Enterprise Development for Development: What Have We Learned? What Can We Learn? Why Do We Know So Little?

EBRD We_Fi, CEPR Research Conference Keynote Financing Women-led SMEs October 2023 Dean Karlan



Northwestern | Kellogg

Where we are

Where we need to be

Where we will never be







If we merely proliferate studies we will get more confusion, not less.

Need more syncing, more coordination, more measurement methods More clarity on mechanisms (but catch-22 problem, end of talk...)

What is the market failure?

- Managerial Capital ("guidance")
 - Two types here
 - Market failure within the firm
 - If competitive equilibrium, what will advice be, shut down and go find a niche with economic profits to be made?
 - Market failure in the supply of training/consulting
 - Who trains the trainers??
 - Testing both simultaneously
- Capital

What's the market failure?

- Does lack of managerial capital impede the growth of small businesses in emerging markets?
 - Are firm owners and managers unable or unwilling to manage an effective scale up of operations (even if other inputs are not limiting)?
 - Can a potential lack of managerial knowledge be alleviated by providing "guidance"?
- Does lack of capital impede growth?
- Which (both?) of these constraints is binding?

What Have We Learned

- What Have We Learned
 - Its complicated
 - High variance in treatment effects across studies (and within?)
 - Implementation must matter
 - Heterogeneity: clearly "interesting" but almost always underpowered
 - More to learn
 - One example where differences stark enough. Needs replication.
 - Then on to meta-analysis

Big Loans to Small Businesses:

Predicting Winners and Losers in an Entrepreneurial Lending Experiment

Gharad Bryan (LSE), Dean Karlan (NU), Adam Osman (UIUC)

What We Do

- Solves our loan size problem, not available without experiment
- Also solves identification problem
- Collect psychometric data ex-ante and combine with ML methods
 - A principled way to find firm heterogeneity
- ➢Predict business-as-usual in two ways
 - Ask loan officers which firms they think would perform best
 - Look at loan performance with smaller loans

What do we Find?

ITT Estimates of average impact:

- Noisy positive impacts on firm outcomes (profit, revenue)
- Positive impact on household expenditure (10% increase)

Results hide huge heterogeneity:

- Top performers increase profits by 55%
- Poor performers see similarly sized fall in profits
- Psychometric data key to finding this heterogeneity

ABA would not have lent to best firms -

Loan officers incorrectly predict performance

Average ITT Impacts of a Larger Loan

	Control Group	Treatment - Control
	Mean	Difference (OLS)
Panel A: Profits	(1)	(2)
Profits	15,649	1,294
		(1,180)
	Control Group	Treatment - Control
	Mean	Difference (OLS)
Panel B: Other Primary Outcomes	(1)	(2)
Revenues	38,339	5,312
		(4,446)
Expenses	28,190	4,958
		(3,522)
Wage Bill	1,951	147
		(247)
Total Factor Productivity	-0.03	0.04
		(0.05)
Household Expenditure	4,770	446
		(211)



Heterogeneity



LO's think top group default will increase!

	Bottom GATES Group	Difference in Top Group
	Mean {Std. Dev.}	Coeff (s.e.)
Loan Officer Perceptions		
Perceives Large Loan will increase	0.28	0.18 **
default	{0.45}	(0.08)
Perceives Large Loan will increase firm	0.24	0.14 *
revenue	{0.43}	(0.07)

What is correlated with high ITEs?

	Bottom GATES Group	Difference in Top Group		
Psychometric Measures	Mean {Std. Dev.}	Coeff (s.e.)	Interpretation for Top Performers?	Interpretation for Bottom Performers?
I tend to act first and worry about the consequences later	4.32 {1.06}	-0.89 *** (0.09)	Contemplative	Impetuous
I can think of several solutions to any problem	4.67 {0.62}	-0.76 *** (0.06)	Realistic	Overconfident
I prefer to have a flexible schedule- I don't like being tied down	4.45 {0.80}	-0.91 *** (0.08)	Appreciates Structure	Enjoys Distractions
I feel anxious outside my comfort zone	4.11 {1.15}	-0.73 *** (0.10)	Can deal with new things	Can't deal with new things
When I make decisions I usually go with my first, gut feeling.	4.07 {1.25}	-0.23 ** (0.10)	Contemplative	Impetuous
In life, failure is not an option	4.71 {0.56}	-0.70 *** (0.06)	Able to Pivot	Stubborn

Enterprise Development Meta-analysis

Florian De Bundel Dean Karlan William Pariente Christopher Udry

Screening and Selection Criteria

- 1. RCT
- Intervention is aimed at promoting non-farm entrepreneurship or livelihood development (Exclude CCTs or UCTs)
- 3. Has outcomes linked with business/ self-employment activity
- 4. Data publicly available or granted by the authors upon request

Screening Breakdown



Data Availability by Intervention Type

	All studies	Microcredit	Capital	Guidance	Capital and Guidance
Full sample	54 sites	9 sites	19 sites	22 sites	22 sites
# treated units	63,289	24,196	28,449	17,799	22,556
# treated female units	43,370	11,252	13,326	13,175	16,996
% treated female	68.5%	46.5%	46.8%	74%	75.3%
Females across all studies	43 sites	7 sites	16 sites	21 sites	15 sites
Gender-mixed sample	29 sites	5 sites	14 sites	13 sites	9 sites
# countries	28	9	13	17	15

Intervention Type	Full Sample	Gender-mixed sample	ender-mixed Females sample Event Studies Full Sample: Median Full Sample: Median Full Sample Intervention Cost per Intervention Studies PRP June 2022		Full Sample: Mean Intervention Cost per participant, USD PPP					
		Number of site	s*	- PPP June 2023	(SD)					
Capital	25	18	22	\$539.15	\$5,649.17 (\$25,487.76)					
Credit	9	5	7	\$372.14	\$604.76 (\$665.04)					
Grant	17	14	16	\$1,033.88	\$13,625.33 (\$39,652.02)					
Guidance	27	18	26	\$1,106.24	\$1,410.36 (\$2,754.78)					
Training	25	16	24	\$1,106.24	\$ 1,127.89 (\$1,112.10)					
Consulting	5	5	5	\$1,256.15	\$4,073.02 (\$7,554.36)					
Mentoring	1	0	1	\$1,106.24	\$1,106.24 (\$0)					
Capital and Guidance	12	1	5	\$1,621.4	\$1,891.26 (\$1,806.35)					
*Number of sites	*Number of sites in which the given intervention type is a component or the entire intervention									

Cost per Intervention Type

Outcome	Full Sample		Gend sa	ler-mixed ample	Females across all studies		
	#sites	#units	#sites	#units	#sites	#units	
Profit	49	113,300	27	43,213	35	62,970	
Sales	40	95,102	20	34,932	26	46,543	
Consumption	21	47,338	11	13,827	15	27,327	
Employees	19	34,418	15	18,818	16	17,409	
Assets Index	36	89,013	19	34,741	22	42,376	
Credit Index	35	83,604	19	30,479	21	40,323	
Food Index	13	23,911	3	3,627	5	11,620	
Mental Health Index	15	35,275	6	10,844	7	19,918	
Physical Health Index	12	37,826	3	3,745	5	26,585	
Time working Index	33	58,773	17	17,857	19	25,370	
Women Empowerment Index	23	74,970	9	23,480	11	34,886	
Savings Index	21	29,143	13	17,553	13	11,242	

Data Availability by Outcomes

Profit, Females, Study-Level Effects

Cost Effectiveness Effect on Women Monthly Profit, Sorted by Cost

McKenzie (2017) - Bruhn, Karian, and Schoar (2018) - Gré and Mansuri (2014) - Biattman et al. (2016) - Biattman et al. (2016) - Biattman et al. (2017) - Biattman and Dercon (2015) - Biattman and Dercon (2017) Biattman and Dercon (2017) - Campos et al. (2018) - Anderson, Chandy, and Zia (2018) - Campos et al. (2018) - Anderson, Chandy, and Zia (2018) - Biattman (2017) - Fiaile, Karian, and Zinman (2015) - Biattman (2017) - Fiaile (2018) - De Mel, McKenzie, and Woodruff (2014) - Part2 - Martínez, Puertes, and Ruiz-Tagle (2018) - De Mel, McKenzie, and Woodruff (2014) - Part2 - McKenzie and Puerto (2017) - Biattman, Fala, and Martínez (2014) - Bussuroy et al. (2015) - Gobin, Santos, and Ton (2017) - Fafohamps et al. (2015) - Cefpon et al. (2015) - Berge, Bjorvan, and Tungodet (2015) - De Mel, McKenzie, and Woodruff (2019) - Parton (2017) - Fafohamps et al. (2015) - Cefpon et al. (2015) - Karian, Mulianitahan, Roth (2019) - Part3 - Karia	Capital Guidance Guidance & Capital Guidance & Capital Guidance Capital Microcredit Guidance Capital Guidance Capital Guidance Capital Guidance Capital Capital Capital Capital Capital Capital Capital Capital Capital Guidance Capital Guidance Capital Guidance Capital Guidance Capital Guidance Capital Guidance Capital Guidance Capital Guidance & Capital Guidance				113008 21412 18033 3097 2428 2228 2048 1805 1670 1654 1620 1532 1340 1250 1024 1017 971 914 844 760 492 417 407 382 316 308 3077 288 217 101 81 50 46 21	
		250	0	250	200	750

🚔 Microcredit 🚔 Guidance & Capital 🚔 Guidance 🚔 Capital

Profit, Females, More Expensive Programs

Cost Effectiveness Effect on Women Monthly Profit, Sorted by Cost



Microcredit 🛱 Guidance & Capital 턲 Guidance 🛱 Capital

Profit, Females, Less Expensive Programs

Cost Effectiveness Effect on Women Monthly Profit, Sorted by Cost



Profit - Treatment Effect Z-Score



0.016 0.035 -0.032 -0.006 0.011 0.034 0.080

Microcredit

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Intervention Capital 15 Guidance Guidance_Capital Microcredit 10 Density 0.50 0.75 0.00 0.25 Monthly Profit in Standard Deviation from the Control Groups

Treatment Effect on the Z-Score of Profit (Full Sample)

Intervention	# Sites	Mean	SD	5%	25%	50%	75%	95%
Capital	12	0.085	0.028	0.039	0.067	0.085	0.102	0.130
Guidance_Capital	16	0.258	0.088	0.114	0.201	0.258	0.314	0.399
Guidance	22	0.038	0.024	-0.002	0.023	0.038	0.053	0.077
Microcredit	7	0.016	0.035	-0.032	-0.006	0.011	0.034	0.080

Profit – Cost Effectiveness (\$ per \$100/cost)



Profit - Treatment Effect as % of Control Group Mean



0.057 0.199 -0.277 -0.030 0.072 0.163 0.343

Microcredit

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Microcredit

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0.072 0.129 -0.152 0.015 0.084 0.144 0.242

Empowerment & Working Time - Females



Cost-Effectiveness: Women Working Time (Z-Score)



Assets Index - Females



Gender-Differential - Profit Aggregated

Gender-Mixed Sample



Gender-Differential Cost-Effectiveness on Profit per Intervention type (s = 30, n = 56000)

Gender 🛱 Additional Effect for Females 岸 Effect on Males

Mean	5%	25%	50%	75%	95%	Intervention	Gender	# Studies
4.53	-4.74	2.04	4.20	7.02	14.26	Capital	Effect on Males	11
1.56	0.39	1.12	1.48	1.92	3.08	Guidance_Capital	Effect on Males	8
2.41	-5.90	0.08	2.32	4.58	11.68	Guidance	Effect on Males	11
2.56	-11.99	-1.87	2.30	6.98	17.25	Microcredit	Effect on Males	4
-0.99	-7.03	-1.87	-0.65	0.20	3.36	Capital	Additional Effect for Females	11
-0.57	-2.39	-0.96	-0.45	-0.09	0.74	Guidance_Capital	Additional Effect for Females	8
-2.44	-9.23	-4.62	-2.58	-0.43	5.07	Guidance	Additional Effect for Females	11
-0.49	-16.10	-5.68	-0.58	4.60	15.75	Microcredit	Additional Effect for Females	4

Preliminary takeaways

- Capital + Guidance
 - Outperforming (but tradeoff w/r/t reach vs effectiveness)
 - Much lower variance (tigher posteriors)
 - Women ~= Men
- Capital:
 - More impact for men
 - Women lower returns (similar as earlier work has found)
 - Must be other constraints: perhaps within household ie money shifted, types of enterprises? Access to markets? Multiple other constraints?
- Guidance:
 - Nulls for women when just guidance. Constraints bigger than mere guidance

Next phase of the Meta-Analysis

Expand models, more covariates

Intervention details

Participant characteristics

Add new intervention type: Unconditional Cash Transfers

Build tool to make processed data fully public

What Can We Learn

• Syncing/Meta Analysis

- Syncing of data
- Measurement coordination
- Measurement timing off
 - Most research outputs are (somewhat) like the econometrician hunting joke
 - Need more long-run and short-run, why so many 1-year impacts??

Innovation

- On finance:
 - Need lenders to innovate flexible products & targeting
 - Need funders to incentivize that innovation and fund evidence generation
- On guidance:
 - Need to tackle the implementation challenge (via technology?)
- On markets:
 - Need more market-level interventions, more understanding of GE complexities

Why Have We Learned So Little

• Catch-22 of External Validity

- Thought piece in Fischer & Karlan 2015 AERP&P
- External validity comes from theory + relevance
- Backdrop fact: the world is complicated, both within and across people/institutions
- Catch-22 result:
 - To get tight theory, we lose relevance
 - To get broad relevance, we lose theory
- Institutional Incentives Not Aligned
 - Particularly on for-profit side, for both investors & firms

Thank you!

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