

Unconditional Cash Transfers: A Bayesian Meta-Analysis of Randomized Evaluations in Low and Middle Income Countries

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Why Unconditional Cash Transfers?

- UCTs are becoming an increasingly used policy tool for poverty alleviation, emergency relief or boosting entrepreneurship
 - e.g.: *Baird et al (2011); Haushofer and Shapiro (2016)*
- Benchmark for other competing alternatives
- Many open questions on:
 - Optimal design (e.g. disbursement schedule, targeting)
 - Potential negative effects

Why This Meta Analysis?

- Many studies over the years, published in different journals across disciplines
- Wide set of outcomes analyzed within and across papers
- Difficult to compare effects across studies
- Many dimensions of heterogeneity
 - e.g. disbursement schedule, dynamic trends, marginal effects of transfer amount or targeting policies

Objectives of a Meta Analysis

- ① Create a database of academic evaluations of UCTs
 - need **inclusion criteria**
- ② Harmonize methodologies and results across studies
 - Need to **normalize** results
- ③ Quantify overall effects
 - need a **statistical model**
- ④ Identify salient dimensions of heterogeneity in effects
 - need estimate-level **covariates**

Inclusion Criteria and Outcomes

Inclusion Criteria:

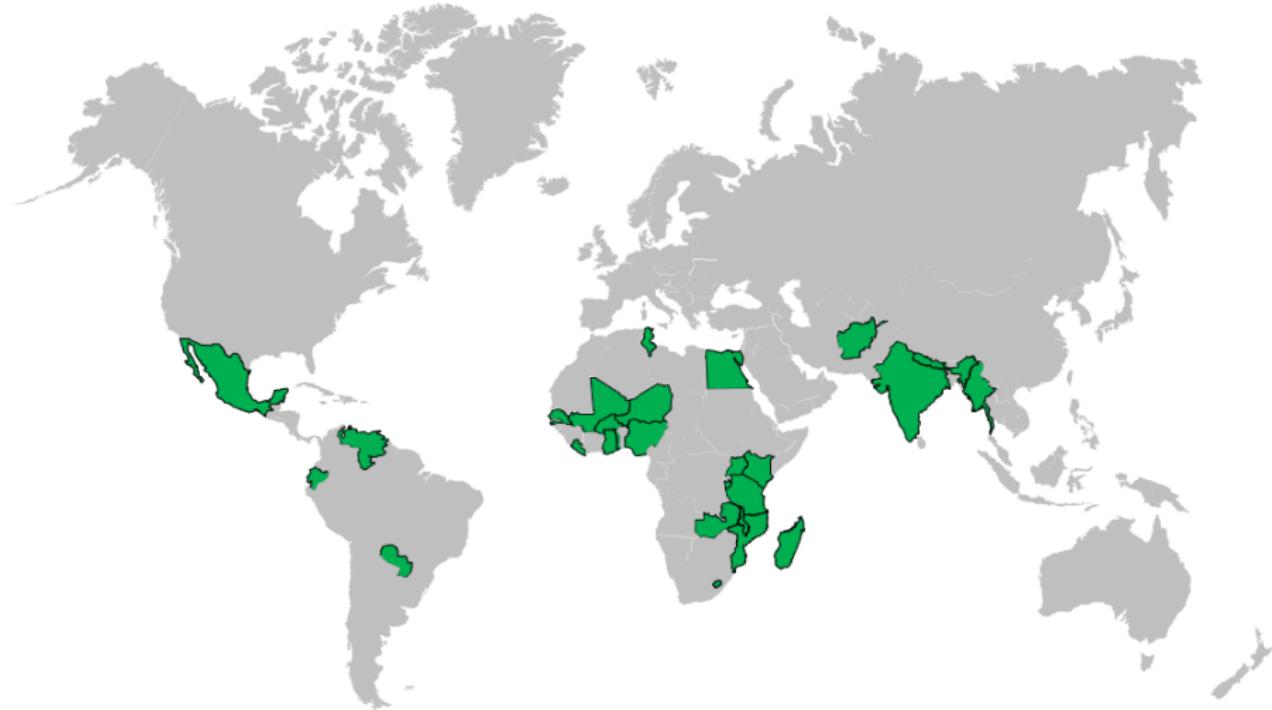
- Randomized Controlled Evaluation
- Treatment arm with unconditional cash transfer (UCT)
- Low- or middle-income countries

Relevant Outcomes:

- Total and Food Consumption, Food Security
- Assets, Savings and Income
- Labour Supply
- Psychological Well-being, Child Health and Education

Final Database

- 72 RCTs/programs, 114 studies, 500 estimates, 13 outcomes
- Disbursement schedule: 33 stream programs, 35 lump sum, 5 both
- Average endline: 21 months after program onset, more than 90% of estimates measured between 6 and 48 months after onset
- 47 endlines conducted as streams ongoing, 24 endlines once streams completed



Normalizing Outcomes

Definition of two types of outcomes:

- **Stock** Outcomes: e.g. Assets, Savings, Child-health variables
 - normalization: TE / Total Transfer Amount
- **Flow** Outcomes: e.g. Consumption, Psychological Wellbeing, Labour outcomes
 - normalization: TE / Monthly Tranche Amount

How to Analyse the Data?

$$\hat{TE} \mid \theta, \hat{se} \sim \mathcal{MN}\left(\theta, \begin{bmatrix} \hat{se}_1^2 & \cdots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \cdots & \hat{se}_N^2 \end{bmatrix}\right)$$

$$\theta \mid X, \beta, \sigma_\theta \sim \mathcal{MN}(X\beta, \sigma_\theta^2 I_N)$$

$$\beta_k \sim \mathcal{N}(0, 4) \quad \sigma_\theta \sim \text{Half-Cauchy}(0, 4)$$

- (\hat{TE}, \hat{se}) : data collected from papers
- θ : “True” treatment effects
- X : Treatment effects covariates

Today's Focus

- ① Aggregate Average Treatment Effects
- ② Heterogeneity by Disbursement Schedule
- ③ Heterogeneous Impact on Income and Labour Force Participation
- ④ What type of Transfer boosts Entrepreneurship?
- ⑤ Are UCTs effective in encouraging female entrepreneurship?

Aggregate Average Treatment Effects - Flow Outcomes

	(1)	(2)	(3)	(4)
	Predicted Treatment Effect of \$100	Predicted Treatment Effect of Median Transfer Amount (<i>PPPS\$29</i>)	Estimates (Programs)	Pooling Factor
Treatment Effect per Monthly Tranche Amount				
<i>Flow Outcomes</i>				
Monthly Household Consumption (with controls)	59.2 (44.8, 74.6)	17.4 (13.1, 21.9)	82 (45)	0.55
Monthly Household Food Consumption	42.7 (31.4, 55.0)	12.5 (9.2, 16.1)	49 (31)	0.31
Monthly Income	22.7 (15.4, 30.7)	6.7 (4.5, 9.0)	88 (38)	0.53
Hours Worked per Week	0.1 (-0.6, 0.7)	0.02 (-0.2, 0.2)	25 (13)	0.30
Labor Force Participation (percentage points)	15.6 (6.1, 25.6)	4.6 (1.8, 7.5)	17 (11)	0.19
School Enrollment (percentage points)	14.0 (6.5, 22.2)	4.1 (1.9, 6.5)	26 (16)	0.30
Food Security z-Score	0.6 (0.4, 0.8)	0.2 (0.1, 0.2)	47 (25)	0.28
Psychological Well-being z-Score	0.5 (0.3, 0.7)	0.1 (0.1, 0.2)	56 (30)	0.12

Aggregate Average Treatment Effects - Stock Outcomes

	(1) Predicted Treatment Effect of \$100	(2) Predicted Treatment Effect of Median Transfer Amount (PPP\$409)	(3) Estimates (Programs)	(4) Pooling Factor
<i>Stock Outcomes</i>				
Stock of Total Assets	19.6 (12.6, 26.7)	80.1 (51.7, 109.4)	60 (28)	0.31
Stock of Financial Assets	1.8 (1.2, 2.5)	7.5 (5.1, 10.1)	49 (24)	0.56
Height-for-Age z-Score	0.01 (0.002, 0.014)	0.03 (0.01, 0.06)	32 (18)	0.70
Weight-for-Age z-Score	0.01 (-0.0001, 0.0126)	0.03 (-0.0004, 0.0517)	15 (10)	0.84
Stunting (percentage points)	-0.2 (-0.6, 0.2)	-0.8 (-2.4, 0.7)	12 (8)	0.71

Heterogeneity by Disbursement Type

- Ongoing Stream transfers tend to have higher effects for welfare outcomes
 - Consumption, Food Security, School Enrollment and Psychological Wellbeing
 - But also on Savings
- Lump Sum transfers tend to have higher effects for Assets accumulation
- Completed Stream have also high effects on Assets accumulation

Heterogeneity by Disbursement Type - Flow Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
	Predicted Treatment Effect of \$100				Estimates (Programs)	
	Ongoing Stream	Completed Stream	Lump Sum	Ongoing Stream	Completed Stream	Lump Sum
Treatment Effect per Monthly Tranche Amount						
<i>Flow Outcomes</i>						
Monthly Household Consumption	83.7 (65.8, 102.7)	56.6 (31.6, 82.4)	42.0 (27.4, 57.3)	27 (20)	14 (7)	41 (25)
Monthly Household Food Consumption	71.1 (57.1, 86.0)	13.7 (-6.5, 34.4)	17.8 (5.9, 30.7)	22 (15)	6 (4)	21 (15)
Monthly Income	26.2 (12.0, 41.3)	11.5 (-1.0, 25.1)	18.0 (10.7, 25.8)	11 (7)	13 (5)	53 (25)
Hours Worked per Week	0.3 (-1.5, 2.0)	-0.2 (-1.3, 0.8)	0.3 (-0.6, 1.1)	3 (2)	9 (4)	13 (7)
Labor Force Participation (percentage points)	9.2 (-8.9, 27.1)	28.3 (7.7, 50.4)	13.7 (-2.2, 29.8)	6 (5)	4 (1)	7 (5)
School Enrollment (percentage points)	16.5 (8.3, 25.7)	29.9 (15.4, 44.9)	-2.2 (-12.7, 8.2)	15 (10)	5 (3)	6 (4)
Food Security z-Score	0.8 (0.5, 1.2)	0.9 (0.6, 1.3)	0.4 (0.1, 0.6)	14 (9)	13 (7)	20 (14)
Psychological Well-being z-Score	1.1 (0.7, 1.5)	0.4 (0.04, 0.83)	0.2 (-0.1, 0.5)	16 (10)	14 (7)	26 (16)

Heterogeneity by Disbursement Type - Stock Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Predicted Treatment Effect of \$100</i>			<i>Estimates (Programs)</i>		
	Ongoing Stream	Completed Stream	Lump Sum	Ongoing Stream	Completed Stream	Lump Sum
Treatment Effect per Total Transfer Amount						
<i>Stock Outcomes</i>						
Stock of Total Assets	1.6 (-15.5, 18.7)	26.0 (12.2, 39.9)	21.7 (12.8, 30.9)	7 (5)	12 (4)	41 (23)
Stock of Financial Assets	2.4 (1.0, 3.9)	1.4 (0.02, 2.75)	1.8 (1.1, 2.7)	4 (4)	4 (4)	17 (17)
Height-for-Age z-Score	0.005 (-0.001, 0.013)	0.01 (0.002, 0.026)	0.01 (-0.01, 0.03)	21 (14)	8 (6)	3 (1)
Weight-for-Age z-Score	0.02 (0.01, 0.03)	0.01 (-0.002, 0.014)	-0.002 (-0.01, 0.01)	8 (7)	4 (3)	3 (1)

UCTs and Labour Force Participation

- UCTs cause a general shift in employment from Wage to Non-Wage employment and income
- Lump Sum transfers cause significant increases in Non-Wage employment
- UCTs targeted to women have significantly higher positive effects on Non-Wage employment1

UCT and Substitution Effect in LFP

	(1)	(2)	(3)	(4)
	Predicted Treatment Effect of \$100 Transfer		Estimates (Programs)	
	LFP - Binary Outcome (percentage points)	Monthly Income (PPP \$)	LFP	Monthly Income
Treatment Effect per Monthly Tranche Amount				
Aggregate	16.5 (5.0, 28.0)	29.0 (17.8, 41.3)	17 (11)	34 (14)
Wage Employment	-11.6 (-21.2, -2.1)	18.6 (-9.0, 46.7)	25 (12)	5 (4)
Non-Wage Employment	14.7 (8.4, 21.2)	18.6 (8.4, 29.5)	62 (22)	49 (20)

UCT and Substitution Effect in LFP (2)

	(1)	(2)	(3)	(4)
	Predicted Treatment Effect of \$100 Transfer			Estimates (Programs)
	LFP - Binary Outcome <i>(percentage points)</i>	Monthly Income <i>(PPP \$)</i>	LFP	Monthly Income
Treatment Effect per Monthly Tranche Amount				
<i>Flow Outcomes</i>				
Aggregate	16.5 (5.0, 28.0)	29.0 (17.8, 41.3)	17 (11)	34 (14)
Wage Employment	-11.6 (-21.2, -2.1)	18.6 (-9.0, 46.7)	25 (12)	5 (4)
Non-Wage Farming Employment	2.7 (-7.7, 13.1)	46.7 (11.4, 82.2)	21 (10)	5 (3)
Non-Wage Non-Farming Employment	21.2 (13.5, 29.1)	19.1 (7.7, 31.3)	41 (21)	39 (12)

What types of UCTs boost Entrepreneurship?

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Predicted Treatment Effect of \$100</i>			<i>Estimates (Programs)</i>		
	Ongoing Stream	Completed Stream	Lump Sum	Ongoing Stream	Completed Stream	Lump Sum
Panel A. Repeat of Table 4, Panel B						
Labor Force Participation (percentage points)	9.2 (-8.9, 27.1)	28.3 (7.7, 50.4)	13.7 (-2.2, 29.8)	6 (5)	4 (1)	7 (5)
Panel B. Treatment Effect per Monthly Tranche Amount						
Wage Employment	-16.7 (-37.4, 3.3)	-35.8 (-61.0, -11.1)	-3.9 (-16.2, 8.3)	6 (4)	4 (2)	15 (8)
Non-Wage Employment	7.9 (-3.5, 19.2)	2.0 (-14.4, 18.5)	24.4 (14.9, 34.3)	22 (15)	6 (4)	21 (15)
Farming	9.0 (-8.8, 26.8)	-5.8 (-31.4, 19.8)	4.1 (-14.9, 23.2)	11 (7)	13 (5)	53 (25)
Non-Farming	7.1 (-7.6, 22.0)	7.5 (-14.1, 29.3)	31.3 (20.2, 42.9)	3 (2)	9 (4)	13 (7)

UCTs and Female Entrepreneurship

	(1) <i>Predicted Treatment Effect of \$100</i>		(3) <i>Estimates (Programs)</i>	
	Not Targeted	Targeted to Women	Not Targeted	Targeted to Women
Panel A. Repeat of Table 4, Panel B				
Labor Force Participation (percentage points)	12.0 (-4.0, 27.8)	18.3 (5.3, 32.0)	7 (5)	10 (6)
Panel B. Treatment Effect per Monthly Tranche Amount				
Wage Employment	-10.5 (-20.2, -0.9)	-11.4 (-27.4, 4.2)	8 (5)	17 (7)
Non-Wage Employment	2.6 (-4.2, 9.3)	42.2 (31.8, 53.1)	23 (10)	36 (12)

What We Have Learnt

- Effects of UCTs must become a benchmark for any potential new intervention
- UCTs **can** have positive effects on entrepreneurship, if correctly designed
- UCTs promote localised choices and individual freedom