Can Basic Entrepreneurship Transform the Economic Lives of the Poor?

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Background

- The world's poor lack capital and skills, and tend to be employed in low-return, often insecure occupations (Banerjee and Duflo 2007)

- This observation informs theory and policy

- Theory studies how relaxing capital and skills constraints can alter the poor's occupational choices and make them exit poverty (Banerjee and Newman 1993, Besley 1995, Becker 1964, Schultz 1979)

- Most antipoverty programmes attempt to tackle these:
  - capital: microfinance, banking, asset transfers
  - skills: vocational training, adult education

Question

- Can transfers of capital and skills transform the poor's occupational choices to bring them closer to the middle class?
  - moving away from insecure wage labor
  - towards running small businesses
  - increasing stability
  - reducing uncertainty and seasonality

Reasons to be skeptical 1

- Answer depends on whether lack of capital and skills are the cause, rather than a symptom of, poverty:
    - self-control issues/ large discount rates might lead to use the transfer for a short-term consumption boost rather than for investment into self-employment
    - participation in training will be limited if returns are expected to be low (Jensen 2010)

Reasons to be skeptical 2

- If constraints are indeed binding, answer depends on getting the magnitudes right:
    - small injections of liquidity (eg through microfinance) might be effective on the intensive magin but won't be enough to shift the poorest into self-employment (Crepon et al 2011)
    - sufficiently large transfers might create large wealth effects, reducing labor supply
    - short-term business training programmes for microentrepreneurs don't hold much promise (Karlan and Valdivia 2010, Drexler et al 2011)

This paper

- Provide evidence on whether tackling both capital and skills constraints transforms the occupational choices of the poor, in a sustainable way

- Evaluate BRAC's ultrapoor programme, which:
  - targets poorest women in rural Bangladesh– assetless, low skilled, *employed in insecure wage labor*
  - offers asset transfer (from a menu) and complementary training to *set up a small business*

- Programme aims to promote *structural change* from wage labor to self-employment, rather than improvements within occupation

- Scale: 370k extremely poor households currently treated Bangladesh, and pilots running in ten other countries

Key Features of the Evaluation

- Collaborate with BRAC to randomise the roll-out of the program across communities to identify causal impacts
    - Select beneficiaries in both treatment and control communities
- Survey all beneficiaries and a sample of HH at different points of the income distribution
    - Collect detailed information on time devoted to different income generating activities
    - Benchmark the effects of the programme against the occupational choices of the middle classes
    - Explore dynamic effects with two follow-ups (2 and 4 years after)

Occupational Choices of Treated Poor- Before
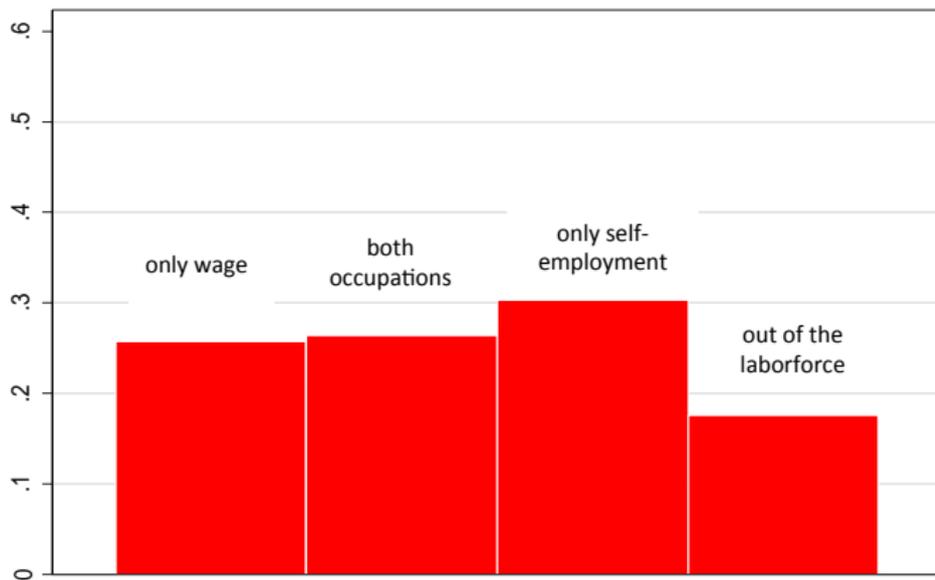
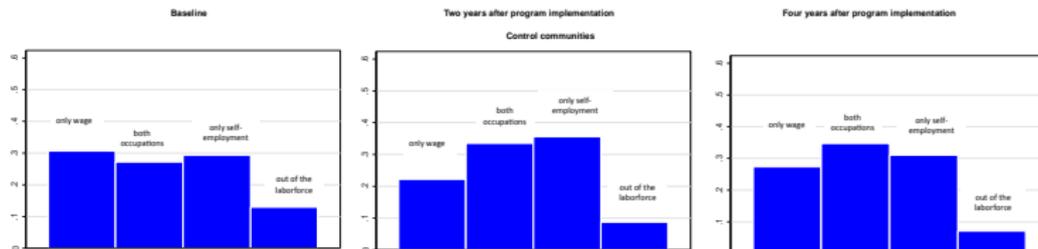# Occupational Choices of Treated Poor- After 2 years
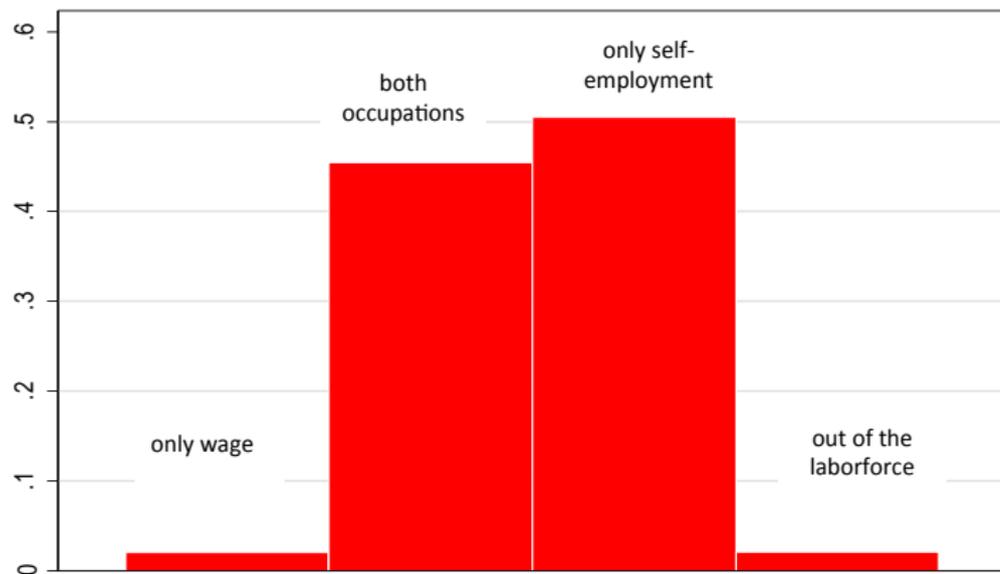
Occupational Choices of Treated Poor- After 4 years
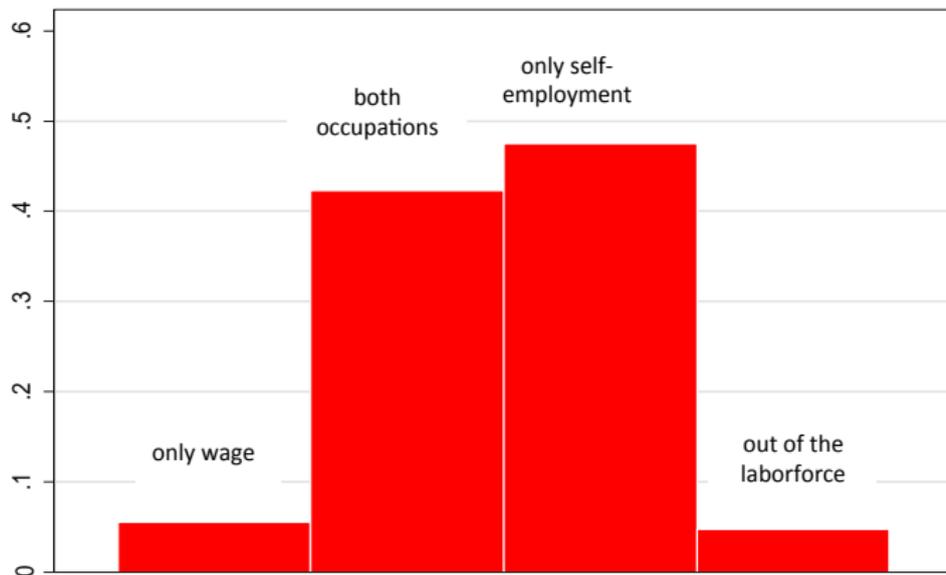
Occupational Choices of Control Poor: No underlying trend

Open questions

- How did this transformation come about?
  - number occupations, hours worked
  - hours in wage labor vs. self-employment
  - occupation characteristics: regularity, seasonality
- Did (all) the treated poor benefit from it?

Program description

- Beneficiaries: poor women, identified by the communities, verified by BRAC employees
- Beneficiaries in our sample: 93% illiterate, 52% own no productive assets
- Beneficiaries select from a menu of assets: livestock, small crafts, small retail, vegetable gardens, and commit to retain it for two years
- Almost all choose a livestock combination (2 cows, 1 cow+2goats, etc)
- Components:
  - asset transfer - large (9500TK, about 140USD)
  - asset specific training - intensive & long lasting

The lives of the targeted poor at baseline

Compared to women in other wealth classes:

- ▶ targeted poor women are much less likely to be literate and more likely to head their households
- ▶ work more hours overall, but have fewer regular activities and are more exposed to seasonality
- ▶ work more hours in wage jobs, fewer in self-employment
- ▶ have fewer productive assets- both livestock and land
- ▶ *correlation between poverty and occupational structure holds in the cross-section*

Table 1: The economic lives of the targeted poor women compared to other wealth classes- Treatment communities

	Targeted poor	Other poor	Middle Class	Rich
Gender of the household head	.632	.794	.947	.943
	(.482)	(.404)	(.225)	(.232)
Female respondent is literate	.073	.157	.260	.488
	(.260)	(.260)	(.439)	(.500)
A. Labor supply and occupation characteristics				
Engaged in at least one income generating activity	0.824	.791	.854	.889
	(0.381)	(.407)	(.354)	(.325)
Total hours worked during the year	1068.58	881.85	832.69	828.16
	(878.78)	(810.41)	(650.99)	(545.66)
Average activity: days per year	234.384	255.83	304.95	328.34
	(98.414)	(97.78)	(75.95)	(52.50)
Average activity: hours per day	4.381	3.34	2.05	1.67
	(2.671)	(2.49)	(1.54)	(.887)
Earnings	4607.721	3793.97	4520.54	8328.74
	(5179.445)	(5809.20)	(10630.45)	(1628.61)

Table 1: The economic lives of the targeted poor women compared to other wealth classes- Treatment communities

	Targeted poor	Other poor	Middle Class	Rich
B. Allocation between wage labor and self-employment				
Hours devoted to self-employment activities	421.817	484.65	718.17	797.75
	(590.855)	(575.18)	(563.14)	(514.67)
Hours devoted to wage labor activities	646.762	397.19	113.53	30.39
	(805.548)	(671.37)	(392.85)	(245.65)
Share of activities with seasonal earnings	.674	.593	.564	.563
	(.397)	(.411)	(.413)	(.413)
C. Assets and expenditures				
Livestock value	940.308	2832.57	13021.8	30597.36
	(3431.704)	(7052.423)	(30623.8)	(34342.5)
Household rents land for cultivation	.058	.135	.275	.164
	(.235)	(.342)	(.447)	(.370)
Household owns land for cultivation	.068	.109	.486	.911
	(.252)	(.313)	(.499)	(.285)
Total per-capita expenditure	4012.08	4269.14	5436.5	10906.3
	(2220.065)	(2887.60)	(4833.03)	(12979.3)

The lives of the targeted poor at baseline

- ▶ Targeted poor fit the textbook description
  - ▶ engaged in many occupations (mean 2.4)
  - ▶ engaged in both wage labor and self-employment
  - ▶ no regular or full-time activities
  - ▶ exposed to earnings seasonality

- ▶ (How) would this change if they were to receive business assets and training?

Evaluation strategy

- Randomise the programme roll-out across 40 BRAC branch offices (1409 communities) in the poorest areas of the country
  - 20 treated in 2007, 20 in 2011
- Stratify by sub-district (upazila) - 97sq miles- lowest regional division
  - randomly choose 2 branches within each upazila, one treatment, one control
- Randomise at the branch rather than community level to minimise contamination
  - average distance between treatment and control branch:12km

Evaluation strategy

- Beneficiaries selected in both treatment and control communities, informed of their status only when treated
- Beneficiaries + all other poor + a sample of other wealth classes surveyed in 2007, 2009, 2011
- Attrition over the four years is 15%, both in treatment and control communities

Randomisation
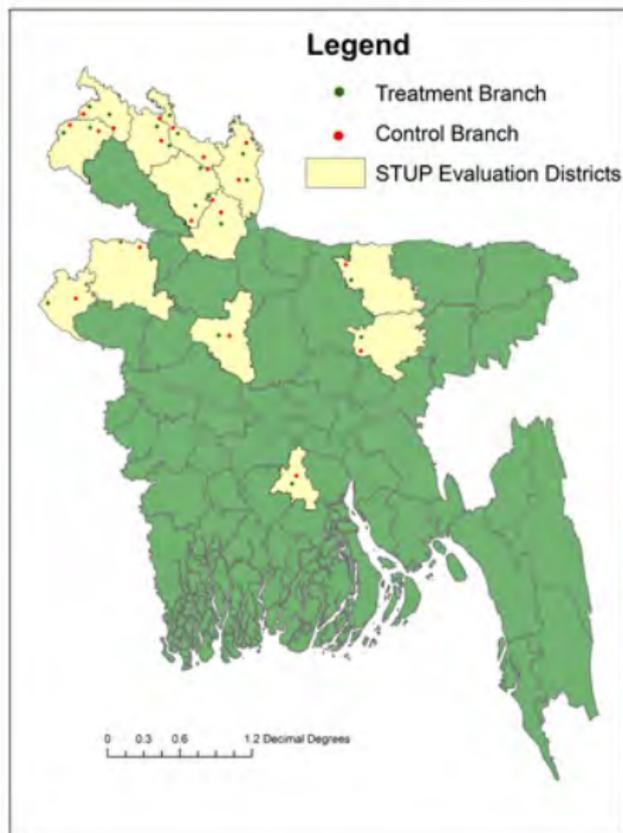
Methodology

- We estimate ITT by the difference in difference between outcomes of potential beneficiaries in treatment and control before and after the programme
- Compliance is 86%: ITT close to ATT
- Estimator accounts for baseline differences between treatment and control

Methodology

- Estimate:
  - $y_{it} = \alpha + \sum_{j=1}^{2} \beta^j W_t^j T_i + \gamma T_i + \sum_{j=1}^{2} \delta^j W_t^j + \eta_d + \epsilon_{id}$
- Where $T_i = 1$ if i lives in a treated community, W_t are survey waves and η_d are subdistrict fixed effects
- SE are clustered at the community level
- Randomisation ensures that T_i is orthogonal to ϵ_{id}
- β^j indentifies the causal impact of the programme in year j under the assumption of common trend within subdistrict

Table 3: Program effect on livestock assets of targeted poor households

	Number of cows	Number of poultry	Number of goats	Livestock value
Program effect after 2 years	1.075***	2.155***	0.667***	9983.531***
	(0.02)	(0.17)	(0.04)	(240.00)
Program effect after 4 years	1.063***	1.641***	0.415***	10734.124***
	(0.03)	(0.15)	(0.03)	(292.77)
Mean program transfer	1.08	2.42	.73	9500
Adjusted R-squared	0.414	0.090	0.106	0.328
Observations	20196	20196	20196	20196

Table 4: Program effect on occupational choice of targeted poor women

	Aggregate labor supply			
	At least one income generating activity	Hours worked	Average days per year	Average hours per day
Program effect after 2 years	0.113***	395.336***	39.085***	-0.706***
	(0.01)	(33.29)	(4.16)	(0.09)
Program effect after 4 years	0.070***	219.270***	36.338***	-1.155***
	(0.01)	(34.26)	(4.09)	(0.10)
Mean in treated communities at baseline	.824	1134.3	234.4	4.38
Adjusted R-squared	0.054	0.069	0.084	0.152
Observations	20196	20196	18672	18672

Table 4: Program effect on occupational choice of targeted poor women

| | Wage labor, self-employment and seasonality | | | |
	Hours spent in self-employment	Hours spent in wage-employment	Share of activities with seasonal earnings	At least one regular activity
Program effect after 2 years	477.670***	-82.334***	-0.010	0.331***
	(23.93)	(27.11)	(0.02)	(0.02)
Program effect after 4 years	388.410***	-169.139***	-0.082***	0.279***
	(23.40)	(28.71)	(0.02)	(0.02)
Mean in treated communities at baseline	421.81	646.7	.674	.532
Adjusted R-squared	0.156	0.086	0.082	0.127
Observations	20196	20196	18672	20196

Table 5: Program effects on other income generating activities of targeted women

	=1 if rents land for cultivation	size of rented land	=1 if owns land for cultivation	size of owned land	=1 if hires others
Program effect after 2 years	0.069***	1.238**	0.005	0.266	0.012***
	(0.01)	(0.62)	(0.01)	(0.17)	(0.00)
Program effect after 4 years	0.109***	3.398**	0.026***	0.532***	0.018***
	(0.01)	(0.64)	(0.01)	(0.19)	(0.00)
Mean in treated communities at baseline	.058	2.90	.068	.960	.006
Adjusted R-squared	0.059	0.032	0.031	0.015	0.011
Observations	20196	20195	20196	20196	20196

Table 6. Program effect on beneficiaries earnings and the expenditures of targeted households.

	Beneficiaries' earnings		Household PCE and food security				
	Total earnings per year	Hourly return	Total PCE	PCE non-food	PCE food	Price per calorie	Food security
Program effect after 2 years	1547.712***	-0.189	342.945***	179.633***	180.450***	0.026*	0.176***
	(249.66)	(0.19)	(94.76)	(64.53)	(59.60)	(0.01)	(0.03)
Program effect after 4 years	1753.917***	0.641***	613.558***	503.356***	110.442*	0.039***	0.081***
	(252.02)	(0.19)	(105.75)	(83.70)	(56.65)	(0.01)	(0.03)
Mean in treated communities at baseline	4607.7	4.14	4012.1	1054.5	2953.7	.911	.457
Adjusted R-squared	0.078	0.045	0.027	0.026	0.031	0.069	0.185
Observations	20196	18387	18882	19266	18890	18886	20194

	targeted poor at baseline	other poor at baseline	targeted poor after 4 years	middle class at baseline
Hours devoted to self-employment activities	422	484	810	718
Average activity: days per year	234	255	271	305
Share of activities with seasonal earnings	0.674	0.593	0.592	0.536
Total per-capita expenditure	4012	4269	4625	5436

Table 7: Benchmarking the effect of the program- Treatment communities

	Baseline 07				Program effect 09	Program effect 11
	Targeted poor	Other poor	Middle Class	Rich		
A. Labor supply and occupation characteristics						
Average activity: days per year	234.384	255.83	304.95	328.34	39.085***	36.338***
	(98.414)	(97.78)	(75.95)	(52.50)	(4.16)	(4.09)
Average activity: hours per day	4.381	3.34	2.05	1.67	-0.706***	-1.155***
	(2.671)	(2.49)	(1.54)	(.887)	(0.09)	(0.10)
Earnings	4607.721	3793.97	4520.54	8328.74	1547.712***	1753.917***
	(5179.445)	(5809.20)	(10630.45)	(1628.61)	(249.66)	(252.02)
B. Allocation between wage labor and self-employment						
Hours devoted to self-employment activities	421.817	484.65	718.17	797.75	477.670***	388.410***
	(590.855)	(575.18)	(563.14)	(514.67)	(23.93)	(23.40)
Hours devoted to wage labor activities	646.762	397.19	113.53	30.39	-82.334***	-169.139***
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Share of activities with seasonal earnings	0.674	.593	.564	.563	-0.010	-0.082***
	(0.397)	(.411)	(.413)	(.413)	(0.02)	(0.02)

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Household rents land for cultivation	.058	.135	.275	.164	0.069***	0.109***
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Household owns land for cultivation	.068	.109	.486	.911	0.005	0.026***
	(.252)	(.313)	(.499)	(.285)	(0.01)	(0.01)
Total per-capita expenditure	4012.08	4269.14	5436.5	10906.3	342.945***	613.558***
	(2220.065)	(2887.60)	(4833.03)	(12979.3)	(94.76)	(105.75)

Figure 5: Quantile treatment effects on earnings of targeted women
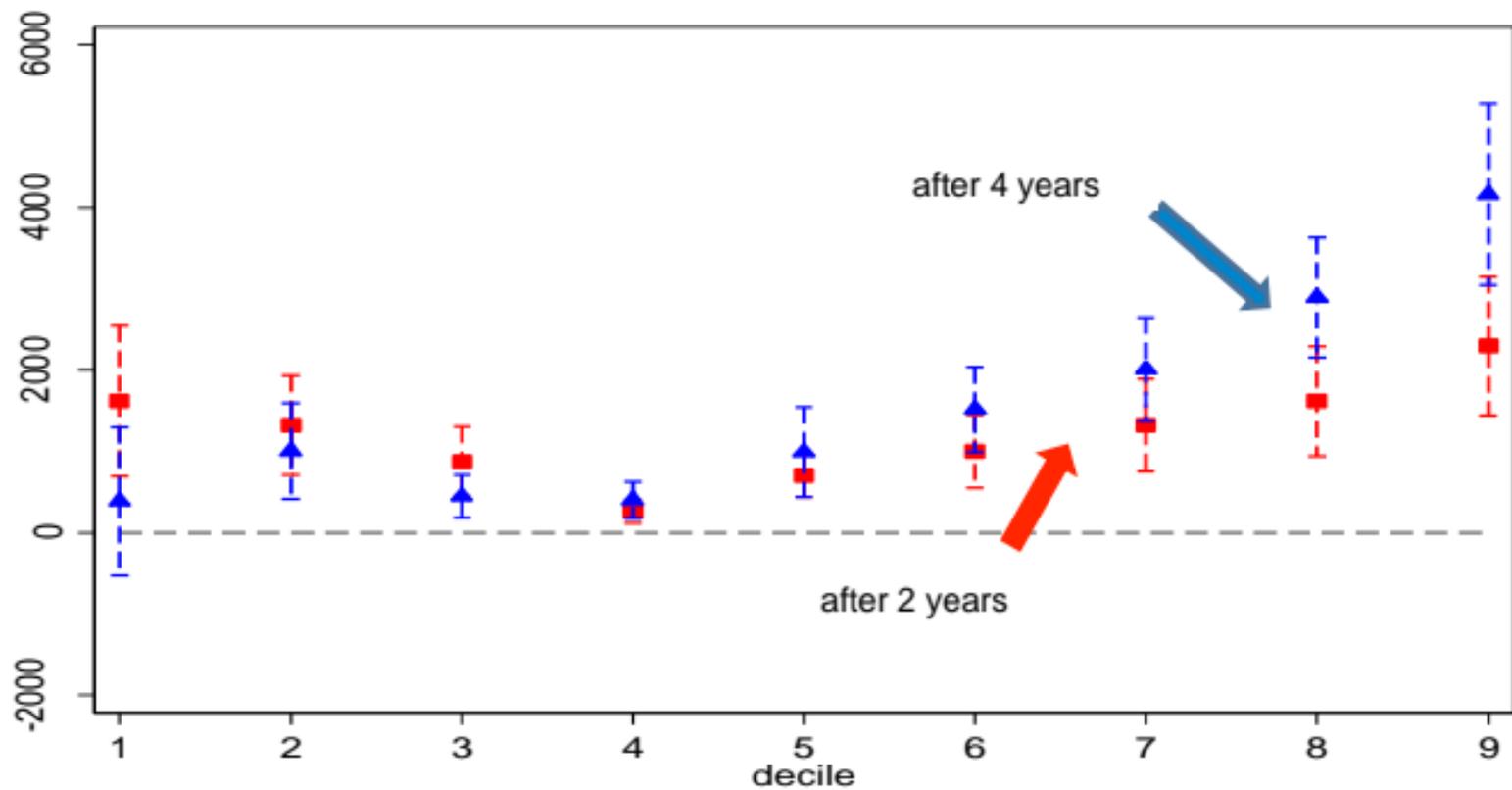
Cost-benefit analysis

- Program costs TK20,700 per household (including value of the asset + training) and yields TK1754 per year
- Useful to compare to a cash transfer of the same amount
- This requires assumption on counterfactual return to cash
    - possibly zero if cash is easier to consume, or more difficult to protect from relatives' claims
    - possibly higher if invested in individual specific "best activity" (although programme offered a long menu)
- Depositing the transfer in a savings account and consuming only the interest accrued every year would yield TK932 at 4.5% p.a.
    - significantly smaller than TK1754 (p-value 0.01)

Cost-benefit analysis: earnings vs. utility

- Difference in earnings is not sufficient to compare differences in utility

- For given earnings, the programme entails a gain in utility:
  - reduction in seasonality
  - more even allocation of hours across days (convex cost)

- For given earnings, the programme entails a loss of utility because leisure hours fall by 219
  - *Note that earnings loss due to forgone wage income is already factored in*

- Utility gains and losses are difficult to quantify

- Focus on the worst case scenario- set gains=0

Cost-benefit analysis: earnings vs. utility

- What's the value of 219 hours of leisure?
  - *given seasonality of labor demand and binding asset constraints, observed wages/return to SE cannot be used to value leisure*

- One possibility is to use QTE estimates to bound it
  - assume that those with lowest earnings are indifferent between the programme and the status quo
  - assume that all beneficiaries have the same (additive) preferences over consumption and leisure
  - 219 hours are worth at most 370TK
  - assuming linear utility this implies that the program dominates a cash transfer for all beneficiaries whose earnings increase by more than 932+370=1312TK

- *Under these assumption, the programme dominates a cash transfer for the average beneficiaries and all beneficiaries above the 6th decile*

Lessons and implications

- The programme succeeds in transforming the occupational choices of the targeted poor
- Structural change: from wage labor to small businesses
  - compared to other (less successful) programmes: massive asset transfer and intensive training
- Implication: capital and skills constraints drive the occupational choices of poor women in rural Bangladesh
  - structural change requires relaxing these constraints
- Impacts are large enough for the treated poor to leapfrog over the next wealth class

Open questions

- The magnitude of the transformation is such that the beneficiaries overtake the "other poor" and come close to middle class on many dimensions
- The magnitude of the effects is such that:
  - it can have GE effects on prices
  - and, through these, affect non-treated households
- Community-level randomisation allows us to evaluate the effect on the non-treated
- Coming soon