



# Bridging the Gender Gap in Management: Creating a win-win for workers and organisations in low-wage work

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Mahreen Khan Oxford University Martin School

Atonu Rabbani University of Dhaka Department of Economics

Chris Woodruff Oxford University Department of International Development

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# Premise and Motivation

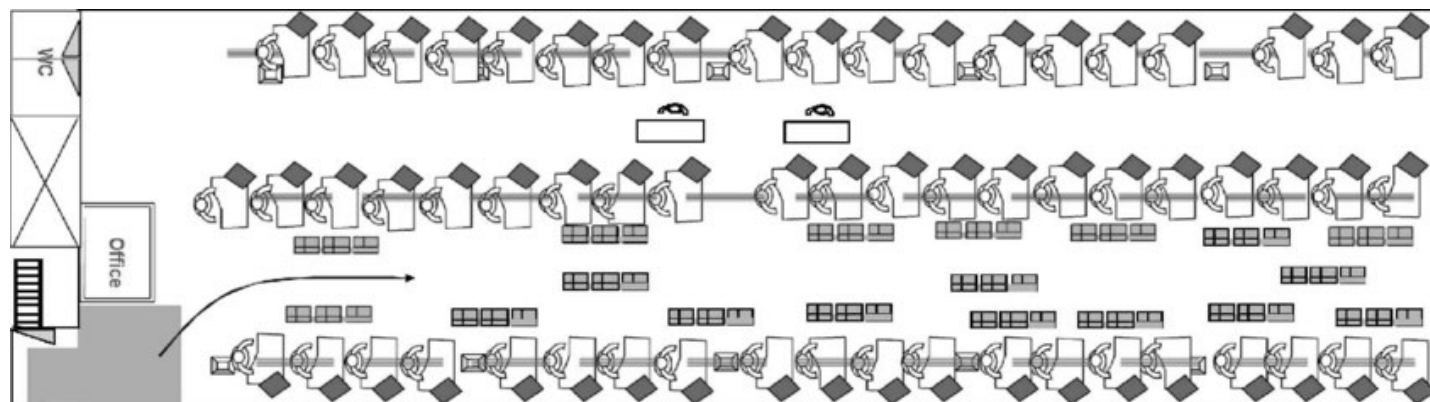
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- **Premise<sup>1</sup>:**
  - Female SVs are still vastly underrepresented in Bangladeshi RMG sector, despite playing a major role (Health and Mobarak, 2015; Boudreau et al., 2023)
  - Misperception about female's abilities has contributed to not trying women as managers, such as, line supervisors
  - Trialing can correct these beliefs, resulting in retention of the trainees and raising more women, especially from the pool of current line operators
- **This study:** we continued with similar trainings to examine the effects of promoting LOs to SVs in longer term, focusing on outcomes including overall promotion rates, management styles, working conditions, income, and line efficiency (productivity)

<sup>1</sup>Macchiavello, Menzel, Rabbani, and Woodruff. Challenges of change: An experiment promoting women to managerial roles in the Bangladeshi garment sector. [No. w27606. National Bureau of Economic Research, 2020. A significantly updated version reviewed and resubmitted.]

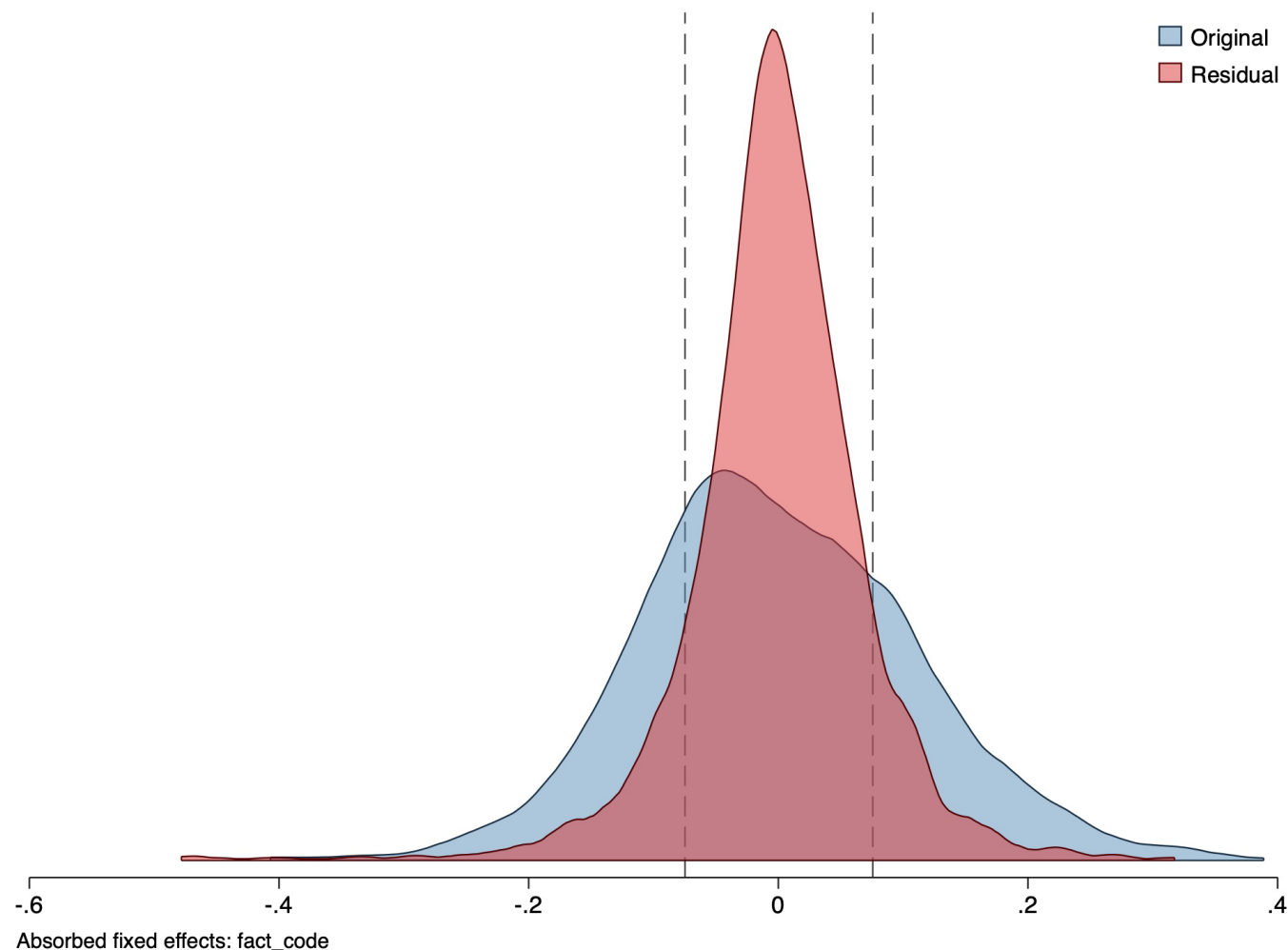
# Production process within RMG factories

- “Simple” products, t-shirt, trousers, dress shirt etc.
- Each item is a sum of simple operations
- Operators perform them on material inputs in a linear fashion (no pun intended)
- The finished products go for quality checking, finishing and packaging for shipment



# Extent of productivity differential

- Average line efficiency = 50.3%
- Without factory effects 90-10 ratio is 1.73
- With factory fixed effects 90-10 ratio is 1.35
- Suggesting an average 90th percentile line is 35% more productive than the 10th percentile line



# The program

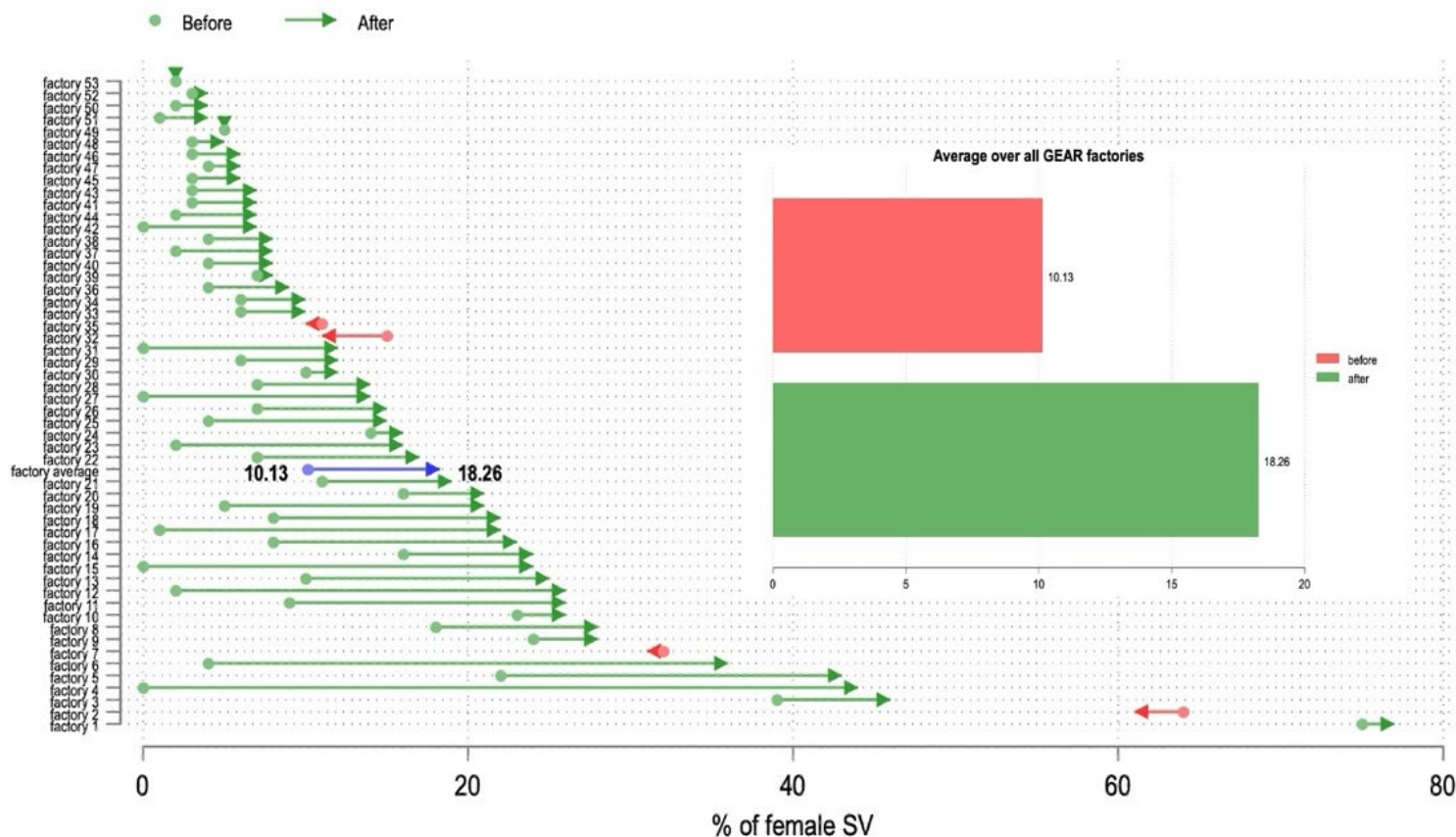
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- A program by IFC, in partnership with ILO
  - 10 days of classroom training: (1) 2 days of general managerial skills, leadership, emotional intelligence, (2) 6 days of technical skills, and (3) another 2 days on social skills specific to supervising, communication, and problem solving
  - Followed by on-the-job experience as Trainee Supervisors at the factory
- **Phase 1:** April 2019 to February 2021, 26 factories
- **Phase 2:** December 2020 to June 2022, 24 factories
- 10 nominees from each factory, final numbers varied
- 490 women starting the training programme and 441 completing it. Of them, 303 were promoted to line supervisor and 203 continued to work as a supervisor at the time of our study

# Exhibit #1: Promotion rates

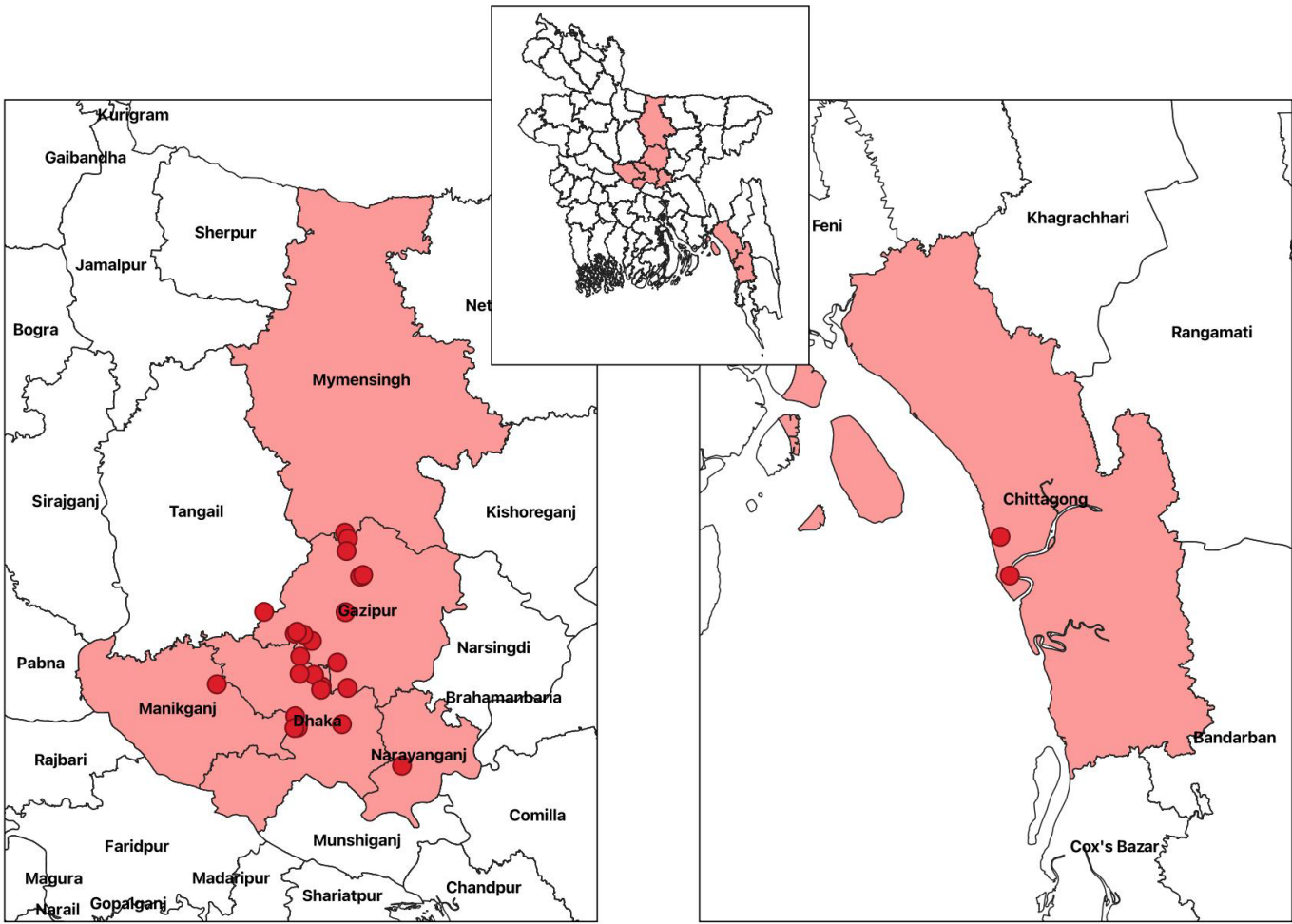
- Based on 55 sessions from 50 factories
- Administrative data
- The baseline female SVs = 10 percent [already higher than the industry average, see Machiavello et al. 2020; Menzel and Woodruff, 2021]
- Increased to about 18 percent after the program

Changes in % of female SV before and after GEAR  
As reported by factories



# Evaluation

- Initially 30 factories with two or more trainees promoted as SVs → 27 eventually participated





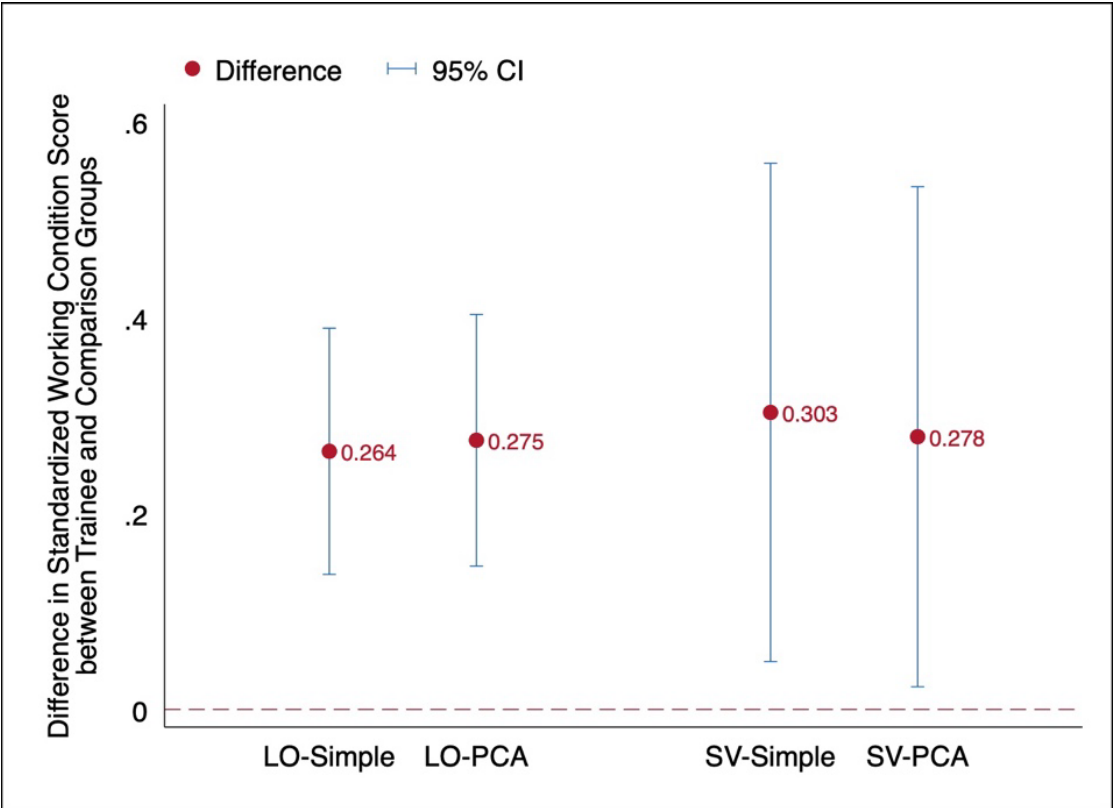
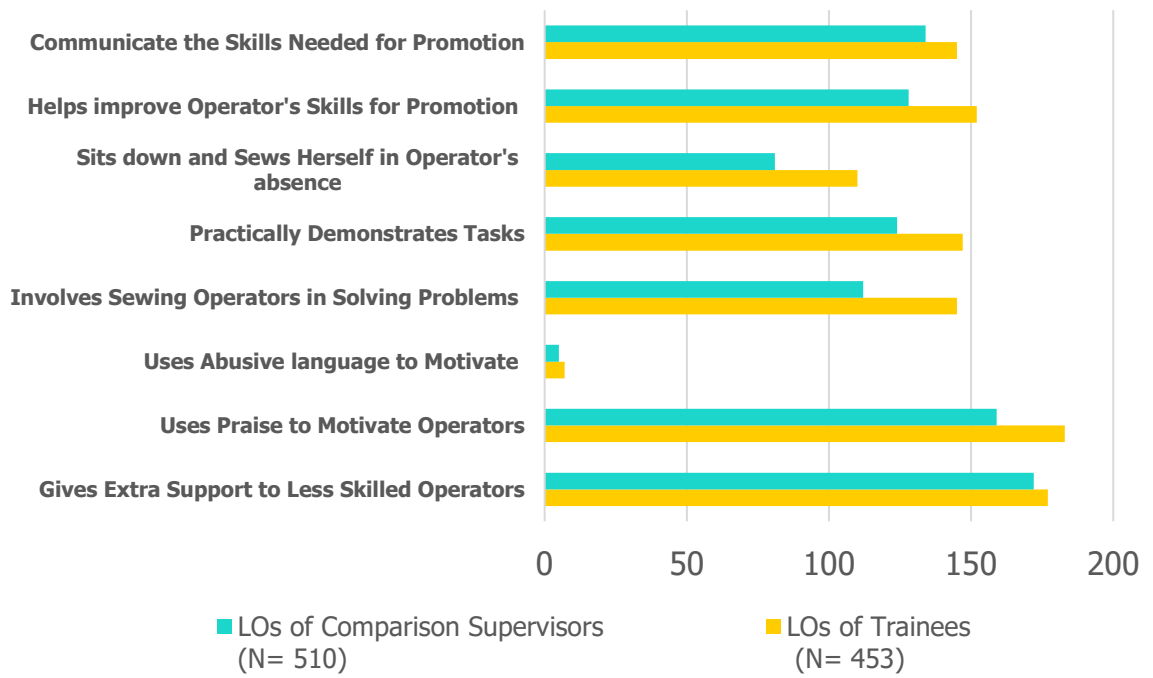
# Methods: Two-step matching

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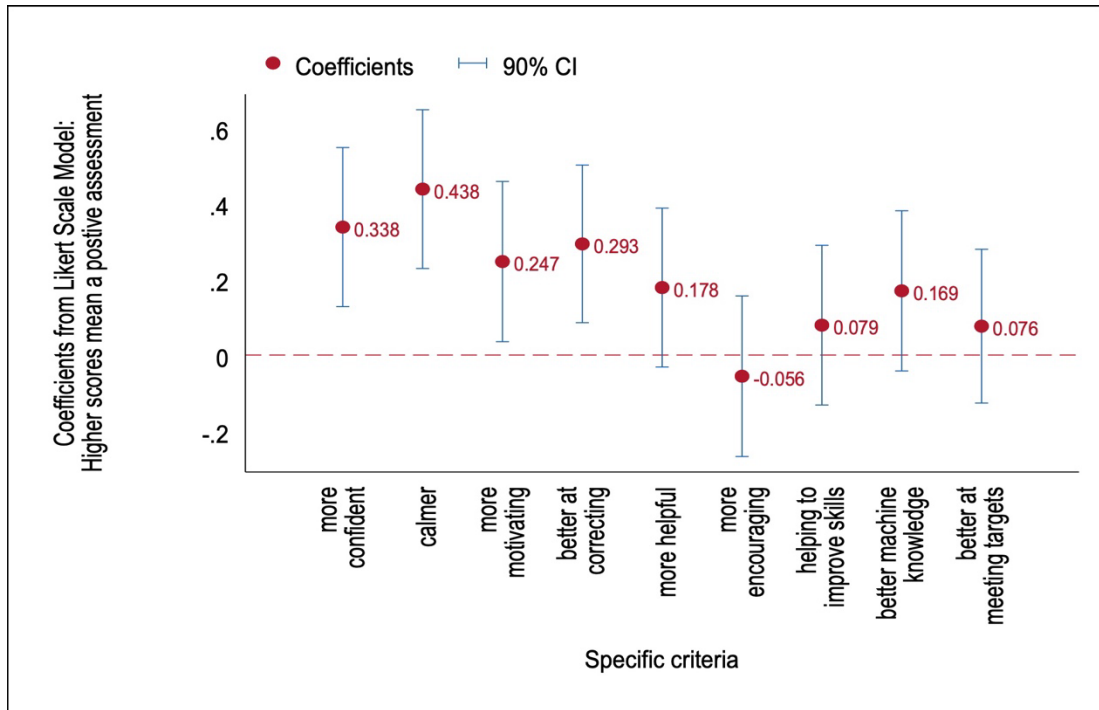
- **Step 1:** List of promoted trainees from the factories
- **Step 2:** Demographic and work experience data from factory HR
- **Step 3:** Research time analysed the data and shared again with the HR to match with current supervisors with similar duration as SVs in the current factory but from different lines
- **Step 4a:** Surveyed all the trainees and comparison trainees
- **Step 4b:** Collected lines with the trainees along with matched trainees
- **Step 5:** Further matched using different algorithms
- **Step 6:** Compared the outcomes for (a) trainees and comparisons, (b) operators from lines with promoted trainees and comparison lines, (c) daily line level efficiencies = style  $SMVs * quantity / total\ number\ of\ workers * work\ hours$



# Exhibit #2: Working conditions



# Exhibit #3: Management Practices



Variables	(1)	(2)
	Standardized values of Management Practices (Operators)	
Treatment (Trainee supervisor=1)	0.0972 (0.0782)	0.546** (0.218)
Sup Exp Mnths	0.00455*** (0.00156)	0.00568*** (0.00206)
Sup Exp Mnths*Trainee		-0.0173*** (0.00651)
Constant	-0.00610 (0.397)	-0.912 (0.684)
Controls*	X	X
Factory Fixed Effects	X	X
Observations	617	411
R-squared	0.079	0.138

Robust standard errors in parentheses

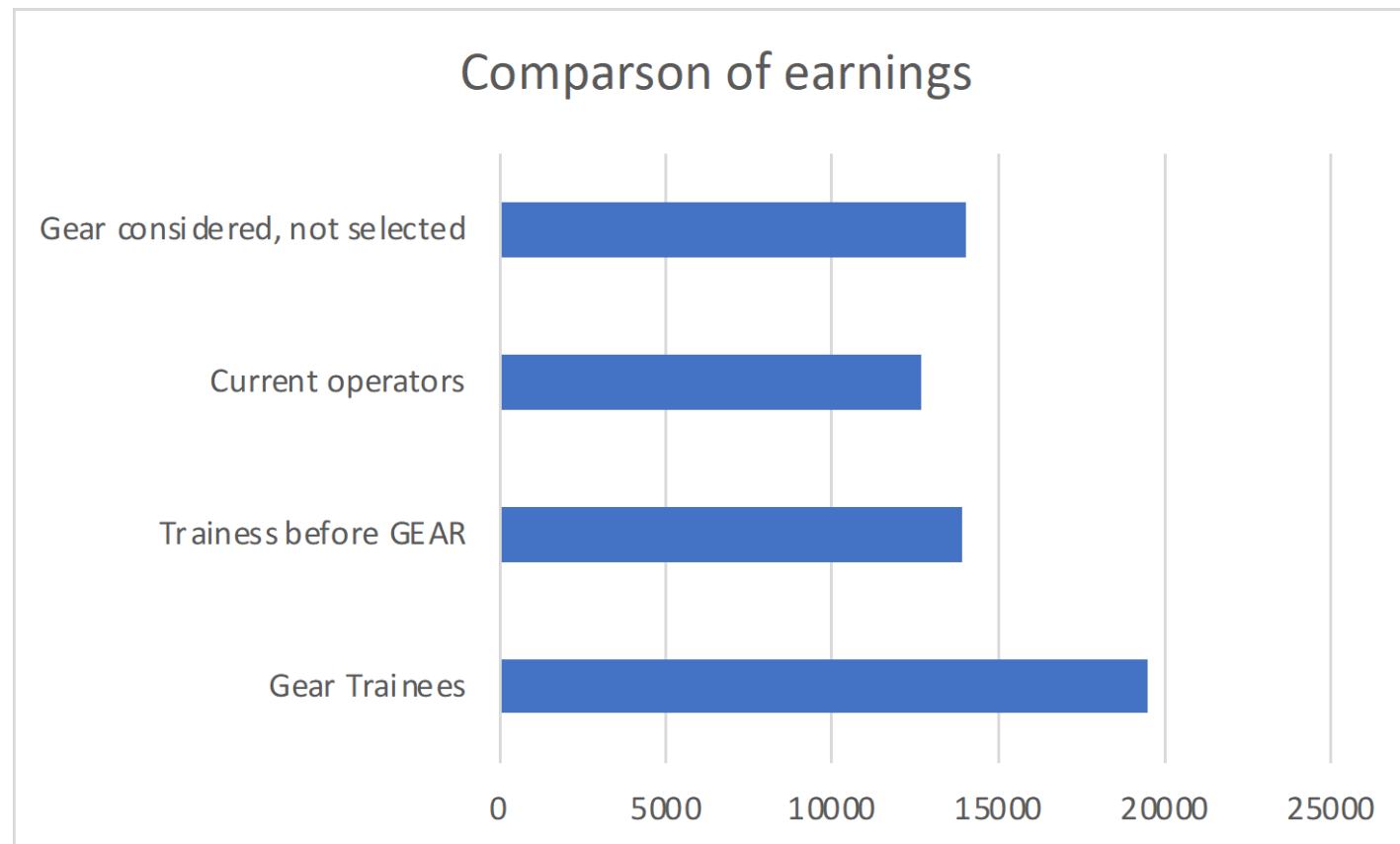
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Notes: Controls in column (1) include characteristics of operators (gender, age, marital status, having secondary level education or higher). Additional controls in column (2) include characteristics of supervisors (age, marital status, having secondary level education or higher), and interaction of the experience of supervisors with trainee status.

*“Something I like is that whenever I get stuck on a job and tell her ‘Apu [trainee], I am stuck please help me complete this’ - she comes to help or brings me threads... Even before I can reach out to her she reaches out to me. That helps us a lot. She is very responsible in this aspect and we [operators] love that.” – Line Operator*

## Exhibit #4: Earnings

- We compare earnings (incl overtime) of trainees against three counterfactuals:
  - Earnings prior to training (BW data)
  - Earnings of the line operators they supervise (survey data)
  - *Earnings of operators considered for GEAR training, but not selected* (BW / administrative data)
- For each of these three comparisons, we find earnings increased by about 40%



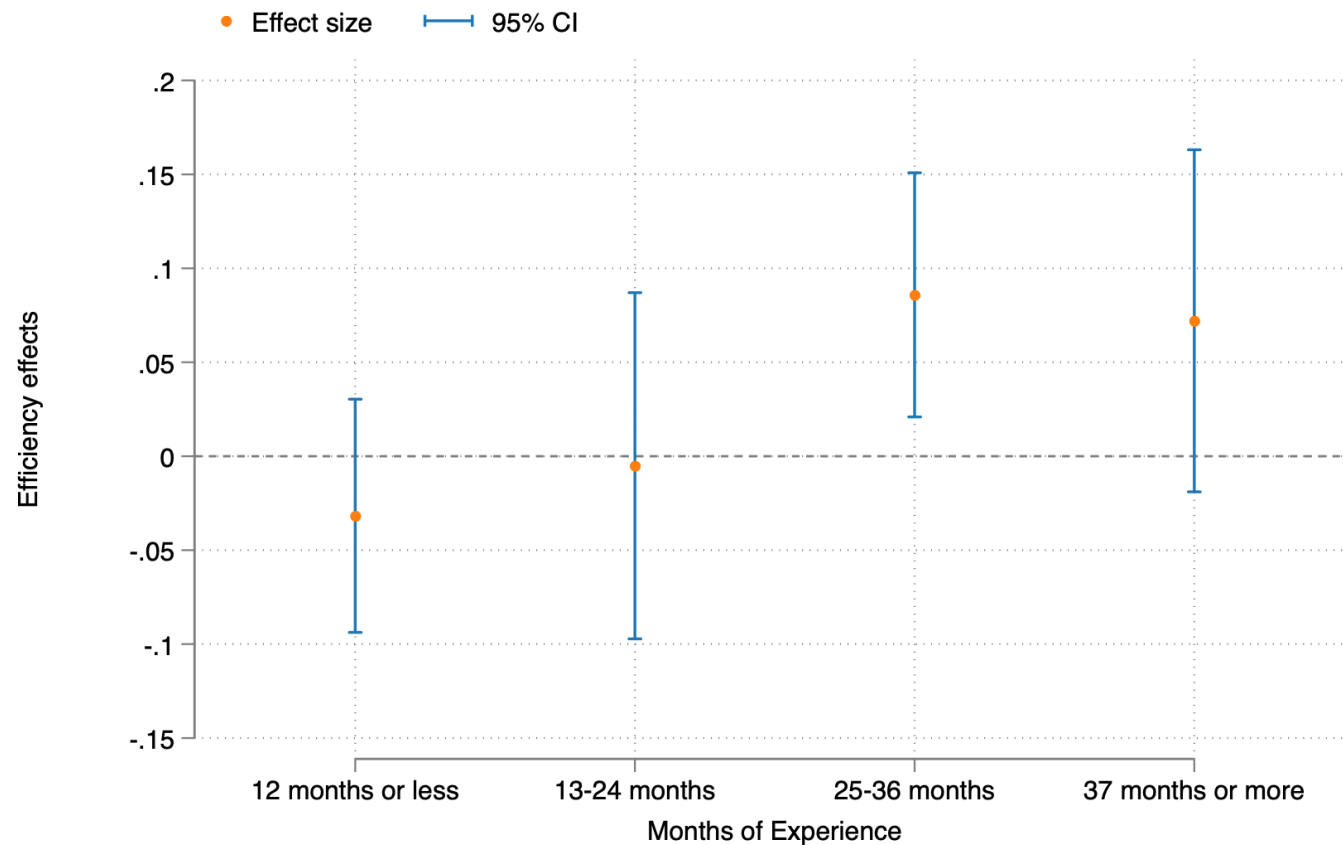


# Exhibit #5a: Efficiency

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
<b>Trainee (= 1)</b>	0.026	0.044*	0.163	-0.035	-0.013	0.043*	-0.012	-0.033
	(0.020)	(0.021)	(0.097)	(0.031)	(0.028)	(0.021)	(0.033)	(0.026)
<b>Female Comparison SVs</b>		0.089**	0.293**					
		(0.025)	(0.108)					
<b>Experience (Months)</b>				-0.004	-0.004		-0.001	-0.003
				(0.006)	(0.006)		(0.006)	(0.007)
<b>Trainee (= 1) X Experience</b>				0.003*	0.002*		0.003*	0.002*
				(0.001)	(0.001)		(0.001)	(0.001)
<b>Date FEs</b>	Date	Date	Date	Date	Date	Date	Date	Date
<b>Clustering</b>	Lines	Lines	Lines	Factory	Factory	Lines	Factory	Factory
<b>Weights</b>	Lines	Lines	Lines	Lines	Lines	Lines	Lines	Propensity Scores
<b>Standardized outcome by factory</b>	No	No	Yes	No	No	No	No	No
<b>Part-time SVs</b>	Included	Included	Included	Included	Excluded	Included	Included	Included
<b>Including only female sample</b>	No	No	No	No	No	Yes	Yes	No
<b>Number of observations</b>	8548	8548	8548	8548	6915	7657	7657	8548

## Exhibit #5b: Efficiency and SV experience

- Heterogeneity by SV experience
- The effects were primarily driven by higher experience SVs





# Implications

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- **Economics:** updating prior through experimentation is a key factor in promoting female management
- **Management:** factory management needs to give time to realize the benefits in efficiency and line-level productivity
- **Development:** structural transformation will necessitate more females in managerial positions that can further their income and welfare, contributing to gender equality