Valuing Assets Provided to Low-Income Households in South Sudan

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1 Introduction

Poor rural households typically earn money from low-return activities like small-scale cultivation or casual day labor. One can reasonably expect that they will face both financial and human capital constraints, keeping them from investing and expanding into more lucrative activities. Experience and research over many years has lead many to believe that households facing particularly acute poverty are unable to solve this problem through the small, high-interest loans typically marketed to them. It was these considerations that lead to the development of the initial "Transfers to the Ultra-Poor" (TUP) program in Bangladesh. First implemented by BRAC in 2007, the program aims to simultaneously alleviate physical and human capital constraints by providing households with a significant transfer of food and productive assets, followed by two years of training and support by extension officers. The general framework[1] has since expanded to a wide range of countries, with a general pattern of success in increasing aggregate investment, labor supply, and aggregate consumption. (Banerjee et al., 2015) (Bandiera et al., 2016)

A second and related literature has gained new interest in parallel with this literature which examines the effect of offering direct unconditional cash transfers (UCT's) to poor households. (Haushoffer & Shapiro, 2016) (Blattman et al., 2014) (Blattman et al., 2013) While this and the TUP

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[1] known as the "graduation framework" pointing to the original ambition to move households into an activity where they are able to finance further income growth without costly transfers.

framework are both direct capital transfer interventions, they are very different in their approach, with TUP programs guiding and constraining the use of capital towards productive investment while UCT's allow households to invest and consume as they see fit.

Here, we examine the experimental evaluation of BRAC's pilot TUP program in South Sudan and compare it to a round of unconditional cash transfers. Our results contribute to the general literature in two important ways. First, South Sudan's political and economic institutions have overwhelmingly politically unstable since this study's inception, which may affect the value of the program for households in important ways. Second, a randomly selected group of households received cash transfers equal in market value to the assets provided to the TUP households. While an experimental literature has been established studying the graduation framework in isolation, this is among the first experiments attempting to directly compare it to a obvious alternative investment.

2   The Program

The pilot program itself was similar to the other TUP programs completed by BRAC. It consisted of four phases: targeting and selection, training and enterprise selection, asset transfers, and monitoring.

2.0.1   Targeting, Selection, & Training

The fist phase of the program was to complete a census of households in the area around BRAC's office in the town of Yei in Western Equitoria. This census contained questions to assess eligibility for the program. First, households were excluded if they had a salaried worker in the household, were participating in another NGO program, or had no access to cultivable land (which was in some cases necessary for the program's model). Households were then deemed eligible if they fit at least three criteria in a list of five poverty indicators.[2] The census was completed in April of 2013 and 745 were identified as eligible. Of these, 649 were identified in a baseline survey. These households were stratified on employment, asset ownership, and size

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[2]These criteria were that the household had a head working as a day laborer (generally an occupation with poverty wages), two or more children, at least one child working, fewer than three rooms, or a woman who has not completed secondary school.

and selected into treatment groups. 250 were enrolled in the TUP program, 125 in the UCT group, and the final 274 in a pure control group.

2.0.2 Asset Transfers & Monitoring

The second phase of the program was training and enterprise selection. Unlike most programs of this type, the number of households given each kind of asset was set in advance, with 75 enrolled in agricultural activities (vegetable cultivation), 85 in duck rearing, 45 in goat rearing, and the rest in small trade businesses. While the staff tried to map housheolds' asset types to their respective preferences and skills, a disproportionate number stated a preferences for goats and small trade. Households then atttended training sessions. The first of these were for general business skills around literacy, numercacy, and financial management. The next were sector specific and focused on how to properly raise livestock or gardens.

Once training is completed, asset transfers began in late 2013 and continued through the first few months of 2014. The productive assets related to each enterprise were valued at around $240 per household, with a random subset recieving an additional $60 in assets later in 2014. Shortly thereafter, households started to attend weekly or semi-weekly meetings with other nearby participants to discuss with each other and a BRAC extension officer the details of their businesses. These meetings also included food transfers for a while, which were designed to help get households to the point of receiving revenue from their assets without having to sell them.

In all, the market value of these food transfers were valued at $110, bringing the total value of all transfers to $350-$410. The 125 households in the UCT group were randomly divided in half to receive cash in these amounts. Unfortunately, political instability disrupted NGO operations throughtout South Sudan, preventing the simultaneous disbursal of the cash and asset transfers. Instead, a second survey was conducted in June of 2014, with the cash transfers being disbursed immediately thereafter. This resulted in a timing difference of 3 to 6 months between the two.

2.1   The Data

The census was conducted in April of 2013 in the area around BRAC's offices in Yei County to identify women eligible for participation. A baseline survey was conducted that Summer, which successfully interviewed 649 of these

women and randomly selected them into the TUP, UCT, and control groups. Half of each beneficiary group was randomly selected to receive additional "top-up" transfers with market value of $60 (around 20% of the original transfers).

In response to the outbreak of violence in late 2013 and subsequent closing of the offices in Yei, a midline survey was conducted in June 2014 to try to separate pre- and post-conflict changes in outcomes. For lack of a valid comparison group, we will not speak with any authority about the effect of the conflict on economic conditions in Yei, though we will report estimates of treatment effects on the severity or likelihood of having been effected exposure to the conflict. Some of the original asset transfers were done before the office closure, which may affect estimates of the difference between programs if rates of return changed in the few intervening months. Finally, an endline survey was conducted in mid-2015 to estimate the effect of program participation on households' financial situation and overall welfare. The key here is that the survey conducted in mid-2014 provides us with *short-term* treatment effects of the TUP program within 6 months of the asset transfers, while providing a second baseline for the Cash transfers. Likewise, the 2015 survey allows us to estimate treatment effects one year after the cash transfers, and 15-18 months after the asset transfers.

2.2 Empirical Strategy

We estimate a single model using interactions between time effects and group assignment, as well as baseline values of the outcome variable where available.

$$Y_{it} = \sum_{t=2014}^{2015} \delta_t + \beta_t^{Cash} I_t * Cash_{it} + \beta_t^{TUP} I_t * TUP_{it} + \gamma Y_{i,2013} + \epsilon_i$$

where δ_t are time fixed effects and I_t is an indicator if the year t, and Y_{it} is an outcome of interest for household i in year t. The interaction of *Cash* and *2015* is the endline treatment effect of the cash treatment. We take the interactions of TUP assignment with 2014 and 2015 indicators as the treatment effects at 3-6 and 15-18 months respectively. The analagous interactions with the Cash group offer a second baseline and a 12-month treatment effect, respectively. Since those transfers happened after the midline survey, its interaction with *2014* acts as a placebo; there is no *ex ante*

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reason to expect that they were different from the rest of the control group at that point. Given the slight difference in timing, we report a t-test of the hypothesis $\beta_{\text{TUP,t}}-\beta_{\text{Cash,2015}}=0$ for both $t \in 2014, 2015$. Since the difference in timing is much smaller, we consider $\beta_{\text{TUP,2015}}-\beta_{\text{Cash,2015}}=0$ to be the central hypothesis of interest.

3 Results

3.1 Randomization Check

A crucial assumption is that the treatment and control groups were selected appropriately. We check this by presenting summary statistics by group on a range of factors related to consumption, asset holdings, and household characteristics. We check for balance on observables in Table 1.

Table 1: Means of some analysis variables at baseline. Asterisks indicate p<.1, .05, and .01 respectively

Consumption	CTL	Δ TUP	Δ CSH	N
Meat	4.21	-0.568	-0.052	378
Fuel	0.76	-0.039	-0.072	456
Clothesfootwear	0.67	-0.026	0.033	595
Soap	0.48	-0.008	-0.026	536
Fish	2.50	-0.154	-0.156	474
Charities	0.03	-0.006	0.0	134
Cereals	9.19	-0.947	0.27	605
Transport	0.18	-0.033	0.002	193
Cosmetics	0.68	0.027	-0.125	468
Sugar	1.71	-0.078	-0.189	604
Egg	1.10	-0.091	0.038	276
Oil	1.36	-0.13	-0.141	613
CSH	0.00	0.0	1.0	125
Ceremonies	0.13	0.006	0.026	152
Beans	0.70	0.232	0.226	192
Fruit	0.69	-0.089	0.001	272
Textiles	0.16	-0.004	0.056[*]	376
Utensils	0.25	-0.009	0.008	442

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Consumption	CTL	Δ TUP	Δ CSH	N
Dowry	1.27	-0.041	0.028	126
Furniture	0.20	-0.014	0.045	368
TUP	0.00	1.0	0.0	249
Salt	0.45	-0.026	0.007	617
Vegetables	1.54	-0.165	-0.18	471

Assets	CTL	Δ TUP	Δ CSH	N
Smallanimals	236.60	-86.068	-123.133	123
Bicycle	109.08	-12.555	-11.414	171
CSH	0.00	0.0	1.0	125
Radio	58.45	-5.968	-16.529	260
Motorcycle	341.74	192.956	353.836**	93
TUP	0.00	1.0	0.0	249
Net	19.16	0.668	0.247	423
Poultry	42.40	-3.365	-8.894	161
Bed	241.27	7.992	32.762	521
Chairtables	206.79	-29.368	3.617	531
Mobile	97.54	12.627	-4.198	414
Netitn	7.82	1.215	1.178	181
Cosmetics	0.68	0.027	-0.125	468

Household	CTL	Δ TUP	Δ CSH	N
Daily Food	25.18	-2.215	-0.261	643
Daily Exp	29.90	-2.167	-0.288	646
No. Houses	2.83	0.031	0.118	543
In Business	0.40	0.038	0.017	265
Cereals	9.19	-0.947	0.27	605
# Child	3.26	0.118	0.108	594
Asset Tot.	1757.05	-44.791	98.654	603
Cash Savings	236.90	28.52	-66.812	431
HH size	7.23	-0.175	0.3	648

This is simply suggestive evidence that the treatment and control groups were similar in observables at baseline, with the exception that the cash group has atypically more motorcycles and clothing. But it does suggests that our stratified randomization was not too far from creating comparable groups.

3.2 Consumption

The first measure of welfare to consider is household consumption, defined as the market value of goods or services used by the household. A sizable basket of goods were included in the survey module. These are separated into three categories: Food items (with a 3-day recall window), non-durables (a 30-day recall window), and durables and large expenditures (a one-year recall window). Consumption, as both the total amount and the composition of household spending, is perhaps the most appropriate measure of the welfare or poverty of a household in our survey.

The results for several important consumption measures are presented in Table **??**. Importantly, we do not know about prices for each good in this time, though we can say that inflation was as high as 100% between 2014 and 2015. Nonetheless, we take the sum of all consumption and expenditure questions together as a measure of welfare. [3]

The main result is that TUP participants had higher consumption consumption in 2014, a few months into the primary monitoring phase after the asset transfers. Similarly, the Cash group has higher consumption in 2015, measured just over a year after disbursal. Food transfers had ceased weeks before the 2014 survey was conducted, and the assets had been transferred 6-8 months prior. The TUP group sees no notable difference from control in that period. The short-term consumption effects of either program are economically significant, representing a 23% and 14% increase in average total consumption for TUP and Cash, respectively.

These results are consistent with a story in which either sort of transfer has a short-term consumption effect. Importantly, we do not reject the null hypothesis that the two effects are equal to one another. In either group, the increase in total consumption appears to be driven mainly by increased food consumption, with smaller effects on non-food consumption goods and durables. As such, there is no evidence that the share of food consumed falls, as might be predicted by Engel's law.

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[3]Details on this issue are discussed further in Beegle (2012).

Table 2: Average treatment effects by Group-Year, controlling for baseline levels.

	Tot	logTot	Food	FoodShr	Non-durable	Durable
CTL mean	39.80*	3.52***	27.46*	0.70***	9.73	3.07
	(22.18)	(0.61)	(15.54)	(0.18)	(10.38)	(5.48)
TUP*2014	9.34***	0.23***	6.12***	−0.01	1.94*	1.28**
	(2.26)	(0.06)	(1.57)	(0.02)	(1.02)	(0.50)
TUP*2015	1.69	0.04	0.72	−0.01	1.13	0.09
	(2.15)	(0.05)	(1.50)	(0.01)	(0.96)	(0.47)
CSH*2014	−1.03	−0.02	−0.97	0.01	0.96	−0.38
	(2.80)	(0.07)	(1.95)	(0.02)	(1.28)	(0.62)
CSH*2015	5.66**	0.14**	3.50*	−0.01	2.17*	0.06
	(2.75)	(0.07)	(1.91)	(0.02)	(1.24)	(0.61)
Bsln$_{\text{NAN}}$	6.83***	0.31***	6.13***	0.09***	−0.74	0.80*
	(2.47)	(0.09)	(1.68)	(0.03)	(0.87)	(0.43)
2014	35.09***	3.25***	26.03***	0.69***	8.32***	2.12***
	(1.89)	(0.08)	(1.30)	(0.03)	(0.80)	(0.36)
2015	35.93***	3.29***	24.62***	0.64***	10.14***	2.74***
	(1.77)	(0.08)	(1.22)	(0.03)	(0.74)	(0.33)
Bsln2013	0.10***	0.06***	0.07**	0.07**	−0.11	0.05
	(0.03)	(0.02)	(0.03)	(0.03)	(0.15)	(0.03)
F-stat	4.83	4.77	5.79	6.30	2.23	2.12
N	1305.00	1305.00	1295.00	1295.00	1296.00	1260.00
$\beta_{2014}^{TUP} - \beta^{CSH}$	3.68	0.09	2.61	−0.01	−0.23	1.22
	(3.51)	(0.09)	(2.44)	(0.02)	(1.59)	(0.78)
$\beta_{2015}^{TUP} - \beta^{CSH}$	−3.97	−0.10	−2.78	−0.00	−1.04	0.03
	(2.85)	(0.07)	(1.98)	(0.02)	(1.30)	(0.64)

3.3 Food Security

Generally speaking, observed changes in total consumption don't translate into an increase in reported food security. In each year, we ask how often in a given week the respondent has had experiences indicative of food insecurity. Included are (from left to right) going a whole day without eating, going to sleep hungry, being without any food in the house, eating fewer meals than normal at mealtimes, and limiting portions. We report the percentage of

people who report experiencing each in a typical week, as well as a standardized composite z-score using all of these questions. There is little evidence of a significant treatment effect at endline.

Table 3: Percentage of respondents reporting a food security problem occurs at least once a week.

	Z-score	Whole Day	Hungry	No Food	Fewmeals	Portions
CTL mean	−0.01	0.21	0.21	0.28	0.32	0.36
	(1.00)	(0.41)	(0.40)	(0.45)	(0.47)	(0.48)
TUP*2014	−0.10	−0.02	−0.05	−0.03	0.01	0.01
	(0.09)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
TUP*2015	−0.02	0.03	−0.01	−0.03	0.05	−0.02
	(0.09)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
CSH*2014	−0.05	−0.00	−0.04	−0.01	−0.03	−0.00
	(0.11)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
CSH*2015	0.03	0.06	0.03	−0.01	−0.00	−0.04
	(0.11)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
Bsln2013	0.07**	−0.00	0.02	0.03	0.06**	−0.02
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
2014	0.07	0.09***	0.10***	0.09***	0.17***	0.22***
	(0.06)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
2015	0.03	0.22***	0.21***	0.26***	0.30***	0.39***
	(0.06)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
$Bsln_{NAN}$	−0.17*	−0.02	−0.03	0.03	−0.02	−0.08*
	(0.09)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
F-stat	1.45	9.34	8.36	10.84	6.70	5.91
N	1299.00	1282.00	1297.00	1293.00	1297.00	1292.00
$\beta_{2014}^{TUP} - \beta^{CSH}$	−0.13	−0.08	−0.08*	−0.01	0.01	0.05
	(0.14)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)
$\beta_{2015}^{TUP} - \beta^{CSH}$	−0.06	−0.03	−0.04	−0.02	0.06	0.02
	(0.12)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)

3.4 Assets

We turn now to asset holdings for the households. Controlling for baseline asset holdings where possible, we estimate treatment effects for total value of

assets owned, total value of potentially "productive" assets, as well as land and financial assets.

3.4.1 Total Asset Holdings

Perhaps interestingly, the cash group does not appear to have seen an increase in the value of assets measured, with negative and imprecise point estimates. The most important result is that the TUP group has significantly more asset wealth than the cash or control groups in the short term and two years after receipt of transfers. The TUP group has a change of 536 SSP on average (43% increase over controls, p<.01). So-called "Productive" assets include anything that could plausibly be used in productive activity. [4] Here we see the TUP group has 320 SSP (95%) more in this area over the control group, with a similar magnitude at midline.

Importantly, this is not due to a preciptous increase in assets reported over this time. Note also that the effect on total assets is higher in absolute value than the effect on productive asset value, suggesting that the increased wealth cannot be explained purely by households holding onto asset transfers for the length of the program's monitoring phase. Instead, the TUP group is the only one for whom total measured asset holdings did not fall on average over these two years, which saw hyperinflation and a significant aggregate economic downturn.

Table 4: Average treatment effects by group-year on total value (in SSP) of all assets measured and of productive assets measured

	Total	Productive
CTL mean	1225.61	337.60
	(1502.46)	(605.57)
TUP*2014	535.79***	361.80***
	(154.02)	(74.19)
TUP*2015	624.79***	320.74***
	(146.01)	(68.68)
CSH*2014	−125.86	18.50
	(191.31)	(95.80)
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[4]For now, we include in this list: small and large livestock, farm equipment, mobiles, carts, sewing equipment, sheds, and shop premises.

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	Total	Productive
CSH*2015	−49.99	−5.00
	(187.32)	(88.40)
Bsln2013	0.08***	0.00
	(0.02)	(0.01)
2014	1259.75***	465.53***
	(112.68)	(55.96)
2015	1124.61***	392.97***
	(103.46)	(50.21)
$Bsln_{NAN}$	21.30	−131.14**
	(146.51)	(51.35)
N	1305.00	1247.00
F-stat	8.53	10.19
$\beta_{2014}^{TUP} - \beta^{CSH}$	585.78**	366.79***
	(239.76)	(114.58)
$\beta_{2015}^{TUP} - \beta^{CSH}$	674.78***	325.74***
	(194.72)	(92.26)

3.4.2 Savings

Both treatment arms had significant impact on the average level of cash savings within households. The TUP households are strongly encouraged to pay into a savings account maintained by BRAC each time they meet. Anecdotally, this has discouraged some women from attending the meetings, but it results in TUP participants being 44% (20 pp) more likely to report having any savings at all. It's worth noting though that since the TUP households also regard their savings behavior as much more transparent to BRAC (and have received pressure to save from them) than the other groups, these households may simply be more likely to reveal that they are saving when asked. Among those who have savings, TUP households report having roughly 43% (81 SSP) more in value.

Cash households appear no more likely than the control households to report having cash savings (around 45% in each group), but households that report saving report having 47% (91.4 SSP) more in value. This is significantly less than was given to these households, but combined with the short-term consumption results, goes some distance in explaining the lack of effect on physical asset wealth.
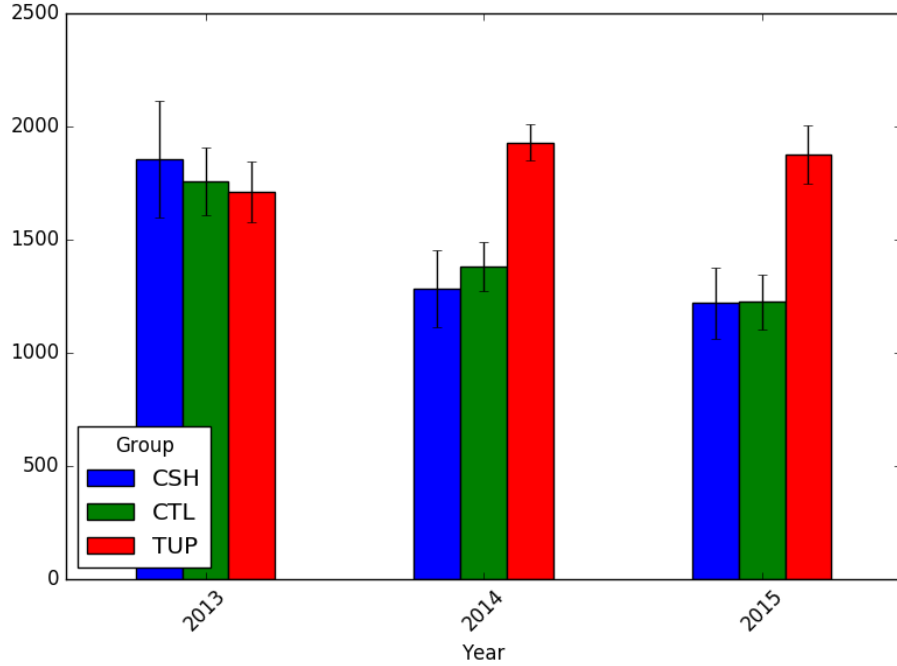
Figure 1: Measured asset wealth by group-year

It is common in this community (and most in the region) to store non-perishable food like maize, cassava, or millet as a form of savings. This would seem particularly reasonable in a high-inflation context, where the price of grain had doubled in the previous year. At least as many households report saving in food (53%) as in cash (46%), with an average market value of 106 SSP. However, we find no evidence that either treatment group increased food savings. [5]

Neither do we find evidence that either treatment increased the size or likelihood of giving or receiving interhousehold transfers, either in cash or in kind. These results are omitted since only 35 and 60 households reported giving and recieving transfers respectively, with no difference in group means.

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[5]Note that food savings was not measured at baseline, so these controls are omitted.

Table 5: Average treatment effects by group-year on percentage of households reporting any savings or land access

$\% > 0$	Savings	Food Sav	LandCult	LandOwn
CTL mean	0.45	0.82	0.82	0.90
CSH*2014	−0.06	0.00	−0.04	−0.01
	(0.06)	(0.04)	(0.04)	(0.04)
CSH*2015	0.03	0.02	0.05	0.02
	(0.05)	(0.04)	(0.04)	(0.04)
TUP*2014	0.22***	−0.02	−0.03	−0.00
	(0.04)	(0.03)	(0.03)	(0.03)
TUP*2015	0.21***	−0.03	0.01	−0.01
	(0.04)	(0.03)	(0.03)	(0.03)
2014	0.43***	1.00***	0.83***	0.82***
	(0.04)	(0.02)	(0.06)	(0.05)
2015	0.39***	0.82***	0.77***	0.84***
	(0.04)	(0.02)	(0.05)	(0.05)
Bsln2013	0.05		0.05	0.07
	(0.04)		(0.05)	(0.04)
Bsln$_{NAN}$	0.08*		0.05	0.05
	(0.04)		(0.06)	(0.05)
$\beta_{2014}^{TUP} - \beta^{CSH}$	0.19	−0.04	−0.07	−0.02
$\beta_{2015}^{TUP} - \beta^{CSH}$	0.18	−0.05	−0.03	−0.03
F-stat	8.83	15.60	0.79	0.76
N	1259.00	870.00	1231.00	1251.00

Table 6: Average treatment effects by group-year on total value (in SSP) of all cash and food savings and area (in fedan) of land being cultiviated by the household (including rented or temporary-use) and owned by the household.

Amt.	Savings	Food Sav	LandCult	LandOwn
CTL mean	191.19	114.78	61.88	46.00
CSH*2014	28.74	0.22	10.18	10.50
	(42.93)	(15.38)	(15.07)	(12.57)

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Amt.	Savings	Food Sav	LandCult	LandOwn
CSH*2015	91.40**	−14.34	−39.18***	−32.37***
	(40.89)	(14.98)	(14.90)	(11.95)
TUP*2014	−27.09	17.16	−4.76	−3.02
	(29.76)	(12.33)	(11.94)	(10.04)
TUP*2015	81.33***	1.13	−17.38	−12.56
	(29.32)	(12.26)	(11.65)	(9.41)
2014	106.72***	62.03***	11.37	17.31**
	(24.85)	(8.36)	(9.94)	(8.56)
2015	163.04***	114.78***	61.52***	51.89***
	(24.13)	(7.60)	(9.54)	(7.88)
Bsln2013	0.05**		0.94	−2.43
	(0.02)		(3.07)	(1.95)
Bsln$_{NAN}$	40.07*		−1.60	−6.02
	(21.24)		(9.92)	(8.29)
$\beta_{2014}^{TUP} - \beta^{CSH}$	−118.49	31.50	34.42	29.35
$\beta_{2015}^{TUP} - \beta^{CSH}$	−10.07	15.47	21.79	19.80
F-stat	7.41	7.14	4.91	3.72
N	671.00	777.00	1042.00	1114.00

3.4.3 Land Holdings

We also examine land ownership and cultivation in each year. We find no evidence that either group is more or less likely to report owning or cultivating land, though this may be in part because land ownership and cultivation is already very common. However, members of the cash group who are involved in agriculture are found to be cultivating significantly less land after the fact, which reports cultivating 65% less and owning 70% less land than the control group. This raises the interesting question of whether the cash group was likely to switch occupations from farming to non-farm self-employment.

3.5 Income

Income was reliably measured only in 2015, and so our estimates do not control for baseline values. The control group in 2015 has a measured income of roughly 4325 SSP per year, or roughly $540 US (assuming an exchange rate of around 8). The TUP group sees a 327 SSP ($41 US, 7%) increase

in annual average income, but with a fairly skewed distribution and high standard errors. The related figure shows that total income is not particularly different among groups. Perhaps the main lesson is that the TUP group has measurably more reported livestock-related income, and less farm income, indicating a shift away from farming. The cash group may exhibit some substitution away from farm and livestock, but as is evident graphically, we do not observe sizable changes in income for either treatment group.
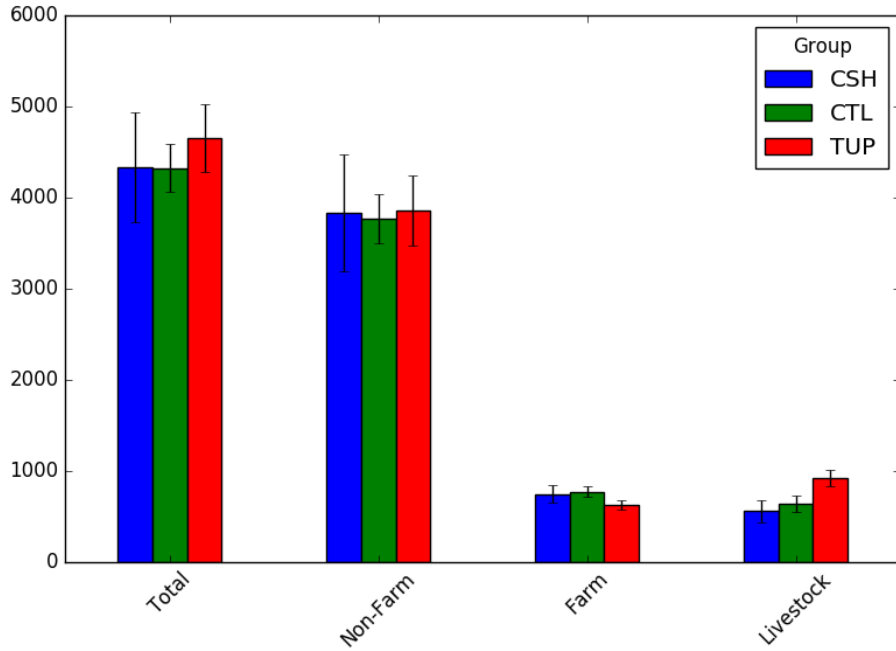

Figure 2: Distribution of total observed income by group

Table 7: Average treatment effects by group-year on total value (in SSP) of income reported in 2015 by sector.

	Farm	Livestock	Non-Farm	Total
CTL mean	773.05	640.33	3774.49	4325.54
TUP	−142.20*	281.12**	86.24	327.83
	(77.21)	(126.30)	(469.48)	(455.95)
CSH	−26.15	−83.81	61.80	7.92

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	Farm	Livestock	Non-Farm	Total
	(100.82)	(177.25)	(620.53)	(600.43)
N	531.00	380.00	606.00	671.00
F-stat	1.75	3.48	0.02	0.28
$\beta^{TUP} - \beta^{CSH}$	-116.05	364.94**	24.44	319.91
	(105.79)	(174.74)	(651.27)	(629.93)

3.6 Exposure to Conflict

In 2014, households were surveyed shortly after the NGO's offices had re-opened in the wake of the outbreak of widespread armed conflict. Respondents were asked a short set of questions about whether they were directly affected, and if so, in what way. There were only a few incidents of violence near Yei town at that point, and the most directly involved ethnic groups made up a small portion of the local populace. There is no clear comparison group to which we might compare our sample, and the economic climate changed over this same period in several ways that were probably not directly caused by the violence. As such, we have no clear means of identifying the effect of the conflict itself on household welfare. Nonetheless, it is interesting to consider correlates with self-reported exposure to the conflict, and to see if program assignment had any effect on households' exposure or response.

Our main outcomes of interest are whether individuals say they were "worried" or "directly affected" by the violence, unable to invest in a farm or business as a result, migrated as a cautionary measure, or did something else to protect the lives of family members. A final question among those who took no cautionary measures was whether this because they did not have the means (i.e. "NoMeans"). TUP participants are 24% (13 pp.) less likely to report having been "affected" by the conflict, and 38% (6 pp.) less likely to report that they were affected specifically by being unable to plant crops or invest in their business. This was the second most common way in which households reported being affected behind "needed to relocate or migrate", where respondents are not clearly different. Nonetheless, this raises the possibility that having received a significant asset transfer around the outbreak of conflict may have helped mitigate the conflict's negative effect on investment and protect households from being affected overall.
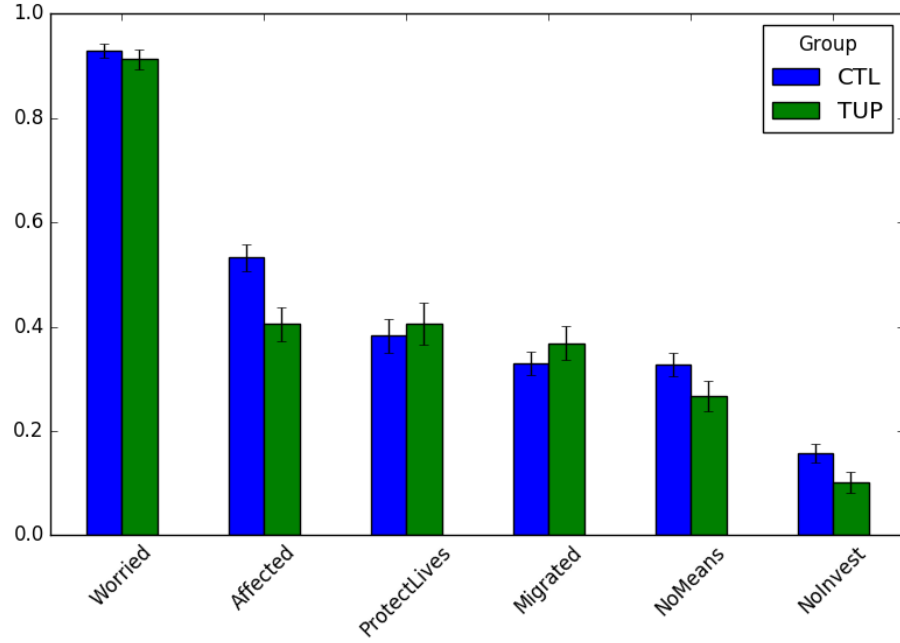
Figure 3: % of Sample reporting exposure to conflict by group.

Table 8: Average treatment effects by group-year on the probability of having been affected in a significant way by the outbreak of violence in late 2013

	Affected	Migrated	NoInvest	NoMeans	ProtectLives	Worried
CTL mean	0.53***	0.33***	0.16***	0.33***	0.38***	0.93***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)
TUP	−0.13***	0.04	−0.06**	−0.06	0.02	−0.02
	(0.04)	(0.04)	(0.03)	(0.04)	(0.05)	(0.02)
F-stat	9.20	0.96	3.95	2.55	0.19	0.49
N	601.00	655.00	655.00	655.00	585.00	603.00

4 Concluding Remarks

BRAC's South Sudan pilot of the TUP program represents the only such test of the ultra-poor graduation framework conducted in an area of significant political and economic instability. It also represents among the only direct comparisons of this model to a similarly expensive unconditional cash transfer, arguably its most sensible benchmark for success. As such, it provides suggestive evidence as to the best way of transfering wealth in order to help poor and vulnerable households.

Cash transfers appear (at least over a short period) to increase consumption and possibly shift investment from agriculture to non-farm activities, without a related increase in wealth or income. Conversely, the TUP program increased wealth and directly shifted work from agriculture to livestock, with increased consumption in the short run. We also find that having received asset transfers dampened the negative investment effects following the outbreak of violence. [6] We tentatively conclude that targeted asset transfers can play a constructive role in helping poor, self-employed households when they face economic uncertainty. And while cash increases household consumption, the goal of improving income or wealth is aided by the additional services that the ultra-poor graduation framework offer.

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[6]Whether a cash transfer would have had a similar mitigating effect is hard to say.

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