

# The Long-Run Impacts of the Graduation Program in Ethiopia and Ghana

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# Today's Context and Roadmap

- This presentation: Long-run results from original multi-country CGAP pilot sites (discussed in Banerjee et al 2015): 7-years in Ethiopia, 8-years in Ghana

Today:

- 1 Brief context and top-level results from 7/8 years
- 2 Unpack what aspects of household economic activities are changing
- 3 Consider what we can learn about asset-based poverty traps

# Top-Level Results

- Previous results: three years after roll-out of program, large economic effects in both Ethiopia and Ghana
- By year 7 **in Ethiopia, results have faded, but are still largely positive**; continue to be treatment effects on consumption (0.13 SDs; +8%), assets (0.31 SDs; +24%)
- By year 8 **in Ghana, we are unable to reject that treatment and control are equal on most domains** (possibly some small differences still on asset ownership)
- In both countries, growing variance on financial economic outcomes

## Setting: Ethiopia

- 925 Households chosen in 10 villages through Productive Safety Net Programme (workfare program) in Tigray Region, Ethiopia
- Livelihoods: sheep and goats (62%), oxen (24%), bees (10%), petty trade inputs (4%)
- Key aspect of promoted livestock activities: buy, fatten (through molasses, feed), re-sell
- Ethiopian government: need to save initial size of asset transfer ( $\approx 400$  USD PPP) before accessing, using savings (stored at bank account in nearby town)

# Ethiopia Average Treatment Effects

## Ethiopia: Indexed Household Outcomes

	(1)	(2)	(3)	(4)	(5)
	Per Capita Consumption, Standardized	Asset Index	Income and Revenues Index	Financial Inclusion Index	Food Security Index
<i>ITT: Two Year</i>	0.239*** (0.07)	0.769*** (0.08)	1.409*** (0.16)	1.851*** (0.12)	0.139** (0.06)
<i>ITT: Three Year</i>	0.347*** (0.07)	0.813*** (0.08)	0.459*** (0.07)	0.781*** (0.11)	0.186*** (0.06)
<i>ITT: Seven Year</i>	0.134** (0.07)	0.306*** (0.07)	0.07 (0.07)	0.01 (0.06)	0.04 (0.07)

- For bottom 99% of distribution, still positive ITTs on saving (+72%)

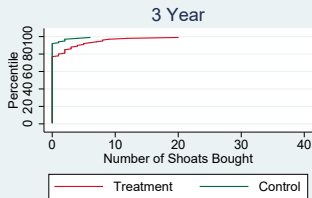
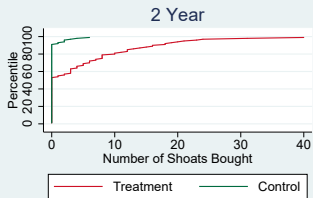
# Sheep and Goat Sales

## ETH: Shoat Sales in Last 12 Months, by Year



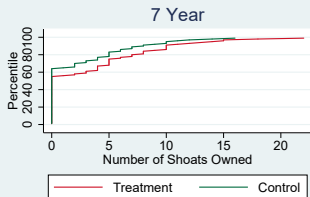
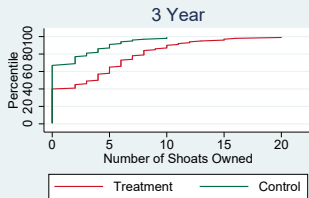
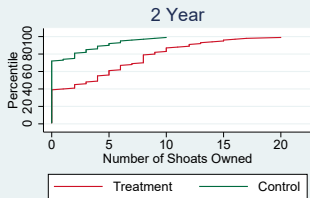
# Sheep and Goat Purchases

## ETH: Shoat Purchases in Last 12 Months, by Year



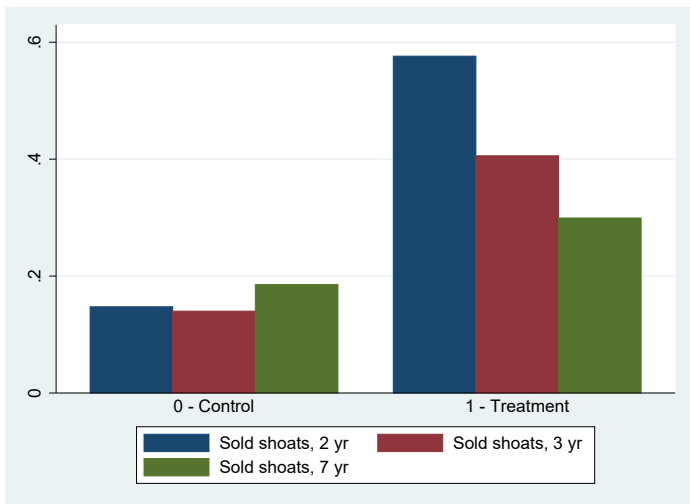
# Sheep and Goat Ownership

## ETH: Current Number of Shoats Owned

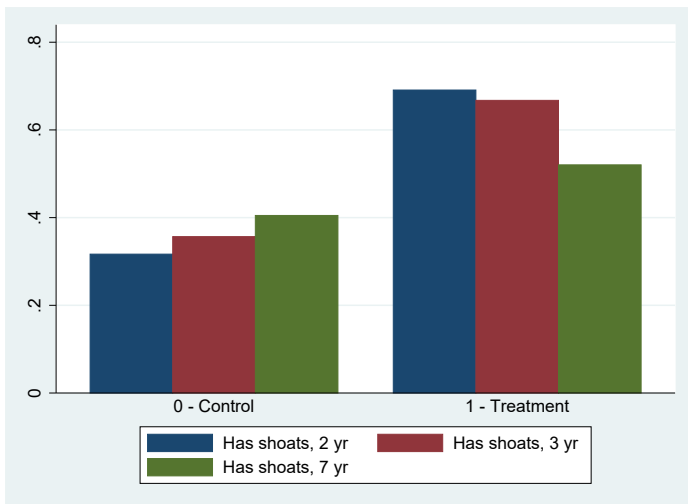




# Sheep and Goats: Any sales



# Sheep and Goats: Owns Any



# Agricultural Outcomes

## Ethiopia: Agricultural Outcomes

	(1)	(2)	(3)	(4)
	Hectares Cultivated	Value of Harvest (USD PPP)	Agricultural Expenses (USD PPP)	Net Agricultural Profits (USD PPP)
<i>ITT: Two Year</i>	0.0734** (0.03)	91.72*** (26.54)	40.23*** (11.57)	51.49** (23.13)
Control mean	0.58	374.10	117.50	256.60
<i>ITT: Three Year</i>	0.0932*** (0.03)	102.4*** (27.49)	30.12*** (8.37)	72.33*** (24.75)
Control mean	0.63	433.70	75.91	357.70
<i>ITT: Seven Year</i>	0.0923*** (0.03)	67.11** (33.81)	30.20*** (10.64)	36.91 (28.66)
Control mean	0.58	442.80	169.20	273.60

## Context: Ghana

- 2600 households across 154 villages, three (mostly) rural stations in Northern, Upper East, Ghana
- 94% of households engaged in agriculture at baseline
- Program explicitly targeted to women
- Productive asset transfers involved pairs of enterprises; most common pairs were:
  - (1) 4 goats and 4 hens (45%)
  - (2) 4 goats and inputs for one acre of maize (27%)
  - (3) 4 hens and bag of shea nuts (6%)
- In total, 75% of households received 4 goats, 64% received 4 hens, 37% received maize inputs

# Ghana Average Treatment Effects

## Ghana: Index Household Outcomes

	(1)	(2)	(3)	(4)	(5)
	Per Capita Consumption, Standardized	Asset Index	Income and Revenues Index	Financial Inclusion Index	Food Security Index
<i>ITT: Two Year</i>	0.089* (0.05)	0.26*** (0.05)	0.17*** (0.05)	0.26*** (0.06)	0.06 (0.04)
<i>ITT: Three Year</i>	0.14*** (0.05)	0.36*** (0.06)	0.35*** (0.07)	0.35*** (0.08)	0.073* (0.05)
<i>ITT: Eight Year</i>	0.00 (0.04)	0.12 (0.08)	0.06 (0.06)	-0.01 (0.04)	

# Ghana Livestock Ownership

## Ghana: Livestock Ownership

	(1)	(2)	(3)
	Total Livestock Value, USD PPP	Value of Goats and Chickens, USD PPP	Value of Other Livestock, USD PPP
<i>ITT: Eight Year</i>	66.03 (101.10)	28.29** (11.80)	37.74 (97.98)
Control mean	443	142	301

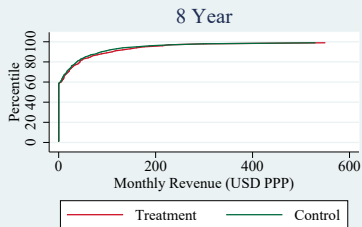
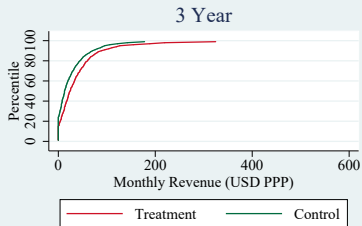
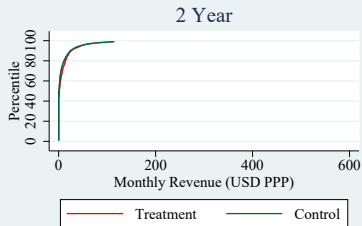
# Ghana Asset Ownership

## Ghana Asset Ownership

	(1)	(2)	(3)
	Total Asset Value	Productive Asset Value	Household Asset Value
<i>Treatment (ITT): Eight Year</i>	207 (135)	116 (121)	90.9** (43)
Observations	2501	2501	2501
R-squared	0.135	0.108	0.152
Control mean	864	495	369

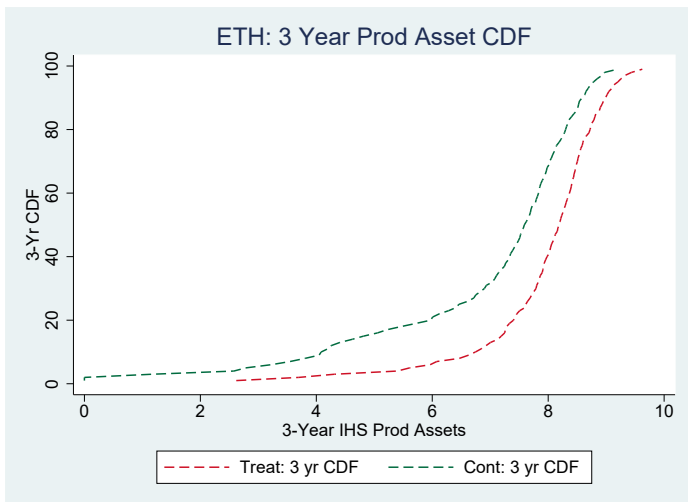
# Ghana Livestock Revenue

## Ghana: Livestock Revenue per month, by Year

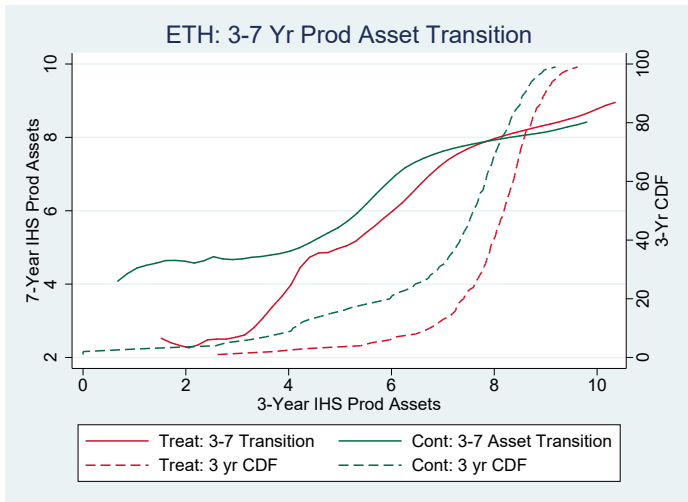




# Ethiopia: IHS Productive Asset CDF



# Ethiopia: IHS Asset Transitions: 3-7 Years



# Ghana: IHS Asset Transitions: 3-7 Years

