

Top-down vs bottom-up approaches to remote business training: Populated Pre-analysis Plan

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This document follows the guidance of Duflo et al. (2020), who recommend that the final research paper be written and judged as a distinct object from the "results of the PAP", with researchers then producing a short, publicly available report (the "populated PAP") that populates the pre-analysis plan (PAP) to the extent possible and briefly discusses any barriers to doing so.¹ We also indicate where each specified outcome appears in our research paper, and the reasons for any deviations.

1 Introduction

1.1 Background

We partnered with the Mexican NGO Crea Comunidades de Emprendedores Sociales, which has been providing programs in Mexico since 2008 for women entrepreneurs in economically marginalized areas. As Covid-19 shut down in-person classes and began offering an online class titled *Fortalece tu negocio* (Strengthen your business). The goal of the class is to teach owners resilience, costing, prices, marketing, e-commerce, and business planning.

We primarily used Facebook advertising to recruit women entrepreneurs for enroll enrollment in the class. Additional channels included the social media pages of CREA as well as SMS messages and emails sent to a sample of firms in a Mexican government database, as well as flyers in Mexico City. Recruitment was not limited to Mexico, a small selection of our sample consists of women entrepreneurs from Guatemala. Recruitment took place on a rolling basis between November 2020 and November 2021. In all, we were able to recruit businesses from all 32 states in Mexico.

¹Esther Duflo, Abhijit Banerjee, Amy Finkelstein, Lawrence F. Katz, Benjamin A. Olken, and Anja Sautmann (2020) "In Praise of Moderation: Suggestions for the Scope and Use of Pre-analysis Plans for RCTs in Economics", NBER Working paper no. 26993

Our project took place between November 2020 and July 2022, and so covers a period in which the global COVID-19 pandemic was taking place. During this time, Mexico had somewhat limited and loosely enforced shutdowns, which varied by state. By the time our training started and follow-up surveys were taking place, the initial period of most severe shocks and shutdowns had already taken place, and during our follow-up surveys we find 90 percent of firms on average to be open and making sales.

1.2 Randomization

Firms were stratified by recruitment wave, country (Mexico or Guatemala), three baseline sales groups that were approximately terciles (sales below 2,000 or missing, sales 2,000-10,000, and sales above 10,000), and three groups of the proportion of baseline business practices used by firms (less than 0.3 or missing, between 0.3 and 0.5, 0.5 or above).

1.3 Treatment

We test two approaches to delivering training content. The first was a standard “top-down” structure, where the training organization determines which topics should be taught and training is completely instructor-led. The second was a “bottom-up” approach, in which participants collectively help determine both the topics covered, and also share their own experiences along with the teaching of the instructor. A control group was offered online access to course material with no live instruction.

In practice, these two treatments ended up being much more similar to one another than ex-ante anticipated. There was large overlap between the topics and material in the two treatments, perhaps in part due to the advertising for the program emphasizing certain topics. As will be discussed further in this document, we cannot reject equality of treatment effects across these two groups. Given the similarity of topics and effect, in our paper we therefore pool the two into a single treatment group for our main analysis.

2 Primary analysis

2.1 Primary specification

Our primary specification reported in the PAP in November 2021 is a regression of the form

$$Y_{it} = \alpha + \beta_1 \text{Treat } 1_i + \beta_2 \text{Treat } 2_i + \gamma Y_{i0} + \delta_1 (Y_{i0} = \text{missing}) + \sum_s \delta_s \mathbb{1}(i \in s) + \lambda' X_{it} + \epsilon_{it} \quad (1)$$

Where *Treat 1* and *Treat 2* are indicators for being assigned to the top-down and bottom-up treatments, respectively. We control for the baseline value of the outcome variable where available (Y_{i0}) and control for whether an individual is missing their baseline outcome. We include randomization strata-fixed effects δ_s as well as a baseline set of covariates X_{it} . When the outcome is available in both the short and longer-term follow-up, we can also add a survey round dummy, pool the data, and cluster the standard errors by firm.

The main specifications in our paper report only the period-by-period impacts, and not the additional pooled average across the two survey rounds suggested as a possibility by the last sentence. It also combines the two treatments into one. These changes are motivated by both substantive and statistical considerations.

The substantive reason for not pooling multiple rounds is that the Mexican economy was recovering from the COVID-19 pandemic during the timeframe of our endline surveys in 2021-22, making the dynamics of the treatment particularly important. Moreover, the effectiveness of Zoom training classes is unknown, so that it is important to test impacts at different time horizons. The main specification above does allow for these period-by-period impacts, but the additional option of also considering a pooled impact makes less sense in a short paper version given these issues. Moreover, pooling rounds of the data enables estimation of the average impact across these rounds. Our prior was that the impacts would be similar in the two waves. In practice, as shown by Table 2 in the paper, this is not the case, and we can reject equality of impacts across rounds.

While the dynamics are more important than anticipated, the differences between the two treatments are less pronounced than we had thought. On the substantive side, as discussed above, in practice the content of the two courses overlapped considerably, which we discuss more in the paper. As a result, the two treatments are not very different from one another. Second, from a statistical perspective, as shown in Table A.2 in the paper, we can not reject equality between the impacts of the top-down and bottom-up treatment effects, and so for ease of exposition pool the two treatment effects into one in the paper.

Our populated results below also show the impacts when we separate by treatment and when we pool over time.

Since firms were recruited online, and surveying will take place online and via phone, with limited ability to track down and survey firms in-person, we anticipated survey attrition to be an issue. Past experience with surveying in Mexico has found survey attrition to be an issue even with in-person surveys. We care about attrition to the extent that it is correlated with treatment and the outcome of interest. Our main method of dealing with attrition will then be through controlling for baseline observables X_{it} selected by PDS Lasso, which provides a disciplined way of selecting variables based on their predictive power for treatment status and the outcome of interest.

The baseline variables used the LASSO selection are below.

- Number of years firm has been operating
- Firm is a family business
- Age of the business owner
- Indicator for being married or in a civil union
- Indicator for living in Mexico city or the State of Mexico
- Indicator for having university or postgraduate education
- Spouse or partner also owns a business
- Baseline household income above \$8,000 pesos or above median in Guatemala sample.
- Household owns a car
- Household owns a computer

- Number of children aged under 12 in household
- Number of adults aged over 60 in household
- Indicator for having employees
- Number of employees
- Indicator for keeping business accounts
- Number of days in last week spent working in business
- Proportion of baseline marketing practices employed
- Proportion of baseline finance practices employed
- Proportion of baseline planning practices employed
- Has taken part in business training before
- Thinks training will raise sales by more than 20%
- Knows how to sell products online
- Firm registered with Ministry of Finance and Public credit
- Business sales in past week
- Business sales in past month
- Business profits in past week
- Business profits in past month
- Business has changed or is changing products or processes in response to Covid-19
- Percentage of sales made by phone or online
- Business has received a loan in last 6 months
- Risk-seeking score
- Baseline personal initiative (subset of measures asked in Family B).
- Dummy variables for the main business sectors (to be determined based on data, likely clothing, food).

We use these controls, although only use a dummy for service sector as a business sector covariate given issues with coding up and comparing sectors.

2.2 Primary outcomes

As a summary, Table 1 maps outcomes specified in this document to their corresponding estimates in the main paper.

Table 1: Mapping PAP results to those in main paper

Dependent Variable	Location in main paper
Panel A: Primary outcomes	
Index of marketing practices	Table 2
Index of accounting practices	Table 2
Index of planning practices	Table 2
Index of business practices	Table 2
Index of personal initiative	Table 2
Index of new activities	Table C.1
Index of digitization	Table C.1
Standardized index of firm performance	Table 2
Panel B: Secondary outcomes	
Business is open	Table C.1
Any sales online	Table C.1
Percent sales online	Table C.1
In contact with other participants	Table C.1
Panel C: Alternative measures of firm performance	
Sales in past month	Table 2
Profits in past month	Table 2
Perc. change in sales	
Perc. change in profits	

2.2.1 Family A: Business Practices

Variables marked * were only asked in the long-term follow-up.

- Index of Marketing Practices: the proportion of the following 11 marketing practices currently used by the business:
 - Monitored prices of a competitor's business
 - Monitored products of a competitor's business
 - Asked customers if there are other products they would like business to sell
 - Spoke with an ex-client to find out why they had stopped purchasing
 - Asked a vendor which products sell best
 - Used a special offer to attract customers
 - Did some form of publicity
 - Compared the prices and quality offered by other vendors
 - * Performed customer segmentation to help determine marketing strategy
 - * Has a logo for their brand
 - Has a registered trademark
- Index of accounting and financial practices: the proportion of the following 11 accounting and finance practices used by the business:
 - Keeps written records. If no response to a direct question is missing, use question about how respondent keeps written records.
 - Records every purchase and sale

- Uses records to find out how much money business has
- Uses records to know if sales of a product go up or down from one month to another
- Calculates how much each of the major products or services it sells costs the business
- Knows which products/services are the most profitable
- * Pays themselves a salary as an employee of the business
- Have records showing business would have enough money to pay off a loan
- Has document detailing annual profits and loss of company
- Tracks cash income annually
- Separates household and personal finances
- Index of planning practices: the proportion of the following 5 planning and budgeting practices used by the business:
 - Has a written budget for the business
 - * Has a personal spending plan separate from business
 - * Has completed a Model Canvas/business plan
 - Has set sales goals for the next year
 - Has a budget of approximate costs will cover in next year

Overall index of business practices: the proportion of the above 22 practices measured at both endlines used.

In 6-month analyses, we also report a version of the business practices index at 6 months which includes the 5 variables measured at 6 months but not 2 months.

2.2.2 Family B: Personal Initiative

These questions were only asked in the short-term follow-up.

The personal initiative index is the average of scores out of 5 (1=strongly disagree, 5 = strongly agree) on the following statements:

- I actively attack problems
- When something goes wrong, I look for a solution immediately
- Whenever there is an opportunity to be actively involved, I take it
- I take the initiative immediately, even when others don't
- I seize opportunities quickly to achieve my goals
- I usually do more than what is asked of me
- I am particularly good at generating ideas

2.2.3 Family C: Doing something new in the business and Digitalization

- An index measure comprised of the proportion of the following 4 new activities undertaken in the business:
 - Made a major change in business since the start of 2021
 - Started selling a new product or service in 2021
 - Starting selling new product or service invented by the firm

- Started or increased use of the internet and social media
- Business digitalization: the proportion of the following 7 activities carried out by the business:
 - Has a business web page
 - Has a Facebook page specific for the business
 - Has an exclusive Whatsapp for the business
 - Takes payments by transfer
 - Has posted picture of product on social media in last month
 - Business is on digital platforms
 - Currently making sales by phone or internet. Note, this question was also asked in the short-term follow-up (bus9>0). We will look at impacts on this short-term measure alone with the short-term follow-up data.

Since the content of the training ended up not emphasizing these areas, and these measures were only asked in the 6-month follow-up, we just report them in Table C.1 in the paper as additional outcomes.

2.2.4 Family D: Firm performance

Firm performance will be measured as an index of standardized z-scores of the following variables:

- Inverse hyperbolic sine of Sales in past month. Sales will be winsorized at the 99th percentile to account for outliers that may reflect data entry errors. If there is no response for the continuous question, but there is a response for the categorical question, the median of the sales range will be used. If they are at the top of the range, we will use a value that is the minimum of the 95th percentile of sales and the range floor plus 20%. *In the endline surveys, there was no categorical question for ranges in sales in past month.*
- Inverse hyperbolic sine of profits in past month. Profits will be winsorized at the 1st and 99th percentiles to account for outliers that may reflect data entry errors. If there is no response, the median of the profits range will be used. If they are at the top of the range, we will use a value that is the minimum of the 95th percentile of profits and the range floor plus 20%.
- Inverse hyperbolic sine of earned income in past month (sum of income from other sources and from profits. Income will be winsorized at the 99th percentile, and profits at the 1st and 99th percentiles to account for outliers. If there is no response, the median of the income and profits ranges will be used. If they are at the top of the range, we will use a value that is the minimum of the 95th percentile and the range floor plus 20%.

Note: in the first short-term follow-up, the reference period was last week, rather than last month. Income from other sources not measured in short-term follow-up.

Note that the use of the inverse hyperbolic sine function is subject to continued debate about its appropriateness, due in part to its sensitivity to the units in which outcomes are measured. We will also explore, as an alternative, a version of the percent change in sales

and profits, defined as follows:

Percent change in profits = Profits in last month/(4.3*Baseline profits in last week). For firms that were closed or earning zero or negative profits at baseline, we will standardize profits by the median profits of firms in the bottom quartile of those with positive profits. We will winsorize the percentage change in profits at the 95th percentile, to reduce the influence of large percentage changes on a small base.

As noted at the time of writing, there was considerable debate in the literature about the appropriateness of inverse hyperbolic sine functions. Since then, new work by Chen and Roth (2023) has further highlighted additional issues with the interpretation of treatment effects using the I.H.S. transformation, and they recommend the use of levels where possible. We follow this recommendation in the paper, using winsorized levels of sales and profits instead of the I.H.S. transformation. Furthermore, since we do not measure earnings from other paid work in the 2-month follow-up survey, and over 90% of women are still running their firms rather than working for wages, we do not include total earned income in our main analysis, but instead just show the 6-month result in Table C.1. Since the treatment effects on levels of profits and sales are much more interpretable than impacts on an I.H.S. or standardized index outcome, we do not include the impact on the standardized index in the paper.

2.3 Secondary outcomes

We will also measure impacts on the following secondary outcomes:

- Firm survival: an indicator of whether the firm is still operating. *Reported in Table C.1*
- Formality: Registered with the Federal Taxpayers Registry (RFC) or in progress registering *Reported in Table C.1*
- Networking: Has been in contact with other training participants in past three months *Reported in Table C.1*
- Knowledge (measured in short-term follow-up only) *Reported in Table 2 as a mechanism*
 - Knows how to sell products online
 - Knows how to put business print advertising on Facebook page
 - Knows to price according to both cost and demand
 - Knows if quality is higher, you can charge higher price
 - Knows to register brand with IMPI
 - Knows to do market analysis
 - Can calculate business income
 - Can calculate fixed costs
 - Can calculate variable costs
 - Can calculate business profit
 - Knows about depreciation

3 Discussion of results

Appendix A presents treatment effects for all outcomes listed above using the specification outlined in this document. Table A.1 shows results at 2 months, Table A.2 shows results at 6 months, and Table A.3 shows results for a pooled and 6 months. In each table, Panel A reports primary outcomes, panel B reports secondary outcomes, and panel C reports alternative measures of firm performance.

As discussed above, the standardized impact of firm performance does not appear in the main paper. Rather, we report effects on levels of sales and profits, reported in Panel C of Tables A.1, A.2, and A.3.

Appendix B reports results using the same outcomes defined in this document, but using the specification used in the main paper (Table 2 in the main paper).

Appendix

A Analyses using PAP specification and PAP outcomes

Table A.1: PAP Primary outcomes using PAP specification at 2 months

Dependent Variable	N (1)	Control Mean (2)	ITT			P-value TD = BU (6)
			Combined Treatment (3)	Top Down (4)	Bottom Up (5)	
Panel A: Primary outcomes						
Index of marketing practices	1,592	0.487	0.016 [0.015]	0.004 [0.017]	0.030 [0.016]*	0.088
Index of accounting practices	1,592	0.541	0.069 [0.016]***	0.067 [0.018]***	0.072 [0.018]***	0.755
Index of planning practices	1,592	0.417	0.118 [0.020]***	0.114 [0.023]***	0.122 [0.023]***	0.694
Index of business practices	1,592	0.502	0.055 [0.014]***	0.049 [0.016]***	0.061 [0.015]***	0.389
Index of personal initiative	1,592	4.36	0.037 [0.035]	0.068 [0.038]*	0.004 [0.042]	0.087
Index of new activities						
Index of digitization						
Standardized index of firm performance	1,591	-0.019	0.028 [0.053]	-0.011 [0.061]	0.071 [0.061]	0.170
Panel B: Secondary outcomes						
Business is open	1,592	0.900	0.019 [0.016]	0.001 [0.019]	0.040 [0.018]**	0.020
Any sales online	1,592	0.640	0.020 [0.024]	0.019 [0.027]	0.020 [0.028]	0.988
Percent sales online	1,592	39.4	2.07 [1.93]	2.01 [2.19]	2.13 [2.23]	0.957
In contact with other participants	1,592	0.059	0.147 [0.017]***	0.140 [0.021]***	0.154 [0.021]***	0.560
Panel C: Alternative measures of firm performance						
Sales in past month	1,591	17,023	4,144 [1,539]***	3,346 [1,759]*	5,008 [1,894]***	0.398
Profits in past month	1,591	6,309	726 [552]	288 [621]	1,204 [662]*	0.160
Perc. change in sales	1,591	3.85	0.675 [0.277]**	0.507 [0.316]	0.858 [0.330]***	0.290
Perc. change in profits	1,591	5.81	0.591 [0.524]	0.087 [0.582]	1.14 [0.621]*	0.076

Notes: Regressions control for randomization strata, baseline value of outcome where available, and additional controls selected by pdlasso. Robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels respectively.

Table A.2: PAP Primary outcomes using PAP specification at 6 months

Dependent Variable	N (1)	Control Mean (2)	ITT			P-value TD = BU (6)
			Combined Treatment (3)	Top Down (4)	Bottom Up (5)	
Panel A: Primary outcomes						
Index of marketing practices	1,613	0.503	-0.006 [0.015]	-0.006 [0.017]	-0.005 [0.017]	0.944
Index of accounting practices	1,613	0.590	0.020 [0.017]	0.020 [0.019]	0.019 [0.020]	0.965
Index of planning practices	1,613	0.518	0.007 [0.021]	0.009 [0.024]	0.004 [0.024]	0.846
Index of business practices	1,613	0.545	0.007 [0.015]	0.007 [0.017]	0.007 [0.017]	0.988
Index of new activities	1,587	0.598	0.004 [0.017]	0.009 [0.020]	-0.003 [0.020]	0.540
Index of digitization	1,613	0.548	0.000 [0.013]	0.008 [0.015]	-0.008 [0.016]	0.305
IHS sales in past month	1,607	8.38	-0.368 [0.183]**	-0.287 [0.206]	-0.456 [0.217]**	0.428
IHS profits in past month	1,607	6.99	-0.152 [0.211]	-0.091 [0.236]	-0.220 [0.247]	0.585
IHS total earnings in past month	1,427	8.15	0.014 [0.178]	0.037 [0.196]	-0.012 [0.208]	0.795
Standardized index of firm performance	1,607	0.046	-0.060 [0.053]	-0.039 [0.059]	-0.082 [0.063]	0.474
Panel B: Secondary outcomes						
Business is open	1,613	0.904	-0.019 [0.017]	-0.018 [0.019]	-0.021 [0.020]	0.871
Any sales online	1,613	0.664	-0.009 [0.024]	0.008 [0.028]	-0.028 [0.029]	0.194
Percent sales online	1,066	54.7	4.01 [2.27]*	3.06 [2.58]	5.17 [2.61]**	0.398
In contact with other participants	1,613	0.051	0.046 [0.014]***	0.029 [0.016]*	0.065 [0.018]***	0.063
Index of business practices (6m included)	1,613	0.522	0.016 [0.014]	0.018 [0.016]	0.013 [0.017]	0.717
Panel C: Alternative measures of firm performance						
Sales in past month	1,607	15,365	-1,203 [1,330]	-539 [1,517]	-1,936 [1,522]	0.344
Profits in past month	1,607	4,896	-441 [366]	-554 [406]	-316 [440]	0.575
Perc. change in sales	1,607	2.70	-0.121 [0.186]	-0.031 [0.212]	-0.222 [0.209]	0.339
Perc. change in profits	1,607	4.07	-0.251 [0.321]	-0.464 [0.363]	-0.017 [0.372]	0.209

Notes: Regressions control for randomization strata, baseline value of outcome where available, and additional controls selected by pdslasso. Robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels respectively.

Table A.3: PAP Primary outcomes using PAP specification pooling 2 and 6 months

Dependent Variable	N (1)	Control Mean (2)	ITT			P-value TD = BU (6)
			Combined Treatment (3)	Top Down (4)	Bottom Up (5)	
Panel A: Primary outcomes						
Index of marketing practices	3,205	0.495	0.005 [0.011]	-0.001 [0.013]	0.012 [0.013]	0.264
Index of accounting practices	3,205	0.566	0.044 [0.013]***	0.042 [0.015]***	0.045 [0.015]***	0.871
Index of planning practices	3,205	0.469	0.062 [0.016]***	0.060 [0.018]***	0.063 [0.018]***	0.874
Index of business practices	3,205	0.524	0.030 [0.011]***	0.027 [0.013]**	0.033 [0.013]***	0.603
Index of personal initiative	1,592	4.36	0.037 [0.033]	0.068 [0.036]*	0.004 [0.040]	0.072
Index of new activities	1,587	0.598	0.004 [0.016]	0.009 [0.019]	-0.003 [0.019]	0.520
Index of digitization	1,613	0.548	0.000 [0.013]	0.008 [0.014]	-0.008 [0.015]	0.280
Standardized index of firm performance	3,198	0.014	-0.017 [0.041]	-0.027 [0.046]	-0.007 [0.047]	0.662
Panel B: Secondary outcomes						
Business is open	3,205	0.902	-0.001 [0.013]	-0.009 [0.015]	0.009 [0.015]	0.182
Any sales online	3,205	0.652	0.005 [0.018]	0.013 [0.021]	-0.004 [0.021]	0.380
Percent sales online	2,658	45.7	2.81 [1.49]*	2.59 [1.70]	3.06 [1.75]*	0.785
In contact with other participants	3,205	0.055	0.095 [0.011]***	0.084 [0.013]***	0.108 [0.015]***	0.131
Panel C: Alternative measures of firm performance						
Sales in past month	3,198	16,172	1,442 [1,160]	1,396 [1,349]	1,492 [1,355]	0.945
Profits in past month	3,198	5,583	59.7 [354]	-170 [399]	313 [419]	0.238
Perc. change in sales	3,198	3.26	0.287 [0.185]	0.255 [0.213]	0.322 [0.215]	0.756
Perc. change in profits	3,198	4.92	0.161 [0.343]	-0.198 [0.385]	0.554 [0.403]	0.053

Notes: Regressions control for randomization strata, baseline value of outcome where available, and additional controls selected by pdlasso. Robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels respectively.

B Analyses similar to those in Main paper

Table B.1: PAP Primary outcomes using Main Paper specification

Dependent Variable	2-month Endline			6-month Endline			Diff. (7)
	N (1)	Control Mean (2)	ITT (3)	N (4)	Control Mean (5)	ITT (6)	
Panel A: Primary outcomes							
Index of marketing practices	1,592	0.487	0.016 [0.014]	1,613	0.503	-0.006 [0.014]	-0.022 [0.016]
Index of accounting practices	1,592	0.541	0.069 [0.015]***	1,613	0.590	0.019 [0.016]	-0.050 [0.017]***
Index of planning practices	1,592	0.417	0.117 [0.019]***	1,613	0.518	0.009 [0.020]	-0.109 [0.023]***
Index of business practices	1,592	0.502	0.054 [0.013]***	1,613	0.545	0.007 [0.014]	-0.047 [0.015]***
Index of personal initiative	1,592	4.36	0.027 [0.035]				
Index of new activities	1,587				0.598	0.004 [0.017]	
Index of digitization	1,613				0.548	0.000 [0.013]	
Standardized index of firm performance	1,591	-0.019	0.027 [0.050]	1,607	0.046	-0.060 [0.050]	-0.086 [0.060]
Panel B: Secondary outcomes							
Business is open	1,592	0.900	0.019 [0.015]	1,613	0.904	-0.019 [0.016]	-0.039 [0.018]**
Any sales online	1,592	0.640	0.019 [0.023]	1,613	0.664	-0.010 [0.023]	-0.029 [0.028]
Percent sales online	1,592	39.4	1.79 [1.82]	1,066	54.7	4.14 [2.10]**	2.35 [2.53]
In contact with other participants	1,592	0.059	0.147 [0.016]***	1,613	0.051	0.046 [0.013]***	-0.101 [0.019]***
Panel C: Alternative measures of firm performance							
Sales in past month	1,591	17,023	4,113 [1,461]***	1,607	15,365	-1,136 [1,263]	-5,248 [1,439]***
Profits in past month	1,591	6,309	648 [506]	1,607	4,896	-512 [348]	-1,160 [502]**
Perc. change in sales	1,591	3.85	0.689 [0.263]***	1,607	2.70	-0.100 [0.176]	-0.789 [0.250]***
Perc. change in profits	1,591	5.81	0.591 [0.498]	1,607	4.07	-0.251 [0.306]	-0.842 [0.455]*

Notes: Regressions control for randomization strata, baseline value of outcome where available, and additional controls selected by pdlasso. Robust standard errors in parentheses. *, **, and *** denote significance at the 10, 5, and 1 percent levels respectively.

References

Jiafeng Chen and Jonathan Roth. Log-like? identified ates defined with zero-valued outcomes are (arbitrarily) scale-dependent. *Working Paper*, 2023.