

For Online Publication:
The Comparative Impact of Cash Transfers
and Psychotherapy on Psychological and
Economic Well-being

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A. Integrity of the experiment

A.1 Details on checks for data integrity

1. High-frequency checks: These checks consisted of continuous monitoring of data coming into the server to check for missing observations and inconsistencies in responses. A STATA .do file was created and run regularly (at least weekly) on incoming data to check for errors. If any errors or discrepancies were detected, corrective action was taken to resolve these issues. Further, these checks informed the content of refresher training for field officers.
2. Back-checks: We performed back-checks with all household survey respondents on a subset of questions that elicited (mostly) immutable information (e.g. respondent’s age, number of children). Back-checks were performed within a week of the initial survey by a different set of FOs, and the procedure was known to FOs *ex ante*. During baseline, 225 respondents were not reached on the second visit, primarily due to relocations. We included only respondents who were available for both the primary demographic survey and the back-check in the study to minimize later attrition.¹
3. Random spot checks and field observations: Field officers were supervised by Project Leads, who regularly observed them while they conducted surveys. Specifically, project leads observed if questions were asked according to protocol, such as probing when answers are unclear. These checks were designed to ensure consistency of questioning across field officers. Continuous feedback was relayed to field officers on areas that needed improvement. Additionally, senior project management made random visits to the field.
4. GPS checks: GPS coordinates were recorded for all baseline and backcheck

¹Respondents who refused to participate in the backcheck or who were estimated to be only temporarily unavailable by the FOs (37 respondents) were also included in the sample.

surveys. A different team member checked these coordinates on Google Earth to confirm the existence of a house at the specified location.

5. M-Pesa confirmation: for respondents receiving cash transfers, we confirmed that the M-Pesa numbers provided at baseline and backcheck matched, and that the name associated with the mobile money account matched the name of the intended recipient, before the transfer was initiated.

A.2 Timing

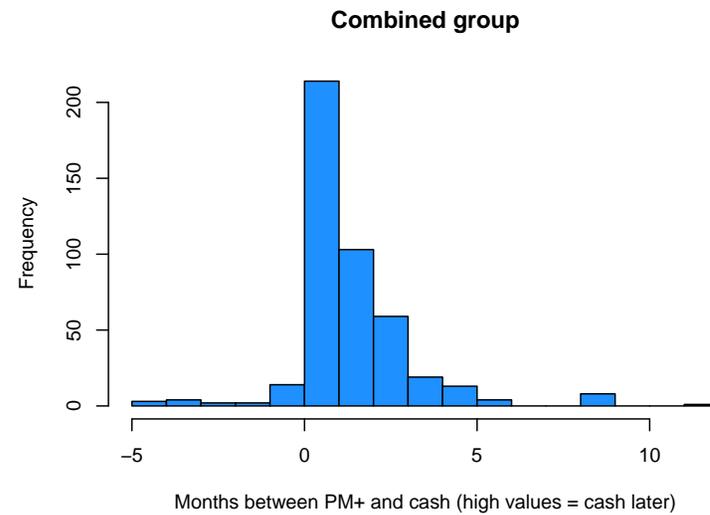
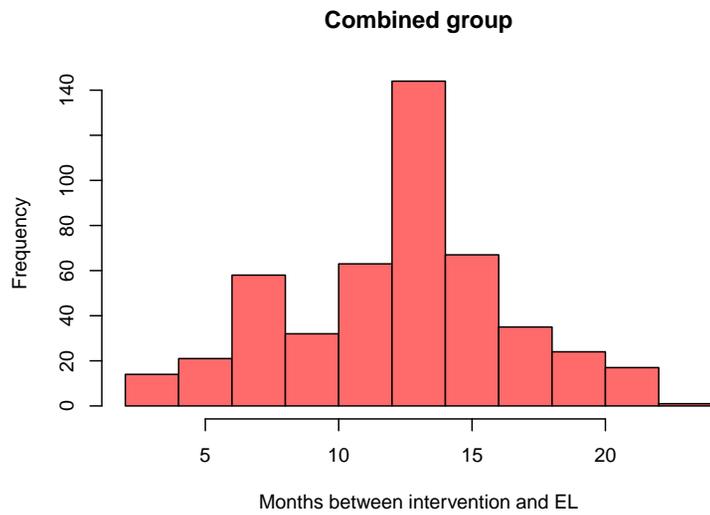
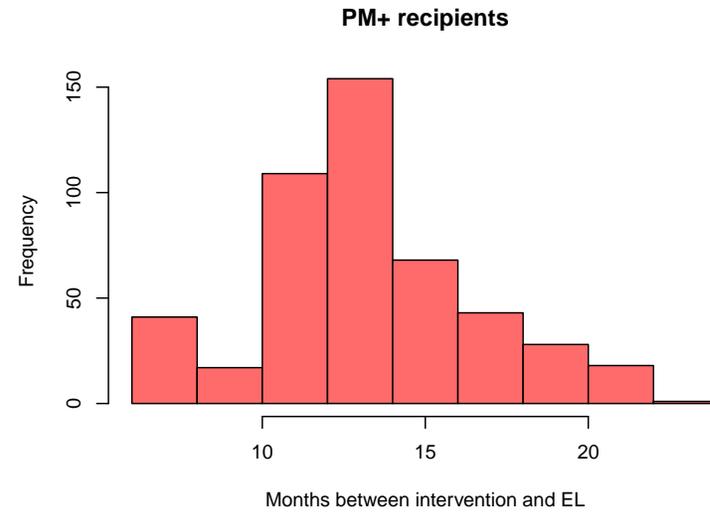
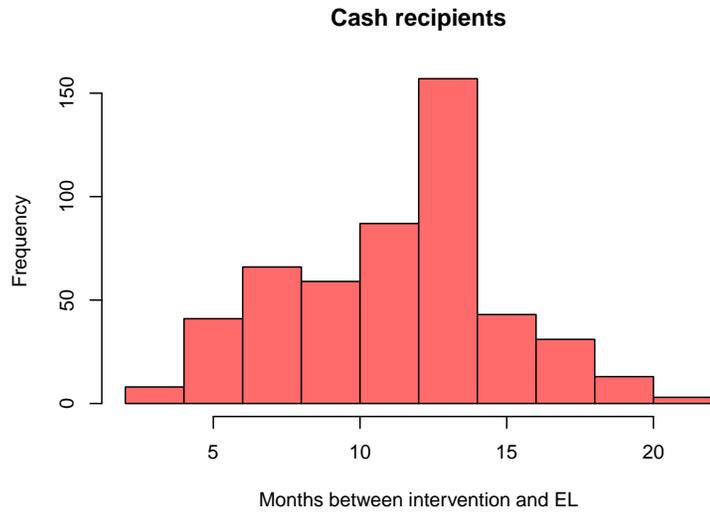
Table A.1: Timing

	(1)	(2)	(3)	(4)	(5)
	Mean	Median	Min	Max	N
Months between baseline and intervention start	9.91	10	2	19	1523
Months between intervention start and endline	13.95	14	3	28	1461
Months between intervention end and endline	12.61	13	2	23	1461
Cash recipients	11.99	13	3	22	977
PM+ recipients	13.52	14	2	23	934
Months between PM+ and cash (combined group)	1.36	1	-5	12	450
Months between baseline and endline	24.05	23	1	31	5492

Notes: Time in months between baseline, intervention start/end, and endline (mean, median, minimum, and maximum). The sample is restricted to the treatment group in the first three rows.

Figure A.1: Distribution of intervention timing

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A.3 Baseline Balance

The table below shows OLS estimates of baseline balance. Outcome variables, measured at baseline, are listed on the left. The first column shows the pure control group mean and standard deviation (in parentheses) of the outcome variable. Columns (2), (3), (4), (5), and (6) show baseline differences between the pure control group and the cash-only, cash spillover, PM+-only, PM+ spillover, and Cash & PM+ groups, respectively. Standard errors, clustered at the village level, are shown in parentheses. Column (7) shows the number of observations.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.

Table A.2: Baseline balance

	(1) Pure control mean (SD)	(2) Cash treatment	(3) Cash spillover	(4) PM+ treatment	(5) PM+ spillover	(6) Cash + PM+ treatment	(7) N
Female respondent	0.64 (0.48)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	5309
Age	45.36 (18.44)	1.75 (1.03)*	1.21 (0.87)	0.18 (1.14)	-0.60 (0.88)	0.93 (1.15)	5309
Baseline asset index	0.00 (1.00)	0.03 (0.05)	0.00 (0.04)	0.01 (0.05)	0.02 (0.05)	-0.00 (0.05)	5309
Baseline M-Pesa access	0.80 (0.40)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	5309
Baseline psychological well-being index	0.00 (1.00)	0.05 (0.04)	0.03 (0.03)	0.02 (0.04)	0.06 (0.03)*	0.03 (0.04)	5309
Baseline psychological distress index	0.00 (1.00)	-0.01 (0.05)	-0.03 (0.05)	-0.00 (0.05)	0.02 (0.05)	0.06 (0.06)	5309
Baseline IPV index	-0.00 (1.00)	-0.01 (0.07)	-0.01 (0.06)	0.02 (0.08)	0.03 (0.07)	0.12 (0.13)	3212
Baseline justifiability of violence	-0.00 (1.00)	0.18 (0.18)	-0.13 (0.07)*	0.07 (0.09)	1.00 (0.92)	0.15 (0.11)	3212

A.4 Attrition

The table below shows OLS estimates of attrition between baseline and endline. Column 1 regresses an indicator for being observed at both baseline and endline on treatment group assignment across all villages. Standard errors, clustered at the village level, are shown in parentheses. Columns (2) and (3) restrict the sample to pure PM+ and pure cash villages, respectively, and include village-level fixed effects, to assess attrition between treatment and spillover households in those villages. Unclustered standard errors are shown in parentheses.

Table A.3: Attrition

		All villages	Pure PM+ villages	Pure cash Villages
		(1)	(2)	(3)
		$\mathbb{1}(\text{Completed both surveys})$	$\mathbb{1}(\text{Completed both surveys})$	$\mathbb{1}(\text{Completed both surveys})$
∞	Pure PM+	-0.00 (0.01)		
	Pure cash	0.01 (0.01)		
	Cash + PM+	0.01 (0.02)		
	Treatment		-0.02 (0.01)	-0.01 (0.01)
	Pure control village mean	0.95		
	Control mean		0.95	0.97
	N	5756	1744	1777

B. Direct treatment and spillover effects

B.1 Direct treatment effects

The tables below show OLS estimates of direct treatment effects. Outcome variables, measured at endline, are listed on the left. The first column shows the pure control group mean and standard deviation (in parentheses) of the outcome variable. Columns (2), (3), and (4) show the treatment effects of the cash-only, PM+-only, and combined treatment groups, respectively, relative to the pure control group. Standard errors, clustered at the village level, are shown in parentheses, and FDR p -values in brackets where applicable. Columns (5)–(7) show p -values for the pairwise comparisons of these treatment arms. Column (8) shows p -values testing whether the sum of the cash-only and PM+-only treatment effects is the same as the treatment effect of the combined treatment. Column (9) shows the number of observations.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.

Table B.1: Treatment effects, asset outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Total value of assets household owns (USD PPP)	553.16 (664.70)	272.16 (40.20)*** +49%	28.75 (44.97) +5%	236.07 (53.68)*** +43%	0.00***	0.55	0.00***	0.39	5309
Value of productive assets (USD PPP)	37.04 (55.36)	6.92 (3.52)* +19%	-3.17 (3.93) -9%	11.17 (4.31)** +30%	0.03**	0.37	0.01***	0.23	5309
Value of vehicles (USD PPP)	114.76 (342.36)	60.34 (20.34)*** +53%	15.00 (21.17) +13%	55.24 (25.21)** +48%	0.08*	0.86	0.17	0.58	5309
Value of furniture (USD PPP)	288.12 (258.02)	74.79 (21.53)*** +26%	17.40 (21.30) +6%	66.25 (22.91)*** +23%	0.02**	0.75	0.07*	0.45	5309
Value of durables (USD PPP)	122.65 (157.00)	36.31 (9.34)*** +30%	6.31 (8.83) +5%	38.81 (12.23)*** +32%	0.01***	0.86	0.02**	0.82	5309
Value of livestock (USD PPP)	32.70 (123.21)	76.99 (12.16)*** +235%	-6.70 (5.19) -20%	57.69 (12.35)*** +176%	0.00***	0.25	0.00***	0.47	5309
Net value of financial assets (USD PPP)	-53.86 (214.71)	-1.48 (13.23) -3%	-3.14 (14.73) -6%	0.81 (11.59) +1%	0.93	0.88	0.82	0.80	5309

Table B.2: Treatment effects, consumption outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Monthly per-capita non-durable consumption (USD PPP)	52.49 (46.51)	10.40 (3.53)*** +20%	2.49 (3.61) +5%	3.53 (3.00) +7%	0.08*	0.09*	0.80	0.09*	5309
Food consumption (USD PPP)	48.91 (53.01)	5.93 (2.70)** +12%	2.65 (2.84) +5%	-0.18 (2.27) -0%	0.35	0.05**	0.37	0.04**	5309
Expenditure on temptation goods (USD PPP)	0.60 (1.88)	-0.08 (0.05)* -13%	-0.01 (0.05) -2%	0.05 (0.07) +8%	0.25	0.08*	0.44	0.11	5309
Expenditure on personal and household items (USD PPP)	6.14 (8.57)	0.54 (0.37) +9%	-0.06 (0.35) -1%	0.52 (0.44) +9%	0.17	0.98	0.24	0.94	5309
Expenditure on housing repair or improvement (USD PPP)	2.85 (9.57)	1.92 (0.41)*** +67%	-0.09 (0.26) -3%	1.92 (0.53)*** +67%	0.00***	1.00	0.00***	0.89	5309
Expenditure on education (USD PPP)	6.63 (11.13)	0.59 (0.40) +9%	0.21 (0.44) +3%	0.56 (0.53) +8%	0.44	0.95	0.57	0.73	5309
Medical expenditure (USD PPP)	3.62 (8.64)	0.34 (0.27) +10%	0.16 (0.28) +4%	0.51 (0.30)* +14%	0.56	0.63	0.31	0.98	5309
Social expenditure (USD PPP)	1.43 (2.77)	0.31 (0.11)*** +22%	0.09 (0.11) +6%	0.21 (0.11)* +15%	0.11	0.48	0.36	0.28	5309

Table B.3: Treatment effects, revenue outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Monthly household revenue (USD PPP)	135.48 (153.09)	36.32 (11.70)*** +27%	11.78 (10.54) +9%	23.96 (12.47)* +18%	0.06*	0.40	0.38	0.18	5309
Monthly revenue from livestock (USD PPP)	29.42 (56.58)	5.23 (3.72) +18%	2.20 (4.08) +8%	2.88 (3.60) +10%	0.52	0.59	0.88	0.44	5309
Monthly agricultural revenue (USD PPP)	14.12 (17.72)	2.79 (1.35)** +20%	-1.17 (1.35) -8%	1.71 (1.59) +12%	0.01***	0.54	0.10*	0.97	5309
Monthly enterprise sales (USD PPP)	9.68 (51.83)	6.64 (3.85)* +69%	0.24 (3.08) +3%	6.00 (5.67) +62%	0.14	0.92	0.34	0.90	5309
Monthly household wage income (USD PPP)	78.01 (112.98)	16.10 (9.14)* +21%	5.71 (7.80) +7%	7.97 (8.45) +10%	0.29	0.43	0.81	0.28	5309

Table B.4: Treatment effects, IPV outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Intimate partner violence index	-0.00 (1.00)	-0.05 (0.08)	0.25 (0.12)**	0.08 (0.12)	0.01**	0.28	0.29	0.53	3052
Physical violence index	0.00 (1.00)	-0.07 (0.07)	0.27 (0.13)**	0.09 (0.11)	0.01***	0.21	0.23	0.49	3052
Sexual violence index	0.00 (1.00)	-0.03 (0.07)	0.14 (0.11)	0.07 (0.10)	0.14	0.39	0.57	0.75	3045
Emotional violence index	0.00 (1.00)	0.11 (0.11)	0.10 (0.09)	-0.01 (0.09)	0.89	0.32	0.35	0.16	3052
Male attitudes index	0.00 (1.00)	-0.09 (0.08)	-0.01 (0.09)	-0.05 (0.09)	0.42	0.73	0.69	0.72	3052
Justifiability of violence index	0.00 (1.00)	-0.03 (0.09)	0.12 (0.10)	0.11 (0.09)	0.20	0.20	0.96	0.87	3052
Satisfaction with relationship index	0.00 (1.00)	0.07 (0.07)	-0.15 (0.07)**	-0.13 (0.08)	0.01***	0.02**	0.82	0.67	3051
Violence against children indicator	0.63 (0.48)	0.05 (0.03)	0.05 (0.04)	0.04 (0.03)	0.96	0.83	0.80	0.26	3212

Table B.5: Treatment effects, IPV further outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Intimate partner violence index	-0.00 (1.00)	-0.05 (0.08)	0.25 (0.12)**	0.08 (0.12)	0.01**	0.28	0.29	0.53	3052
Envelope incl: beaten by husband	0.74 (0.44)	-0.03 (0.04)	-0.00 (0.04)	-0.06 (0.04)	0.58	0.39	0.17	0.56	3212
Envelope incl: unwanted sexual intercourse	0.56 (0.50)	-0.00 (0.03)	-0.00 (0.03)	-0.01 (0.03)	0.94	0.85	0.90	0.95	3212
Pointed twds. beaten by husband	0.59 (0.49)	-0.05 (0.04)	0.01 (0.04)	-0.09 (0.04)**	0.15	0.31	0.01**	0.39	3212
Pointed twds. forced sexual intercourse	0.54 (0.50)	-0.02 (0.03)	-0.02 (0.03)	-0.03 (0.03)	0.98	0.82	0.80	0.86	3212

Table B.6: Treatment effects, food security outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Food security index	0.00 (1.00)	0.14 (0.06)**	-0.10 (0.07)	0.13 (0.06)**	0.00***	0.82	0.00***	0.37	5309
Number of times last month adults cut or skipped meals	1.82 (4.79)	-0.21 (0.15)	0.34 (0.19)*	-0.11 (0.16)	0.01**	0.60	0.04**	0.37	5309
Number of times last month children cut or skipped meals	0.77 (2.37)	-0.10 (0.06)*	0.17 (0.09)*	0.00 (0.07)	0.01***	0.17	0.10*	0.55	5309
Number of times last month had to borrow food	0.95 (2.55)	-0.10 (0.09)	0.06 (0.11)	0.04 (0.10)	0.17	0.17	0.89	0.59	5309
All household members regularly eat at least twice a day	0.91 (0.28)	0.03 (0.01)**	0.00 (0.02)	0.03 (0.02)*	0.13	0.89	0.20	0.88	5309
All household members regularly eat until they are content	0.87 (0.34)	0.05 (0.02)***	0.03 (0.02)	0.04 (0.02)**	0.41	0.71	0.67	0.19	5309
Number of times last week respondent has eggs, meat or fish	1.11 (1.43)	0.12 (0.09)	-0.09 (0.08)	0.16 (0.07)**	0.02**	0.62	0.00***	0.25	5309

Table B.7: Treatment effects, labor supply outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Working hours per week per capita	35.05 (25.50)	-0.50 (1.47)	-1.93 (1.51)	1.00 (1.50)	0.41	0.39	0.10*	0.14	5309
Hours working in agriculture for this household	16.04 (16.84)	-0.77 (1.09)	-2.24 (1.14)*	0.71 (1.15)	0.21	0.21	0.02**	0.02**	5309
Hours tending animals for this household	10.07 (15.24)	0.80 (0.77)	-0.38 (0.76)	1.83 (0.83)**	0.15	0.24	0.01**	0.22	5309
Hours working in non-farm household business	4.08 (11.57)	0.42 (0.47)	1.09 (0.64)*	1.19 (0.58)**	0.34	0.24	0.89	0.73	5309
Hours working for pay for someone outside this household	15.50 (19.88)	-0.95 (1.14)	-0.51 (1.16)	-2.66 (1.03)**	0.72	0.12	0.06*	0.45	5309

Table B.8: Treatment effects, education outcomes

	(1) Pure control mean (SD)	(2) Cash treatment	(3) PM+ treatment	(4) Cash + PM+ treatment	(5) Cash = PM+	(6) Cash = Cash & PM+	(7) PM+ = Cash & PM+	(8) Cash & PM+ = Cash only + PM+ only	(9) N
Education index	-0.00 (1.00)	-0.05 (0.09)	0.07 (0.08)	-0.07 (0.10)	0.18	0.85	0.16	0.48	1886
Proportion of children (< 19) in school	0.93 (0.19)	-0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)	0.96	0.45	0.47	0.40	5309
Days of school missed per child in last 30 days	9.88 (6.04)	-0.11 (0.33)	0.10 (0.33)	-0.18 (0.33)	0.61	0.86	0.50	0.74	5309
Annual expenditure on school expenses per child (USD PPP)	807.52 (466.12)	4.11 (24.17)	19.15 (24.96)	-13.22 (26.38)	0.63	0.58	0.32	0.37	5309
Time spent studying per child in last week	68.57 (24.40)	-1.39 (1.56)	0.97 (1.30)	-1.29 (1.63)	0.18	0.96	0.21	0.71	5309

B.2 Spillover effects

These tables show OLS estimates of spillover effects. Outcome variables, measured at endline, are listed on the left. The first column shows the pure control group mean and standard deviation (in parentheses) of the outcome variable. Columns (2) and (3) show the spillover effects of the cash-only and PM+-only treatments, respectively, relative to the pure control group. Standard errors, clustered at the village level, are shown in parentheses, and FDR p -values in brackets, where applicable. Column (4) shows p -values for the pairwise comparison of these two spillover effects. Column (5) shows the number of observations.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.

Table B.9: Spillover effects, primary outcomes

	(1) Pure control mean (SD)	(2) Cash spillover	(3) PM+ spillover	(4) Cash = PM+	(5) N
Monthly per-capita non-durable consumption (USD PPP)	52.49 (46.51)	3.46 (2.46) [0.68] +7%	1.42 (2.52) [0.75] +3%	0.45	5309
Total value of assets household owns (USD PPP)	553.16 (664.70)	13.89 (35.23) [1.00] +3%	29.29 (33.19) [0.61] +5%	0.68	5309
Monthly household revenue (USD PPP)	135.48 (153.09)	0.36 (8.53) [1.00] +0%	22.00 (10.28)** [0.20] +16%	0.03**	5309
Psychological well-being index	0.00 (1.00)	0.02 (0.05) [1.00]	0.02 (0.06) [0.87]	0.93	5309
Intimate partner violence index	-0.00 (1.00)	0.17 (0.10)* [0.68]	0.17 (0.09)* [0.20]	1.00	3052

Table B.10: Spillover effects, secondary outcomes

	(1) Pure control mean (SD)	(2) Cash spillover	(3) PM+ spillover	(4) Cash = PM+	(5) N
Food security index	0.00 (1.00)	-0.05 (0.06)	-0.07 (0.06)	0.75	5309
Monthly household profits (USD PPP)	19.31 (67.78)	-2.20 (3.20) -11%	1.05 (3.80) +5%	0.36	5309
Working hours per week per capita	35.05 (25.50)	-0.80 (1.42)	-0.96 (1.26)	0.91	5309
Education index	-0.00 (1.00)	-0.15 (0.09)*	0.03 (0.08)	0.07*	1886

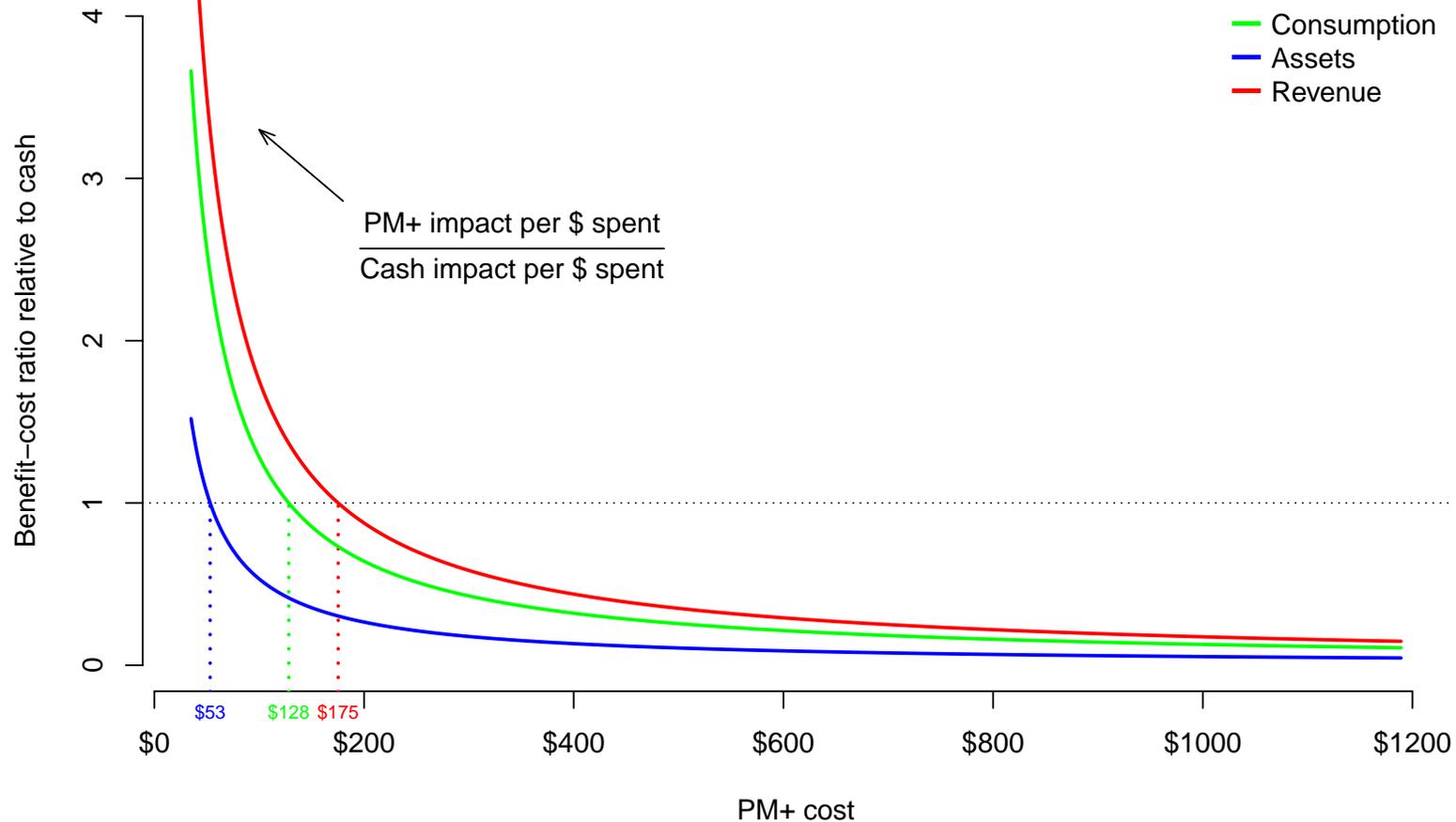
Table B.11: Spillover effects, well-being outcomes

	(1) Pure control mean (SD)	(2) Cash spillover	(3) PM+ spillover	(4) Cash = PM+	(5) N
Psychological well-being index	0.00 (1.00)	0.02 (0.05)	0.02 (0.06)	0.93	5309
GHQ-12	-0.00 (1.00)	-0.03 (0.06)	-0.04 (0.05)	0.79	5309
Perceived Stress Scale (Cohen)	-0.00 (1.00)	-0.00 (0.04)	-0.01 (0.05)	0.85	5309
Happiness (WVS)	0.00 (1.00)	-0.02 (0.06)	0.02 (0.06)	0.56	5302
Life satisfaction (WVS)	0.00 (1.00)	0.05 (0.07)	-0.01 (0.07)	0.43	5309
WHODAS disability assessment	-0.00 (1.00)	-0.01 (0.06)	-0.09 (0.06)	0.12	5309

C. Cost effectiveness

Figure C.1: Cost effectiveness

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Notes: Benefit-cost ratio of PM+ relative to cash transfers. The horizontal axis reflects different potential cost of delivering the PM+ treatment to one person, ranging from marginal cost (USD 37 nominal per person) to total cost (USD 1,189 nominal per person) in this study. The vertical axis plots the ratio of the impact of the PM+ (only) treatment on monetary outcomes, per dollar spent on PM+, relative to the impact of the cash transfer (only) treatment on the same outcomes, per dollar spent on cash transfers. To the left of the dotted vertical lines, PM+ has a larger impact per dollar spent than cash transfers on the outcome variable in question.

D. Heterogeneous impacts

To explore whether our estimated treatment effects vary over a set of pre-specified heterogeneity dimensions, we re-estimate our main equation with an additional interaction term on one of the five main treatment or spillover dummies CT_{vi} , PMP_{vi} , CT/PMP_{vi} , $SPILLCT_{vi}$ and $SPILLPMP_{vi}$. For example, to investigate whether the effect of the cash treatment is differential for recipients with high baseline assets ($HA_{vi} = 1$), we estimate

$$y_{vi} = \alpha + \beta_1 CT_{vi} + \beta_h CT_{vi} \times HA_{vi} + \gamma_h HA_{vi} + \beta_2 PMP_{vi} + \beta_3 CT \& PMP_{vi} + \beta_4 DFS_{vi} + \beta_5 SpillCT_{iv} + \beta_6 SpillPMP + \gamma X_{vi} + \delta y_{viB} + \varepsilon_{vi} \quad (2)$$

and report β_h . We repeat this exercise for each of the treatment groups, and for each of the pre-specified heterogeneity dimensions: a dummy for holding higher-than-median baseline assets (“high assets”), reporting higher-than-median baseline intimate partner violence (“high IPV”), being female, or reporting higher-than-median psychological distress (“high distress”) at baseline. The tables below show OLS estimates of these analyses. Outcome variables, measured at endline, are listed on the left. The first column shows the pure control group mean and standard deviation (in parentheses) of the outcome variable. Columns (1)–(5) show the interaction term in the heterogeneous treatment effects specifications for four interactants: asset holdings at baseline (column 1; median split); IPV at baseline (column 2; median split); gender (column 3); and high psychological distress at baseline (column 4: 33 percent most distressed; column 5: median split). Each coefficient can be thought of as the difference in treatment effects in the group that scores high on the interactant to the group that scores low on the interactant. Note that all coefficients in the table hence stem from different estimations. Standard errors, clustered at the village level, are shown in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.

Table D.1: Heterogeneous cash treatment effects, primary outcomes

	(1) Cash treatment × high assets	(2) Cash treatment × high IPV	(3) Cash treatment × female	(4) Cash treatment × high distress (top 33%)	(5) Cash treatment × high distress (top 50%)
Monthly per-capita non-durable consumption (USD PPP)	−6.47 (4.60)	−0.06 (5.90)	−13.36 (6.00)**	−8.41 (5.41)	−1.49 (5.23)
Total value of assets household owns (USD PPP)	127.93 (66.91)*	−188.93 (106.13)*	−91.95 (82.28)	−48.42 (75.53)	0.10 (64.54)
Monthly household revenue (USD PPP)	7.80 (17.33)	−19.57 (21.70)	18.91 (16.96)	−36.70 (14.50)**	−13.97 (16.38)
Psychological well-being index	0.00 (0.09)	−0.05 (0.11)	0.06 (0.10)	0.05 (0.09)	0.12 (0.09)
Intimate partner violence index	0.28 (0.12)**	0.02 (0.11)	−0.10 (0.13)	0.06 (0.14)	0.14 (0.13)

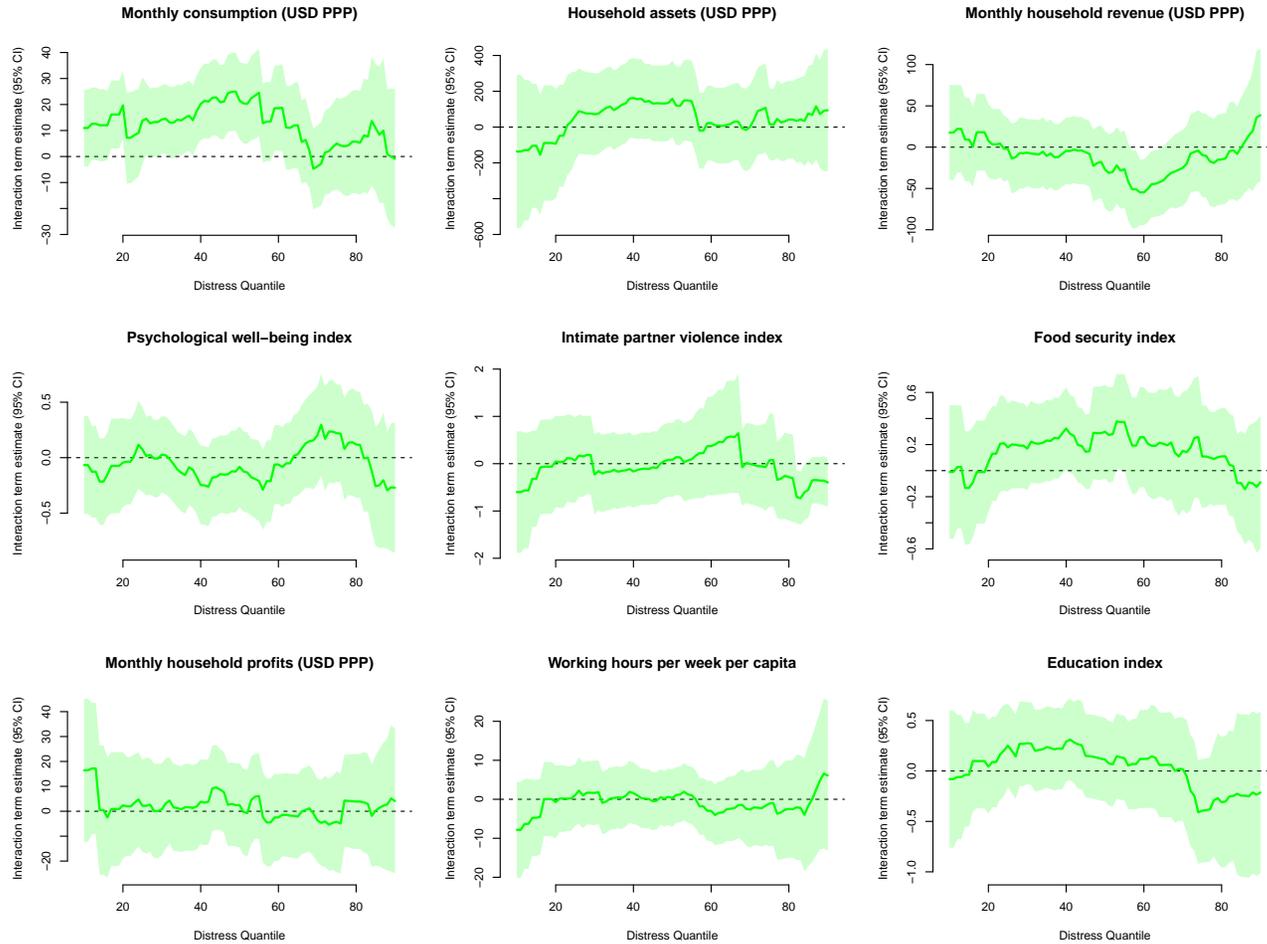
Table D.2: Heterogeneous PM+ treatment effects, primary outcomes

	(1) PM+ treatment × high assets	(2) PM+ treatment × high IPV	(3) PM+ treatment × female	(4) PM+ treatment × high distress (top 33%)	(5) PM+ treatment × high distress (top 50%)
Monthly per-capita non-durable consumption (USD PPP)	4.27 (5.66)	-8.16 (5.43)	0.89 (6.89)	1.49 (4.90)	2.02 (5.22)
Total value of assets household owns (USD PPP)	-77.85 (65.70)	34.21 (88.48)	85.94 (82.72)	44.27 (67.01)	-18.28 (57.89)
Monthly household revenue (USD PPP)	1.37 (15.70)	10.84 (18.77)	13.07 (16.44)	12.77 (15.96)	11.52 (17.00)
Psychological well-being index	-0.11 (0.10)	-0.13 (0.12)	-0.13 (0.11)	0.05 (0.11)	0.06 (0.09)
Intimate partner violence index	-0.19 (0.24)	0.12 (0.24)	0.05 (0.21)	0.06 (0.25)	0.06 (0.19)

Table D.3: Heterogeneous cash & PM+ treatment effects, primary outcomes

	(1) Cash & PM+ treatment × high assets	(2) Cash & PM+ treatment × high IPV	(3) Cash & PM+ treatment × female	(4) Cash & PM+ treatment × high distress (top 33%)	(5) Cash & PM+ treatment × high distress (top 50%)
Monthly per-capita non-durable consumption (USD PPP)	5.57 (5.06)	6.64 (4.75)	-2.09 (5.05)	-2.59 (4.32)	1.92 (4.58)
Total value of assets household owns (USD PPP)	106.46 (80.28)	-21.20 (122.27)	132.35 (77.81)*	98.33 (87.22)	22.01 (85.04)
Monthly household revenue (USD PPP)	2.13 (18.87)	32.38 (19.51)*	3.31 (20.29)	1.27 (15.86)	-8.67 (16.82)
Psychological well-being index	0.06 (0.09)	0.05 (0.13)	0.05 (0.10)	0.02 (0.11)	0.06 (0.10)
Intimate partner violence index	-0.31 (0.28)	-0.16 (0.17)	-0.23 (0.21)	-0.25 (0.19)	-0.04 (0.16)

Figure D.1: Heterogeneous effects of PM+ on severely distressed participants

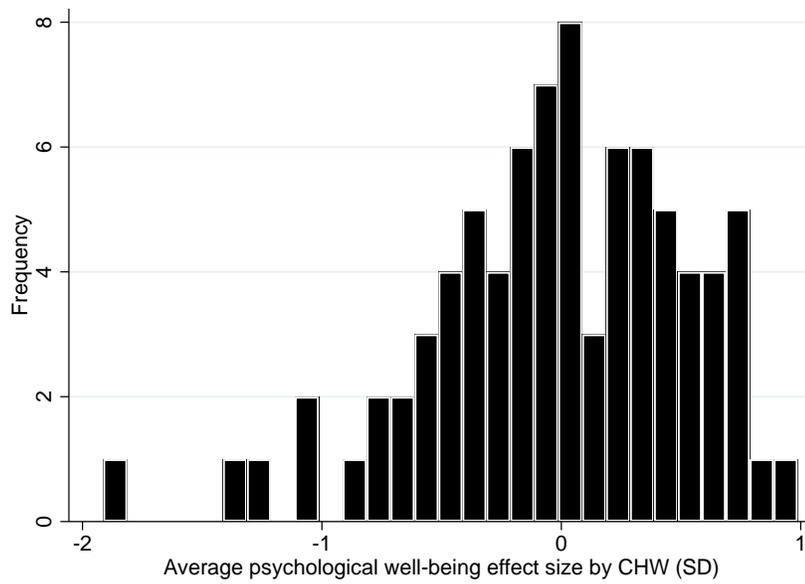


Notes: Estimates for additional heterogeneity analyses of PM+ on the subsample of participants classified as highly distressed (top 33%) at baseline. Within this subgroup, heterogeneous effects estimations are conducted for the sub-sub-sample of participants that are considered *severely distressed* based on a baseline distress index (weighted index of GHQ and WHODAS scores). The definition of severe distress gradually becomes more stringent from left to right along the x-axis, beginning with the entire 33% on the left and increasing the cutoff until only one person is considered distressed. The panels plot the interaction coefficients and 95% confidence bands for primary and secondary outcomes.

E. CHW fixed effects

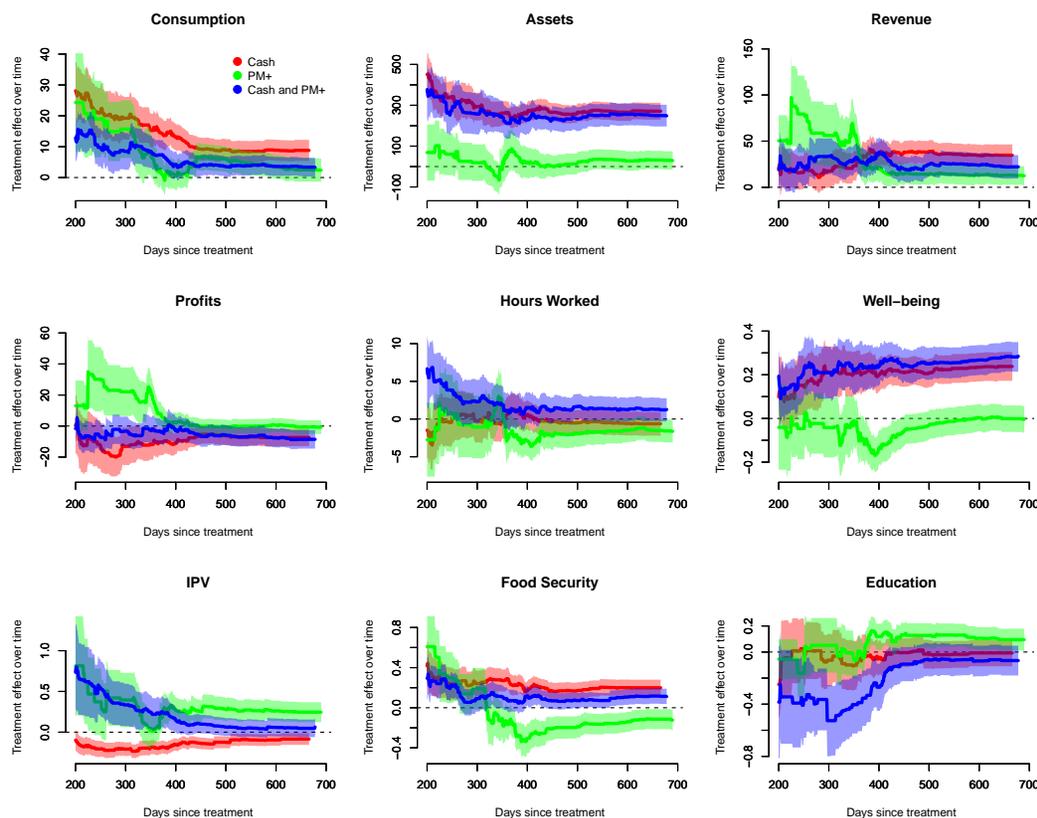
To understand whether the impact of PM+ on psychological well-being differed by which of the CHWs delivered the intervention, we restrict the sample to the PM+-only and pure control groups, and regress the z-scored psychological well-being index on a set of dummies for the CHWs. The histogram below shows the distribution of treatment effects by CHW.

Figure E.1: Distribution of PM+ treatment effects on psychological well-being by CHW



F. Treatment effects over time

Figure F.1: Treatment effects over time



Notes: Treatment effect estimates using our main treatment equation over gradually expanding subsets of data. We begin by restricting the sample to the pure control group and those participants in the other treatment arms that received their most recent cash transfer or PM+ session 200 or fewer days ago, and then gradually widen this time window by one day and include people whose most recent treatment administration was 201 days ago, then 202 days, and so forth, until we have included the entire sample. The pure control group is always included in its entirety. In each of the nine panels, the horizontal axis corresponds to the time elapsed between endline and the most recent cash transfer or PM+ session, and the vertical axis shows treatment effects estimated for the sample defined by each individual point on the horizontal axis. Note that because the time window is expanding, individual estimates are not independent of one another.

G. Demand effects

Figure G.1: Demand effects

	(1) Low demand mean (SD)	(2) High demand mean (SD)	(3) Low demand = high demand (p)	(4) N low demand / N high demand
Number of times beaten or slapped	4.65 (2.31)	4.62 (2.33)	0.89	1545 / 1545
Number of times forced to have intercourse	2.79 (1.25)	2.76 (1.27)	0.68	1545 / 1545
I felt depressed	3.43 (1.08)	3.42 (1.08)	0.71	1545 / 1545

H. Effects of transfer frequency

To assess whether the frequency of cash transfers impacts outcomes, we restrict the sample to participants in CT, CT&PM+, and pure control villages and estimate the following model:

$$y_{vi} = \beta_0 + \beta_1 \text{LumpCT}_{vi} + \beta_2 \text{WeeklyCT}_{vi} + \beta_3 \text{CT\&PMP}_{vi} + \delta y_{viB} + \varepsilon_{vi} \quad (3)$$

Here, LumpCT_{vi} is an indicator that the recipient received the cash transfer all at once; WeeklyCT_{vi} is an indicator the recipient received the cash transfer in weekly installments. PMP_{vi} is an indicator that the respondent received the PM+ program in addition to cash transfers. The comparison between β_1 and β_2 thus identifies the relative effect of lump-sum and installment transfers. The outcomes considered in this specification are the same as for equation 1.²

The tables below show OLS estimates of the equation above. Outcome variables, measured at endline, are listed on the left. The first column shows the pure control group mean and standard deviation (in parentheses) of the outcome variable. Columns (2) and (3) show the treatment effects of weekly and lump-sum transfers relative to the pure control group, respectively. Column (4) shows p -values for the comparison of the two treatment effects. Standard errors, clustered at the village level, are shown in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.

²In the pre-analysis plan, we wrote that this analysis would include village-level fixed effects, thinking that the randomization into lump-sum vs. weekly transfers happened within villages. This was an error—the randomization happened at the village level. We therefore omit the fixed effects, which would be collinear with treatment.

Table H.1: Transfer frequency, primary outcomes

	(1) Pure control mean (SD)	(2) Weekly cash transfers +28%	(3) Lump sum cash transfers +13%	(4) Weekly = lump sum	(5) N
Monthly per-capita non-durable consumption (USD PPP)	52.49 (46.51)	14.93 (3.90) ^{***} +28%	6.93 (4.12) [*] +13%	0.05 ^{**}	2397
Total value of assets household owns (USD PPP)	553.16 (664.70)	301.67 (52.19) ^{***} +55%	245.63 (48.41) ^{***} +44%	0.34	2397
Monthly household revenue (USD PPP)	135.48 (153.09)	52.74 (13.51) ^{***} +39%	20.67 (13.77) +15%	0.02 ^{**}	2397
Psychological well-being index	0.00 (1.00)	0.22 (0.07) ^{***}	0.25 (0.08) ^{***}	0.71	2397
Intimate partner violence index	-0.00 (1.00)	-0.00 (0.10)	-0.08 (0.09)	0.50	1394

I. Indices and variables

The variables or indices below marked with a ⁺ are primary outcomes of interest. Variables or indices marked with a # are secondary outcomes. Impacts on variables or indices below marked with a * are not primary or secondary, but are reported in the detailed outcome tables.

1. Non-durable consumption⁺ – monthly consumption per capita
 - (a) Food*
 - i. Food own production* (value of milk, meat, eggs and additional animal products consumed, value of top three crops produced consumed)
 - ii. Food bought
 - A. Meat, fish & dairy*
 - B. Fruit & vegetables*
 - C. Cereals*
 - D. Other food* (roots, pulses, oils, sugars, prepared food, other food)
 - (b) Temptation good expenditure*
 - i. Alcohol
 - ii. Tobacco
 - iii. Gambling
 - (c) Personal and household items*
 - i. Clothing and shoes
 - ii. Personal items such as soap, shampoo, etc.
 - iii. Household items such as matches, kerosene, etc.
 - (d) Housing repair or improvement*
 - (e) Education expenditures*
 - (f) Medical expenditure*
 - (g) Social expenditure*
 - i. Religious expenses or other ceremonies
 - ii. Weddings
 - iii. Funerals
 - (h) Other expenses greater than KES 1,000
2. Food security# – weighted standardized index of:
 - (a) Number of times last month adults cut or skipped meals (negatively coded)*
 - (b) Number of times last month children cut or skipped meals (negatively coded)*

- (c) Number of times last month had to borrow food or rely on help from a friend or relative (negatively coded)*
 - (d) All household members eat two meals a day (indicator)*
 - (e) All household members usually eat until content (indicator)*
 - (f) Number of times last week respondent has eggs, meat or fish*
3. Assets⁺ – sum of value of:
- (a) Productive assets*
 - i. Irrigation pump
 - ii. Hose pipe
 - iii. Ox-ploughs
 - iv. Oxen/work bulls
 - v. Knapsack sprayers
 - vi. Wheelbarrows
 - vii. Ox-carts/donkey carts
 - viii. Hand carts
 - ix. Other farming tools
 - x. Fishing equipment (boats, canoes, etc)
 - xi. Other asset used for agriculture or business
 - (b) Vehicles*
 - i. Bicycle
 - ii. Motorbike
 - (c) Furniture*
 - i. Sofas
 - ii. Chairs
 - iii. Table
 - iv. Clock/Watch
 - v. Beds
 - vi. Mattresses
 - vii. Cupboards
 - viii. Other furniture
 - (d) Household durables*

- i. Cell phone
 - ii. Sewing machine
 - iii. Radio, tape or CD player
 - iv. Battery
 - v. Solar panel
 - vi. Television or computer
 - vii. Kerosene stove
 - viii. Refrigerator
 - (e) Other
 - (f) Livestock*
 - i. Cows (valued at average sample sales price)
 - ii. Birds (valued at average sample sales price)
 - iii. Small ruminants (valued at average sample sales price)
 - (g) Financial assets* - net balance (KES) of savings minus outstanding loans:
 - i. Savings with an institution (bank, SACCO, micro-finance organization)
 - ii. Savings with MPesa
 - iii. Savings in any other place (e.g., with family or friends)
 - iv. Loans made by friends or family
 - v. Loans from moneylenders, micro-finance institutions, shops, banks or other sources
4. Revenue⁺ – sum of monthly household revenue from:
- (a) Livestock*
 - i. Cows
 - A. Value of milk (sold and consumed)
 - B. Value of meat (sold and consumed)
 - C. Value of animals sold
 - D. Value of other products
 - ii. Small ruminants
 - A. Value of meat (sold and consumed)
 - B. Value of animals sold
 - C. Value of other products

- iii. Birds
 - A. Value of eggs (sold and consumed)
 - B. Value of meat (sold and consumed)
 - C. Value of animals sold
 - (b) Agricultural income (most recent agricultural season)*
 - i. Value of crops harvested in most recent season
 - (c) Enterprise income*
 - i. Sales in prior month (prorated for share of enterprise owned if applicable)
 - (d) Wage income*
 - i. Sum of income from outside labor
5. Profits[#] – sum of monthly household revenue less costs from:
- (a) Livestock revenue - Cost of care (e.g. fodder, veterinary care, etc.) - Cost of rented animals
 - (b) Crop revenue - Costs of seeds, fertilizers/herbicides/pesticides, hired machines, water, labor and other expenses
 - (c) Enterprise revenue - Costs of electricity, wages, water, transport, purchase of inputs, other costs (prorated for share of enterprise owned if applicable)
6. Labor[#] – hours spent per week per capita on income generating activities, including:
- (a) Working in agriculture for this household*
 - (b) Tending animals for this household*
 - (c) Working in a non-farm or livestock business owned by this household*
 - (d) Working for pay for someone outside the household (in agriculture, livestock, housework, casual labor, salaried job or other paid work)*
7. Education index[#] – weighted standardized index of:
- (a) Proportion of children (<19) in school*
 - (b) Average days of school missed per child (<19; last 30 days)* - *negatively coded*
 - (c) Average spending on school expenses per child (<19; last 12 months)*
 - (d) Average time studying or in school per child (<19; last 7 days)*
8. Psychological well-being^{+–} – weighted standardized index of (a)-(d):
- (a) GHQ-12* with standard scoring

- (b) Cohen Stress (PSS)*
 - (c) WVS (happiness)* (1-4 scale)
 - (d) WVS (life satisfaction)* (1-10 scale)
 - (e) WHODAS
9. Intimate Partner Violence⁺ – weighted standardized index of physical and sexual violence variables. The recall period is the preceding 6 months.
- (a) Physical violence
 - i. How many times per month did your husband beat you, slap you or act violently against you?
 - ii. How many times per month did your husband push you, shake you, or throw something at you?
 - iii. How many times per month did your husband slap you?
 - iv. How many times per month did your husband twist your arm or pull your hair?
 - v. How many times per month did your husband punch you with his fist or with something that could hurt you?
 - vi. How many times per month did your husband kick you, drag you or beat you up?
 - vii. How many times per month did your husband try to choke you or burn you on purpose?
 - viii. How many times per month did your husband threaten to attack you with a knife, gun, or any other weapon?
 - ix. How many times per month did your husband beat any of the children under the age of 12 living in this household or discipline them using physical measures?
 - (b) Sexual violence
 - i. How many times per month did your husband physically force you to have sexual intercourse with him even when you did not want to?
 - ii. How many times per month did your husband force you to perform any sexual acts you did not want to?
 - (c) Emotional violence
 - i. How many times per month did your husband not trust you with any money?

- ii. How many times per month did your husband expect you to ask him for permission before leaving the house?
 - iii. How many times per month did your husband ever insult you or make you feel bad about yourself?
- (d) Attitudes: Male focused attitudes
- i. The important decisions in the family should be made only by the men of the family
 - ii. The wife has the right to express her opinion even when she disagrees with what her husband is saying
 - iii. It is the husband's responsibility to provide for the wife and the family
 - iv. A real man produces a male child
- (e) Attitudes about justifiability of violence
- i. A wife should tolerate being beaten by her husband
 - ii. It is acceptable for a husband to not trust his wife with any money
 - iii. It is acceptable for a husband to expect his wife to ask him for permission before leaving the house
 - iv. Emotional violence attitude: It is acceptable for a husband to insult his wife or make her feel bad about herself[‡]
 - v. Physical violence attitude: It is acceptable for a husband to beat his wife, slap her, or act violently against her[‡]
 - vi. Sexual violence attitude: It is acceptable for a husband to physically force his wife to have sexual intercourse with her even when she does not want to[‡]
 - vii. Child violence attitude: It is acceptable for a father to beat his children under the age of 12 or discipline them using physical measures.[‡]
- (f) Satisfaction with relationship – weighted standardized index of:
- i. Are you satisfied with your relationship?
 - ii. How often do you think your relationship is good compared to most other relationships in your village? How often do you think that your relationship met your original expectations?
 - iii. How often are there any problems in your relationship?
 - iv. How often do you wish you hadn't gotten in this relationship?
 - v. How often do you feel that your husband is unable to provide sufficiently for you and your family?

- (g) Violence against children (indicator)
- (h) Intimate partner violence: testing for reporting and demand effects
 - i. List randomization: physical and sexual violence
 - ii. Envelope randomization: physical and sexual violence
 - iii. Anonymous reporting by pointing at faces (physical and sexual violence against spouse, physical violence against children)
 - A. In the past 6 months, has your husband ever beaten you, slapped you, or acted violently against you? Please point to the happy face if this DID NOT happen to you. Please point to the sad face if this DID happen to you.
 - B. In the past 6 months, did your spouse ever beat any of the children under the age of 12 living in this household or disciplined them using physical measures? Please point to the happy face if this DID NOT happen to any children under the age of 12 living in the household. Please point to the sad face if this DID happen to any of the children under the age of 12 living in the household.
 - C. In the past 6 months, has your husband ever forced you to have sexual intercourse with him even when you did not want to? Please point to the happy face if this DID NOT happen to you. Please point to the sad face if this DID happen to you.
 - iv. Demand treatments: difference in answers to physical and sexual violence questions before vs. after demand treatment, with individual-level fixed effects.
- (i) Bargaining power: indifference point between receiving KES 1000 oneself, or one's spouse receiving KES 800–2000.