Appendix For Online Publication

This is an online appendix of additional empirical results, robustness tests, and mathematical proofs for the paper, "Can Self-Help Groups Really Be Self-Help?" by Greaney, Kaboski, and Van Leemput. We have organized the results into the following sections: A.1) summary statistics by member/non-member of SILC, A.2) sample regressions, A.3) additional randomization results, A.4) group-level results, A.5) additional household results, A.6) baseline randomization across fee vs. no fee, A.7) endline results for different PSP villages, A.8) additional robustness results, A.9) the mathematical appendix for the model, and A.10) data description.

A.1 Summary Statistics by Member/Non-Member

Table A.1: Summary Statistics SILC versus non SILC

	SILC		Non-SILC		SILC - Non-SILC
	Mean	Std. Dev.	Mean	Std. Dev.	Mean △
Savings	153	371	131	263	24
Credit	48	165	45	236	1.2
Income	289	485	356	665	-68*
Consumption	1477	1573	1466	1616	11
Business Owner	0.55	0.50	0.36	0.48	0.19*** †††
No Schooling	0.22	0.41	0.21	0.41	0.01
Some Primary	0.26	0.44	0.22	0.41	0.04*
Primary Completed	0.40	0.49	0.44	0.50	-0.04
Secondary	0.11	0.32	0.10	0.31	0.01
Tertiary	0.02	0.13	0.03	0.16	-0.01
Obs.	968		951		

***, and **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The table presents baseline mean comparison results for households with SILC members and households without SILC members. All results utilize sampling weights.

A.2 Sample Regressions

Table A.2: Sample Agent-Level Regression

	Earnings
PSP * Quarter 1	-160***
s.e.	(5.2)†††
PSP * Quarter 2	-150***
s.e.	(6.4)†††
PSP * Quarter 3	-140***
s.e.	(6.3)†††
PSP * Quarter 4	-150***
s.e.	(4.9)†††
Age	0.56
s.e.	(1.7)
Age Squared	-0.00
s.e.	(0.02)
Gender	-1.4
s.e.	(4.1)
Primary Complete	7.9
s.e.	(9.9)
Secondary	14
s.e.	(11)
Tertiary	9.8
s.e.	(12)
Languages	-1.3
s.e.	(3.8)
Children	-0.04
s.e.	(0.69)
Financial Dependents	-0.23
s.e.	(0.37)
Cohort	-3.9
s.e.	(12)
Obs.	865
R Squared	0.88

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated group-level outcome on a PSP*Quarter dummy and the following controls: age, age squared, gender, number of languages spoken, number of children, number of financial dependents, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), cohort, and location-date fixed effects. The regression is weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

Table A.3: Sample Group-Level Regression

	Profit
PSP * Quarter 1	8.3
s.e.	(9.9)
PSP * Quarter 2	-13
s.e.	(12)
PSP * Quarter 3	2.3
s.e.	(10)
PSP * Quarter 4	22**
s.e.	(11)
Age	4.7**
s.e.	(2.3)
Age Squared	-0.05*
s.e.	(0.03)
Gender	5.2
s.e.	(8.2)
Primary Complete	13
s.e.	(11)
Secondary	15
s.e.	(12)
Tertiary	35**
s.e.	(16)
Languages	2.7
s.e.	(6.0)
Children	-4.0**
s.e.	(1.9)
Financial Dependents	1.8
s.e.	(1.3)
Cohort	3.9
s.e.	(10)
Obs.	15,747
R Squared	0.03

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated outcome on a PSP*Quarter dummy and the following controls: age, age squared, gender, number of languages spoken, number of children, number of financial dependents, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), cohort, and location-date fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

Table A.4: Example of a Household-Level Regression

	Total Credit
PSP	24**
s.e.	(11)
Total Credit Baseline	0.15*
s.e.	(0.09)
Age	5.9**
s.e.	(2.5)
Age Squared	-0.05**
s.e.	(0.03)
Gender	-7.7
s.e.	(13)
Some Primary	40**
s.e.	(20)
Primary Complete	5.8
s.e.	(9.0)
Secondary	133***
s.e.	(44)††
Tertiary	266**
s.e.	(104)†
# Adult Males	-5.8
s.e.	(4.3)
# Adult Females	21***
s.e.	(7.9)†
# Children	-2.8
s.e.	(2.9)
Obs.	1731
R Squared	0.08

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e., some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict.

A.3 Additional Randomization Results

Table A.5: Key Informant Mean Comparisons

	PSP			FA			PSP-FA
	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean △
Population	1292	1466	139	1120	1166	55	171
Power Grid	0.27	0.44	139	0.22	0.42	55	0.04
Months Inaccessible	2.8	3.8	139	2.6	2.9	55	0.22
Bank Distance	27	28	139	23	17	55	3.5
Primary	0.74	0.44	139	0.65	0.48	55	0.09
Secondary	0.36	0.48	138	0.34	0.48	55	0.02
Post Secondary	0.06	0.24	136	0.07	0.25	54	-0.01
Hospital	0.43	0.50	137	0.44	0.50	55	-0.01
Factory	0.06	0.23	137	0.05	0.23	53	.0004
MFI	0.14	0.35	136	0.23	0.43	52	-0.09
Bank	0.02	0.15	137	0.02	0.14	54	0.003
ROSCA	0.76	0.43	132	0.65	0.48	52	0.11
ASCA	0.66	0.48	123	0.61	0.49	49	0.05
SACCO	0.16	0.37	138	0.11	0.32	55	0.05
FSA	0.05	0.23	122	0.06	0.23	51	-0.004
Mobile Money	0.12	0.33	137	0.10	0.31	55	0.02
Moneylender	0.19	0.39	132	0.15	0.36	54	0.04
Drought	0.58	0.35	121	0.61	0.38	51	-0.03
Flood	0.49	0.35	92	0.55	0.38	36	-0.06
Crop Failure	0.51	0.34	88	0.52	0.39	37	-0.01
Animal Disease	0.41	0.32	68	0.21	0.24	30	0.20***
Bandits	0.29	0.31	36	0.19	0.24	20	0.10
Violence	0.77	0.32	12	0.67	0.45	6	0.10

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively.

Table A.6: Randomization Results Excluding Mombassa and Tahea

	Age	Gender	Primary	Primary Complete	Secondary	Tertiary	Languages	Children	Financial Dependents
PSP	-1.7	-0.11	0.01	-0.09	0.05	0.03	0.02	-0.48	-0.26
s.e.	(1.3)	(0.08)	(0.01)	(0.05)	(0.08)	(0.07)	(0.09)	(0.44)	(0.71)
FA Mean	35	0.72	0.00	0.32	0.55	0.13	2.0	4.6	6.2
Obs.	182	185	184	184	184	184	185	185	184

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated outcome on a PSP dummy and the following controls: age, age squared, gender, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), number of languages spoken, number of children, number of financial dependents, cohort, and location fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

A.4 Group-Level Results

Table A.7: PSP Impacts on Group-Level Outcomes

	Members	Savings	Loans	Loan Value	Profit	Payment
All Quarters	0.26	46	0.57	19	5.5	-4.4***
s.e.	(0.59)	(50)	(1.0)	(25)	(9.0)	(0.89)†††
Quarter 1	0.22	21	-1.7	-12	8.3	-9.3***
s.e.	(0.62)	(58)	(1.3)	(31)	(9.9)	(0.63)†††
Quarter 2	0.06	16	0.53	-0.07	-13	-6.7***
s.e.	(0.59)	(53)	(1.1)	(24)	(112)	(0.80)†††
Quarter 3	0.33	39	1.3	17	2.3	-3.5***
s.e.	(0.64)	(53)	(1.3)	(29)	(10)	(1.0)†††
Quarter 4	0.37	96*	1.5	58*	22**	-0.77
s.e.	(0.63)	(51)	(1.4)	(33)	(11)	(2.0)
FA Mean	21	240	9.9	230	53	9.5
Obs.	16,289	15,747	15,747	15,747	15,747	14,907

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated outcome on a PSP or PSP*Quarter dummy and the following controls: age, age squared, gender, number of languages spoken, number of children, number of financial dependents, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), cohort, and location-date fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

A.5 Additional Household Results

Table A.8: PSP Impact on Endline Household Income and Expenditures

	Total Income	Business Income	Total Expenditures	Total Consumption
PSP	104	12	100	86
s.e.	(93)	(12)	(109)	(104)
FA Mean	360	54	1674	1580
Sample Mean	439	61	1704	1604
Median	200	0	1410	1318
Obs.	1731	1731	1731	1731

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e., some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict. Note that income and outcomes were not completely balanced in the baseline.

A.6 Baseline Randomization across Fee vs. No Fee

This subsection shows initial differences for the PSP villages in which fees were and were not charged.

Table A.9: Baseline Household Savings and Credit across Fee vs. No Fee Villages

			Source			Purpose		
PANEL I: Savings								
	Total	Business Owners	Business Profit	Sell Agric. Product	Salary or Wage	New Agric. Activity	New Non-Agric. Activity	Existing Business
Fee PSP	34	21	32***	28	-5.0	35	8.1	42
s.e.	(42)	(43)	(12)††	(28)	(14)	(37)	(6.3)	(26)
PANEL II: Credit								
	Total	Business Owners	SILC	Formal	Informal	Agric. Activity	Expanding Business	Start New Business
Fee PSP	7.3	-56	1.5*	0.60	5.1*	-8.9	-18	0.45
s.e.	(18)	(34)	(0.87)	(18)	(2.8)	(16)	(13)	(1.1)
Obs.	1237	555	1237	1237	1237	1237	1237	1237

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The sample includes only PSP villages. The results are estimated coefficients for a regression of the stated outcome on a dummy that signifies whether fees were charged in the PSP village (the baseline are PSP villages in which no fees were charged) and the following controls: age, age squared, gender, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), number of languages spoken, number of children, number of financial dependents, cohort, and location fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

Table A.10: Baseline Household Productive Decisions across Fee vs. No Fee Villages

	Start New Business	Business Investment	Hours spent in Business	Employees (non-HH)	Hours spent as Employee	Agric. Investment	Hours spent in Agric.
Fee PSP	-0.002	1.9	3.7*	0.01	0.10	-10	-0.35
s.e.	(0.06)	(12)	(2.1)	(0.17)	(2.5)	(19)	(1.4)
Obs.	1237	1237	1237	1237	1237	1237	1237

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The sample includes only PSP villages. The results are estimated coefficients for a regression of the stated outcome on a dummy that signifies whether fees were charged in the PSP village (the baseline are PSP villages in which no fees were charged) and the following controls: age, age squared, gender, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), number of languages spoken, number of children, number of financial dependents, cohort, and location fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

Table A.11: Baseline Household Income and Expenditures across Fee vs. No Fee Villages

	Total Income	Business Income	Total Expenditures	Total Consumption
Fee PSP	-42	15	146	154
s.e.	(85)	(15)	(140)	(133)
Obs.	1237	1237	1237	1237

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The sample includes only PSP villages. The results are estimated coefficients for a regression of the stated outcome on a dummy that signifies whether fees were charged in the PSP village (the baseline are PSP villages in which no fees were charged) and the following controls: age, age squared, gender, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), number of languages spoken, number of children, number of financial dependents, cohort, and location fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

A.7 Additional Endline Results for Different PSP Villages

This subsection shows the endline income and expenditures results for household across different village types.

Table A.12: PSP Impact on Endline Household Income and Expenditures

	Total Income	Business Income	Total Expenditures	Total Consumption
No fee PSP	23	12	20	4.2
s.e.	(125)	(20)	(111)	(99)
Fee PSP	216	18	166*	153*
s.e.	(162)	(14)	(93)	(91)
Obs.	1731	1731	1731	1731

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on two PSP dummies which represent PSP villages in which no fees and fees were charged respectively, the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e., some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict.

A.8 Additional Robustness Results

A.8.1 Results without Mombassa and Tahea

Table A.13: PSP Impacts on Agent-Level Outcomes without Mombassa and Tahea

	Groups	Members	Savings	Loans	Loan Value	Profit	Earnings
All Quarters	-3.2***	-67**	-530	-31	-480	-100	-150***
s.e.	(1.0)†††	(28)	(820)	(22)	(790)	(260)	(6.1)†††
Quarter 1	-4.4***	-87***	-950	-46**	-1190*	-200	-160***
s.e.	(1.0)†††	(28)††	(680)	(21)	(710)	(240)	(6.0)†††
Quarter 2	-2.8***	-63**	-1010	-36	-950	-500	-140***
s.e.	(1.0)††	(27)	(870)	(23)	(920)	(360)	(8.1)†††
Quarter 3	-3.7***	-75**	-540	-38	-700	-120	-140***
s.e.	(1.1)†††	(32)	(870)	(25)	(860)	(280)	(8.0)†††
Quarter 4	-2.0	-43	350	-5.6	920	410	-150***
s.e.	(1.4)	(35)	(1280)	(26)	(1030)	(440)	(5.9)†††
FA Mean	21	460	7930	250	7410	2110	180
Obs.	715	715	715	715	715	715	715

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated outcome on a PSP or PSP*Quarter dummy and the following controls: age, age squared, gender, number of languages spoken, number of children, number of financial dependents, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), cohort, and location-date fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

Table A.14: PSP Impacts on Group-Level Outcomes without Mombassa and Tahea

	Members	Savings	Loans	Loan Value	Profit	Earnings
All Quarters	0.7	68	0.1	35	12	-3***
s.e.	(0.6)	(60)	(1)	(30)	(10)	(1)†††
Quarter 1	0.5	35	-2	-5	13	-9***
s.e.	(0.7)	(66)	(2)	(35)	(11)	(0.6)†††
Quarter 2	0.6	36	0.1	18	-7	-6***
s.e.	(0.6)	(63)	(1)	(27)	(12)	(1)†††
Quarter 3	0.8	59	0.5	31	11	-2**
s.e.	(0.6)	(63)	(1)	(34)	(11)	(1)
Quarter 4	0.7	130**	1	82.22**	30**	0.8
s.e.	(0.6)	(63)	(2)	(41)	(12)†	(2)
FA Mean	21	250	10	240	53	9
Obs.	13,805	13,377	13,377	13,377	13,377	12573

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated outcome on a PSP or PSP*Quarter dummy and the following controls: age, age squared, gender, number of languages spoken, number of children, number of financial dependents, dummies for schooling (i.e., primary completed, secondary, and tertiary with a baseline of less than primary complete), cohort, and location-date fixed effects. The regressions are weighted by sampling weights. Standard errors are robust and clustered by subdistrict.

Table A.15: PSP Impact on Endline Household Savings and Credit Without Mombassa and Tahea

			Source			Purpose		
PANEL I: Savings								
	Total	Business Owners	Business Profit	Sell Agric. Product	Salary or Wage	New Agric. Activity	New Non-Agric. Activity	Existing Business
PSP	23*	-15	11*	2.8	14***	-1.5	0.18	15***
s.e.	(13)	(23)	(5.9)	(10)	(5.3)†	(10)	(1.9)	(4.7)†††
FA Mean	117	159	20	40	8.9	34	2.8	5.8
Sample Mean	135	150	26	40	15	32	2.5	15
Median	52	65	0	0	0	0	0	0
PANEL II: Credit								
	Total	Business Owners	SILC	Formal	Informal	Agric. Activity	Expanding Business	Start New Business
PSP	28**	19	6.1**	15	7.8**	6.9**	8.8**	1.6
s.e.	(14)	(14)	(2.6)	(12)	(3.1)	(3.2)	(4.5)	(1.3)
FA Mean	48	39	7.6	28	11	5.7	4.0	1.5
Sample Mean	62	53	12	35	16	8.9	9.8	2.5
Median	12	15	0	0	0	0	0	0
Obs.	1542	693	1542	1542	1542	1542	1542	1542

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict.The sample includes all households within FA or PSP villages - excluding villages in Mombassa and Tahea - irrespective of SILC membership.

Table A.16: Household Productive Decisions Results Without Mombassa and Tahea

	Start New Business	Closed Business	Business Investment	Hours spent in Business	Employees (non-HH)	Hours spent as Employee	Agric. Investment	Hours spent in Agric.
PSP	0.07*	-0.21***	18***	3.5**	0.17***	-0.31	-4.7	-2.2
s.e.	(0.04)	(0.06)†††	(6.5)††	(1.5)	(0.05)††	(1.8)	(12)	(1.6)
FA Mean	0.19	0.59	26	11	0.10	16	77	30
Sample Mean	0.24	0.44	37	13	0.21	16	69	29
Median	0	0	0	0	0	10	21	30
Obs.	1542	693	1542	1542	1542	1542	1542	1542

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict.The sample includes all households within FA or PSP villages - excluding villages in Mombassa and Tahea - irrespective of SILC membership.

Table A.17: Household Income Results Without Mombassa and Tahea

	Total Income	Business Income	Total Expenditures	Total Consumption
PSP	124	19	96	83
s.e.	(124)	(16)	(137)	(130)
FA Mean	408	61	1747	1644
Sample Mean	475	68	1727	1621
Median	161	0	1378	1255
Obs.	1542	1542	1542	1542

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict.The sample includes all households within FA or PSP villages - excluding villages in Mombassa and Tahea - irrespective of SILC membership.

A.8.2 Unweighted Regressions

This subsection shows the unweighted endline results for both the agent, group and household data.

Table A.18: PSP Impacts on Agent-Level Outcomes

	Groups	Members	Savings	Loans	Loan Value	Profit	Earnings
All Quarters	-2.8***	-65***	-1250	-39**	-1210	-440	-150***
s.e.	(0.94)††	(24)†	(830)	(18)	(740)	(320)	(4.9)†††
Quarter 1	-3.7***	-80***	-1190*	-48***	-1340**	-310	-170***
s.e.	(0.91)†††	(25)†††	(650)	(18)†	(640)	(230)	(5.2)†††
Quarter 2	-2.6***	-67***	-1890*	-49**	-1880**	-910*	-150***
s.e.	(0.91)††	(23)††	(960)	(19)†	(940)	(490)	(6.3)†††
Quarter 3	-3.2***	-74***	-1520*	-42**	-1480*	-590	-150***
s.e.	(1.1)††	(27)††	(900)	(20)	(770)	(390)	(6.1)†††
Quarter 4	-1.8	-43	-420	-17	-160	69	-150***
s.e.	(1.3)	(30)	(1150)	(22)	(920)	(380)	(5.0)†††
FA Mean	20	430	7610	230	7100	2140	180
Obs.	865	865	865	865	865	865	865

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated agent-level outcome on PSP, the randomized treatment, or PSP*Quarter dummy and the following controls: age, age squared, gender, number of languages spoken, number of children, number of financial dependents, dummies for schooling i.e. primary completed, secondary, and tertiary with a baseline of less than primary complete), cohort, and location-date fixed effects. Agent-level outcomes are aggregated from the MIS data group-level outcomes. All regressions are unweighted, standard errors are robust and clustered by subdistrict.

Table A.19: PSP Impacts on Group-Level Outcomes

	Members	Savings	Loans	Loan Value	Profit	Payment
All Quarters	0.26	47	0.55	17	5.6	-4.4***
s.e.	(0.60)	(52)	(1.0)	(26)	(9.2)	(0.91)†††
Quarter 1	0.25	21	-1.8	-14	8.6	-9.5***
s.e.	(0.63)	(60)	(1.3)	(32)	(10)	(0.65)†††
Quarter 2	0.06	17	0.53	-1.7	-12	-6.8***
s.e.	(0.60)	(55)	(1.1)	(25)	(12)	(0.81)†††
Quarter 3	0.32	38	1.3	15	1.9	-3.8***
s.e.	(0.65)	(54)	(1.3)	(29)	(10)	(1.0)†††
Quarter 4	0.38	99*	1.5	57*	22**	-0.69
s.e.	(0.64)	(54)	(1.4)	(34)	(11)	(2.1)
FA Mean	21	240	9.9	230	53	9.5
Obs.	16,289	15,747	15,747	15,747	15,747	14,907

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated coefficients for a regression of the stated group-level outcome on a PSP (the randomized treatment) or PSP*Quarter dummy and the following controls: age, age squared, gender, number of languages spoken, number of children, number of financial dependents, dummies for schooling i.e. primary completed, secondary, and tertiary with a baseline of less than primary complete), cohort, and location-date fixed effects. All regressions are unweighted, standard errors are robust and clustered by subdistrict.

Table A.20: PSP Impact on Endline Household Savings and Credit

			Source			Purpose		
PANEL I: Savings								
	Total	Business Owners	Business Profit	Sell Agric. Product	Salary or Wage	New Agric. Activity	New Non-Agric. Activity	Existing Business
PSP	25	5.9	17*	3.0	8.1	13	-1.4	14***
s.e.	(16)	(28)	(8.8)	(14)	(6.2)	(15)	(1.7)	(5.2)†
FA Mean	135	176	33	57	19	43	3.7	14
Sample Mean	143	162	38	57	20	48	2.6	20
Median	53	64	0	0	0	0	0	0
PANEL II: Credit								
	Total	Business Owners	SILC	Formal	Informal	Agric. Activity	Expanding Business	Start New Business
PSP	23*	20	4.3	15	6.6**	10	10*	5.2
s.e.	(14)	(15)	(2.8)	(13)	(2.9)	(7.2)	(5.8)	(4.1)
FA Mean	59	53	16	30	11	11	11	1.5
Sample Mean	77	80	18	43	15	18	21	2.8
Median	16	21	0	0	0	0	0	0
Obs.	1731	779	1731	1731	1731	1731	1731	1731

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). All regressions are unweighted, standard errors are robust and clustered by subdistrict.

Table A.21: PSP Impact on Endline Household Productive Decisions

	Start New Business	Closed Business	Business Investment	Hours spent in Business	Employees (non-HH)	Hours spent as Employee	Agric. Investment	Hours spent in Agric.
PSP	0.03	-0.11**	10	3.0**	0.07	-0.25	4.6	-0.55
s.e.	(0.03)	0.05	(10)	(1.2)††	(0.06)	(1.2)	(27)	(0.94)
FA Mean	0.22	0.49	44	13	0.22	16	85	27
Sample Mean	0.24	0.42	51	14	0.24	15	92	27
Median	0	0	0	0	0	12	20	25
Obs.	1731	779	1731	1731	1731	1731	1731	1731

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). All regressions are unweighted, standard errors are robust and clustered by subdistrict.

Table A.22: PSP Impact on Endline Household Income and Expenditures

	Total Income	Business Income	Total Expenditures	Total Consumption
PSP	104	12	100	86
s.e.	(93)	(12)	(109)	(104)
FA Mean	578	91	1866	1737
Sample Mean	596	92	2001	1857
Median	207	0	1564	1457
Obs.	1731	1731	1731	1731

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment), the baseline outcome and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). All regressions are unweighted, standard errors are robust and clustered by subdistrict.

A.8.3 Household Endline Results - No Baseline Controls

This subsection shows the endline result for the household data without controlling for initial conditions.

Table A.23: PSP Impact on Endline Household Savings and Credit

			Source			Purpose		
PANEL I: Savings								
	Total	Business Owners	Business Profit	Sell Agric. Product	Salary or Wage	New Agric. Activity	New Non-Agric. Activity	Existing Business
PSP	16	-2.9	16**	-3.5	9.3	0.27	-2.2	16***
s.e.	(17)	(22)	(5.9)†	(9.2)	(6.1)	(12)	(2.2)	(4.7)††
FA Mean	132	156	15	41	10	39	4.2	4.0
Sample Mean	141	153	24	37	15	37	2.6	15
Median	61	83	0	0	0	0	0	0
PANEL II: Credit								
	Total	Business Owners	SILC	Formal	Informal	Agric. Activity	Expanding Business	Start New Business
PSP	29**	27***	4.5**	17*	7.8***	7.8***	10***	2.0
s.e.	(11)†	(9.3)††	(2.0)	(10)	(2.4)†	(3.2)††	(2.9)††	(1.3)
FA Mean	41	32	22	22	10	4.3	3.5	1.7
Sample Mean	56	50	35	30	16	8.7	9.9	3.0
Median	11	15	0	0	0	0	0	0
Obs.	1891	865	1891	1891	1891	1891	1891	1891

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment) and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict.

Table A.24: PSP Impact on Endline Household Productive Decisions

	Start New Business	Business Closed	Business Investment	Hours spent in Business	Employees (non-HH)	Hours spent as Employee	Agric. Investment	Hours spent in Agric.
PSP	0.05	-0.17***	20***	3.4**	0.12**	0.97	4.5	-2.8*
s.e.	(0.05)	(0.06)††	(5.0)†††	(1.4)†	(0.05)	(1.4)	(9.7)	(1.3)
FA Mean	0.20	0.66	22	9.4	0.11	14	67	31
Sample Mean	0.24	0.53	35	12	0.19	15	69	29
Median	0	1	0	0	0	10	28	30
Obs.	1891	865	1891	1891	1891	1891	1891	1891

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment) and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict.

Table A.25: PSP Impact on Endline Household Income and Expenditures

	Total Income	Business Income	Total Expenditures	Total Consumption
PSP	131	11	208*	184*
s.e.	(85)	(12)	(113)	(111)
FA Mean	358	54	1598	1561
Sample Mean	451	62	1717	1664
Median	196	0	1394	1356
Obs.	1891	1891	1891	1891

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively. The results are estimated "intent to treat" coefficients for a regression of the stated outcome on a PSP dummy (the randomized treatment) and the following controls: age, age squared, gender, number of men, woman and children in the household, dummies for schooling (i.e. some primary, primary completed, secondary, and tertiary with a baseline of no schooling). The regressions are weighted by sampling weights. After weighting, the sample is representative at the village level, including all households within FA or PSP villages irrespective of SILC membership. Standard errors are robust and clustered by subdistrict. Note that income and outcomes were not completely balanced in the baseline.

A.8.4 Mean Comparison Endline

This subsection shows the endline mean comparison results for the agent-, group- and household-level data without any controls.

Table A.26: Mean Comparison of PSP Impacts on Agent-Level Outcomes

	Groups	Members	Savings	Loans	Loan Value	Profit	Earnings
All Quarters	-2.4*	-49*	-630	-26	-490	-280	-150***
s.e.	(1.2)	(29)	(860)	(23)	(950)	(360)	(3.5)†††
Quarter 1	-5.1***	-120***	-2650***	-78***	-2620***	-650*	-170***
s.e.	(1.2)†††	(27)†††	(800)†††	(21)†††	(910)††	(390)	(3.1)†††
Quarter 2	-3.5***	-75***	-1760**	-46**	-1600*	-700**	-150***
s.e.	(1.2)††	(28)†	(840)	(22)	(900)	(340)	(4.6)†††
Quarter 3	-1.6	-27	-360	-0.80	150	-330	-140***
s.e.	(1.3)	(29)	(900)	(24)	(970)	(360)	(4.7)†††
Quarter 4	0.43	23	2240**	19	2080*	570	-150***
s.e.	(1.4)	(32)	(1030)	(26)	1170	(420)	(3.5)†††
FA Mean	20	430	7610	230	7100	2140	180
Obs.	865	865	865	865	865	865	865

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively.

Table A.27: Mean Comparison of PSP Impacts on Group-Level Outcomes

	Members	Savings	Loans	Loan Value	Profit	Payment
All Quarters	0.10	62	1.0	41	9.5	-4.4***
s.e.	(1.0)	(42)	(1.2)	(33)	(9.5)	(0.84)†††
Quarter 1	-0.77	10	-1.1	-16	5.1	-8.6***
s.e.	(1.0)	(49)	(1.3)	(43)	(14)	(0.54)†††
Quarter 2	-0.11	11	0.60	-3.0	-4.5	-6.1***
s.e.	(1.0)	(42)	(1.3)	(31)	(8.8)	(0.69)†††
Quarter 3	0.35	68*	2.1*	63*	8.2	-3.4***
s.e.	(1.0)	(40)	(1.2)	(33)	(9.3)	(1.0)†††
Quarter 4	0.67	130***	1.8	99***	26**	-2.0
s.e.	(1.0)	(48)††	(1.4)	(38)†	(11)	(1.7)
FA Mean	21	240	9.9	230	53	9.5
Obs.	16,289	15,747	15,747	15,747	15,747	14,907

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively.

Table A.28: Mean Comparison of PSP Impacts on Household Endline Outcomes

	PSP			FA			PSP-FA
Outcomes (measured post-treatment)	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean △
Total Savings	144	249	1380	132	233	539	11
Savings for Business Owners	152	259	624	156	264	252	-4.1
Savings from Business Profits	28	172	1380	15	74	539	14*
Savings from Agric. Profits	36	115	1380	41	160	539	-4.7
Savings from Salary/wage	16	99	1380	10	114	539	6.0
Savings used for New Agric. Activity	37	196	1380	39	163	539	-2.4
Savings used for New Non-Agric. Activity	2.0	18	1380	4.2	30	539	-2.2*
Savings used for Existing Business	20	120	1380	4.0	47	539	16*** ††
Total Credit	62	222	1380	41	172	539	22**
Credit for Business Owners	57	167	624	32	102	252	26**
Credit from SILC	12	38	1380	7.4	23	539	4.3**
Credit from Formal Lenders	32	212	1380	22	159	539	10
Credit from Informal Lenders	18	56	1380	10	30	539	7.6*** ††
Credit used for Agric. Activity	10	104	1380	4.3	40	539	6.2
Credit used to Expand Business	12	102	1380	3.5	24	539	8.5**
Credit used to start New Business	3.5	41	1380	1.7	20	539	1.8
Start New Business	0.25	0.43	1380	0.20	0.40	539	0.05**
Closed Business	0.47	0.50	624	0.66	0.47	252	-0.19*** †††
Business Investment	41	130	1380	22	91	539	19*** †††
Hours spent in Business	13	23	1380	9.4	16	539	3.4*** ††
Non-HH Employees	0.23	0.86	1380	0.11	0.54	539	0.12*** †††
Hours spent in Employee	15	17	1380	14	19	539	0.83
Agric. Investment	69	171	1380	67	216	539	2.1
Hours spent in Agric.	28	15	1380	31	15	539	-2.6*** †††
Total Income	487	2439	1380	358	1501	539	129
Business Income	65	231	1380	54	218	539	11
Total Expenditure	1763	1544	1380	1598	1336	539	165**
Total Consumption	1653	1443	1380	1509	1251	539	144**

***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence levels, respectively. †††, ††, and † indicate statistical significance with a Bonferroni correction at the 1%, 5%, and 10% confidence levels, respectively.

A.9 Mathematical Appendix

We present some more details of the model results. First, we derive the bounds for $\underline{\pi}$ and $\overline{\pi}$ in Proposition 1. We start with $\underline{\pi}$. Define the additional benefit of type-H members as $\Delta(f_L) = B(f_L; \tilde{p}_H) - B(f_L; \tilde{p}_L)$. It is trivial to show that $\frac{d\Delta(f_L)}{df_L} < 0$ as stated in Proposition 1. We need to derive the conditions for $\Delta(0) > 0$.

$$\Delta(0) = (p_H - p_L)\left[\left(\overline{A} - \underline{A}\right) + (\pi\phi(0) - 1)\,\overline{R}_{BL}(0)\right] > 0$$

Substituting in $\overline{R}_{BL}(0) = p_L\overline{A}k/\left(p_Lk + (1-p_L)\,\phi(0)\right)$ and simplifying yields

$$-p_L\underline{A}k + \left[\left(\overline{A} - \underline{A}\right) + p_L\underline{A}\right]\phi(0) > 0$$

Now substituting in $\phi(0) = p_H/\left(\pi p_H + (1-\pi)\right)$ and simplifying yields

$$\pi > \frac{p_L\underline{A}}{p_H\left(\overline{A} - \underline{A}\right) + p_L\underline{A}} = \underline{\pi} \in (0,1)\,.$$

Now consider $\overline{\pi}$. We can solve by deriving the conditions for $B(1; p_H) < 0$, which is

$$B(1; p_H) = p_H\left(\overline{A} - \underline{A}\right) + \left[(1 - \pi + \pi p_H)\,\phi\,(1) - p_H\right]\overline{R}_{BL}(1) < 0$$

Again, substituting $\overline{R}_{BL}(1) = p_L\overline{A}k/\left[p_Lk + (1-p_L)\phi(1)\right]$ and $\phi(1) \equiv \frac{p_L}{\pi p_L + (1-\pi)}$ yields, after much simplification

$$\pi < \frac{p_H\underline{A} - p_L\overline{A}}{p_H\left(\overline{A} - \underline{A}\right) + p_H\underline{A} - p_L\overline{A}} \equiv \overline{\pi} \in (0,1)\,.$$

Clearly, $\overline{\pi} > \underline{\pi}$ if and only if[1]

$$p_H\underline{A} - p_L\overline{A} > p_L\underline{A}.$$

[1]Recall that Footnote 8 has an additional sufficient condition of $\frac{1}{k} < \frac{p_L(1-p_H)}{p_H(1-p_L)}$ for adverse selection to hold. The economics of this is driven by the collateral ratio, however, are assumptions made to simplify market clearing therefore imply $\pi < \frac{p_L(1-p_H)}{p_H(1-p_L)}$. If this bound is less than $\overline{\pi}$ then sufficient conditions on parameters also exist to ensure that it exceeds $\underline{\pi}$. Namely, it requires $\underline{A}/\overline{A} < (1-p_H)/(2-p_H)$. Parameters satisfying this condition as well as the other conditions hold (e.g., $\underline{A} \to 0$). More generally, this condition constraining π depends on our $\pi k \to 1$, which was economically arbitrary but done for reasons of simplifying algebra.

Here left-hand side measures the (per unit) capital production loss of adverse selection, while the right-hand side is the outside option of type-L. This condition always holds as $p_L \to 0$, and the upper bound on p_L is

$$p_L < \overline{p}_L = p_H \left(\frac{\underline{A}}{\overline{A} + \underline{A}} \right)$$

Next, we derive $\overline{\theta}$ from Proposition 2. First, notice that total surplus (net of F^*) is higher under F^* if and only if total output (net of F^*) is higher under F^*, since output is only distributed among members, and the outside options are always the same. Knowing that F^* leads to $f_L = 0$, we can express the condition that total output is higher under the F^* as:

$$(1-\theta)\left(p_H \overline{A} - F^*\right) + \theta p_L \underline{A} > (1-\theta)\, p_H \underline{A} + \theta p_L \overline{A}$$

Substituting in $F^* = B(0; \tilde{p}_L)$ and simplifying yields

$$\theta < \frac{p_H\left(\overline{A} - \underline{A}\right) - B(0;\tilde{p}_L)}{\left(p_L + p_H\right)\left(\overline{A} - \underline{A}\right) - B(0;\tilde{p}_L)} = \overline{\theta} \in (0,1)$$

Next, we need to show that there exists an $\hat{f}_L$ such that:

$$B\left(\hat{f}_L; \tilde{p}_H\right) = 0 \Leftrightarrow \hat{f}_L = \frac{\left(\overline{A} - \underline{A}\right)\left[p_H^2 + p_H p_L\left(\frac{1-\pi}{\pi}\right)\right]}{\left(p_H - p_L\right)\left[p_H^2\left(\overline{A} - \underline{A}\right) + p_L \overline{A}\left(\frac{1-\pi}{\pi}\right)\right]}$$

Then, substitute in for $B\left(0, \tilde{p}_L\right)$ and derive a condition for which $\hat{f}_L < \overline{\theta}$. One can show that this holds when the following inequality is satisfied:

$$p_H^3 p_L \left\{\pi\left(\overline{A} - \underline{A}\right)\left[\left(\overline{A} - \underline{A}\pi\right) - \left(\overline{A} - \underline{A}\right)\pi\right]\right\}$$

$$+ p_H^2 p_L^2 \left\{\left[2\pi^2\left(\overline{A} - \underline{A}\right) + \overline{A}\pi\right]\left(\overline{A} - \underline{A}\right) + \overline{A}\pi\left(1-\pi\right)\left(3\underline{A} - 2\overline{A}\right) + \underline{A}\left(\overline{A}\pi - \underline{A}\right)\right\}$$

$$+ p_H p_L^3 \left\{\left(\overline{A} - \underline{A}\right)\pi\left[2\pi - \left(\overline{A} - \underline{A}\right)\pi\right] + (1-\pi)\left[3\overline{A}\underline{A}\left(1-\pi\right) - \overline{A}^2\right] + \overline{A}\pi\left(3\overline{A} - \pi\right)\right\}$$

$$- p_L^4 \left\{\overline{A}\underline{A}\left(1-\pi\right)^2\right\} > 0$$

As p_L is sufficiently close to 0, a sufficient but not necessary condition for $\hat{f}_L < \overline{\theta}$ is:

$$\left(\overline{A} - \underline{A}\pi\right) > \left(\overline{A} - \underline{A}\right)\pi \Leftrightarrow \pi < \frac{\overline{A}}{2\overline{A} - \underline{A}}.$$

Recall that we already defined an upper bound $\overline{\pi}$, and it is straightforward to show that the above bound exceeds this upper bound, i.e.:

$$\frac{\overline{A}}{2\overline{A} - \underline{A}} > \overline{\pi} = \frac{p_H\underline{A} - p_L\bar{A}}{p_H\left(\bar{A} - \underline{A}\right) + p_H\underline{A} - p_L\bar{A}}$$

Therefore the previous sufficient condition for $\hat{f}_L < \overline{\theta}$ is always satisfied as $p_L \to 0$.

Finally, the results from Proposition 3 are straightforward. Using Y_2^*, Y_1^* and Y_0 to denote total maximum output under two, one and zero fees, we have :

$$\begin{aligned} Y_2^* &= (1-\theta)\left(p_H\overline{A} - F^*\right) + \theta p_L\overline{A} \\ Y_1^* &= (1-\theta)\left(p_H\overline{A} - F^*\right) + \theta p_L\underline{A} \\ Y_0 &= (1-\theta)\, p_H\underline{A} + \theta p_L\overline{A}. \end{aligned}$$

$Y_1^* > Y_0$, follows from the assumption that $(1-\theta)\, p_H > \theta p_L$, while $Y_2^* > Y_1^*$ follows from $\overline{A} > \underline{A}$.

A.10 Data Description

A.10.1 Household Survey Data

Savings Measures

The measure of total savings is the sum of all savings the survey respondent records from: the SILC group, merry-go-round (a group that collects money from each member and gives it to one person in turn), a group of friends that lend with interest, a bank, a microfinance institution (MFI), a SACCO/Co-operative (organization that requires you to be a member, e.g., agricultural co-op or workplace co-op), mobile money, a secret hiding place, giving to a friend or family member to keep, crops or grains in storage, and other savings which need to be specified. For the savings coming from the merry-go-round, the respondent records the amount of money that he or she would receive when it is their time to cash out. For crops or grains in storage, the respondent records the amount of money they would receive if they would sell all of it. Total savings are recorded in the local currency and we convert data from local currencies into USD using exchange rates at the time of survey for each country. Total savings for business owners then is total savings as just described for those survey respondents who recorded to own a business in the baseline survey.

Besides breaking down the total amount of savings, the respondent is also asked what the most important source and purpose are for these savings. In the paper, we focused on savings coming from three sources: business profits, selling agricultural products and salary or wages. We define the main source of savings as total savings for those respondents that record business profits, selling agricultural products and salary or wages as being the most important source of any type of savings they have. For the main purpose of savings, we also focused on three: new agricultural activity, new non-agricultural business and improve an already existing business. Each purpose of savings is defined in a similar way as is the source of savings: it is total savings for respondents that record new agricultural activity, new non-agricultural business and improve an already existing business as being one of the main purposes of savings in the last 12 months.

Credit Measures

Total credit is the sum of all loan amounts received in the past 12 months from: the SILC group, an ASCA, a bank, an MFI, a SACCO/Co-operative, a moneylender, an employer, a buyer of products who gives you cash/input in advance, a local shop/supplier that allows you to take goods/services on credit,

family and friends, goods/items on hire purchase, and other sources which need to be specified. Total credit is recorded in the local currency and we convert data from local currencies into USD using exchange rates at the time of survey for each country. Total credit for business owners then is total credit as just described for those survey respondents who recorded to own a business in the baseline survey.

We divided the source of credit into three main categories: credit coming from the SILC group, formal and informal credit. Formal credit is defined as the sum of all loan amounts received in the past 12 months from the more formal sources i.e. from ASCA, a bank, an MFI, SACCO/Co-operative or a moneylender. Informal credit are all loans in the past 12 months coming from informal lenders: an employer, a buyer of products who gives you cash/input in advance, a local shop/supplier that allows you to take goods/services on credit, family and friends, and goods/items on hire purchase. The purpose of credit is defined as total credit for those respondents that record farm inputs or improvements, expanding your business or starting up a new business as being one of the purposes. In the paper we focused mainly on these three purposes.

Time Use Measures

Weekly time-use measures for the respondent were constructed by asking for the number of rest days and work days in a typical week and then detailing the time-use separately for rest and work days across labor for own business, own farm, home production/childbearing, and market labor.

Consumption and Expenditure Measures

Expenditures are a sum of the following data. We have weekly spending data on food, beverages (alcoholic and non-alcoholic), and tobacco. Next, respondents record monthly spending on housing, transport and communication, health and medical care, and personal expenses. Finally the survey asked for yearly spending on clothing and footwear, things for the house, education, livestock/agriculture investment, business investment, social obligations, and land. We then convert the weekly and monthly data to yearly data and ad up all expenditures to a yearly measure. All expenditures are recorded in the local currency and we convert data from local currencies into USD using exchange rates at the time of survey for each country. In order to measure consumption we subtract all investments from the expenditures measure. These include both livestock/agricultural investment and business investment.

Income Measures

We measure total income as the total income in the past 12 months (to account for seasonalities). These data were collected separately for the respondent personally and the household overall. Besides reporting total income, the survey also asked to break down income by different activities: income from wage and salary, business income etc. This is where the measure for business income comes from. More formally, it is defined as income for the respondent earned from his/her business that is not a farm/agriculture in the past 12 months. Measurement of home production is another major issue, especially for agriculture. It is likely that home production was not considered income by respondents. Both income measures are substantially less than our measure of annual purchases, which exclude home-produced and gratis consumption. Finally, reported household incomes were only marginally higher than reported income of respondents. Thus, it appears there is also likely underreporting. Income is recorded in the local currency and we convert data from local currencies into USD using exchange rates at the time of survey for each country.

A.10.2 MIS Data

- All monetary variables (savings, loan value, profit, and earnings) are converted to US dollars using exchange rates at the time of data collection.
- Savings, profit, and earnings measure accumulated totals over the course of the entire cycle. Groups, members, loans, and loan value measure totals at the time of data collection.
- Savings, loans, loan value, profit, and earnings are reported in per quarter terms for group-level impacts and as a simple sum across groups each agent is working with at the time of data collection for agent-level impacts.

Membership Measures

Groups measures the number of groups each agent is working with at the time of data collection. This variable is measured only at the agent level. Members measures the number of members in each group at the time of data collection. For agent-level impacts we sum across each of the groups a particular agent is working with.

Savings and Loan Measures

Savings measures the total value of savings over the course of the current cycle, converted to US dollars using exchange rates at the time of data collection. Since savings accumulate over time, we report savings per quarter for the group-level impacts so groups that started at different times will be comparable. For agent-level impacts, we report savings summed across all groups with no adjustment made for weeks in each group's cycle. Loans gives the number of loans outstanding at the time of data collection. As with savings, we normalize the group-level results to loans per quarter since the number of outstanding loans is likely to grow over time. The agent-level results are summed across all groups the agent is currently serving with no adjustment made for length of current cycle. Loan value is the value of outstanding loans (converted to US dollars) at the time of data collection. The group and agent-level results are calculated in the same manner as savings and loans.

Profit and Earnings

Profit measures the total amount of profit earned over the course of the current cycle by each group (converted to US dollars). Profits include money earned from registration fees, fines, and interest earned from loans and can be positive or negative. For group-level impacts we normalize to profit per quarter, while for agent-level impacts we sum across groups with no such adjustment. Earnings measures the amount of money in US dollars that the group has paid to the agent over the course of the current cycle. The payment may come in several forms, most commonly as a fixed group/member fee, share of savings, or share of profits. For group-level impacts we report earnings per quarter, while for agent-level impacts we report the total across the agent's groups with no adjustment made for length of current cycle.

A.10.3 Weights

We create a set of weights based based on: (1) sampling weights and (2) country weights. First we create the sampling weights. In each village five SILC and five non-SILC households are sampled. However, these might not reflect the underlying data. For instance, imagine a village with 30 households of which 20 are SILC and 10 are non-SILC. If five household are sampled from each category, in this example, the non-SILC households would be "oversampled" compared to the non-SILC households i.e. 50% of the non-SILC households are repesented as opposed to only 25% of the SILC households. In order to take this into account, each observation will be weighted by the inverse of its probability of being sampled. In this example SILC household would receive a weight of four and non-SILC housholds two.

Example Village	SILC	Non-SILC
Census	20	10
Sample	5	5
Probabilty of being sampled	0.25	0.50
Weight (= Inverse probability)	4	2

Second, we create the country weights. Recall that the sample contains data from three countries: Kenya, Tanzania, and Uganda. If we break down the village data by country and treatment we have the following table:

	Kenya	Tanzania	Uganda	Total
PSP	65	34	39	138
FA	18	13	23	54
	83	47	62	192

Now we see that in the overall sample the ratio of PSP vs FA is $\frac{138}{54} \approx 2.6$. Note that this ratio is not the same across countries. In Kenya it is $\frac{65}{18} \approx 3.6$, in Tanzania $\frac{34}{13} \approx 2.6$, and in Uganda: $\frac{39}{23} \approx 1.7$. This could lead to biased results when estimating the impact of PSP treatment. More specifically, we would be mostly pick up the treatment effects in PSPs in Kenya and Tanzania as their PSP to FA ratio is higher than in the overall sample. Therefore, we need to weigh the different villages such that the ratio in each country is the same as in the overall sample. In other words:

$$\frac{65w^K_{PSP}}{18w^K_{FA}} = \frac{34w^T_{PSP}}{13w^T_{FA}} = \frac{39w^U_{PSP}}{23w^U_{FA}} = \frac{138}{54}$$

and

$$65w^K_{PSP} + 18w^K_{FA} = 83$$
$$34w^T_{PSP} + 13w^T_{FA} = 47$$
$$39w^U_{PSP} + 23w^U_{FA} = 62$$