

“From Protection to Production”

The Productive Impacts of the Malawi
Social Cash Transfer:
Evidence using Mchinji district data

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Outline

- Social Cash Transfer Scheme background
- Data (Sources, Limitations)
- Research Objectives
- Results (Earlier Work, Current Work)
- Summary

Program description

- Malawi Social Cash Transfer (SCT)
- Unconditional transfer to very poor, labour constrained households
- Since 2006
- Coverage in 7 districts:
 - 24000+ households, 95000 individuals
 - Baseline of the national expansion planned for 2011
- Targeting- Community based mechanism
- Transfer size and structure (4-13 USD)

Data: Sources

- Panel survey of about 820 households
- Three rounds
 - Baseline data (R1): March 2007
 - R2: September 2007
 - R3: April 2008
- Attrition of 7.6%
 - 62 households dropped
 - 758 households analysed
- Survey instrument collected adult, child, household level information on broad range of topics

Data: Limitations

- Questionnaire design
 - Income module inconsistencies (ref. period; frequencies; classification of sources)
 - Asset module inconsistencies (back-tracking data)
- Missing key locational variables

Research Objective

- Analysis intends to identify productive impacts of the SCT on rural households in the Mchinji district
- SCTs implemented to reduce vulnerability, poverty, improve food security
- Injections of cash can generate pathways out of poverty through economic impacts at household & community levels
- Operating through household level channels such as labour allocation, investments, risk coping

Research Objective

- Indicators to analyse:
 - HH participation in income activities
 - HH Income shares
 - Investments in productive assets - purchases & ownership of
 - agricultural tools
 - animals
 - land
 - fruit trees
 - Child schooling (attendance & absenteeism)
 - Child participation in labour activities in/outside household
 - Risk coping strategies

Research Objective

- Expectations of SCT impact:
 - will increase income and expenditures
 - through investments in productive assets
 - will not reduce able-bodied labour participation
 - will reduce detrimental risk-coping strategies

Descriptive Stats

HH participation in income activities

	Baseline (Round 1)		Round 3	
	Control	Treated	Control	Treated
HOUSEHOLD LEVEL STATISTICS				
N	386	372	386	372
Income: Participation				
Salaried employment	0.02	0.05**	0.02	0.03
Agricultural wage labour	0.29	0.33	0.69	0.26***
Ganyu labour (not reported in Round 1)	.	.	0.68	0.25***
On-farm self employment	0.31	0.33	0.33	0.41**
Rental income	0.03	0.03	0.01	0.05***
Non-farm self employment	0.42	0.52***	0.13	0.14
Transfer income	0.38	0.44*	0.41	1.09***
Public transfer income	0.03	0.03	0.02	0.99***
Private transfer income	0.36	0.42	0.40*	0.10***
Other income sources	0.07	0.07	0.04	0.03
Number of ganyu days worked per adult	4.76	4.76	3.86	0.80***

Descriptive Stats

HH shares of income

	Baseline (Round 1)		Round 3	
	Control	Treated	Control	Treated
<hr/> HOUSEHOLD LEVEL STATISTICS <hr/>				
N	386	372	386	372
<hr/> Income: Shares <hr/>				
Ganyu labour (not reported in Round 1)	.	.	0.27	0.09***
Agricultural wage labour	0.2	0.22	0.27	0.10***
Salaried employment	0.01	0.02	0.01	0.02**
On-farm self employment	0.19	0.15*	0.15	0.31***
Non-farm self employment	0.29	0.33	0.06	0.07
Rental income	0.02	0.02	0.00	0.03***
Other income sources	0.05	0.04	0.01	0.01
Transfer income (excluding cash transfer)	0.17	0.17	0.19	0.05***

Descriptive Stats

HH Asset Ownership

HOUSEHOLD LEVEL STATISTICS	Baseline (Round 1)		Round 3	
	Control	Treated	Control	Treated
N	386	372	386	372
Asset Ownership				
hoes	0.88	0.88	0.82	0.95***
axes	0.28	0.33	0.19	0.52***
sickles	0.17	0.27***	0.17	0.56***
beer drums (used of iga)	0	0.01	0.01	0.02
large animals	0	0	0.00	0.01*
small animals	0.1	0.13	0.11	0.72***
cattle	0	0	0.00	0.01*
goats	0.02	0.01	0.01	0.53***
pigs	.	.	0.00	0.15***
chickens	0.1	0.13	0.10	0.71***
bicycle	0.01	0.01	0.02	0.13***
land	0.15	0.15	0.96	0.97

Descriptive Stats

HH Risk Coping Behaviour

	Baseline (Round 1)		Round 3	
	Control	Treated	Control	Treated
<u>HOUSEHOLD LEVEL STATISTICS</u>				
N	386	372	386	372
<u>Household Risk-Coping Strategies to obtain food/money</u>				
Begging	0.33	0.44***	0.27	0.08***
Children work	0.39	0.52***	0.41	0.14***
Other risky behavior (prostitution, theft, other)	0.02	0.02	0.01	0.01

Descriptive Stats

Child time use

	Baseline (Round 1)		Round 3	
	Control	Treated	Control	Treated
CHILD LEVEL STATISTICS				
Number of children	786	1124	786	1124
Child currently attending school	0.71	0.77***	0.68	0.71
Number of days missed school previous month	3.10	2.69*	2.33	1.12***
Child performed chores for the household	0.66	0.60**	0.67	0.71*
# hours per week child performed household chores	1.34	1.23	1.01	1.11
Child performed childcare in the household	0.23	0.25	0.17	0.22**
# hours per week child performed childcare	0.58	0.65	0.28	0.36**
Child cared for elderly adults in the household	0.18	0.16	0.16	0.13
# hours per week child care for elderly in the household	0.45	0.33	0.24	0.2
Child did domestic service for another household	0.09	0.07	0.11	0.03***
Child did paid domestic service for another household	0.06	0.05	0.09	0.02***
# hours per week did domestic work for other hh	0.24	0.22	0.31	0.08***
Child worked in income-generating activities	0.03	0.04	0.01	0.02
# hours per week worked in income-generating activities	0.09	0.12	0.04	0.05
Child worked in family farm/nonfarm business	0.22	0.22	0.25	0.28*
# hours per week worked in family farm/nonfarm business	0.55	0.43*	0.51	0.59
Child did leisure activities	0.66	0.69	0.73	0.67**
# hours per week spent on leisure activities	2.13	2.1	1.95	1.98

Results: Earlier Reports

- Miller et al 2008 and Miller et al 2009 DiD outcomes:
 - Child work in other households = -0.107
 - School enrollment = +0.049
 - School absenteeism = -0.9
 - Income from crop activities = +\$220/month
 - Income from livestock activities = +\$63/month
 - Income from renting out assets = +\$35/month
 - Participation in crop activities/sales = +0.074

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 - Participation in crop activities/sales = +0.074
- Important outcomes but significance levels not reported and methodology unclear (controls? std errors? matching?)

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 - Child work in other households = -0.107

Domestic tasks in other household	R1	R3	
Comparison	10.3	11.2	0.9
Treatment	13.9	4.1	-9.8
	3.6	-7.1	-10.7

- Attempt to replicate indicates only a simple DiD used

Methods

- Attempts to isolate effect of an intervention on the outcome indicators of interest
- Take advantage of experimental design
- DiD estimation of:

$$Y_i = \beta_0 + \beta_1 \text{SCT}_i + \beta_2 \text{Round} + \beta_3 (\text{Round} * \text{SCT}_i) + \text{BX} + \mu_i$$

- X controls for
 - HH head characteristics (age, age2, gender, single, HIV/AIDS, disable), HH composition (#members per age group), Dwelling characteristics
 - Child level regs: child age, age2, gender, double-orphan

Methods

- Also attempt PSM on some results
- to address baseline differences between T & C
- T is better off at baseline → can lead to over-estimates
- use PSM at baseline and then DiD
- Very preliminary!

Results: HH Level

- Drop in ag wage labour participation
- Income shares: increase in ag & rent, but sig. weak

	Ag-wage income participation	Share on-farm income	Share rental income	Days of ganyu worked/adult
Round	0.334*** (0.044)	-0.082** (0.033)	-0.019* (0.010)	0.164 (0.572)
SCT	0.024 (0.036)	-0.024 (0.024)	-0.001 (0.008)	-0.964* (0.505)
Round*SCT	-0.489*** (0.047)	0.167*** (0.035)	0.022* (0.011)	-2.750*** (0.594)
Control variables?	YES	YES	YES	YES
Observations	1,497	1,497	1,497	1,497
R-squared	0.184	0.059	0.024	0.170

Results: HH Level

- Asset investments increase

	Purchased animals	Purchased fruit trees	Purchased land	Purchased agricultural tools
Round	0.031* (0.016)	-0.007 (0.005)	0.001 (0.005)	0.086*** (0.020)
SCT	-0.006 (0.006)	0.003 (0.003)	0.005* (0.003)	-0.014* (0.008)
Round*SCT	0.787*** (0.023)	0.070*** (0.014)	0.013* (0.007)	0.583*** (0.030)
Control variables?	YES	YES	YES	YES
Observations	1,497	1,497	1,497	1,497
R-squared	0.758	0.076	0.032	0.570

Results: HH Level

- Receipt of private transfers down
- Improved risk coping behaviour

	Received Private Transfers (Gifts)	Begged for food/money	Sent child to work (pulled from school)
Round	0.085** (0.042)	0.015 (0.042)	0.037 (0.040)
SCT	0.103*** (0.036)	0.130*** (0.037)	0.024 (0.034)
Round*SCT	-0.334*** (0.045)	-0.307*** (0.045)	-0.392*** (0.044)
Control variables?	YES	YES	YES
Observations	1,497	1,497	1,497
R-squared	0.095	0.110	0.261

Results: Child Level

- Schooling outcomes

	Attending School	Days school missed
Round	-0.094*** (0.021)	-0.716*** (0.275)
SCT	0.080*** (0.019)	-0.409 (0.276)
Round*SCT	-0.037 (0.026)	-0.863*** (0.328)
Control variables?	YES	YES
Observations	3,472	2,493
R-squared	0.288	0.054

Results: Child Level

- work outside the home less prevalent
- work within household increases
- leisure time

	Worked for other hh (paid/unpaid)	Did chores for own hh	Worked for family business	Spent time on leisure
Round	0.013 (0.015)	-0.042* (0.024)	-0.482** (0.197)	0.000 (0.022)
SCT	-0.020 (0.013)	-0.028 (0.023)	-0.309 (0.219)	0.047** (0.021)
Round*SCT	-0.054*** (0.017)	0.104*** (0.031)	0.557** (0.257)	-0.087*** (0.028)
Control variables?	YES	YES	YES	YES
Observations	3,771	3,142	913	3,771
R-squared	0.062	0.204	0.136	0.180

Summary & Conclusions

- Positive outcomes
 - higher household investments
 - shift into improved IGAs
 - schooling improvements
 - risk coping
- Negative (or less positive) outcomes
 - child labour not reduced
 - child labour sometimes higher
 - issue of incentives?
- Why expect labour outcomes among the labour constrained?
- Substitution effect with private transfer income- reflects need and social networks

Summary & Conclusions

- Improved measurement of effects depends on
 - Qx design- detailed & consistent
 - Data quality & availability
- Next steps
 - expand PSM to all results
 - incorporate administrative data