Supplementary Materials: Multinational enforcement of labor law: Experimental evidence on strengthening occupational safety and health (OSH) committees

Laura Boudreau*

February 1, 2024

Contents

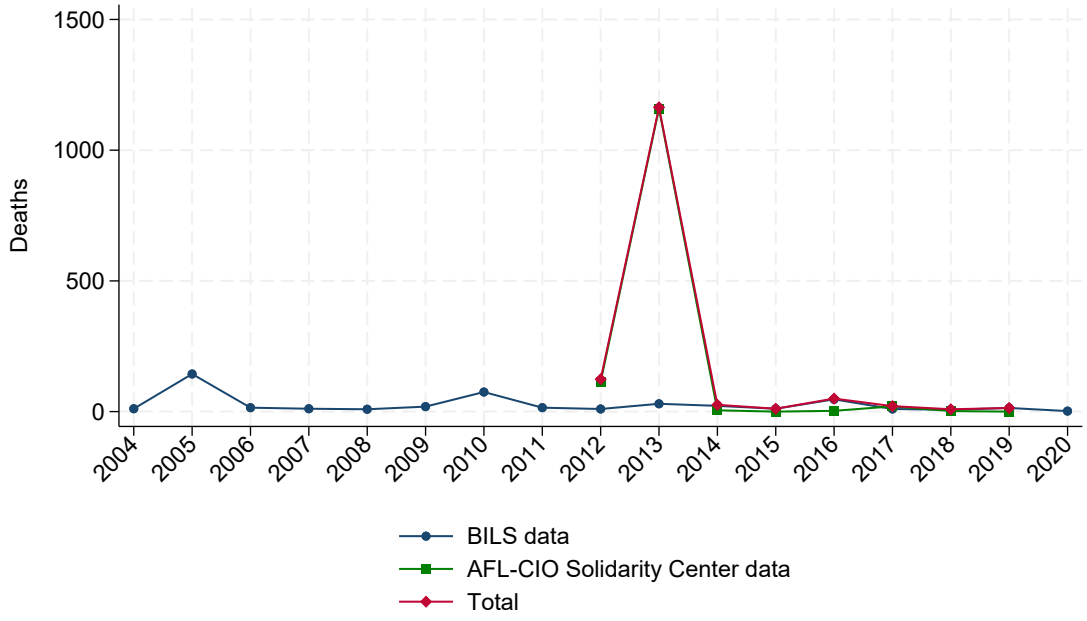
1 Fatalities & Injuries in Bangladesh's Apparel Sector

As of the time of writing, the Government of Bangladesh does not publish data on worker fatalities. Consequently, I identified two different labor organizations in Bangladesh that collect data on worker fatalities and injuries in Bangladesh's apparel sector. The Bangladesh Institute of Labor Studies (BILS) is a labor institute that aims to support trade unions and working people in Bangladesh. It has collected press clippings of reports

*Columbia University & CEPR (l.boudreau@columbia.edu).

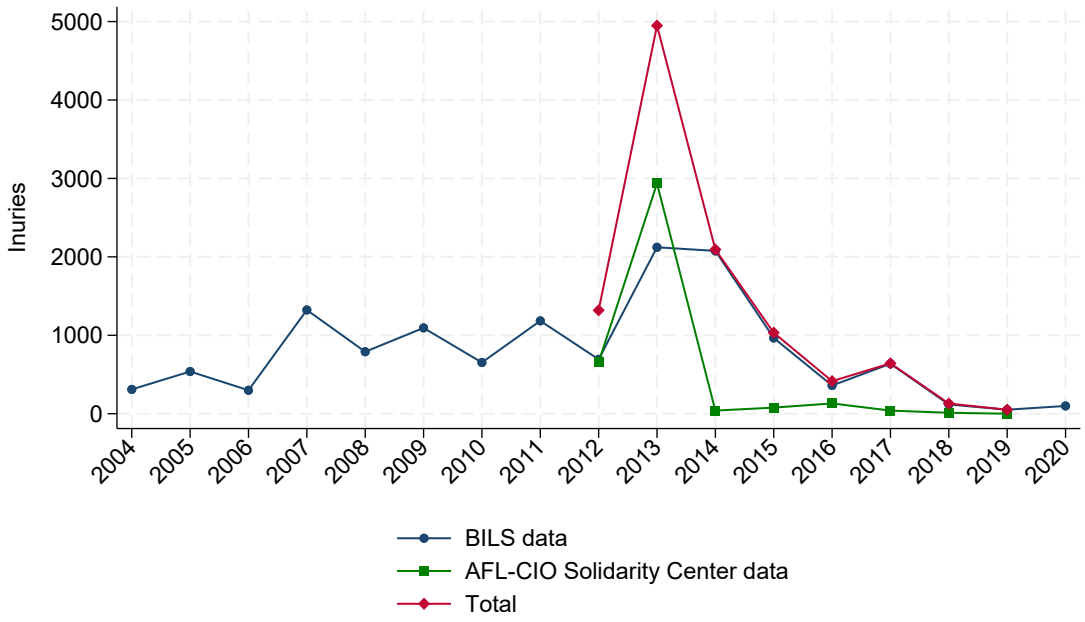
about worker fatalities in local newspapers since 2004. The AFL-CIO's Solidarity Center in Bangladesh periodically released a dataset of fire and other safety incidents in the sector between November 24, 2012 - April 14, 2019; this dataset does not list its sources. A Bangladeshi RA manually digitized the news clippings collected by the BILS, which I then converted into a quantitative dataset. I merged this dataset with the Solidarity Center's dataset to provide the most complete overview of fatalities and injuries in the sector as possible. While independent, these sources are unlikely to be comprehensive; during the period covered by both sources, 17.1% of events with fatalities and 14% of those with injuries appear in both datasets.

Figure I: Fatalities in Bangladesh's Apparel Sector, 2005-2020



Notes: The figure plots the total fatalities in Bangladesh's apparel sector between 2004-2020, based on an original dataset generated from news clippings collected from the Bangladesh Institute of Labor Studies (BILS) and from a dataset generated by the AFL-CIO's Solidarity Center in Bangladesh. The latter covers the period November 24, 2012 - April 14, 2019.

Figure II: Injuries in Bangladesh's Apparel Sector, 2005-2020



Notes: The figure plots the lower bound on the total injuries experienced by workers in Bangladesh's apparel sector between 2004-2020, based on an original dataset generated from news clippings collected from the Bangladesh Institute of Labor Studies (BILS) and from a dataset generated by the AFL-CIO's Solidarity Center in Bangladesh. The latter covers the period November 24, 2012 - April 14, 2019.

Combining these sources with press releases on accidents in the sector issued on the Alliance and Accord's websites, I find evidence of 13 fatalities in Alliance-covered factories during its tenure (July 2013-December 2018): 10 in 2013, 3 in 2014, and 0 between 2015-2018. The present study was conducted in 2017-2018.

2 Background on the Alliance

2.1 The Alliance's Membership Agreement (MA)

The Alliance's governing document is its MA, which retail and apparel firms seeking to join the Alliance were required to sign. The MA dictates the legal and financial commitments entailed in joining the Alliance. It also outlines the Alliance's envisioned safety initiatives, including worker empowerment programs, fire and building safety training for workers, supervisors, and managers, development of common building safety standards, and building safety audits and remediation. The Alliance has been criticized on the grounds that its MA is unenforceable (The Economist, 2013). According to an academic analysis of the Alliance's MA, the only legally-enforceable component of the agreement pertains to Members' financial commitments (Donaghey and Reinecke, 2018). The Alliance leadership, though, maintained that the full Membership Agreement is legally binding. I have not evaluated the legal enforceability of the MA, although I have aimed

to test adherence to certain clauses.

Sourcing Commitment: The MA states that members agree to "work with factories that ensure a safe working environment, with each Member committing not to source from any factory that the Member has deemed to be unsafe." There is a question of whether members adhere to this commitment for factories that the Alliance suspends. I aim to verify this using data on Alliance members' activations and deactivations of supplier factories, as they report them to the Fair Factories Clearinghouse (FFC), which is a software platform that standardizes compliance monitoring in global supply chains. These data were only observable to Alliance administrators. Using these data, I check whether any Alliance members reported that a suspended factory was active as of January 2017 and October 2018, respectively. I find two cases in which a buyer reports a suspended factory has an active status. It's possible that these cases arise because suppliers were completing orders placed prior to the suspension decision or because buyers were not adhering to the requirement not to source from the factory. Given 29 members and 129 and 168 respective suspensions at these dates, this appears to be a low rate of noncompliance. I can't rule out, though, that Alliance members may have misreported their suppliers to the FFC.

Information Sharing: The Agreement outlines information sharing requirements in terms of sourcing and factory safety among members and the Alliance's leadership, the FFC, and the public. According to the agreement, the Alliance committed to publicly disclose a list of all factories utilized by its members by the fifteenth day of each month. In September 2014, I started to collect the publicly-posted lists. The Alliance posted these lists, with a couple of exceptions, each month through December 2018.

Financial Commitment: The Alliance had a tiered fee structure based on the value of exports from Bangladesh in the prior year. The maximum annual contribution was US$1 million for members sourcing greater than US$250 million in exports in the prior year.

Termination of Membership: The Agreement's term was for five years, but it required a minimum two-year commitment to participate. If a member were to exit the Alliance before two years, it would be responsible to pay its full five-year financial commitment and its exit would be publicly announced. If a member were to exit the Alliance after two years, it would be responsible to pay its financial commitment through the exit date and its exit would be publicly announced. These clauses would not apply if termination is due to the member's no longer sourcing from Bangladesh.

2.2 The Alliance's Safety Programs

The Alliance was announced on July 10, 2013, and its operations launched in late 2013. According to the Alliance's Member Agreement, its building safety audit and monitoring, safety training, and worker empowerment programs were to be launched immediately, or as soon as they could be developed. In order to implement these programs, the Alliance established an office in Dhaka, Bangladesh. According to its annual reports, it initially relied on a combination of its own staff and third-party service providers to implement its programs. Over the course of its five-year term, it moved more of these activities in-house. It employed a physical safety remediation team comprised of engineers and a training and worker empowerment team comprised of trainers.

The Alliance's central program was its building safety audit and remediation pro-

gram. According to the 2015 Annual Report, the Alliance's initial focus was to develop a comprehensive list of supplier factories, to establish a strategy for building safety inspections, to employ one set of standards for building safety, and to collaborate with other stakeholders in Bangladesh (Alliance for Bangladesh Worker Safety, 2015). The Alliance reported that it completed initial building safety inspections of all factories in its supplier base by the end of 2014. Based on its actual building safety audit data, most factories were audited during 2014, although there are a small number of factories that are in the supplier base during 2014 that were audited after 2014. Once factories completed their initial audits, they developed a Corrective Action Plan (CAP) that the Alliance had to approve. Factories could then begin building safety remediation in order to complete their CAP. According to the Alliance's administrative records, the Alliance's engineers monitored factories on completion of their CAPs through verification visits.

The Alliance also implemented worker empowerment and safety training programs with its suppliers. Its first worker empowerment program is a worker safety helpline named Amader Kotha (AK). The AK Helpline was managed by a group of three external service providers. Workers could call the helpline to make reports about safety and non-safety related issues. The AK Helpline operated from 2014 through mid-2018 under the Alliance. In mid-2018, it was spun off as a separate organization managed by the three external partners, and as of 2020, it continues to operate in Bangladesh.

The Alliance's fire and building safety training program was launched in early 2014. The program entailed a train-the-trainer (TtT) approach in which factory representatives were trained by the Alliance's in-house training staff. Factories participating in the program submitted an action plan for when and how they would train all of the employees in the factory, and the Alliance monitored factories on fulfillment of these action plans through spotchecks. In addition to this training for general employees, the Alliance also launched a security guard training program in 2014. According to the Alliance's 2016 Annual Report, the security guard training program aimed "...to equip security guards with the skills to help prevent fires, to facilitate the swift and safe evacuation of workers, and to protect life rather than property...in case of an emergency."

These programs comprised the Alliance's operational activities until the OSH Committee Program's rollout. The OSH Committee Program differed from the Alliance's previous interventions because it focused on enforcing a legal requirement to implement an internal structure to address safety issues. In contrast, the physical safety remediation, anonymous worker helpline, and fire and building safety training programs all entailed externally-provided incentives and expertise.

The timing of the OSH Committee Program's rollout was influenced by the GoB's promulgation of the OSH Committee implementation rules. In July 2013, the GoB amended Bangladesh's Labor Act to mandate OSH committees; it was not until September 15, 2015, however, that it promulgated the legal rules for OSH committees' formation and implementation. During 2015, the Alliance collaborated with the International Labor Organization (ILO)'s Better Work Program to pilot OSH committees in 16 factories. Once the GoB issued the legal rules for OSH committees, development of the OSH Committee Program began in earnest. In the spring and summer of 2016, the Alliance conducted a second pilot with 39 factories. It then launched the OSH Committee Program at the beginning of 2017 in collaboration with this research.

2.3 Nature of the Research Collaboration

I initiated discussions with the Alliance in early 2015 that led to the research collaboration. At the time, the Alliance was beginning to develop its OSH Committee Program. The Alliance had received a lot of criticism on the grounds that it was not serious about improving safety or empowering workers and that the initiative was solely a marketing ploy. It's project managers, though, believed that their programs were having effects. They also indicated that the OSH Committee Program would be the most complex to implement and to measure its effects due to the multifaceted nature of OSH committees' responsibilities. I believe that these are the primary reasons why the Alliance was interested to engage in a rigorous research collaboration. Finally, it is worth noting that the OSH Committee Program was not the Alliance's largest or most publicized initiative. It's largest, most publicly-examined program was its building safety audit and remediation program. For this and other reasons, I think that it is unlikely that the research itself influenced the Alliance's allocation of effort toward the OSH Committee Program or that the Alliance opted into the research because it planned to allocate sufficient effort toward the OSH Committee Program to deliver marketable treatment effects.

3 Data Collection Protocol

The data collection protocol was designed to minimize the potential for experimenter demand effects. First, in order to reduce emphasis on OSH committees, when the Alliance invited factories to participate in the study, it framed the data collection as generally focused on its programs. The Alliance did not indicate that the research team was specifically focused on OSH committees. Likewise, the research team referred to the Alliance's "overall programs" in all communication with factories and during onsite visits. This approach carried into our data collection: In surveys, we asked questions about most Alliance programs, not only about OSH committees. In checking factories' documentation, we requested records related to other Alliance programs (e.g., safety training and worker helpline programs) and records that were not explicitly related to OSH committees (e.g., inspection and servicing records for equipment).

For surveys, we required factories to send their employee lists to the research team five business days in advance. Factories were asked to indicate workers' and managers' membership in committees including the PC, WWA, and OSH committee in the list. We randomly selected survey participants from this list. When the research team arrived at the factory, they presented management with the list of randomly selected workers and managers. These lists also included OSH committee members but did not separately identify them or mark them as OSH committee members. The research team told the management that they may speak with members of the factory's committees, including PC/WWA/trade union and the OSH committee, which was true because these representatives were eligible to participate in the surveys. To prevent against manipulation

among the group of randomly selected workers (and to account for absenteeism), the research team also had a back-up list of randomly-selected workers, which was not shared with management unless workers needed to be selected from it. The two social compliance assessors were trained to recognize if unusually high rates of absenteeism were reported among randomly-selected workers. While there were a couple of instances of non-cooperation, factories' cooperation was almost universally high.

In advance of the onsite visit, the research team instructed the factory to prepare at least two rooms to be used for surveys (training or meeting rooms). During the visit, the research team informed factory management that no factory personnel was allowed to be present during the surveys, only survey respondents were allowed in the rooms. The survey enumerators were trained to pause the survey if factory management or other personnel entered the survey room. Again, the research team encountered only a couple of instances of non-cooperation. The primary challenge with onsite surveys was that some factories only had one suitable room for surveys, which required the research team to stay onsite for longer and to reduce the physical distance between survey participants (the rooms were arranged to protect survey participants' privacy).

The research team conducted document verification and factory floor visits after lunch. We did not inform the factory in advance of the visit that there would be a production floor visit or what documents would be checked. The research team waited until after lunch to provide the list of documents and asked factory management to provide the documents directly. According to social compliance assessors, this approach helps to prevent against managers' having time to falsify records. Similarly, conducting the floor visit in the afternoon helped to prevent against manipulation: While the factory may aim to prepare the floor in the morning in response to a visit, it gets more difficult to maintain atypical practices (such as workers' wearing PPE) as the day goes on.

4 Index variables

Table I: Index of compliance with OSH Committee mandate

	Sub-Index	Variable	Variable Source 1	Variable Source 2
1	Formation	Equal worker-manager representation (or more workers than managers)	Factory Documentation	
2	Formation	Number of members is greater than or equal to mandated number of members	Factory Documentation	
3	Formation	Compliant worker representative selection process: CBA, PC, or WWA as required	OSH Committee President Survey	OSH Committee Worker Rep. Survey
4	Formation	Management does not select worker representatives on OSH committee	OSH Committee President Survey	OSH Committee Worker Rep. Survey
5	Formation	In factories with >= (1/3) female workforce, at least (1/3) worker representatives are female	Factory Documentation	
6	Formation	Factory maintains list of OSH Committee Members	Factory Documentation	
7	Formation	Correlation between OSH Committee President's reports and factory documentation	Factory Documentation	OSH Committee President Survey
8	Operations	Factory maintains description of OSH Committee Members' roles and responsibilities	Factory Documentation	
9	Operations	Factory Safety Policy includes a section on the OSH Committee's role and responsibilities	Factory Documentation	
10	Operations	OSH Committee meets at least 1 time per 3 months	Factory Documentation	
11	Operations	Frequency of meetings per 3 months	Factory Documentation	
12	Operations	Meeting minutes are available for all OSH Committee meetings in past three months	Factory Documentation	
13	Operations	Meeting attendance lists are available for all OSH Committee meetings in past three months	Factory Documentation	
14	Operations	OSH Committee members have received training in their role on the committee	OSH Committee President Survey	OSH Committee Worker Rep. Survey
15	Operations	OSH Committee members considered on duty during the time they spend on Committee meetings and Committee-related activities	OSH Committee President Survey	OSH Committee Worker Rep. Survey
16	Operations	OSH Committee uses compliant decision rule (unanimous or majority vote)	OSH Committee President Survey	OSH Committee Worker Rep. Survey
17	Operations	Count of number of questions out of prespecified questions where agreement between OSH Committee President's reports and factory documentation	Factory Documentation	OSH Committee President Survey
18	Operations	Count of number of questions out of prespecified questions where agreement between OSH Committee President's reports and OSH Committee worker member reports	OSH Committee President Survey	OSH Committee Worker Rep. Survey

19	Operations	Management interference in OSH Committee operations: Members of management provided any payments to worker representatives on the OSH Committee in return for not raising or pursuing safety issues; Members of management have interfered with or attempted to block OSH Committee efforts to improve factory safety	OSH Committee Worker Rep. Survey	
20	Responsibilities	OSH Committee has completed a risk assessment of the factory	Factory Documentation	
21	Responsibilities	OSH Committee has developed an action plan for safety improvements	Factory Documentation	
22	Responsibilities	OSH Committee makes regular safety reports/recommendations to management	OSH Committee President Survey	OSH Committee Worker Rep. Survey
23	Responsibilities	Frequency of follow-up: Regular reports and recommendations to management	OSH Committee President Survey	OSH Committee Worker Rep. Survey
24	Responsibilities	Senior management frequency of reports from OSH Committee (should be minimum 1x month or quarter)	Senior Manager Survey	
25	Responsibilities	OSH Committee organizes training and fire drills	OSH Committee President Survey	OSH Committee Worker Rep. Survey
26	Responsibilities	Number of fire drills, previous 3 months	Factory Documentation	
27	Responsibilities	Proportion of workers who report participation in safety-related training	Worker Survey	
28	Responsibilities	Proportion of workers who report participation in fire drill	Worker Survey	
29	Responsibilities	OSH Committee regularly inspects the factory's machinery and equipment and make suggestions to senior management in case of faulty operation or insufficient safety	OSH Committee President Survey	OSH Committee Worker Rep. Survey (midline, endline only)
30	Responsibilities	OSH Committee participation in the oversight and implementation of the factory's management of flammable and/or dangerous materials and goods	OSH Committee President Survey	OSH Committee Worker Rep. Survey (midline, endline only)
31	Responsibilities	OSH Committee participation in the oversight and implementation of the factory's fire prevention and preparedness activities	OSH Committee President Survey	OSH Committee Worker Rep. Survey (midline, endline only)
32	Responsibilities	OSH Committee participation in the oversight and implementation of the factory's health protection system	OSH Committee President Survey	OSH Committee Worker Rep. Survey (midline, endline only)
33	Responsibilities	OSH Committee investigates accidents and make recommendations to prevent future accidents	OSH Committee President Survey	OSH Committee Worker Rep. Survey
34	Responsibilities	In case of on-the-job worker injury or occupational disease, OSH Committee mediates between the worker and the factory	OSH Committee President Survey	OSH Committee Worker Rep. Survey

Table II: OSH Indicators Index

	Sub-Index	Variable	Variable Source
1	Floor Spotcheck	Aisles in section are clearly marked, and markings are easily visible	Floor Spotcheck (midline, endline only)
2	Floor Spotcheck	Aisles in section are clear of obstruction	Floor Spotcheck (midline, endline only)
3	Floor Spotcheck	Aisles in section are clear of sewing scraps or other materials	Floor Spotcheck (midline, endline only)
4	Floor Spotcheck	There is a physical separation between areas where materials are stored and areas where personnel are working (in this section)	Floor Spotcheck (midline, endline only)
5	Floor Spotcheck	Windows, fans, air conditioners or heaters are operational for air circulation, ventilation and provide an acceptable work floor temperature (in this section)	Floor Spotcheck (midline, endline only)
6	Floor Spotcheck	Machines are in good working order and points of operation and other potential dangerous parts are operated with proper machine guards and safety features (i.e., all reeling and dangerous parts of machines are covered) (machines in section)	Floor Spotcheck (midline, endline only)
7	Floor Spotcheck	Individual machines have an individual power shut-off switch within reach of the operator (machines in section)	Floor Spotcheck (midline, endline only)
8	Floor Spotcheck	Fire extinguisher and other fire-fighting materials are in clear view and easily accessible (in section)	Floor Spotcheck (midline, endline only)
9	Floor Spotcheck	Emergency exits are clearly marked with illuminated exit signs (in section)	Floor Spotcheck (midline, endline only)
10	Floor Spotcheck	Evacuation plan is easily visible in all production areas in section	Floor Spotcheck (midline, endline only)
11	Floor Spotcheck	At least one easily accessible first aid kit in section in section	Floor Spotcheck (midline, endline only)
12	Floor Spotcheck	Drinking water is easily accessible for all workers in section (within 100 meters for all workers in section)	Floor Spotcheck (midline, endline only)
13	Floor Spotcheck	Visual check of drinking water provided for workers appears clean (in section)	Floor Spotcheck (midline, endline only)
14	Floor Spotcheck	Sewing: Sewing machines are equipped with appropriate machine guards and workers wear appropriate PPE for their task (e.g., eye guards for button sewing, finger guards for pocket welt sewing) (in section)	Floor Spotcheck (midline, endline only)
15	Floor Spotcheck	Cutting: Cutting machines are equipped with knife guards and workes wear appropriate PPE for their task (e.g., chain mesh gloves for cutting tasks) (in section)	Floor Spotcheck (midline, endline only)

16	Floor Spotcheck	Dyeing and jobs handling chemicals: Safety masks, goggles, gloves, aprons, and boots are worn by workers handling chemicals (in section)	Floor Spotcheck (midline, endline only)
17	Floor Spotcheck	All PPE provided are of appropriate size, are functional, and appear well-maintained (in section)	Floor Spotcheck (midline, endline only)
18	Floor Spotcheck	All work stations are maintained in tidy condition, with no loose materials close to electrical appliances (in section)	Floor Spotcheck (midline, endline only)
19	CAP	Percent compliant	Alliance CAP data
20	Worker Awareness	Proportion of workers aware that factory has an OSH committee	Worker Survey
21	Worker Awareness	Proportion of workers aware of OSH committee's function and responsibilities	Worker Survey
22	Worker Awareness	Proportion of workers aware of how to contact OSH Committee member with issue	Worker Survey
23	Worker Awareness	Proportion of workers aware of OSH Committee topic-specific responsibilities	Worker Survey (midline, endline only)
24	Worker Safety Knowledge	Proportion of workers correctly answer fire question	Worker Survey
25	Worker Safety Knowledge	Proportion of workers correctly answer earthquake question	Worker Survey
26	Senior Manager Awareness	Senior management can provide at least one example of one issue identified by OSH Committee that has been resolved	Senior Manager Survey

Table III: Worker Job Satisfaction and Mental Well-being Index

	Sub-Index	Variable	Variable Source
1	Job Satisfaction	How satisfied are you with your job at your factory?	Worker Survey
2	Job Satisfaction	Have you suggested to or helped family or friends to get a job at your factory?	Worker Survey
3	Job Satisfaction	In the past three months or since you began working at this factory if less than three months ago, have you thought about leaving your job because of safety reasons?	Worker Survey
4	Mental Well-being	In general, how stressed are you about things in your life?	Worker Survey
5	Mental Well-being	How much control you feel that you have over the way your life turns out?	Worker Survey
6	Mental Well-being	How much control you feel that you have over your safety at the factory?	Worker Survey
7	Mental Well-being	How stressed are you about the risk of experiencing an accident or injury at your factory?	Worker Survey
8	Mental Well-being	How often do you feel unsafe when you are working at the factory?	Worker Survey
9	Absenteeism		Factory Questionnaire
10	Turnover		Factory Questionnaire

Table IV: Secondary Outcome Index Variables

Index	Variable	Variable Source
Perceived OSH Committee Compliance & Effectiveness Index	Proportion of workers reporting compliant worker representative selection process: CBA, PC, or WWA as required.	Worker Survey
	Proportion of workers reporting management selects worker representatives on OSH committee.	Worker Survey
	Proportion of workers reporting participation in activities organized by the OSH Committee.	Worker Survey
	Proportion of workers reporting OSH Committee provides reports of health and safety issues and/or recommendations on these issues to senior management.	Worker Survey
	Mean reported responsiveness of OSH Committee to workers' concerns.	Worker Survey
	Proportion of workers that think OSH Committee would be able to affect the factory's safety policies if learn their concerns.	Worker Survey
	Mean reported extent to which OSH Committee helps to improve safety at the factory.	Worker Survey
	Proportion of workers that report that factory management implemented one or more of the OSH Committee's recommendations.	Worker Survey
Perceived Human Resource Practices/Relations Index	If you or a worker like you told management an idea that could improve productivity at the factory, how likely do you think it is that management would implement the idea?	Worker Survey
	Can workers at your factory make anonymous reports/recommendations?	Worker Survey
	If you were to report unsafe conditions or make a safety suggestion, how likely do you think it is that management would address your concern?	Worker Survey
	To what extent does management care about workers' safety?	Worker Survey
	To what extent do workers and management discuss and make plans to improve safety together at your factory?	Worker Survey
	If you got hurt at work, would you be concerned that management may punish you because of reporting your injury to management?	Worker Survey
	If you got hurt at work, and you needed to take time off to get better, would you be able to take time off without a risk of losing your job?	Worker Survey
	If you got hurt at work, and you needed medical care because of the accident, do you think that management pay for part or all of the care?	Worker Survey
	Mean reported comfort sharing safety concern with senior managers.	Worker Survey
	Mean reported comfort sharing safety concern with direct supervisor.	Worker Survey
	I have seen supervisors verbally or physically abuse me or my coworkers.	Worker Survey

Worker Empowerment Index	How confident are you in your ability to identify unsafe conditions at your factory?	Worker Survey
	To what extent do you think that you or workers like you at your factory are capable of contributing ideas that can improve safety at the factory?	Worker Survey
	Have you reported a safety concern at your factory in the last year or since you began working at this factory if less than one year ago?	Worker Survey
	If you were to have a safety concern, would you report it?	Worker Survey
	If you were to get hurt at work, would you report the incident?	Worker Survey
	Mean reported comfort sharing safety concern with member of Safety Committee.	Worker Survey
	To what extent do you think that you or workers like you at your factory are capable of contributing ideas that can improve productivity at the factory?	Worker Survey
	Do you feel that if you wanted to change jobs, you could?	Worker Survey
	Do you have a goal for job promotion at your factory (e.g., operator level, process supervisor or production line manager)?	Worker Survey
Worker Organization Awareness Index	Familiar with the function and responsibilities: Trade union.	Worker Survey
	Familiar with the function and responsibilities: Participation Committee (non-EPZ only).	Worker Survey
	Familiar with the function and responsibilities: Workers' Welfare Association (EPZ only).	Worker Survey
	Awareness of factory's PC (non-EPZ only).	Worker Survey
	Awareness of factory's WWA (EPZ only).	Worker Survey
Supplier-buyer Relationships Index	Mean duration of relationship with Alliance-Member buyers (monthly).	Alliance administrative data
	Number of Alliance-member buyers (monthly).	Alliance administrative data
	Mean volume (in pieces) of orders per Alliance buyer.	Factory questionnaire

5 Analysis of other possible mechanisms

Managerial and OSH training: The Alliance's OSH Committee Program included two days of Alliance-provided training for two worker reps and two management reps from the OSH committee. The training included technical training on OSH and management skills training. Trained representatives were required to train other OSH committee members and to submit evidence of doing so to the Alliance. This raises the possibility that the training improves OSH committees' OSH knowledge and/or management skills, and that this drives OSH improvements. This is unlikely for two reasons. First, two days is relatively little training; when asked what challenges the OSH committee faces to carrying out its duties, treatment presidents and worker reps are actually more likely to report needing training compared to controls after participating in the Alliance's intervention (Table V cols (1) and (2)). Further, most treatment presidents and worker reps, 65% and 78%, respectively, continue to report training as a primary need. Second, treatment OSH committee worker reps were no more likely to answer two questions on safety topics covered in the Alliance training correctly compared to control worker reps (Table V cols (3)-(4)). In sum, the evidence does not favor training improving OSH knowledge and management skills as a key mechanism.

Preparation of an action plan: The Alliance's OSH Committee Program required OSH committees to prepare an action plan. This raises the possibility that preparing or following an action plan could drive the results. There is no separate variation in the action plan requirement, so I can only provide suggestive evidence on this channel. To do so, I use the Alliance's administrative records for the Program, which include the due dates and actual submission dates for factories' action plans and for all activities included in the plans (e.g., meeting and risk assessment dates). If the effects are driven by implementation of the action plan, I would expect that the treatment effects would be larger for factories that "stick to the plan" by not delaying required activities. I measure failure to stick to the plan using the share of activities that the factory completed late, including the submission of the action plan. I'm also able to measure 30 control OSH committees' eventual adherence to their action plans.[1] Most OSH committees are behind on their action plans; the median treatment committee was behind on 67% of its activities.

I construct an indicator for above median lateness on the action plan, allowing the treatment and control groups to have their own medians. I also construct a continuous version of the lateness measure. I use equation 2 to examine the effects on compliance by whether factories stick to their plans. Using either lateness measure, the estimated coefficient on the treatment variable is stable, and the interaction between the treatment and the lateness variables is close to zero (Table VI). I interpret this as suggestive evidence that the Program's effect on compliance is unlikely to be driven by strict adherence to an action plan. That said, I cannot evaluate the possibility that the preparation of an action plan per se matters.

[1] The remaining control factories did not start the program until after the Alliance's transition to Nirapon, when my data ends.

Table V: Evidence on impacts of managerial and OSH training for OSH committee members

	President: Committee needs more training	Worker reps: Committee needs more training	Fire evacuation knowledge	Earthquake evacuation knowledge
	(1)	(2)	(3)	(4)
Panel A: Main treatment effects				
Treatment	0.124	0.036	0.125	-0.149
	(0.107)	(0.082)	(0.087)	(0.083)
	[0.251]	[0.703]	[0.194]	[0.091]
Control Mean	0.561	0.750	0.659	0.854
Observations	78	79	80	80
Stratification variables	Y	Y	Y	Y
Control, baseline dep. var.	Y	Y	N	N
Panel B: Heterogeneous treatment effects by managerial practices				
Below median	0.246	0.004	0.209	-0.033
	(0.143)	(0.123)	(0.130)	(0.122)
	[0.106]	[0.979]	[0.108]	[0.791]
Above median	-0.018	0.071	0.028	-0.250
	(0.156)	(0.113)	(0.126)	(0.125)
	[0.916]	[0.544]	[0.830]	[0.033]
p-val, diff	0.214	0.687	0.325	0.227
	0.238	0.693	0.332	0.219
Observations	78	79	80	80
Control mean, below median	0.500	0.765	0.639	0.750
Control mean, above median	0.609	0.739	0.674	0.935
Stratification variables	Y	Y	Y	Y
Control, baseline dep. var.	Y	Y	N	N

Notes: This table reports OLS estimates of treatment effects on measures of OSH committee outcomes, including president and worker reps' reports of challenges related to training needs and worker reps' knowledge of OSH. Each column in the table reports the estimated coefficient from a separate regression. The dependent variable in each column is regressed on the treatment indicator and stratification variables. Columns (1)-(2) also include a control for the baseline value of the dependent variable. The outcomes in columns (3) and (4) were not collected at baseline. Robust standard errors are reported in round brackets. RI p-values based on 5000 draws are reported in square brackets. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

Table VI: Sticking to the action plan & Short-run compliance with OSH committee mandate

	OSH committee compliance index		
	(1)	(2)	(3)
Treatment=1	0.254	0.277	0.282
	(0.066)	(0.083)	(0.164)
	[0.000]	[0.003]	[0.054]
Abv. median lateness=1		0.026	
		(0.091)	
		[0.051]	
Treatment=1 × Abv. median lateness=1		-0.052	
		(0.125)	
		[0.732]	
Overall share late			0.001
			(0.001)
			[0.051]
Treatment=1 × Overall share late			-0.001
			(0.003)
			[0.776]
Control Mean	0.029	0.029	0.029
RI p-value			
Observations	69	69	69
Stratification variables	Y	Y	Y
Control, baseline dep. var.	Y	Y	Y

Notes: This table reports OLS estimates of heterogeneous treatment effects on the OSH committee compliance index by whether a factory was behind on implementation of its action plan. The number of observations is 69 because the Alliance's administrative data included 39 treatment and 30 control factories. Each column reports the estimated ITT effect from a separate regression. Robust standard errors are reported in round brackets. RI p-values based on 5000 draws are reported in square brackets. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

6 Robustness checks

6.1 Baseline balance tests, including four factories that attrited

Table VII: Baseline balance tests, including four factories that attrited

	(1)	(2)	(3)	(4)	(5)	(6)
	Control mean	Control SD	T-C diff	p-value	RI p	Number of factories
Panel A: Primary outcome variables						
OSH Committee Compliance	0.000	(0.261)	-0.068	0.500	0.521	84
Safety Indicators	0.000	(0.397)	-0.083	0.467	0.460	84
Job Satisfaction & Mental Well-being	-0.005	(0.369)	-0.113	0.264	0.250	84
Number of employees†	1192	(1206)	-155	0.595	0.617	80
Gross wages (log)†	15.820	(1.044)	-0.190	0.451	0.463	72
Labor productivity (log)†,‡	0.788	(0.918)	0.195	0.378	0.394	77
Labor productivity (log)†,‡, product FE	0.043	(0.473)	-0.109	0.269	0.331	77
Panel B: Factory characteristics						
Trade union at factory	0.047	(0.213)	-0.045	0.164	0.505	84
EPZ(1=Yes)	0.163	(0.374)	0.036	0.672	0.779	84
Sewing (only)	0.465	(0.505)	-0.129	0.242	0.281	84
Number product types	1.442	(0.983)	-0.221	0.165	0.197	84
Monthly absenteeism	4.859	(4.582)	-0.680	0.437	0.446	80
Monthly turnover	3.920	(4.894)	0.009	0.993	0.993	84
Prop. employees visit medical clinic (daily)†	0.011	(0.014)	0.004	0.569	0.661	53
Prop. employees injured (monthly)†	0.003	(0.005)	-0.000	0.798	0.813	66
Prop. employees injured-major (monthly)†	0.000	(0.001)	0.000	0.944	0.947	66
Prop. employees injured-minor (monthly)†	0.002	(0.004)	-0.000	0.850	0.863	66
Participation in Alliance training	0.070	(0.258)	-0.021	0.670	1.000	84
Number Alliance remediation visits	0.186	(0.450)	-0.014	0.882	1.000	84
Panel C: Worker survey respondent characteristics						
Age	27.179	(3.606)	0.188	0.813	0.807	84
Proportion female	0.568	(0.279)	-0.111*	0.082	0.084	84
Education (yrs)	6.222	(1.585)	-0.428	0.243	0.232	84
Tenure (yrs)	3.842	(2.414)	-0.170	0.728	0.732	84
Prior industry experience (yrs)	1.537	(0.866)	0.039	0.866	0.860	84

Notes: This table reports OLS estimates of baseline differences between control and treatment groups, including the 4 factories that attrited (when data is available). For each outcome or covariate, I report the baseline control group mean and SD in columns (1) and (2). In column (3), I report the estimated coefficient for the treatment indicator from a regression of the outcome or covariate on the treatment indicator and stratification variables. In columns (4), I report the p-value for the treatment indicator calculated using robust standard errors. In column (5), I report the RI p-value for the treatment indicator based on 5000 draws. In column (6), I report the number of factories included the regression. † The regression sample includes all observations in the five pre-treatment months for these variables. Standard errors are clustered by factory for these variables. ‡ The regression sample is trimmed at the 99th percentile of all factory-month labor productivity observations. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

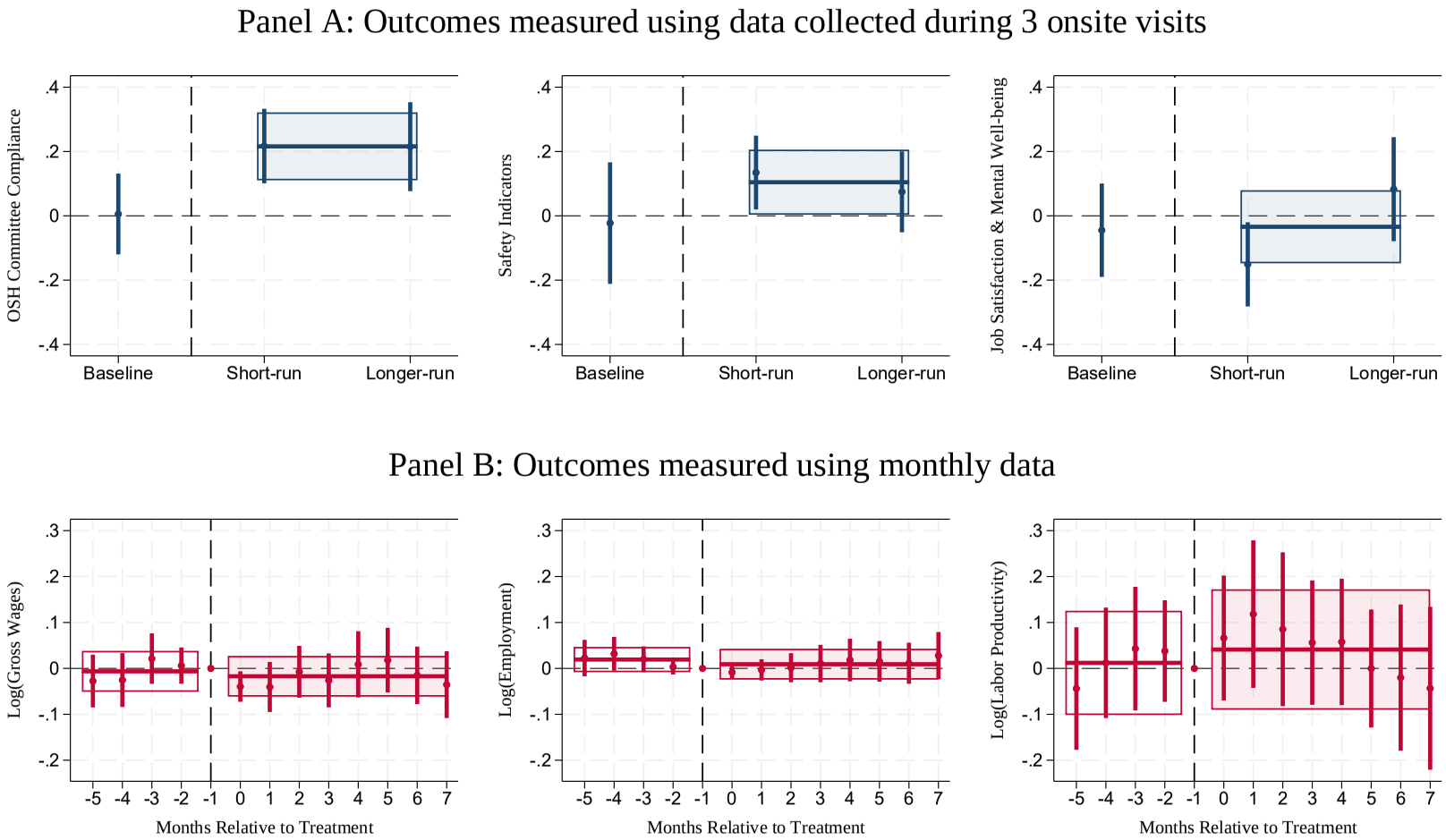
6.2 Main results after dropping the outlier on the worker job satisfaction and well-being index

Table VIII: Baseline balance tests, dropping outlier on worker outcome

	(1)	(2)	(3)	(4)	(5)	(6)
	Control mean	Control SD	T-C diff	p-value	RI p	Number of factories
OSH Committee Compliance	-0.011	(0.261)	0.006	0.942	0.944	79
Safety Indicators	0.006	(0.406)	-0.023	0.844	0.837	79
Job Satisfaction & Mental Well-being	0.001	(0.375)	-0.045	0.612	0.606	79
Labor productivity (log)†,‡	0.788	(0.918)	0.220	0.322	0.335	76
Labor productivity (log)†,‡, product FE	0.040	(0.473)	-0.104	0.302	0.361	76
Gross wages (log)†	15.820	(1.044)	-0.255	0.299	0.312	71
Number of employees†	1192	(1206)	-240	0.389	0.436	79

Notes: This table reports OLS estimates of baseline differences between control and treatment groups after dropping the outlier on worker outcomes. For each outcome, I report the baseline control group mean in column (1). In column (2), I report the estimated coefficient for the treatment indicator from a regression of the outcome on the treatment indicator and stratification variables. In column (3), I report the RI p-value for the coefficient reported in column (2) based on 5000 draws. In column (4), I report the sample size for the regression. † The regression sample includes all observations in the five pre-treatment months for these variables. Standard errors are clustered by factory for these variables. ‡ The regression sample is trimmed at the 99th percentile of all factory-month labor productivity observations. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Figure III: Treatment effects on primary outcomes, dropping outlier on worker outcome



Notes: In Panel A, each figure reports coefficients from separate regressions of the outcome variable on the treatment indicator and strata fixed effects in each round of data collection. In the aggregate specifications, with coefficients represented by the horizontal lines and their 90% confidence intervals indicated as boxes, the short- and long-run rounds of data collection are pooled. For comparison across the rounds of data collection, the baseline sample excludes attrited factories. 90% confidence intervals (CIs) calculated using robust standard errors are reported. In Panel B, each figure reports coefficients from an event study in which the omitted term is the interaction of the treatment with the month that the Alliance's intervention started. 90% confidence intervals (CIs) calculated using cluster robust standard errors are reported. In the aggregate specifications, the pre-treatment months and post-treatment months, respectively, are pooled. For labor productivity, the regression sample is trimmed at the 99th percentile of all factory-month observations. In all figures, the vertical black line distinguishes measurements that are not (left of line) and that are (right of line) subject to treatment effects.

Table IX: Short-run treatment effects: Primary outcome index variables, dropping outlier on worker outcome

	(1)	(2)	(3)	(4)	(5)	(6)
	OSH committee compliance index		Safety indicators index		Job satisfaction and mental well-being index	
Treatment	0.214***	0.214***	0.139**	0.154**	-0.147*	-0.130*
	(0.060)	(0.057)	(0.067)	(0.063)	(0.079)	(0.071)
	{0.007}	{0.001}	{0.118}	{0.039}	{0.128}	{0.097}
	[0.001]	[0.001]	[0.051]	[0.026]	[0.073]	[0.091]
Control Mean	0.029	0.029	0.108	0.108	-0.013	-0.013
Observations	79	79	79	79	79	79
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	N	Y	N	Y	N
PDS Lasso Controls	N	Y	N	Y	N	Y

Notes: This table reports OLS estimates of treatment effects on primary outcome index variables. Outcome variables are listed at the top of each column. In all cases, higher values of the index correspond to positive outcomes. Each column reports the estimated ITT effect from a separate regression. Robust standard errors are reported in round brackets. p-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI p-values based on 5000 draws are reported in square brackets. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

Table X: Short-run treatment effects: Business competitiveness outcomes, dropping outlier on worker outcome

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A	Log(Labor Productivity)					
Treatment	0.101	0.073	0.114*	0.039	0.041	0.060
	(0.064)	(0.046)	(0.068)	(0.038)	(0.034)	(0.043)
				{0.295}		{0.153}
	[0.099]	[0.243]	[0.088]	[0.373]	[0.350]	[0.188]
Control Mean	0.767	0.767	0.767	0.749	0.749	0.749
Factories	76	76	76	75	75	75
Observations	373	373	373	375	375	375
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	Y	N	Y	Y	N
Product FE	N	Y	N	N	Y	N
PDS Lasso Selected Controls	N	N	Y	N	N	Y
Dropping outlier	N	N	N	Y	Y	Y
Panel B	Log(Gross wages)		Log(Employment)			
Treatment	-0.015	-0.013	-0.009	-0.006		
	(0.030)	(0.028)	(0.021)	(0.021)		
	{0.521}	{0.343}	{0.521}	{0.343}		
	[0.638]	[0.686]	[0.710]	[0.796]		
Control Mean	15.865	15.865	6.665	6.665		
Factories	71	71	79	79		
Observations	355	355	395	395		
Stratification variables	Y	Y	Y	Y		
Control, baseline dep. var.	Y	N	Y	N		
PDS Lasso Selected Controls	N	Y	N	Y		

Notes: This table reports OLS estimates of treatment effects on labor productivity, employment, and gross wages after dropping the after dropping the outlier on worker outcomes. Outcome variables are listed at the top of each column. Each column reports the estimated ITT effect from a separate regression. Panel A reports results for labor productivity. In columns (1)-(3), the sample is trimmed at the 1st and 99th percentile of all factory-month labor productivity observations. In columns (4)-(6), a factory in the control group that partially shut down during the study is dropped. Labor productivity is measured as the log of the physical quantity of output per person-hour. Person-hours are calculated as number of workers times the average weekly working hours times 4 weeks per month plus the number of management-level employees times average weekly working hours for managers times 4 weeks per month. In Panel B, each regression includes five post-treatment observations per factory, where each observation is one month. The regression sample changes across columns due to differential data availability. Standard errors clustered at the factory level are reported in round brackets. p-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI p-values based on 5000 draws are reported in square brackets. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

Table XI: Longer-run treatment effects: Primary outcome index variables, dropping outlier on worker outcome

	OSH committee compliance index		Safety indicators index		Job satisfaction and mental well-being index	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.213**	0.215***	0.077	0.074	0.104	0.074
	(0.082)	(0.080)	(0.075)	(0.073)	(0.090)	(0.078)
	{0.071}	{0.044}	{0.630}	{1.000}	{0.630}	{1.000}
	[0.011]	[0.011]	[0.318]	[0.329]	[0.265]	[0.400]
Control Mean						
Observations	79	79	79	79	79	79
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	N	Y	N	Y	N
PDS Lasso Controls	N	Y	N	Y	N	Y

Notes: This table reports OLS estimates of the longer-run effects on primary outcomes, which are measured 3-4 months after the end of intensive enforcement by the MNCs. Outcome variables are listed at the top of each column. In all cases, higher values of the index correspond to positive outcomes. Each column reports the estimated ITT effect from a separate regression. Robust standard errors are reported in round brackets. *p*-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI *p*-values based on 5000 draws are reported in square brackets. *p<0.1; **p<0.05; ***p<0.01.

Table XII: Longer-run treatment effects: Business competitiveness outcomes, dropping outlier on worker outcome

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A	Log(Labor Productivity)					
Treatment	-0.039	-0.026	-0.014	-0.044	-0.030	-0.020
	(0.041)	(0.038)	(0.042)	(0.040)	(0.036)	(0.040)
				{0.630}		{1.000}
	[0.442]	[0.605]	[0.796]	[0.348]	[0.525]	[0.662]
Control Mean	0.846	0.846	0.846	0.813	0.813	0.813
Factories	74	74	74	75	75	75
Observations	213	213	213	225	225	225
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	Y	N	Y	Y	N
Product FE	N	Y	N	N	Y	N
PDS Lasso Selected Controls	N	N	Y	N	N	Y
Dropping outlier	N	N	N	Y	Y	Y
Panel B	Log(Gross wages)		Log(Employment)			
Treatment	-0.011	-0.019	0.006	0.009		
	(0.031)	(0.032)	(0.029)	(0.028)		
	{0.864}	{1.000}	{0.864}	{1.000}		
	[0.740]	[0.768]	[0.857]	[0.782]		
Control Mean	15.866	15.866	6.670	6.670		
Factories	71	71	79	79		
Observations	213	213	237	237		
Stratification variables	Y	Y	Y	Y		
Control, baseline dep. var.	Y	N	Y	N		
PDS Lasso Selected Controls	N	Y	N	Y		

Notes: This table reports OLS estimates of the persistence of treatment effects on labor productivity, employment, and gross wages measured 3-4 months after the end of the intensive enforcement period, after dropping the after dropping the outlier on worker outcomes. Each column reports the estimated ITT effect from a separate regression. Panel A reports results for labor productivity. In columns (1)-(3), the sample is trimmed at the 1st and 99th percentile of all factory-month labor productivity observations. In columns (4)-(6), a factory in the control group that partially shut down during the study is dropped. Labor productivity is measured as the log of the physical quantity of output per person-hour. Person-hours are calculated as number of workers times the average weekly working hours times 4 weeks per month plus the number of management-level employees times average weekly working hours for managers times 4 weeks per month. In Panel B, each regression includes five post-treatment observations per factory, where each observation is one month. The regression sample changes across columns due to differential data availability. Standard errors clustered at the factory level are reported in round brackets. *p*-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI *p*-values based on 5000 draws are reported in square brackets. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

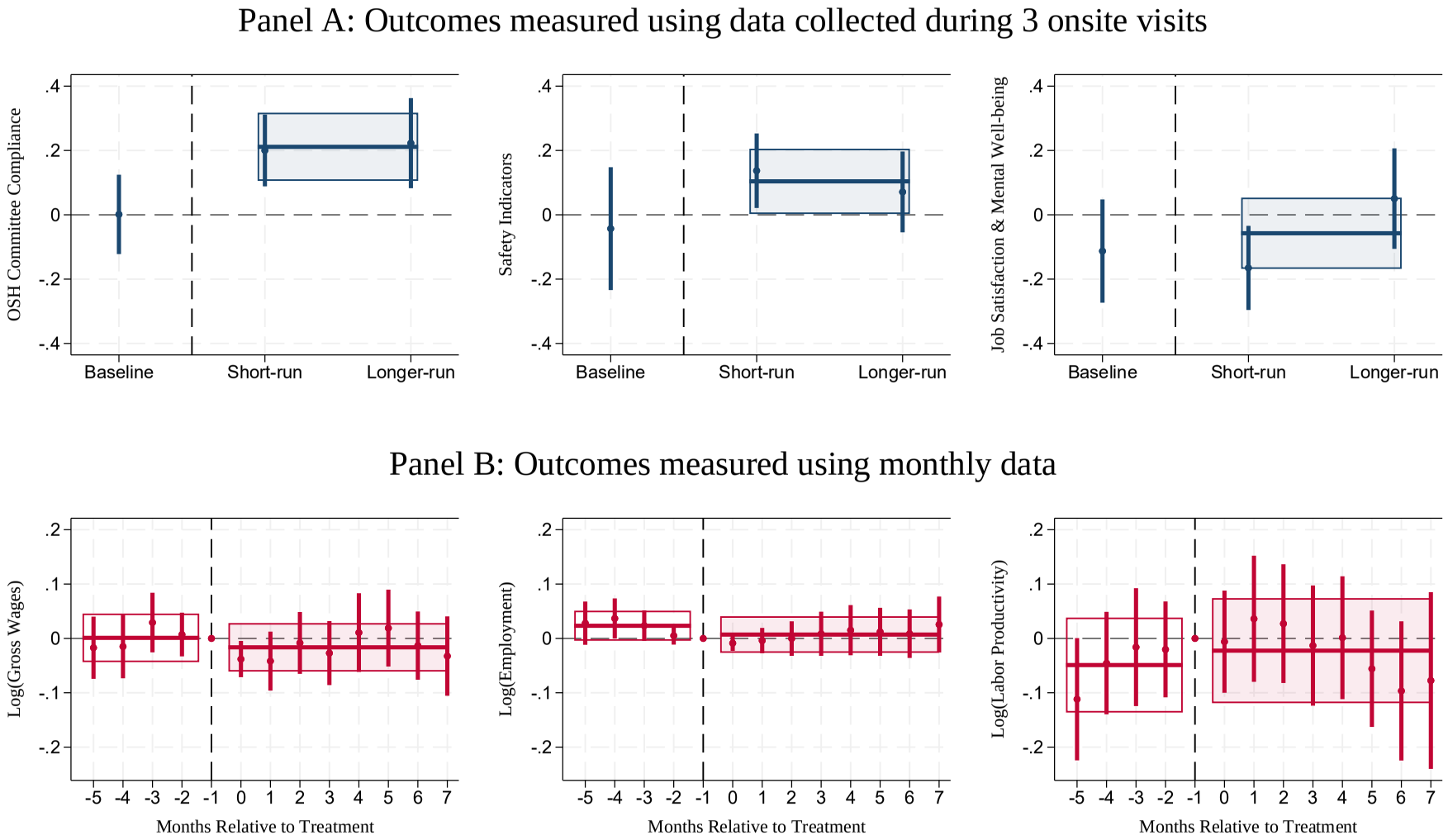
6.3 Main results after dropping the factory that partially shuts down

Table XIII: Baseline balance tests, dropping control factory that partially shuts down

	(1)	(2)	(3)	(4)	(5)	(6)
	Control mean	Control SD	T-C diff	p-value	RI p	Number of factories
OSH Committee Compliance	-0.003	(0.260)	0.001	0.988	0.988	79
Safety Indicators	0.006	(0.411)	-0.043	0.712	0.722	79
Job Satisfaction & Mental Well-being	0.024	(0.350)	-0.113	0.252	0.284	79
Labor productivity (log)†,‡	0.775	(0.900)	0.210	0.343	0.341	76
Labor productivity (log)†,‡, product FE	0.039	(0.466)	-0.098	0.325	0.381	76
Gross wages (log)†	15.892	(0.968)	-0.261	0.291	0.301	71
Number of employees†	1219	(1209)	-193	0.518	0.546	79

Notes: This table reports OLS estimates of baseline differences between control and treatment groups after dropping the factory that partially shuts down during the study. For each outcome, I report the baseline control group mean in column (1). In column (2), I report the estimated coefficient for the treatment indicator from a regression of the outcome on the treatment indicator and stratification variables. In column (3), I report the RI p-value for the coefficient reported in column (2) based on 5000 draws. In column (4), I report the sample size for the regression. † The regression sample includes all observations in the five pre-treatment months for these variables. Standard errors are clustered by factory for these variables. ‡ The regression sample is trimmed at the 99th percentile of all factory-month labor productivity observations. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

Figure IV: Treatment effects on primary outcomes, dropping control factory that partially shuts down



Notes: In Panel A, each figure reports coefficients from separate regressions of the outcome variable on the treatment indicator and strata fixed effects in each round of data collection. In the aggregate specifications, with coefficients represented by the horizontal lines and their 90% confidence intervals indicated as boxes, the short- and long-run rounds of data collection are pooled. For comparison across the rounds of data collection, the baseline sample excludes attrited factories. 90% confidence intervals (CIs) calculated using robust standard errors are reported. In Panel B, each figure reports coefficients from an event study in which the omitted term is the interaction of the treatment with the month that the Alliance's intervention started. 90% confidence intervals (CIs) calculated using cluster robust standard errors are reported. In the aggregate specifications, the pre-treatment months and post-treatment months, respectively, are pooled. For labor productivity, the regression sample is trimmed at the 99th percentile of all factory-month observations. In all figures, the vertical black line distinguishes measurements that are not (left of line) and that are (right of line) subject to treatment effects.

Table XIV: Short-run treatment effects: Primary outcome index variables, dropping factory that partially shuts down

	(1)	(2)	(3)	(4)	(5)	(6)
	OSH committee compliance index		Safety indicators index		Job satisfaction and mental well-being index	
Treatment	0.199***	0.185***	0.145**	0.161**	-0.153*	-0.147**
	(0.059)	(0.052)	(0.068)	(0.064)	(0.080)	(0.068)
	{0.007}	{0.001}	{0.102}	{0.031}	{0.108}	{0.042}
	[0.001]	[0.001]	[0.044]	[0.021]	[0.062]	[0.052]
Control Mean	0.052	0.052	0.106	0.106	-0.012	-0.012
Observations	79	79	79	79	79	79
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	N	Y	N	Y	N
PDS Lasso Controls	N	Y	N	Y	N	Y

Notes: This table reports OLS estimates of treatment effects on primary outcome index variables. Outcome variables are listed at the top of each column. In all cases, higher values of the index correspond to positive outcomes. Each column reports the estimated ITT effect from a separate regression. Robust standard errors are reported in round brackets. p-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI p-values based on 5000 draws are reported in square brackets. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

Table XV: Short-run treatment effects: Business competitiveness outcomes, dropping factory that partially shuts down

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A	Log(Labor Productivity)					
Treatment	0.044	0.050	0.050	0.040	0.043	0.058
	(0.033)	(0.031)	(0.036)	(0.037)	(0.034)	(0.041)
				{0.272}		{0.137}
	[0.246]	[0.196]	[0.197]	[0.353]	[0.309]	[0.202]
Control Mean	0.743	0.743	0.743	0.749	0.749	0.749
Factories	76	76	76	76	76	76
Observations	372	372	372	380	380	380
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	Y	N	Y	Y	N
Product FE	N	Y	N	N	Y	N
PDS Lasso Selected Controls	N	N	Y	N	N	Y
Dropping outlier	N	N	N	Y	Y	Y
Panel B	Log(Gross wages)		Log(Employment)			
Treatment	-0.023	-0.020	-0.014	-0.012		
	(0.029)	(0.028)	(0.021)	(0.020)		
	{0.334}	{0.316}	{0.334}	{0.316}		
	[0.461]	[0.527]	[0.546]	[0.615]		
Control Mean	15.943	15.943	6.721	6.721		
Factories	71	71	79	79		
Observations	355	355	395	395		
Stratification variables	Y	Y	Y	Y		
Control, baseline dep. var.	Y	N	Y	N		
PDS Lasso Selected Controls	N	Y	N	Y		

Notes: This table reports OLS estimates of treatment effects on labor productivity, employment, and gross wages after dropping the factory that partially shuts down. Outcome variables are listed at the top of each column. Each column reports the estimated ITT effect from a separate regression. Panel A reports results for labor productivity. In columns (1)-(3), the sample is trimmed at the 1st and 99th percentile of all factory-month labor productivity observations. In columns (4)-(6), a factory in the control group that partially shut down during the study is dropped. Labor productivity is measured as the log of the physical quantity of output per person-hour. Person-hours are calculated as number of workers times the average weekly working hours times 4 weeks per month plus the number of management-level employees times average weekly working hours for managers times 4 weeks per month. In Panel B, each regression includes five post-treatment observations per factory, where each observation is one month. The regression sample changes across columns due to differential data availability. Standard errors clustered at the factory level are reported in round brackets. p-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI p-values based on 5000 draws are reported in square brackets. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

Table XVI: Longer-run treatment effects: Primary outcome index variables, dropping factory that partially shuts down

	OSH committee compliance index		Safety indicators index		Job satisfaction and mental well-being index	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.222***	0.223***	0.075	0.071	0.087	0.048
	(0.083)	(0.081)	(0.075)	(0.073)	(0.089)	(0.083)
	{0.058}	{0.038}	{0.706}	{1.000}	{0.706}	{1.000}
	[0.008]	[0.011]	[0.327]	[0.357]	[0.333]	[0.591]
Control Mean						
Observations	79	79	79	79	79	79
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	N	Y	N	Y	N
PDS Lasso Controls	N	Y	N	Y	N	Y

Notes: This table reports OLS estimates of the longer-run effects on primary outcomes, which are measured 3-4 months after the end of intensive enforcement by the MNCs. Outcome variables are listed at the top of each column. In all cases, higher values of the index correspond to positive outcomes. Each column reports the estimated ITT effect from a separate regression. Robust standard errors are reported in round brackets. *p*-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI *p*-values based on 5000 draws are reported in square brackets. *p<0.1; **p<0.05; ***p<0.01.

Table XVII: Longer-run treatment effects: Business competitiveness outcomes, dropping factory that partially shuts down

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A	Log(Labor Productivity)					
Treatment	-0.037	-0.016	-0.015	-0.040	-0.022	-0.014
	(0.038)	(0.037)	(0.039)	(0.040)	(0.036)	(0.041)
				{0.706}		{1.000}
	[0.438]	[0.727]	[0.772]	[0.398]	[0.637]	[0.791]
Control Mean	0.821	0.821	0.821	0.813	0.813	0.813
Factories	75	75	75	76	76	76
Observations	214	214	214	228	228	228
Stratification variables	Y	Y	Y	Y	Y	Y
Control, baseline dep. var.	Y	Y	N	Y	Y	N
Product FE	N	Y	N	N	Y	N
PDS Lasso Selected Controls	N	N	Y	N	N	Y
Dropping outlier	N	N	N	Y	Y	Y
Panel B	Log(Gross wages)		Log(Employment)			
Treatment	-0.015	-0.015	-0.001	0.002		
	(0.031)	(0.031)	(0.029)	(0.028)		
	{0.987}	{1.000}	{0.987}	{1.000}		
	[0.663]	[0.698]	[0.971]	[0.964]		
Control Mean	15.942	15.942	6.727	6.727		
Factories	71	71	79	79		
Observations	213	213	237	237		
Stratification variables	Y	Y	Y	Y		
Control, baseline dep. var.	Y	N	Y	N		
PDS Lasso Selected Controls	N	Y	N	Y		

Notes: This table reports OLS estimates of the persistence of treatment effects on labor productivity, employment, and gross wages measured 3-4 months after dropping the factory that partially shuts down. Each column reports the estimated ITT effect from a separate regression. Panel A reports results for labor productivity. In columns (1)-(3), the sample is trimmed at the 1st and 99th percentile of all factory-month labor productivity observations. In columns (4)-(6), a factory in the control group that partially shut down during the study is dropped. Labor productivity is measured as the log of the physical quantity of output per person-hour. Person-hours are calculated as number of workers times the average weekly working hours times 4 weeks per month plus the number of management-level employees times average weekly working hours for managers times 4 weeks per month. In Panel B, each regression includes five post-treatment observations per factory, where each observation is one month. The regression sample changes across columns due to differential data availability. Standard errors clustered at the factory level are reported in round brackets. p-values adjusted to control the FDR across primary outcomes are reported in curly brackets. RI p-values based on 5000 draws are reported in square brackets. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

References

Alliance for Bangladesh Worker Safety. 2015. "Protecting and Empowering Bangladesh's Garment Workers: Second Annual Report." Dhaka, Bangladesh.

Donaghey, Jimmy, and Juliane Reinecke. 2018. "When Industrial Democracy meets Corporate Social Responsibility – A Comparison of the Bangladesh Accord and Alliance as responses to the Rana Plaza disaster." *British Journal of Industrial Relations*, 56(1): 14–42.

The Economist. 2013. "Accord, alliance, or disunity?" *The Economist*.