)	(0.007)	(0.000)	(0.007)	(0.000)
Date ²	0.000	0.000***	-0.000	0.000***	0.000	0.000***	-0.000	0.000***

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
log Amount	-0.121***	-0.132***	-0.108***	-0.144***	-0.082**	-0.095**	-0.101***	-0.128***
	(0.028)	(0.020)	(0.023)	(0.024)	(0.027)	(0.032)	(0.025)	(0.031)
log(Amount) ²	0.004***	0.005***	0.004***	0.005***	0.002	0.002	0.004**	0.004**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Assets: Generic Consumables		-0.400***		0.131***				
		(0.051)		(0.019)				
Constant	69.447	13.868***	-41.798	6.610***	47.408	15.965***	-60.546	7.598***
	(61.980)	(1.333)	(63.492)	(0.944)	(69.733)	(1.531)	(66.118)	(1.075)
Observations	23,423	22,498	23,423	22,498	17,361	16,553	17,361	16,553
<i>R</i> ²	0.33	0.33	0.28	0.32	0.25	0.24	0.24	0.27
Year	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Reporting Share	POPS	POPS	Analysis	Analysis	POPS	POPS	Analysis	Analysis

TABLE A.7: ROBUSTNESS OF PRICE EFFECTS TO INCLUDING POPS OBSERVATIONS WITH INSUFFICIENT ATTRIBUTES

	(1)	(2)	(3)	(4)
	DiD	DiD	Year 2	Year 2
Autonomy			-0.063 (0.044) [0.209]	-0.050 (0.031) [0.165]
Incentives			-0.000 (0.042) [0.993]	0.004 (0.029) [0.909]
Both			-0.036 (0.042) [0.466]	-0.047 (0.031) [0.193]
Autonomy \times Year 2	-0.078 (0.050) [0.102]	-0.071 (0.040) [0.046]		
Both \times Year 2	-0.082 (0.051) [0.075]	-0.084 (0.041) [0.028]		
Year 2	-0.001 (0.042)	0.019 (0.032)		
Item Variety Control	None	Attribs	None	Attribs
p(All = 0)	0.095	0.038	0.545	0.262
p(Autonomy = Incentives)			0.212	0.112
p(Autonomy = Both)	0.101	0.747	0.605	0.921
p(Incentives = Both)			0.441	0.133
Observations	25,254	25,254	12,933	12,933

Notes: The table shows estimates of the treatment effects of the experiments on log unit prices. The sample used extends our main analysis sample to also include observations from POPS that were dropped because they contained insufficient detail on the attributes of the items being purchased. Column 1 presents results from running our difference in difference specification to estimate the impacts of the autonomy and combined treatments. These results are comparable to those in column 1 of table A.3. Column 2 presents results from our baseline specification using only data from year 2 of the experiment. These results are comparable to those in column 3 of table 2.

TABLE A.8: HETEROGENEITY OF TREATMENT EFFECTS ON PRICES BY MONITOR TYPE

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Autonomy	0.038 (0.103) [0.747]	-0.026 (0.083) [0.805]	0.007 (0.083) [0.949]	0.034 (0.092) [0.763]	-0.016 (0.066) [0.818]	-0.029 (0.059) [0.633]	-0.027 (0.056) [0.652]	-0.010 (0.061) [0.878]	0.042 (0.102) [0.707]	-0.019 (0.083) [0.855]	0.011 (0.083) [0.917]	0.038 (0.092) [0.715]
Incentives	-0.077 (0.102) [0.506]	-0.083 (0.080) [0.370]	-0.115 (0.086) [0.248]	-0.053 (0.090) [0.620]	-0.008 (0.071) [0.935]	-0.061 (0.058) [0.340]	-0.064 (0.063) [0.348]	-0.016 (0.065) [0.838]	-0.064 (0.102) [0.572]	-0.083 (0.080) [0.380]	-0.112 (0.085) [0.257]	-0.045 (0.089) [0.661]
Both	0.116 (0.101) [0.356]	-0.014 (0.084) [0.907]	0.064 (0.084) [0.546]	0.073 (0.098) [0.541]	0.014 (0.079) [0.869]	-0.052 (0.068) [0.498]	-0.020 (0.067) [0.799]	-0.022 (0.076) [0.786]	0.112 (0.103) [0.376]	-0.015 (0.086) [0.900]	0.060 (0.085) [0.554]	0.067 (0.097) [0.576]
Autonomy × June Approval Share	-0.412 (0.264) [0.183]	-0.224 (0.210) [0.382]	-0.302 (0.216) [0.230]	-0.382 (0.231) [0.170]					-0.316 (0.339) [0.431]	-0.056 (0.269) [0.885]	-0.210 (0.275) [0.521]	-0.261 (0.297) [0.476]
Incentives × June Approval Share	0.122 (0.256) [0.693]	0.115 (0.208) [0.666]	0.224 (0.225) [0.390]	0.046 (0.228) [0.873]					0.339 (0.320) [0.403]	0.132 (0.272) [0.726]	0.287 (0.307) [0.441]	0.186 (0.296) [0.617]
Both × June Approval Share	-0.494 (0.272) [0.115]	-0.191 (0.225) [0.509]	-0.364 (0.228) [0.161]	-0.421 (0.258) [0.186]					-0.432 (0.317) [0.292]	-0.165 (0.273) [0.644]	-0.349 (0.269) [0.298]	-0.393 (0.313) [0.321]
Autonomy × June Purchase Share					-0.497 (0.347) [0.180]	-0.429 (0.294) [0.173]	-0.390 (0.283) [0.203]	-0.498 (0.308) [0.123]	-0.217 (0.446) [0.640]	-0.380 (0.373) [0.367]	-0.205 (0.358) [0.640]	-0.269 (0.396) [0.546]
Incentives × June Purchase Share					-0.160 (0.334) [0.652]	0.078 (0.290) [0.805]	0.134 (0.284) [0.676]	-0.129 (0.304) [0.692]	-0.488 (0.416) [0.277]	-0.050 (0.376) [0.891]	-0.144 (0.391) [0.723]	-0.314 (0.396) [0.489]
Both × June Purchase Share					-0.427 (0.401) [0.355]	-0.181 (0.350) [0.627]	-0.271 (0.332) [0.473]	-0.318 (0.368) [0.446]	-0.108 (0.474) [0.842]	-0.059 (0.426) [0.890]	-0.016 (0.401) [0.983]	-0.026 (0.459) [0.958]
Item Variety Control	None	Attribs	Scalar	Coarse	None	Attribs	Scalar	Coarse	None	Attribs	Scalar	Coarse
p(All Interactions = 0)	0.066	0.083	0.040	0.059	0.277	0.034	0.046	0.134	0.215	0.134	0.094	0.188
p(Approval Interaction Autonomy = Incentives)	0.111	0.155	0.069	0.137					0.174	0.571	0.209	0.284
p(Purchase Interaction Autonomy = Incentives)					0.286	0.038	0.068	0.172	0.534	0.361	0.904	0.899
Observations	10,957	10,957	10,957	10,957	10,957	10,957	10,957	10,957	10,957	10,957	10,957	10,957

Notes: The table shows heterogeneity of treatment effects by the degree of misalignment of the district's accountant general. We estimate treatment effect heterogeneity by interacting our proxy for AG type $\hat{\omega}_s$ with treatment dummies $p_{igto} = \alpha + \sum_{k=1}^3 (\eta_k \text{Treatment}_o^k + \zeta_k \text{Treatment}_o^k \times \hat{\omega}_s) + \mathbf{X}_{igto} \beta + \rho_{igto} + \delta_s + \gamma_{ig} + \varepsilon_{igto}$. Columns (1)–(4) use our preferred proxy for AG type: the degree to which purchase approvals are bunched at the end of the fiscal year in June 2015 (year 1 of the project). Columns (5)–(8) use the share of purchases occurring in the June; and columns (9)–(12) combines the two.

TABLE A.9: HETEROGENEITY OF TREATMENT EFFECTS ON ITEM VARIETY BY MONITOR TYPE

	(1)	(2)
Incentives	0.030 (0.037)	-0.019 (0.044)
Autonomy	0.025 (0.042)	-0.023 (0.052)
Both	0.059 (0.037)	0.099** (0.047)
Incentives × District June Share	-0.056 (0.083)	0.129 (0.102)
Autonomy × District June Share	-0.085 (0.096)	0.097 (0.128)
Both × District June Share	-0.145* (0.080)	-0.094 (0.103)
Item Type Measure	Scalar	Coarse
Observations	11666	11666

Notes: The table shows heterogeneity of the treatment effects on the variety of the items purchased by the degree of misalignment of the district's accountant general. We interact our proxy for the AG type $\hat{\omega}_s$ with treatment dummies in the following specification: $v_{igto} = \alpha + \sum_{k=1}^3 (\eta_k \text{Treatment}_o^k + \zeta_k \text{Treatment}_o^k \times \hat{\omega}_s) + \mathbf{X}_{igto}\beta + \rho_g q_{igto} + \delta_s + \gamma_g + \varepsilon_{igto}$.

TABLE A.10: HETEROGENEITY OF EFFECTS ON DEMAND BY MONITOR TYPE

Item	Linear Term			AG June Share Interaction			Linear	Interactions
	Autonomy	Incentives	Both	Autonomy	Incentives	Both	All = 0	All = 0
Toner	241.1 (636.54)	633.4 (640.13)	-931.9 (629.52)	-607.1 (1506.86)	-1408.8 (1495.52)	2552.5* (1471.08)	2.24 [0.081]	2.67 [0.046]
Ice Block	-10.7 (46.36)	-69.1 (46.62)	-17.7 (45.85)	11.7 (109.75)	78.8 (108.92)	13.8 (107.14)	0.87 [0.456]	0.21 [0.886]
Towel	-25.4 (27.47)	-3.0 (27.62)	-2.5 (27.16)	32.4 (65.02)	21.0 (64.53)	-33.2 (63.47)	0.37 [0.771]	0.40 [0.753]
Soap/Detergent	-9.6 (1720.57)	-83.3 (1730.25)	143.9 (1701.57)	-840.7 (4073.03)	240.4 (4042.38)	587.5 (3976.30)	0.01 [0.999]	0.04 [0.987]
Duster	-32.3 (25.39)	22.1 (25.53)	-47.1* (25.11)	48.0 (60.11)	-10.8 (59.66)	80.1 (58.68)	3.10 [0.026]	1.04 [0.375]
Wiper	22.8 (19.94)	39.8** (20.05)	-17.0 (19.72)	-64.1 (47.21)	-47.1 (46.85)	25.3 (46.09)	3.18 [0.023]	1.54 [0.201]
Lock	66.0 (44.00)	-78.0* (44.25)	-14.2 (43.52)	-160.7 (104.17)	231.6** (103.39)	-9.9 (101.70)	3.61 [0.013]	4.88 [0.002]
Pen	79.6 (119.24)	111.3 (119.91)	-14.9 (117.93)	-66.2 (282.28)	-94.1 (280.16)	90.5 (275.58)	0.53 [0.663]	0.17 [0.915]
Envelope	43.0* (24.48)	-9.6 (24.62)	-50.8** (24.21)	-76.0 (57.95)	11.5 (57.51)	113.7** (56.57)	5.04 [0.002]	3.69 [0.011]
Printer Paper	510.9 (410.18)	-604.3 (412.49)	-639.1 (405.65)	-953.5 (971.01)	2247.6** (963.70)	1298.8 (947.95)	3.59 [0.013]	4.27 [0.005]
Register	-54.5 (782.50)	-90.5 (786.91)	-264.1 (773.87)	-424.0 (1852.39)	67.9 (1838.45)	875.1 (1808.40)	0.04 [0.988]	0.18 [0.913]
Stapler	22.1 (17.33)	2.6 (17.43)	9.9 (17.14)	-90.3** (41.02)	-30.5 (40.71)	-61.1 (40.05)	0.66 [0.578]	1.82 [0.141]
Staples	6.5 (6.28)	-4.6 (6.32)	1.4 (6.21)	-21.2 (14.87)	13.8 (14.76)	-0.6 (14.52)	1.08 [0.357]	1.89 [0.129]
Calculator	11.2 (17.55)	-5.6 (17.65)	-4.0 (17.35)	-55.8 (41.54)	-15.7 (41.23)	-23.9 (40.55)	0.37 [0.773]	0.64 [0.590]
File Cover	34.7 (55.64)	38.9 (55.95)	-0.3 (55.02)	-18.4 (131.71)	-179.9 (130.72)	29.2 (128.58)	0.30 [0.828]	1.03 [0.377]
Stamp Pad	7.4 (9.31)	8.5 (9.36)	-16.4* (9.20)	-4.6 (22.03)	-7.7 (21.87)	39.5* (21.51)	3.11 [0.025]	2.08 [0.101]
Photocopying	-231.8** (109.90)	15.8 (110.52)	73.6 (108.69)	677.9*** (260.17)	108.6 (258.21)	-7.7 (253.99)	3.02 [0.029]	3.13 [0.025]
Broom	57.3 (103.54)	98.3 (104.13)	-70.2 (102.40)	-33.2 (245.12)	-36.5 (243.27)	272.0 (239.29)	1.02 [0.384]	0.76 [0.515]
Coal	-16.2 (128.20)	65.7 (128.92)	45.0 (126.78)	-27.5 (303.48)	-5.3 (301.19)	59.2 (296.27)	0.18 [0.912]	0.03 [0.993]
Newspaper	47.8 (73.73)	35.7 (74.14)	23.3 (72.92)	-71.2 (174.54)	-93.2 (173.22)	-55.0 (170.39)	0.15 [0.928]	0.11 [0.957]
Pipe	165.9** (73.21)	155.8** (73.62)	1.5 (72.40)	-331.2* (173.30)	-173.8 (172.00)	38.1 (169.19)	3.20 [0.022]	1.92 [0.124]
Light Bulb	159.6 (206.25)	-307.4 (207.41)	-381.4* (203.97)	-252.5 (488.25)	700.8 (484.58)	994.7** (476.65)	3.09 [0.026]	2.94 [0.032]
Pencil	-1.0 (9.55)	-8.7 (9.61)	-4.7 (9.45)	19.6 (22.61)	22.8 (22.44)	5.2 (22.08)	0.34 [0.796]	0.48 [0.700]
Floor Cleaner	-34.4 (95.50)	-62.7 (96.04)	-102.5 (94.44)	41.8 (226.07)	156.0 (224.37)	308.9 (220.70)	0.42 [0.737]	0.78 [0.505]
Sign Board/Banner	411.8 (364.12)	-4.7 (366.17)	-231.2 (360.10)	-771.2 (861.98)	68.4 (855.49)	691.8 (841.50)	1.10 [0.350]	0.98 [0.402]
Joint F-Test	0.99 [0.473]	1.06 [0.380]	0.78 [0.773]	1.05 [0.397]	0.95 [0.538]	0.91 [0.599]	1.37 [0.019]	1.32 [0.032]

Notes: The table shows the results of estimating an extended version of equation (4) by multivariate regression. Specifically, for each item, we estimate $e_{gto} = \sum_{k=1}^3 \left(\eta_k \text{Treatment}_o^k + \zeta_k \text{Treatment}_o^k \times \hat{\omega}_s \right) + \gamma_s + \xi_t + \varepsilon_{gto}$ on data aggregated up to the office \times month \times good level. To aggregate the data, we weight each purchase by our scalar measure of item type, which can be interpreted as the price we predict the item would cost had it been bought in the control group in year 1. For each purchase, demand is $e_{igto} = \exp(q_{igto} + h_{igto})$, where q_{igto} is the log number of units purchased in purchase i , and h_{igto} is the scalar item type measure, and we sum over all purchases of good g in month t by office o to create e_{gto} .

TABLE A.11: HETEROGENEITY OF TREATMENT EFFECTS BY PROCUREMENT OFFICER DICE SCORE

	(1)	(2)	(3)	(4)
Autonomy	0.2791 (0.2820) [0.396]	0.4386 (0.2396) [0.134]	0.3442 (0.2317) [0.213]	0.4123 (0.2589) [0.180]
Incentives	-0.0413 (0.3089) [0.915]	0.2079 (0.2457) [0.505]	0.0963 (0.2574) [0.770]	0.1967 (0.2774) [0.579]
Both	-0.0431 (0.4106) [0.915]	0.2665 (0.3199) [0.504]	0.1409 (0.3319) [0.717]	0.1225 (0.3965) [0.797]
Autonomy × Dice Score	-0.0023 (0.0017) [0.249]	-0.0033 (0.0015) [0.071]	-0.0026 (0.0014) [0.122]	-0.0030 (0.0016) [0.112]
Incentives × Dice Score	0.0001 (0.0019) [0.954]	-0.0015 (0.0015) [0.426]	-0.0007 (0.0016) [0.698]	-0.0013 (0.0017) [0.541]
Both × Dice Score	-0.0003 (0.0025) [0.918]	-0.0022 (0.0019) [0.336]	-0.0013 (0.0020) [0.579]	-0.0013 (0.0024) [0.648]
Item Variety Control	None	Attribs	Scalar	Coarse
p(All Interactions = 0)	0.167	0.056	0.156	0.132
Observations	10,283	10,283	10,283	10,283

Notes: The table shows heterogeneity of treatment effects by the degree of misalignment of the procurement officer, as measured by their score in the dice game measure of dishonesty studied in [Fischbacher & Föllmi-Heusi \(2013\)](#) and [Hanna & Wang \(2017\)](#) and summarized in appendix figure A.11. We estimate treatment effect heterogeneity by interacting our proxy for PO type $\hat{\mu}_o$ with treatment dummies $p_{igto} = \alpha + \eta \text{Autonomy}_o + \zeta \text{Autonomy}_o \times \hat{\mu}_o + \mathbf{X}_{igto} \beta + \rho g q_{igto} + \delta_s + \gamma_g + \varepsilon_{igto}$.

TABLE A.12: HETEROGENEITY OF AUTONOMY TREATMENT EFFECT BY PROCUREMENT OFFICER TYPE

	(1)	(2)	(3)	(4)
Autonomy	-0.076 (0.037) [0.087]	-0.105 (0.032) [0.003]	-0.080 (0.029) [0.014]	-0.086 (0.033) [0.025]
Autonomy \times Year 1 FE	-0.340 (0.114) [0.028]	-0.050 (0.141) [0.762]	-0.170 (0.106) [0.192]	-0.242 (0.129) [0.128]
Item Variety Control	None	Attribs	Scalar	Coarse
p(All Interactions = 0)	0.018	0.016	0.022	0.025
Observations	5,315	5,315	5,315	5,315

Notes: The table shows heterogeneity of treatment effects by the degree of misalignment of the procurement officer. Procurement officers are classified by their estimated fixed effects in a regression of log unit prices p_{igto} on controls \mathbf{X}_{igto} , good-specific quantity controls ρ_g , stratum, good, and officer fixed effects, δ_s , γ_g and μ_o in data from year 1: $p_{igto} = \mathbf{X}_{igto}\beta + \rho_g q_{igto} + \delta_s + \gamma_g + \mu_o + \varepsilon_{igto}$. Since the PO fixed effects are estimated in year 1, when the incentive treatment was already in place, we restrict attention to the autonomy treatment. We estimate treatment effect heterogeneity by interacting our proxy for PO type $\hat{\mu}_o$ with treatment dummies $p_{igto} = \alpha + \eta \text{Autonomy}_o + \zeta \text{Autonomy}_o \times \hat{\mu}_o + \mathbf{X}_{igto}\beta + \rho_g q_{igto} + \delta_s + \gamma_g + \varepsilon_{igto}$.

B Construction of Item Variety Controls

This appendix describes the methods we used to construct the item variety controls used throughout the empirical analysis. The idea behind the methods is to use data from the experiment's control group to construct measures in both treatment and control groups that allow us to hold constant all the features of the good that can affect its price in the control group. This poses two challenges. First, the set of attributes of each good may be large. Of these, only a subset is relevant for prices, and we want to avoid overfitting the data from the control group, so we want to reduce the dimensionality of the controls we use. Second, when using the control group data to construct measures of item variety in the treatment groups, the attributes used as inputs to these measures may not have common support. There may be attributes that occur in the treatment groups that never appear in the data from the control group. Our measures will predict how attributes that occur in the control group affect prices, but will not know how to deal with an attribute that only ever occurs in the treatment groups.

Our first three measures address these issues through manual grouping of attributes and using hedonic regressions to reduce the dimensionality of the measures. We begin by manually grouping attributes to ensure common support and avoid overfitting. Most of the attributes we use are categorical and so we group values. For values that occur less than three times in the control group or only in the treatment group, we either group them together with similar values (using contextual knowledge and extensive googling to find similar values) or if similar values are not available, set them to missing. Observations with all attributes missing after this cleaning are dropped. Ensuring that each group appears at least three times avoids overfitting, and ensuring that the groups are observed in both the control and treatment groups ensures common support. These groups then form the X_{igto} controls used in the hedonic regressions (1). Table B.13 illustrates the procedure. The first columns show the attributes in the raw data and the number of categories (for categorical variables) or the mean and standard deviation (for numerical variables) for each one. The second set of columns shows the same statistics for the data used for the hedonic regressions and the main analysis.

Our fourth, machine learning, measure develops a variant of a random forest algorithm to allow for non-linearities and interactions between attributes that the hedonic regression 1 rules out and also to perform the grouping of attributes' values in a data-driven way. For this we do much lighter cleaning of the data only harmonizing spellings. This can be seen in the third group of columns in table B.13, where the attributes tend to have a far greater number of categories. We then train a random forest algorithm for each

item, averaging 500 trees to form predicted prices. The algorithm is trained only on the control group's data, so as in the case of the scalar and coarse measures of item variety, the predicted prices should be interpreted as a prediction of the price of the purchase had it been conducted by a PO in the control group.

After training each tree in the control group, the algorithm places each observation in the treatment groups into its corresponding leaf. It first places all treatment group observations that only have attributes that are sufficient to place it into a unique leaf in the tree. Then, for observations that have an attribute that prevents it from being placed into a leaf, the algorithm selects all leaves the observation could be placed into given the attributes that *can* be used, and then for each attribute that cannot be used, replaces that attribute with the category in the same treatment group with the closest average, but that does appear in the control group. Once every observation is placed into a leaf, the average price amongst control group observations in the leaf is then that tree's predicted price. Averaging the 500 trees gives us our machine learning measure of item variety.

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
Pencil	Brand	21 categories	272	8 categories	187	19 categories	156
	Grade	26 categories	279	13 categories	175	25 categories	159
	Type	8 categories	156	5 categories	54	5 categories	46
	With Rubber?	2 categories	281	2 categories	177	2 categories	164
	Unit Price. mean (s.d.)	10.81 (14.91)		10.51 (14.42)		9.80 (11.31)	
	# Purchasing PBs	311		275		253	
	# Observations	612		476		475	
Ice Block	Unit Price. mean (s.d.)	0.01 (0.02)		0.01 (0.01)		0.01 (0.01)	
	# Purchasing PBs	321		304		304	
	# Observations	680		638		638	
Wiper	Brand	13 categories	388	4 categories	173	12 categories	152
	Country of Origin	3 categories	331	2 categories	98	2 categories	98
	Handle Length	8 categories	381	5 categories	141	5 categories	141
	Handle Material	5 categories	304	4 categories	77	4 categories	77
	Wiper Material	7 categories	314	3 categories	88	3 categories	87
	Unit Price. mean (s.d.)	271.42 (125.82)		264.13 (115.92)		264.13 (115.92)	
	# Purchasing PBs	401		296		296	
# Observations	753		484		484		

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
Calculator	Brand & Model	7 categories	150	12 categories	49	22 categories	44
	Number of Digits	6 categories	205	4 categories		4 categories	
	Type	5 categories	185	4 categories	76	4 categories	77
	Unit Price. mean (s.d.)	271.42 (125.82)		796.24 (350.34)		795.93 (350.05)	
	# Purchasing PBs	401		326		326	
	# Observations	616		486		487	
Coal	Unit Price. mean (s.d.)	0.08 (0.26)		0.06 (0.02)		0.06 (0.02)	
	# Purchasing PBs	384		362		362	
	# Observations	685		650		650	
Staples	Brand	19 categories	69	8 categories	59	19 categories	36
	Size	27 categories	60	6 categories	26	5 categories	26
	Unit Price. mean (s.d.)	0.14 (0.43)		0.11 (0.20)		0.11 (0.20)	
	# Purchasing PBs	334		288		288	
	# Observations	551		465		465	

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data		
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	
Lock	Brand & Model	18 categories	508	4 categories	270	9 categories	231	
	Country of Origin	5 categories	384	2 categories	117	2 categories	119	
	Digital?	2 categories	526	2 categories	245	2 categories	247	
	Fitting Charges?	2 categories	514	2 categories	235	2 categories	237	
	Size	27 categories	60	6 categories	26	5 categories	26	
	Material	8 categories	512	4 categories	233	4 categories	235	
	Type	20 categories	440	7 categories	166	13 categories	160	
	Unit Price. mean (s.d.)	315.94 (340.11)		282.89 (235.49)		282.56 (235.21)		
	# Purchasing PBs	404		318		319		
	# Observations	965		652		654		
Stamp Pad	Brand	19 categories	262	10 categories	77	18 categories	64	
	Color	8 categories	281	5 categories	86	6 categories	86	
	Size	22 categories	317	8 categories	125	8 categories	125	
	With Ink?	3 categories	266	2 categories	81	2 categories	81	
		Unit Price. mean (s.d.)	85.92 (50.40)		82.72 (44.05)		82.98 (43.92)	
		# Purchasing PBs	430		352		352	
		# Observations	771		545		543	

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
Duster	Material	9 categories	261	6 categories	37	7 categories	37
	Size	52 categories	437	17 categories	195	18 categories	193
	Type	9 categories	343	4 categories	116	4 categories	116
	With Handle?	2 categories	435	2 categories	196	2 categories	196
	Unit Price. mean (s.d.)	66.31 (76.83)		65.13 (71.31)		65.13 (71.31)	
	# Purchasing PBs	386		290		290	
	# Observations	722		456		456	
Floor Cleaner	Acid Cleaner	7 categories	376	4 categories	242	4 categories	235
	Brand	38 categories	348	16 categories	258	30 categories	216
	Environmentally Friendly	2 categories	286	2 categories	168	2 categories	169
	Make	6 categories	307	4 categories	180	6 categories	177
	Scented	2 categories	230	2 categories	116	2 categories	117
	State	8 categories	225	3 categories	103	3 categories	104
	Unit Price. mean (s.d.)	0.27 (0.94)		0.19 (0.30)		0.19 (0.30)	
# Purchasing PBs	458		377		377		
# Observations	1162		945		946		

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
File Cover	Brand	20 categories	399	5 categories	306	18 categories	286
	With Clip	2 categories	662	2 categories	258	2 categories	259
	Country of Origin	6 categories	379	4 categories	265	3 categories	266
	Cover Material	22 categories	244	11 categories	150	13 categories	151
	Customized Printing	5 categories	328	4 categories	228	3 categories	229
	File Type	28 categories	138	14 categories	61	22 categories	58
	Size	27 categories	414	3 categories	290	3 categories	291
	Unit Price. mean (s.d.)	53.11 (95.41)		47.62 (75.07)		47.56 (75.02)	
	# Purchasing PBs	391		312		313	
	# Observations	775		583		584	
Sign Board / Banner	Frame Type	7 categories	667	3 categories	586	5 categories	586
	Material	11 categories	445	7 categories	391	10 categories	391
	Number of Colors	6 categories	723	2.8 (1.23)	643	2.8 (1.23)	643
	Number of Rings	12 categories	692	4.4 (4.05)	1055	4.4 (4.05)	1055
	Print on Both Sides	3 categories	625	2 categories	550	2 categories	551
	Area	85 categories	732	44.2 (355.64)	644	44.2 (355.64)	644
	With Rope	2 categories	598	2 categories	523	2 categories	523
	With Stand	2 categories	598	2 categories	519	2 categories	519
	With Stick	2 categories	590	2 categories	511	2 categories	511

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
	Unit Price. mean (s.d.)	1,262.06 (1,881.76)		1,170.37 (1,557.29)		1,170.37 (1,557.29)	
	# Purchasing PBs	442		402		402	
	# Observations	1391		1256		1256	
Stapler	Brand & Model	60 categories	584	15 categories	176	28 categories	149
	Size	9 categories	566	4 categories	123	4 categories	141
	Unit Price. mean (s.d.)	587.33 (816.28)		507.08 (621.07)		504.22 (614.41)	
	# Purchasing PBs	539		364		372	
	# Observations	1024		549		567	
Photocopying	Color	2 categories	1119	2 categories	307	2 categories	307
	Double-sided	3 categories	1248	3 categories	395	3 categories	395
	On Generator Power	3 categories	1175	3 categories	370	3 categories	370
	Paper Quality	9 categories	1693	3 categories	831	7 categories	831
	Size	19 categories	1043	3 categories	221	12 categories	215
	With Binding	4 categories	1585	3 categories	725	3 categories	725
	Unit Price. mean (s.d.)	3.33 (7.65)		2.69 (2.76)		2.69 (2.76)	
# Purchasing PBs	470		401		401		
# Observations	3185		2249		2249		
Toner	Brand & Model	180 categories	1280	57 categories	581	31 categories	581
	Refill or New	7 categories	935	5 categories	241	5 categories	241

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
	Unit Price. mean (s.d.)	4,630.16 (4,257.79)		4,449.26 (3,873.94)		4,449.26 (3,873.94)	
	# Purchasing PBs	505		449		449	
	# Observations	3814		2980		2980	
Envelope	Material	12 categories	789	7 categories	417	10 categories	417
	Printed	5 categories	983	4 categories	583	4 categories	583
	Area	5 categories	983	4 categories	583	4 categories	583
	With Zip	2 categories	1112	2 categories	726	2 categories	727
	Unit Price. mean (s.d.)	9.31 (32.16)		6.40 (14.18)		6.38 (14.16)	
	# Purchasing PBs	512		427		427	
	# Observations	1891		1433		1438	
Soap	Antiseptic	2 categories	690	2 categories	418	2 categories	420
	Brand	36 categories	436	20 categories	209	30 categories	192
	State	3 categories	419	3 categories	181	3 categories	183
	Type	19 categories	544	9 categories	314	11 categories	318
	Bar Size	67 categories	0	198.1 (137.86)	0	198.0 (137.75)	0
	Bottle Size	67 categories	0	0.9 (0.71)	0	0.9 (0.71)	0
	Packet Size	67 categories	0	1072.1 (2461.58)	0	1072.0 (2459.27)	0

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
	Unit Price. mean (s.d.)	3.73 (17.96)		2.17 (11.14)		2.17 (11.12)	
	# Purchasing PBs	518		446		447	
	# Observations	1476		1155		1158	
Light Bulb	Brand	53 categories	959	12 categories	434	31 categories	386
	Type	28 categories	772	9 categories	224	22 categories	209
	Wattage	47 categories	814	12 categories	232	35.4 (65.15)	252
	With Fitting	3 categories	1505	2 categories	862	2 categories	882
	With Fixture	3 categories	1463	2 categories	818	2 categories	838
	Unit Price. mean (s.d.)	697.49 (1,142.68)		541.53 (747.52)		563.52 (782.47)	
	# Purchasing PBs	530		446		446	
	# Observations	1818		1173		1193	
Broom	Brand	8 categories	846	4 categories	380	8 categories	369
	Handle Length	10 categories	815	3.1 (1.57)	878	3.1 (1.57)	878
	Handle Material	4 categories	838	4 categories	351	4 categories	351
	Type	23 categories	588	10 categories	139	15 categories	121
		Unit Price. mean (s.d.)	79.90 (108.92)		76.36 (102.71)		76.36 (102.71)
	# Purchasing PBs	586		455		455	
	# Observations	1702		1159		1159	
	Name	57 categories	2129	23 categories	0	29 categories	0

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
	Unit Price. mean (s.d.)	14.74 (6.09)		14.29 (3.72)		14.29 (3.72)	
	# Purchasing PBs	717		617		618	
	Unit Price. mean (s.d.)	14.74 (6.09)		14.29 (3.72)		14.29 (3.72)	
	# Purchasing PBs	717		617		618	
	# Observations	9400		6647		6683	
	Binding	15 categories	2917	13 categories	1633	10 categories	1635
	Brand	54 categories	3209	19 categories	1979	49 categories	1920
	Colored Pages	6 categories	2933	2 categories	1675	2 categories	1677
	Customized Printing	3 categories	3011	2 categories	1732	2 categories	1734
	Number of Pages	80 categories	2939	185.1 (169.65)	1641	185.1 (169.65)	1643
Register	Page Size	82 categories	2874	26 categories	1552	51 categories	1554
	Page Weight	14 categories	4456	12 categories	2602	14 categories	2604
	Type	114 categories	1776	28 categories	523	44 categories	525
	Unit Price. mean (s.d.)	14.74 (6.09)		314.93 (239.41)		314.84 (239.38)	
	# Purchasing PBs	717		717		718	
	# Observations	5176		3705		3707	

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
Printer Paper	Brand	33 categories	1127	14 categories	693	31 categories	638
	Colored Pages	3 categories	1014	2 categories	531	2 categories	532
	Page Size	21 categories	1123	7 categories	547	15 categories	547
	Page Weight	25 categories	898	13 categories	360	77.54 (5.99)	361
	Unit Price. mean (s.d.)	1.30 (1.49)		1.19 (0.28)		1.19 (0.28)	
	# Purchasing PBs	837		746		746	
	# Observations	4570		3842		3843	
Pen	Color	15 categories	1579	11 categories	911	8 categories	912
	Model	59 categories	1560	29 categories	916	30 categories	887
	Type	15 categories	978	8 categories	349	9 categories	350
	Thickness	23 categories	2188	1.1 (1.04)	1443	1.1 (1.04)	1444
	Unit Price. mean (s.d.)	49.10 (126.38)		40.26 (58.98)		40.27 (58.98)	
	# Purchasing PBs	814		719		719	
	# Observations	4298		3386		3387	
Towel	Size	24 categories	517	1137.6 (446.45)	334	1137.6 (446.45)	334
	Towel Material	3 categories	283	2 categories	109	2 categories	109
	Type	7 categories	198	4 categories	32	4 categories	32

Continued on next page

TABLE B.13: POPS DATA CLEANING

Item	Attributes	Raw Data		Regression Data		Machine Learning Data	
		mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing	mean (s.d.) / #categories	# missing
	Unit Price. mean (s.d.)	458.19 (225.20)		469.73 (206.82)		469.73 (206.82)	
	# Purchasing PBs	362		273		273	
	# Observations	617		427		427	
Pipe	Diameter	60 categories	365	2.0 (3.59)	207	1.9 (3.58)	207
	Manufacturer	32 categories	414	10 categories	273	22 categories	243
	Material	3 categories	283	5 categories	94	13 categories	81
	Size	62 categories	441	15 categories	316	607.5 (1068.00)	316
	Type	41 categories	326	39 categories	162	30 categories	162
	Unit Price. mean (s.d.)	2.30 (8.63)		1.87 (6.26)		1.87 (6.26)	
	# Purchasing PBs	372		319		319	
	# Observations	807		609		610	
TOTAL	# Observations	49,461		36,950		37,039	