The Economics of Women's Entrepreneurship

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August 12, 2022

Why women's entrepreneurship?

- Women have few employment opportunities in many low-income settings: productive self-employment may offer a path to income growth.
- Gendered spending patterns suggest that increasing women's earning potential may have large impacts on household welfare while also increasing gender equity e.g., Duflo & Udry (2004), Qian (2008), Luke & Munshi (2011).
- In practice, entrepreneurship training programs have had mixed results e.g., McKenzie & Woodruff (2014).

This paper

Research question I

Does targeting entrepreneurship training programs at women deliver on the dual goals of business development and gender equity?

Research question II

What are the spillover effects of women's entrepreneurship on the broader household? Are there inter-generational spillovers?

Our study: Entrepreneurship in central Uganda

Program Content

We partner with an organization in Uganda that has developed an entrepreneurship curriculum tailored to ultra-poor women with little formal education.

- Eight 2–3 hour modules on business skills.
- 3 intensive one-on-one mentoring sessions.
- Aspirational content: role models, graduation ceremony.

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We randomize access to two versions of the program in five locations in central Uganda:

1. Business as usual (339 women).
2. Opt-in mentoring (316 women).
3. Control (285 women).

We measure outcomes on businesses, households, and children at baseline, exit from the program (6 months), and 12–18 months post exit.

- Weekly SMS surveys on revenues starting after the baseline.

Preview of results

1. The program leads to large and persistent improvements in business outcomes.
   - Treated women own .22 more businesses.
   - Profits are 102% higher in the main business and 88% higher in all other businesses.

2. The program is highly effective at encouraging re-investment.
   - Treated women have 122% higher investments in the main business at midline.
   - Treated women have 136% higher investments in other businesses at endline.

3. The program does not lead to improvements in household welfare but inter-generational spillovers through changes in location's business environment.
   - Null effects on expenditures, indications of increased food insecurity.
   - Effects on children occur through role models in the community, not from living with a treated woman.

Contributions to the literature

1. Well-targeted entrepreneurship programs can generate large improvements on business outcomes, but impacts on households may take longer to materialize.
   - Business training skills: McKenzie and Woodruff (2014), de Mel, McKenzie, and Woodruff (2014), Blattman, Fiala, and Martinez (2014), Quinn and Wooddruff (2019), McKenzie (2020).
   - Behavioral/psychological interventions: Campos et al (2017), Batista and Seither (2021), Seither (2021), Dalton et al (2021).
2. Constraints in the business environment or a high premium on risk reduction prevents micro-enterprises from growing into SMEs even when capital is available.
3. Consumption support is key for allowing households to smooth consumption shocks while making long-term, productive investments.
   - Graduation from poverty programs: Banerjee et al (2015), Blatman et al (2016), Bandiera et al (2017).
4. Programs like the one we study can create community-level impacts on children.
   - Role models: Riley (2021).

Experimental Design

Treatment compliance

Sampling

Implementing partner and research project manager worked to ensure compliance with randomization, but we have some non-compliance:

- 11.7% move between two treatment arms, but movement is identical in both directions.
- 1.7% of women assigned to control manage to enter a treatment group.
- Instrumenting for actual participation with treatment assignment yields similar results to ATEs using random assignment.

Empirical strategy

For any outcome of interest for the women in our sample in a given survey round, O_{it}, we estimate an ANCOVA specification to recover ITTs:

$$O_{it} = \alpha + \beta_1 Treat_{it} + \beta_2 Treat * Mentoring_{it} + \delta_1 X_i + \delta_2 O_{i0} + \epsilon_{it}.$$

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For children's outcomes, we estimate direct and indirect treatment effects using the specification

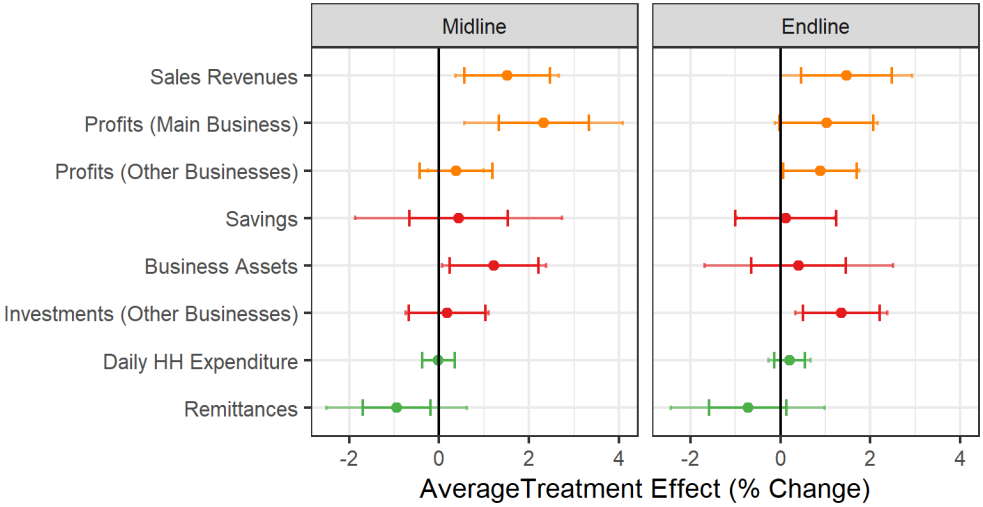
$$O_{it} = \alpha + \theta_1 Treat_{it} + \eta \sum_p Treated_{ip0} + \delta \sum_p g_{ip0} + \delta_1 X_i + \delta_2 O_{i0} + \epsilon_{it},$$

θ_1: effect of living with a woman in the treatment group
η: effect of each additional treated woman in the child's network at baseline.

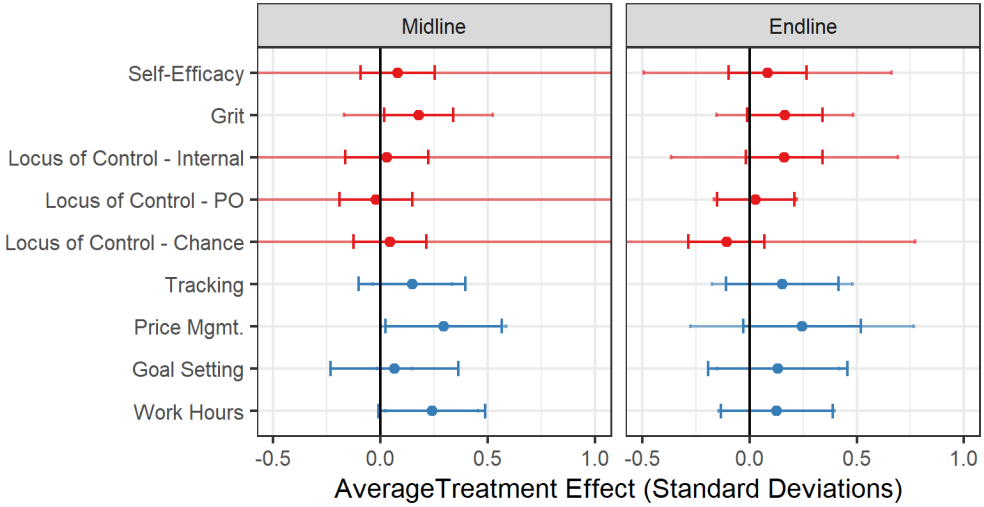
Results

The program has large, positive effects on business outcomes

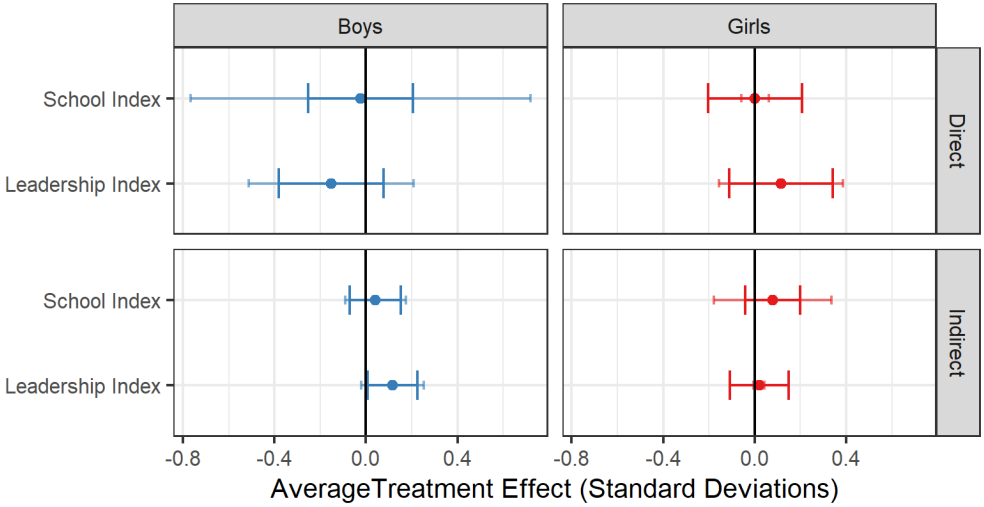
Mentoring Effects



Improvements in grit and internality, and business practices



Effects on children driven by community outcomes rather than households



Discussion

Conclusion

1. The mix of business skills with an option for mentoring is highly effective at improving business outcomes.
   - More intensive, mandatory mentoring does not augment the effects of the core program, and in some cases actually appears to be counterproductive.

2. Improvements in business outcomes do not lead to higher household welfare within the period of our study.
   - Some evidence that household welfare is actually lower due to more difficulty smoothing consumption. Go to Table

3. Profits are re-invested, but not in the main business.
   - May imply rapidly diminishing marginal returns, or an extremely high value for diversification.

Thank you!

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Appendix

Program content Back

- Eight modules over six months.
  - Identifying business opportunities and planning.
  - "Traditional" business practices.
  - Marketing and price management.
  - No provision of capital.
- 3 intensive one-on-one mentoring sessions or "office hours".
  - One-on-one mentoring: 75% organize at least one visit, 33% organize all 3.
  - “Office hours”: 43% attend once, 1.3% attend twice.
- Graduation ceremony with group.

Program timeline and content

Month 0	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
- Mobilization - Orientation (aspirations intervention)	- "Getting out of your comfort zone" - Identifying business opportunities - "Finding capital and starting small" - First mentoring	- Bookkeeping and record keeping - Market research	- Business planning - Second mentoring	- Growing your customer base - Money management	- No modules (implement business plans)	- Third mentoring - Graduation ceremony

Program delivery

Program graduation

Sampling Back

940 women in 5 locations in central Uganda who (1) attend orientation and (2) opt to sign up for the study (locations selected by the implementing partner).

- Location 1: 163
- Location 2: 220
- Location 3: 185
- Location 4: 217
- Location 5: 155

All children living with/dependent on women in our main sample between 10–17 years old at baseline.

- 1,075 children (47% boys, 53% girls).

Sample characteristics

- 4 rural, 1 peri-urban location.
- 52% report being regularly employed at baseline.
- 38% – 60% of women who sign up have businesses at baseline (depending on location).
- Mean monthly profits between UGX 45,000 and UGX 64,000 (USD 12.16–17.29) at baseline.
- Business types: food products, livestock, charcoal, vending clothes, selling drinks.

Assignment to treatment

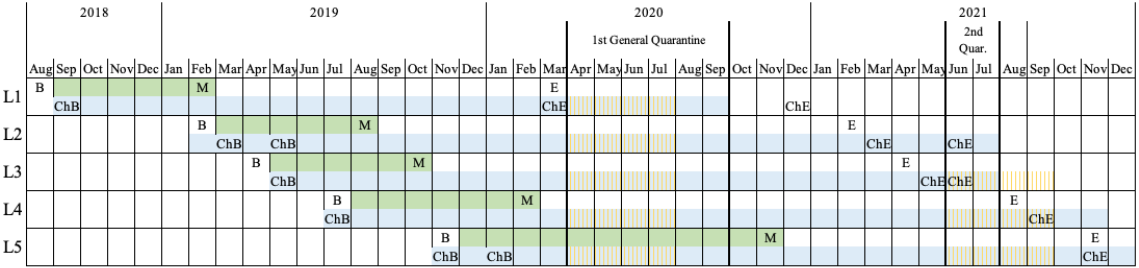
We conduct individual-level randomization at the end of the baseline survey:

1. Full program (includes "mandatory" mentoring).
2. Program with opt-in mentoring.
3. Control
   - Group meeting on day of first module session but no intervention after.
   - Reduces non-compliance.

Double-blind randomization with private lottery:

- Colored candy draw that corresponds to 1 out of 3 locations for first meeting.
- Enumerators were not informed about candy significance that changed for each location.

Timeline and data



Legend	Symbol	Legend	Symbol
Baseline	B	Children Baseline	ChB
Midline	M	Children Endline	ChE
Endline	E	SMS Sales Survey	
Treatment Training		SMS Food Insecurity Survey	

Results

The program has large, positive effects on business outcomes

SMS Back

	Business Creation		Main Business		Other Businesses
	(1) Own a Business	(2) No. Businesses	(3) Sales (IHS)	(4) Profits (IHS)	(5) Profits (IHS)
Panel A: Midline (6 months)					
Treat	0.158***	0.232***	1.513***	2.326***	0.372
	(0.040)	(0.067)	(0.482)	(0.511)	(0.412)
Treat x Mentoring	-0.028	-0.019	-0.648	-0.824*	0.427
	(0.038)	(0.068)	(0.475)	(0.499)	(0.436)
Observations	822	822	802	795	824
Control Mean	0.566	0.832	37674.603	69415.538	18589.105
Panel B: Endline (18–24 Months)					
Treat	0.075*	0.213***	1.467***	1.022*	0.880**
	(0.041)	(0.070)	(0.513)	(0.534)	(0.418)
Treat x Mentoring	-0.056	-0.110	-1.162**	-0.909*	-0.376
	(0.039)	(0.070)	(0.488)	(0.507)	(0.430)
Observations	828	827	814	810	829
Control Mean	0.667	0.903	43628.016	76934.118	17832.946

Participants show improvements in business practices

	(1) Tracking	(2) Price Mgmt.	(3) Goal Setting	(4) Work Hours
		Panel A: Midline (6 months)		
Treat	0.179	0.374**	0.063	8.420*
	(0.154)	(0.176)	(0.149)	(4.454)
Treat x Mentoring	0.132	-0.057	0.228	2.933
	(0.157)	(0.177)	(0.167)	(4.665)
Observations	434	422	364	379
Control Mean	0.957	1.012	0.643	28.431
		Panel B: Endline (18–24 Months)		
Treat	0.187	0.336*	0.133	4.521
	(0.162)	(0.191)	(0.165)	(4.718)
Treat x Mentoring	-0.156	-0.223	0.039	-3.615
	(0.159)	(0.180)	(0.164)	(4.699)
Observations	431	415	358	389
Control Mean	1.133	1.239	0.688	35.130

The program improves grit and internality

			Locus of Control			Aspirations	
	(1) Self-Efficacy	(2) Grit	(3) Internal	(4) PO	(5) Chance	(6) Income (IHS)	(7) Social Status
Panel A: Midline (6 months)							
Treat	0.525	1.071**	0.061	-0.108	0.177	-0.171	0.152*
	(0.589)	(0.495)	(0.222)	(0.420)	(0.355)	(0.224)	(0.091)
Treat x Mentoring	-0.368	-0.823*	0.069	0.004	0.275	-0.253	-0.205**
	(0.567)	(0.487)	(0.215)	(0.412)	(0.335)	(0.265)	(0.090)
Observations	819	820	819	819	820	654	809
Control Mean	38.605	29.488	15.836	-12.914	-14.645	1481436.681	3.079
Panel B: Endline (18–24 Months)							
Treat	0.586	0.957*	0.459*	0.144	-0.430	-0.124	0.028
	(0.637)	(0.517)	(0.255)	(0.460)	(0.363)	(0.117)	(0.094)
Treat x Mentoring	-0.529	-1.329***	-0.395*	0.054	0.101	-0.035	-0.045
	(0.583)	(0.458)	(0.237)	(0.418)	(0.343)	(0.108)	(0.087)
Observations	821	822	821	821	822	677	809
Control Mean	39.289	30.094	15.801	-12.121	-14.191	1577983.402	2.992

Profits appear to be re-invested

	(1) Savings (IHS)	(2) Business Assets (IHS)	(3) Investments in Other Businesses (IHS)
	Panel A: Midline (6 months)		
Treat	0.433	1.218**	0.173
	(0.556)	(0.502)	(0.434)
Treat x Mentoring	0.494	-0.409	0.345
	(0.510)	(0.505)	(0.433)
Observations	466	824	824
Control Mean	258323.353	120251.424	45166.537
	Panel B: Endline (18–24 Months)		
Treat	0.119	0.407	1.355***
	(0.571)	(0.536)	(0.434)
Treat x Mentoring	-0.263	-0.352	-0.453
	(0.517)	(0.507)	(0.464)
Observations	477	829	829
Control Mean	253495.326	127104.992	29836.047

No improvements in household welfare

Back

	(1) Daily HH Expenditure (IHS)	(2) MUE	(3) Food Insecurity	(4) Remittances (IHS)
		Panel A: Midline (6 months)		
Treat	-0.017	0.097	0.132***	-0.945**
	(0.184)	(0.087)	(0.041)	(0.382)
Treat x Mentoring	0.127	-0.071	-0.124***	0.201
	(0.169)	(0.090)	(0.041)	(0.344)
Observations	819	730	820	800
Control Mean	10649.521	-0.027	0.270	31172.549
		Panel B: Endline (18–24 Months)		
Treat	0.200	0.183*	0.011	-0.725*
	(0.174)	(0.102)	(0.041)	(0.440)
Treat x Mentoring	0.079	-0.174*	-0.027	0.185
	(0.156)	(0.101)	(0.040)	(0.420)
Observations	824	725	825	805
Control Mean	10186.175	-0.076	0.310	25547.619

Impacts on children are driven by the community

	Boys		Girls	
	(1) School Index	(2) Leadership Index	(3) School Index	(4) Leadership Index
	Endline (18–24 Months)			
Direct	-0.024	-0.181	0.002	0.085
	(0.120)	(0.139)	(0.097)	(0.085)
Indirect	0.042	0.137**	0.073	0.015
	(0.058)	(0.066)	(0.057)	(0.049)
Observations	434	371	472	420
Control Mean	0.098	0.118	0.098	0.118

Effects on business revenues reflected in SMS data

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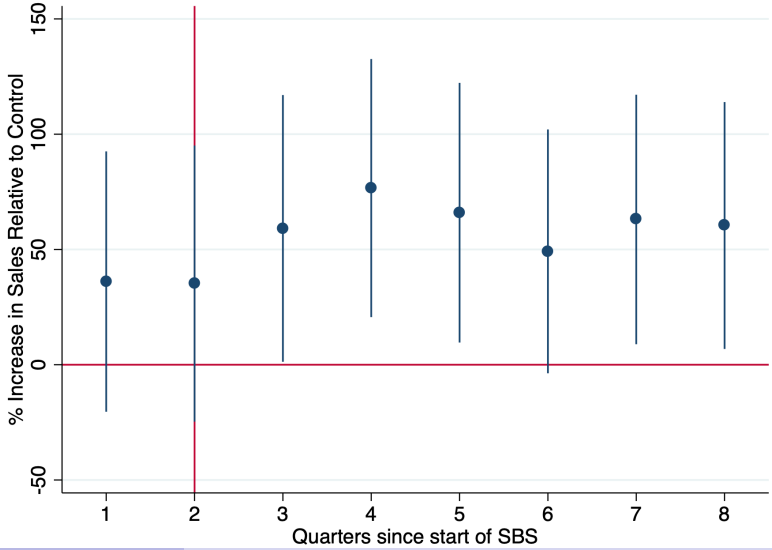

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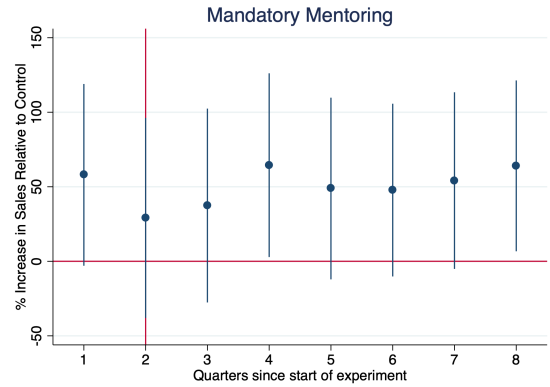

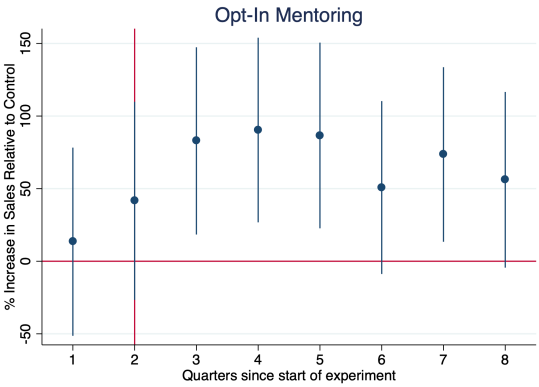

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