

Managerial Capital and Productivity: Evidence from Training Mid-level Managers in the Bangladeshi Garment Sector

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Motivation: Why focus on the garment sector?



- Garments are and have been a key sector in the process of industrial development in many developing countries.

Exports of clothing, selected countries
Billion of USD and world share
Source: WTO

Country	Exports: 2011 (Billions USD)	Share of world market		Share of country's exports, 2011
		2011	2000	
1 China	\$154	37.3%	18.2%	8.1%
3 Bangladesh	\$20	4.8%	2.6%	81.6%
4 India	\$14	3.5%	3.0%	4.7%
5 Turkey	\$13	3.4%	3.5%	10.3%
6 Vietnam	\$13	3.2%	0.9%	13.6%
7 Indonesia	\$8	2.0%	2.4%	4.0%
12 Pakistan	\$5	1.1%	1.1%	18.0%
14 Cambodia	\$4	1.0%	0.5%	58.3%

Motivation: Why focus on productivity?



- Productivity of the sector varies across countries. Difficult to measure (this is one thing we are doing in this project). Wages:

Wages
2001 USD PPP

Source: Center for American Progress

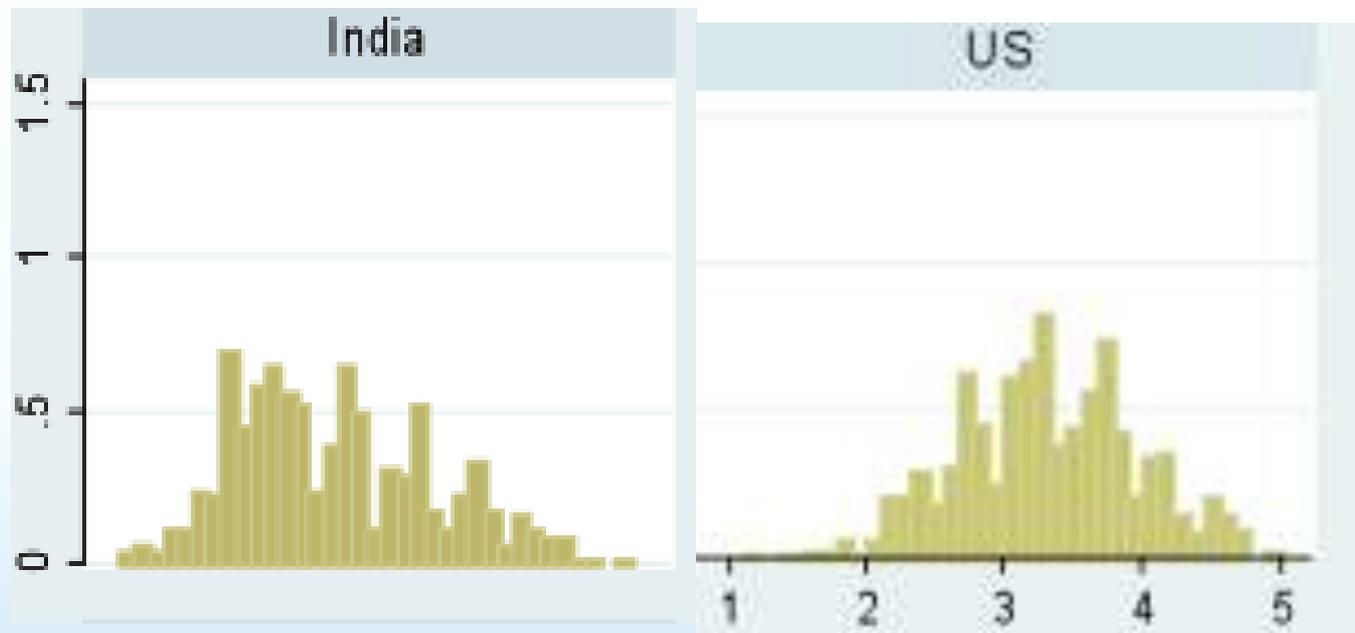
Country	2011	2001
1 China	\$324.90	\$144.86
3 Bangladesh	\$91.45	\$93.67
4 India	\$169.67	\$150.20
5 Turkey		
6 Vietnam	\$254.78	\$182.43
7 Indonesia	\$186.64	\$134.90
12 Pakistan		
14 Cambodia	\$161.89	\$126.26

Source: Center for American Progress, July 2013, *Global Wage Trends for Apparel Workers, 2001-2011*

Motivation: Why focus on management?



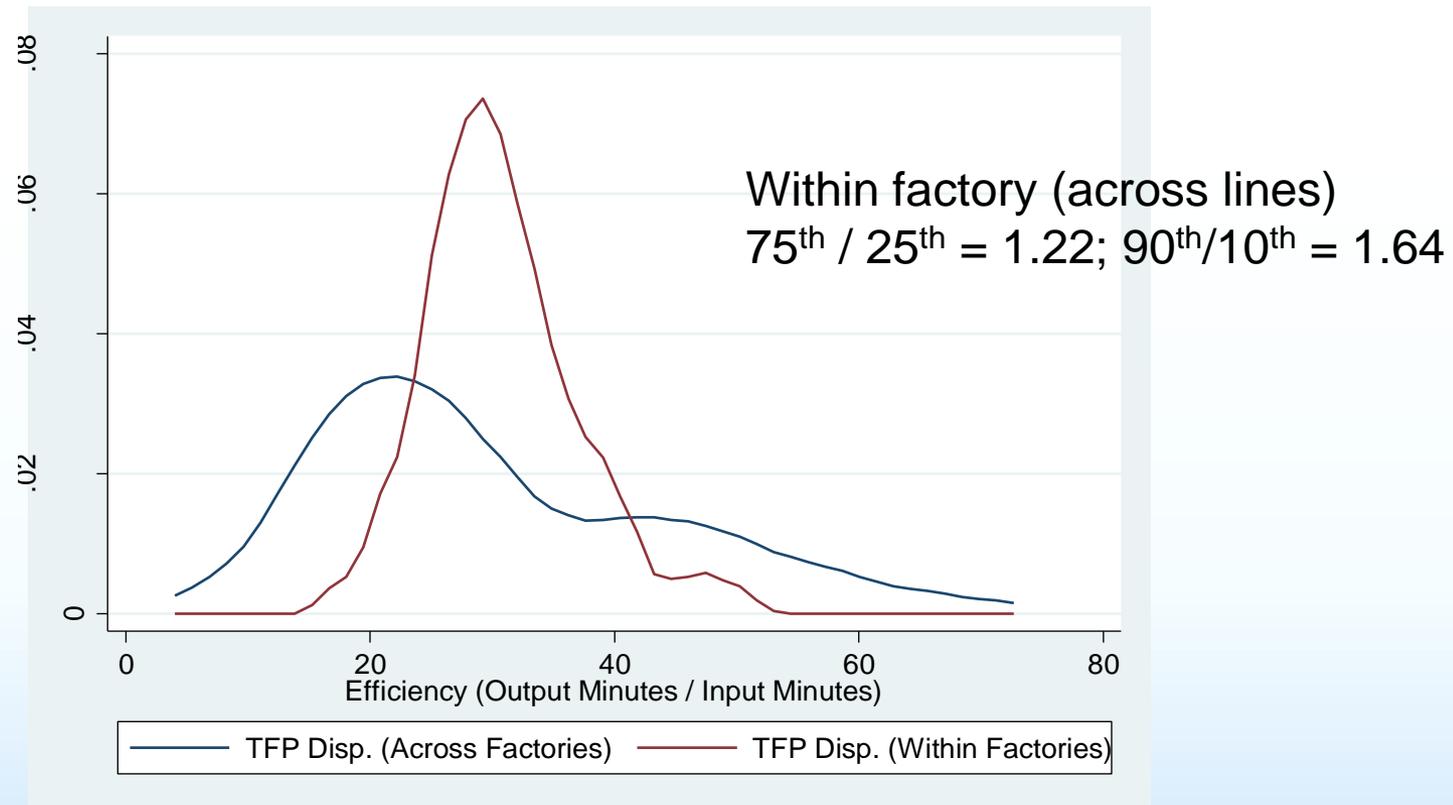
- Productivity also varies across firms within countries. One indication of this comes from measures of management practices (from Bloom and van Reenen: <http://worldmanagementsurvey.org/>)



Productivity varies even *within* factories



We are collecting very detailed, line-level daily production data.



The most (least) productive lines tend to remain the most (least) productive over time.

Productivity varies even *within* factories



- Even within factories, the lines producing for higher end buyers appear to have higher measured productivity.
- Not by a trivial amount! About 3.5 percentage points difference between lines producing for buyers in the upper half compared with those in the lower half.

Is Efficiency Related to Buyer Quality?

Outcome Variable	Efficiency	
Above median buyer quality	0.0652* (0.0265)	0.03422* (0.0187)
Dependent Variable Mean	0.43	0.43
Factory Fixed Effects	No	Yes
Factory-Month Fixed Effects	No	Yes
Line fixed Effects	No	Yes
Number of Observations	35396	35396

Motivation: Why focus on mid-level managers?



- In Bangladesh, discussions with many stakeholders pointed to the lack of training for mid-level managers: e.g., line supervisors and line chiefs.
 - From a report by McKinsey & Co (2011): “all types of stakeholders mentioned the lack of skilled middle management as a key factor limiting productivity improvement at suppliers...”
 - From a report of the Asia Foundation (2010): “Increasingly, the role of the middle manager is seen as key to improved working conditions and productivity.”
- Results of our surveys:
 - only 20% have received any formal training
 - only 5% training outside the factory

Line-level productivity

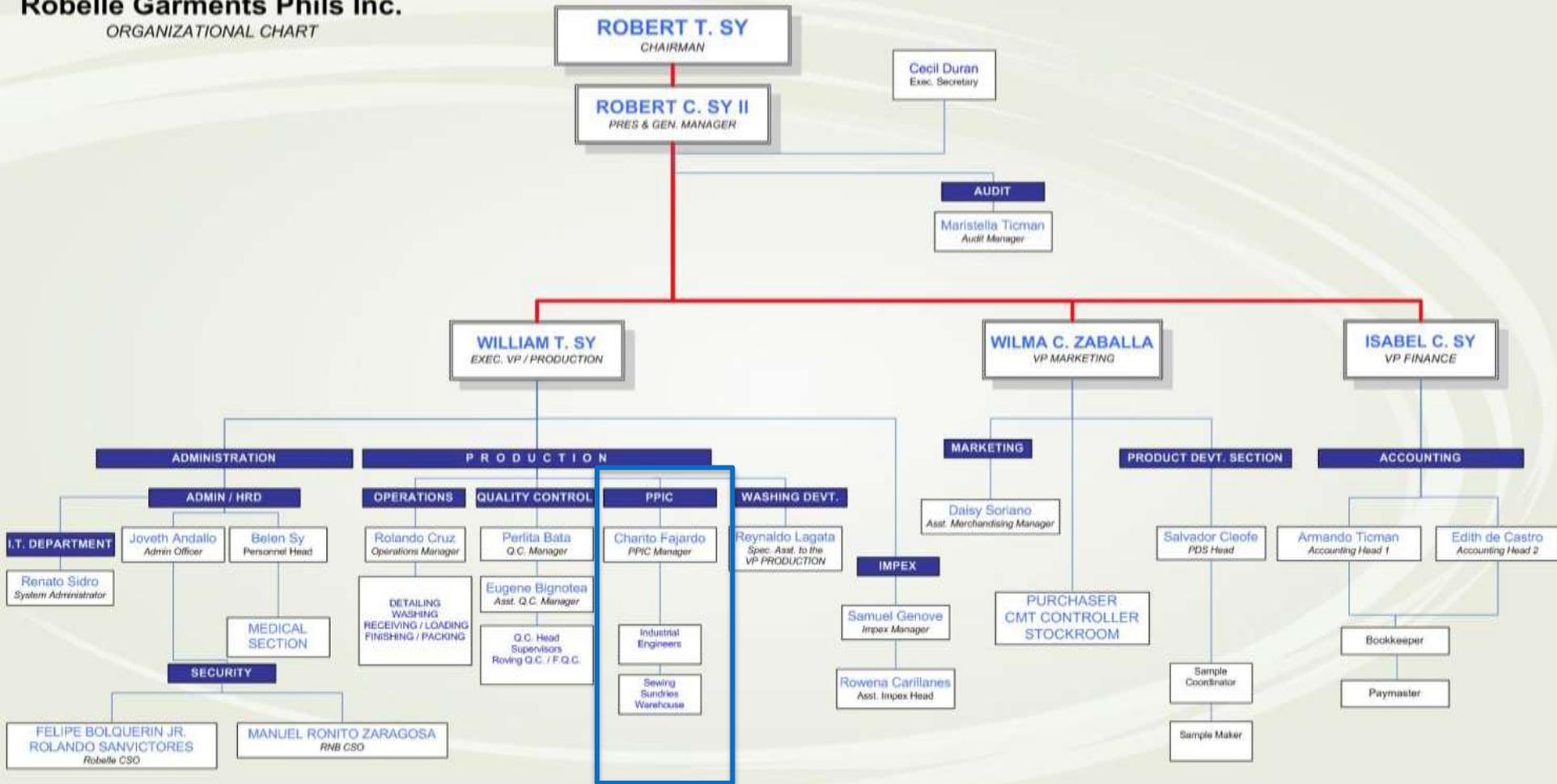


<http://static.guim.co.uk/sys-images/Environment/Pix/pictures>

We focus on the sewing section: Small piece, but large % of employees



Robelle Garments Phils Inc.
ORGANIZATIONAL CHART



Training female operators to be line supervisors

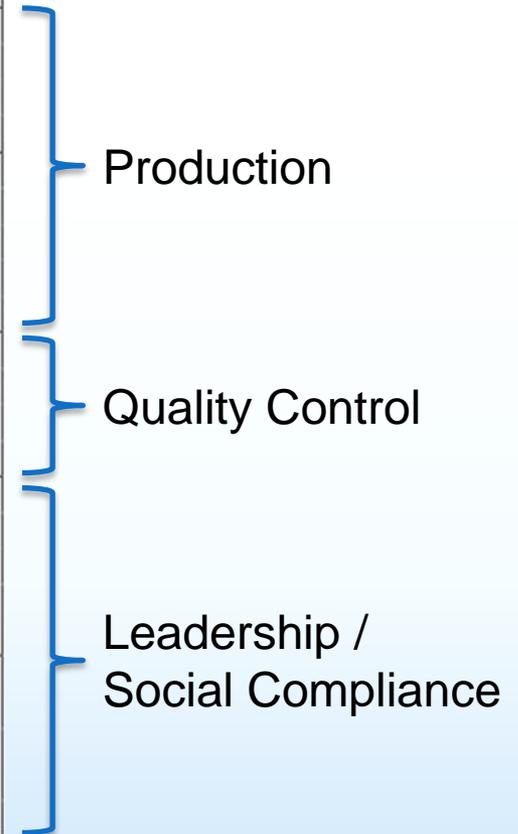


- About 80 percent of the line operators are women; only 5-10 percent of managers are women.
- Working with GIZ and now a buyer to implement a 6-week training program with the goal of enabling operators to be effective supervisors.
 - So far, 280 trainees in 60 factories. A second phase just started.
- Buyers are interested in the program from the perspective of social compliance.
 - But our view is that factories will be interested only if women prove to be more effective supervisors
 - Therefore, an extensive effort to measure both worker attitudes (with surveys) and productivity (with detailed production data).

Contents of the training



Modules	Training subjects	days
Module 1: Introduction to the training	Workshop Introduction	2
	Overview over Bangladesh RMG Industry	
	Overview Knit sector	
Module 2: Preproduction Process	Familiarize with production inputs (fabric, yarn)	4
	Sample procedure, trim card, tech pack	
	Store management, pattern and cutting process	
	Introduction to machine, needle, folder, attachment	
Module 3: Production Process	Work study	9
	Machine lay out	
	Operation break-down	
	Performance Measurement	
	Trouble Shooting	
Module 4: Quality Control	House keeping (5'S)	5
	Defects & measurements check	
	Inspection Procedure	
	Traffic light system	
Module 5: Social compliance	Code of Conduct	7
	Grievance Handling Procedure	
	Worker Welfare Committee	
	Health and Fire Safety	
	Leave & wage calculation	
Module 6: Leadership	7 habits of effective leadership	5
	Communication & decision making	
	Motivation	
	Presentation skill	
Model 7: Post training activities	Final Examination inclusive self-evaluation, Individual coaching and counseling	4
	Experience sharing events	
	Orientation program inside the factory	
Total training days		36

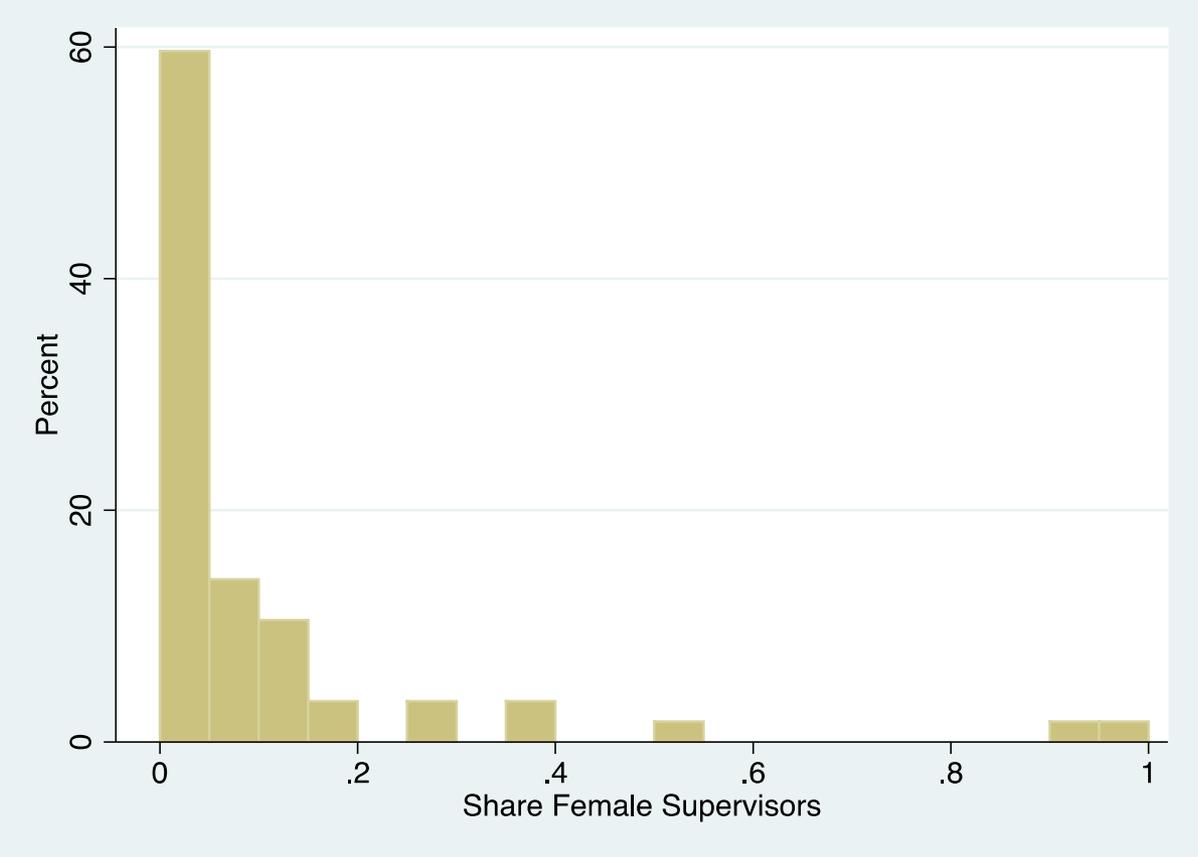


Training female operators to be line supervisors



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Baseline: % SVs Female

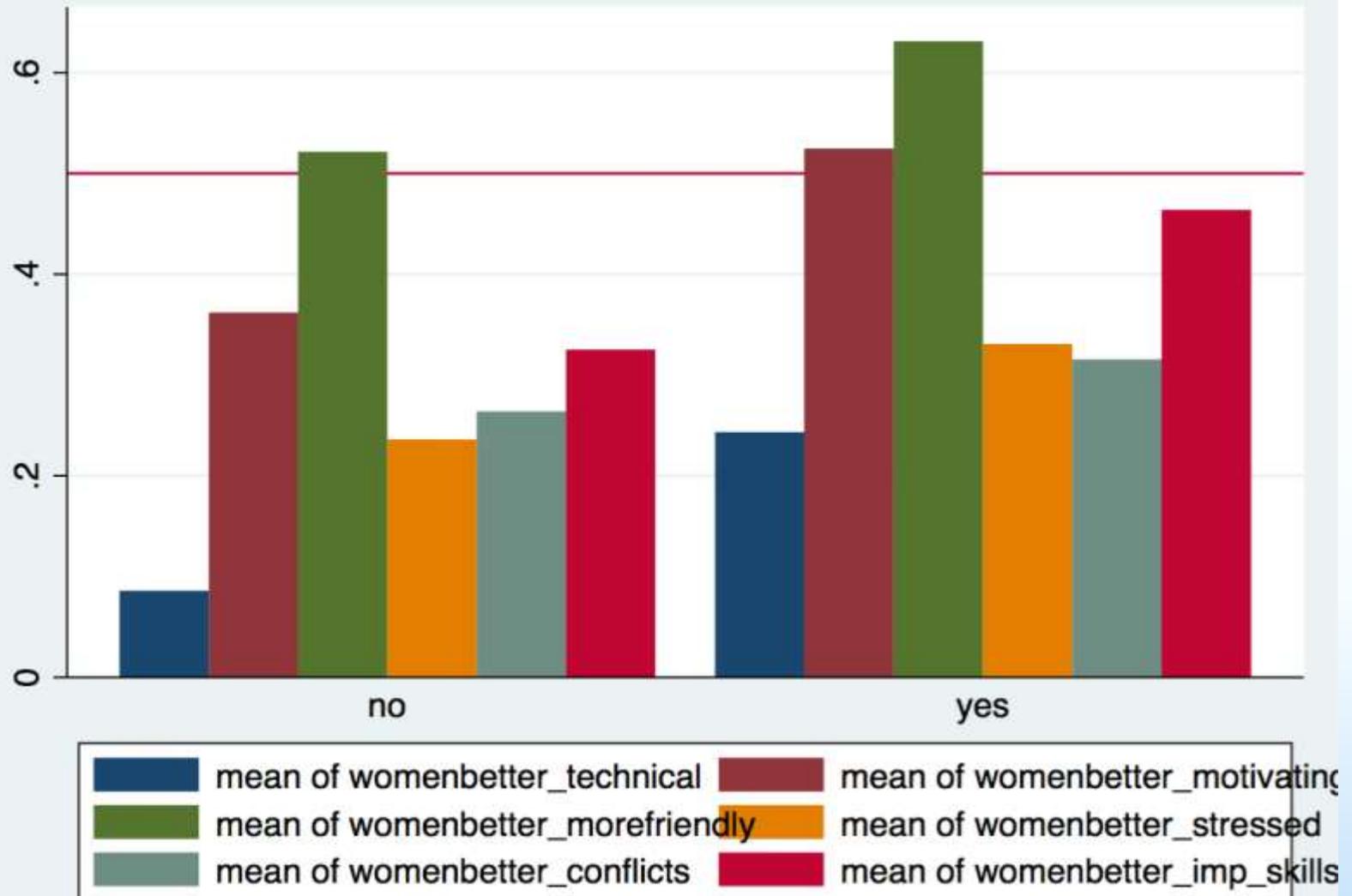


Training female operators to be line supervisors



- What do we know about the effectiveness of females as supervisors in Bangladesh?
- At baseline, operators say that males are better at just about everything – but by how much depends on whether the operators have any direct experience working with female supervisors.
- Among those currently working for at least one male and at least one female line supervisor, females are viewed as weaker in the areas of:
 - Resolving technical problems
 - Reporting worker complaints to upper management
 - Minimizing quality defects
- And as equal to males in other areas

In the abstract, % of operators saying females are better at...



Training female operators to be line supervisors



- Is the training effective?
- At baseline, operators say that males are better at just about everything – but it matters whether the operators have any direct experience working with female supervisors.
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- And as equal to males in other areas

Is the training effective?



- One initial indication of this comes from promotion rates of the trainees.
- Through the first half of the project (280 trainees in 60 factories):
 - 75% of female trainees tried out as SVs
 - 55% of female trainees promoted permanently to SV – but 85% of a smaller number of male trainees.
 - Average salary of:
 - Trainees working as SVs: 9025 BDT
 - Comparison group of operators: 5230 BDT

Is the training effective?



- When operators working for at least one female trainee and at least one male supervisor are asked to compare the two, the training closes the gap entirely in two of the three areas.
- Female trainees are seen as weaker only with regard to quality defects.
- We have not completely processed the production data we have, but an initial comparison of female trainees with male trainees:
 - Females reduce absenteeism
 - Males perform better with regard to quality.
 - There is no difference in production efficiency.

Change is disruptive



- If females are as or more effective as supervisors, why don't firms promote females more often?
- One reason is that change is disruptive.
 - 1) We find some evidence of resistance to the female trainees who are promoted. We measure lower levels of cooperation with operators.
 - 2) The training (even of existing supervisors) induces supervisors to try new ideas. Sometimes those ideas don't work – or don't work right away.
- For factories operating under constant pressure, and facing continuous shocks, this disruption may be challenging to absorb.

Conclusions



- Productivity varies across countries, across firms, and even across production units within a firm.
- The garment sector is an ideal sector to study these underlying causes of this variance in productivity. The key is that sewing productivity can be compared across firms even when the firms produce different products.
- The variance within factories suggests that knowledge is not flowing across production lines.
- Increasing productivity is key to supporting increases in wages in the longer-run – and may be key to longer-run survival of firms and sectors in some countries.



Thank you

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