CATHOLIC RELIEF SERVICES

SILC INNOVATIONS

RESEARCH BRIEF 5

An Evaluation of Household Impact Among Fee-for-Service Savings Groups

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Project Background—SILC and the PSP Model

Catholic Relief Services developed the model of Savings and Internal Lending Communities (SILC) for user-owned, self-managed savings and credit groups. A SILC typically comprises 15–30 self-selecting members, and offers frequent, convenient and safe opportunities to save. It helps members build useful lump sums that become available at a predetermined time and allows them to access small loans or emergency grants for investment and consumption.

Funded by the Bill & Melinda Gates Foundation from 2008 to 2012, SILC Innovations is a pilot project within CRS' broader SILC program. SILC Innovations aims to establish local entrepreneurial capacity for sustaining the spread of the savings-group model beyond the funding period. In the project design, the Field Agents (FA) responsible for

KEY FINDINGS

- PSP and FA households showed comparable results on many welfare indicators, including income and income sources.
- PSP households were more active as entrepreneurs, with deeper investment in enterprise, including some higher-risk ventures. FA households seemed to favor a more conservative route, with greater emphasis on subsistence cultivation.
- PSP households took on significantly higher levels of credit, and showed greater likelihood to engage effectively with formal and semiformal finance for both credit and savings, as compared with FA households.
- PSP households were more likely to have both savings and credit linked to business activity.
- Sources of economic stress varied somewhat. PSP households experienced more losses related to business ventures, while FA households had more difficulty managing health crises and life-cycle events.
- PSP households emerged as significantly more active, in terms of mobilizing the community and questioning the views of leaders.
- Collective evidence suggests that PSP households may favor longer-term livelihood strategies, with more risk and less immediate material payoff, as compared with FA households.

forming and supporting SILC groups are recruited and paid by the project for up to one year. The FAs then undergo an examination process to become certified as Private Service Providers (PSP), who offer their SILC services to communities on a long-term, fee-for-service basis, with no further project funding. As of March 2012, the project serves more than 350,000 savings-group members, mostly rural villagers, across the three pilot countries of Kenya, Tanzania and Uganda.

Research Design and Household Impact

To assess the model and inform future SILC rollouts on this fee-for-service, savings-group delivery channel, CRS carried out a broad research study using a Randomized Control Trial (RCT) design. The research was set up to make a fundamental comparison of delivery channels: the fee-for-service, PSP model versus the more conventional, project-paid (stipend-based) FA model. An experimental design rigorously compared the two and established statistically comparable cohorts of agents serving members in comparable environments over approximately a one-year interval. (See the box titled Additional Background Information about the Research.) In total, the study centered on 333 randomized agents across two cohorts (separated by about one year), assigned either fee-for-service PSP status or stipend-paid FA status for the one-year research interval, which followed a 12-month training phase in which all agents were paid a stipend.

For the household survey, a subset of 240 of the randomized agents was selected, along with one village served by each agent. Within each selected village, we surveyed 10 randomly selected households, inclusive of both SILC and non-SILC respondents.[1] The baseline survey took place between June and August of 2010. The panel endline of the same households took place between July and November of 2011.[2] As per standard panel survey design, this analysis focuses on whether any differences emerged at endline between our comparison groups of PSP-served households and FA-served households.

Overview of the Sample

In accordance with the above design, the household survey was administered to 2,392 households at baseline. At endline, the field team achieved a follow-up rate of approximately 90 percent, with the remainder lost to follow-up but replaced by additional respondents drawn from the substitute list created at baseline, thereby reaching an endline *n* of again approximately 2,400. During the endline analysis, we excluded one region from the study, after evidence emerged that local management had failed to carry out proper randomization when agents were assigned their experimental PSP or FA status. The result was a final endline *n* of 2,119 (Table 1),[3] with a final follow-up for the endline sample of 90.8 percent.

1 The inclusion of SILC and non-SILC respondents is a product of the RCT's "intent-to-treat" design, in which we evaluate *access* to the SILC intervention rather than direct treatment. The design measures impact effects across villages with exposure to the PSP model or the FA model. In other words, when we compare the PSP approach against the FA approach, we are making village-level comparisons that aggregate the SILC and non-SILC respondents within the villages served by each type of agent. Readers should also note that the design does not enable randomized impact comparisons between SILC and non-SILC respondents, since randomization occurred at the village level and the decision to join a SILC group is nonrandom.

2 The design allowed for limited substitutions of the households on the endline.

3 Readers will note the asymmetrical distribution of the sample between PSP and FA households. This was a deliberate design decision, based on the anticipation of greater variation in the results from the PSP model.

TABLE 1 - OVERVIEW OF SAMPLE BY COUNTRY

Country	PSP Households (*N*)	FA Households (*N*)	Total Household Sample	Percentage of Overall Household Sample
Kenya	650	180	830	39.17
Tanzania	480	179	659	31.10
Uganda	390	240	630	29.73
Total	**1,520**	**599**	**2,119**	**100.00**

Baseline results were analyzed to validate the randomization. Those findings, collected in a separate CRS report, showed that the randomization was effective in terms of delivering statistical equivalence on major observable variables. Only a scattering of significant differences emerge between the FA and PSP populations. In other words, at the village level and the individual level, PSP and FA sample groups were highly comparable at baseline, allowing for effective isolation of the PSP treatment effect in the endline survey analysis.

The same analysis of demographic variables took place at endline and confirmed the comparability once again. Tables 2 and 3 display examples of the demographic variables tested at the endline, none of which revealed any robust differences between PSP and FA households.

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TABLE 2 - HOUSEHOLD AGE AND SIZE COMPARISONS OF PSP AND FA SUBPOPULATIONS

Household	PSP		FA		Total (*N*)
	(Mean)	(*N*)	(Mean)	(*N*)	
Age (Respondent)	22.60	1,513	22.80	596	2,109
Size	6.13	1,520	6.23	599	2,119

TABLE 3 - HOUSEHOLD DISTRIBUTION OF MARITAL STATUS AND EDUCATION LEVEL

Distribution		PSP		FA		Total (*N*)
		(Mean)	(*N*)	(Mean)	(*N*)	
Marital Status	*Single*	5.53%	84	5.68%	34	118
	Married/Living Together	74.74%	1,136	75.96%	455	1,591
	Divorced/Separated	5.53%	84	4.34%	26	110
	Widowed	14.21%	216	14.02%	84	300
Education Level of Household Members More than 13 Years Old	*None*	21.49%	1,982	21.75%	808	2,790
	Some Primary/Nursery	43.24%	3,988	44.25%	1,644	5,632
	Primary Completed	21.04%	1,940	20.48%	761	2,701
	Some Secondary	7.93%	731	8.45%	314	1,045
	Secondary Completed	4.88%	450	3.53%	131	581
	Technical after Secondary	1.12%	103	1.27%	47	150
	University	0.30%	28	0.27%	10	38

Overview of Analysis Method

The project's expansive survey covered a large number of areas of household life where participation in a SILC group might create impact. The standard method applied to all variables in this analysis was to aggregate responses by village status

(PSP or FA) and then compare means.[4] The mean comparison tests (*t*-tests) were used to determine whether differences between the PSP and FA samples were statistically significant. We also considered the magnitude of the difference (by percentage). In most cases of dichotomous, ordinal and continuous variables, missing data codes were erased before the tests were executed. For categorical variables and multiple-response questions, the test was run on each individual response. In some cases, logged comparisons were added to the analysis as a way of treating the unequal variation seen in the data set.

We define significance at the 95 percent level ($p < .05$). To correct for the multiple testing associated with the sheer volume of questions, and to reduce the likelihood that Type I errors would confound the comparisons, we place particular emphasis on variables with 99 percent ($p < .01$) significance. All discussions of significance presented below conform to these standards, unless otherwise specifically indicated in the text.

Impact

Income Sources, Income Estimates and Time Allocation

PSP households were more heavily oriented toward business, in that they were significantly more likely than FA households to own a microenterprise.

The study found that the PSP and FA subpopulations were not significantly different in terms of general livelihood profiles and sources of income (wage labor, remittance, business income, etc.). Estimates of total income were also comparable. In addition, time allocation findings (e.g., number of hours/days spent working vs. resting) showed no robust differences, though there is some suggestion that PSP households were spending a greater portion of their working time on business-related activity, compared with FA households. That result finds considerable support in the below sections.

Enterprise Ownership and Agriculture

PSP households were more heavily oriented toward business, in that they were significantly more likely than FA households, by about 5 percent, to own a microenterprise. There were no significant differences in the human resource scale of these businesses, considered in terms of number of paid employees (less than one per business on average).

There was a mildly significant difference in terms of expenditure related to business investment. The logged business investment of PSP business owners was slightly higher than that of FA business owners. This effect holds across the three countries.

The source of funds for new business investment also varied: PSP households were substantially more likely to borrow (from any source) for the purpose of business investment ($p < .01$). PSP households were also significantly more likely to take profits from an existing business and roll them over into an additional business investment, by a difference of about 5 percent. For their part, FA households were more likely to start new businesses with their SILC shareouts, by a difference of about 3 percent.

4 Most of the report contains bivariate difference-of-means tests that compare PSP and FA populations without accounting for control variables that may influence these differences. The operative assumption was that the randomization worked properly in the sense of creating comparable groups, thereby eliminating the need for such controls. For added assurance, many of the PSP and FA differences were tested with supplemental multivariate regression with controls for a range of relevant demographic factors. The results did not fundamentally change any of the findings reported here, with a handful of exceptions—the most important being the effect of country variables on total savings, as discussed later in this brief.

In terms of types of enterprises owned, the only significant difference that emerged was that FA households were about 7 percent more likely to own one specific type of business—namely, agricultural processing (Table 4, significant differences in red). The difference is robust at the .01 level, and corresponds with other findings that suggest that there were significant differences between these populations related to farming activities.

FA households made significantly more capital investments in farm implements and spent significantly more on farm labor (both about 3 percent differences). For their part, PSP households spent more on fertilizer and purchased more livestock over the research interval, with the latter difference robust at nearly 7 percent. Each group favored a particular mix of staple grains and cash crops. Finally, the way the two subpopulations paid for agricultural inputs varied, with PSP households significantly higher on use of existing savings and gifts from family/friends, and FA significantly higher on use of loans from moneylenders and (non-SILC) village groups.

TABLE 4 - MAIN ACTIVITY OF RESPONDENT'S BUSINESS (ROBUST DIFFERENCES IN RED)

Type of Business	PSP		FA		Overall	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
Food Vending	154	20.6	54	20.6	208	20.6
Secondhand Clothes	28	3.8	11	4.2	39	3.9
Petty Trading	116	15.5	31	11.8	147	14.6
Retail/Wholesale	100	13.4	32	12.2	132	13.1
Milk Products	16	2.1	5	1.9	21	2.1
Butchery/Fish	48	6.4	13	5.0	61	6.1
Other Animal Products	17	2.3	3	1.1	20	2.0
Phone Shop	4	0.5	0	0.0	4	0.4
Tailoring	19	2.5	6	2.3	25	2.5
Crafts/Carpentry	36	4.8	8	3.1	44	4.4
Transport	13	1.7	7	2.7	20	2.0
Mechanic	5	0.7	1	0.4	6	0.6
Electronics	1	0.1	0	0.0	1	0.1
Haircutting	10	1.3	5	1.9	15	1.5
Agricultural Processing	97	13.0	52	19.8	149	14.8
Restaurant	22	2.9	7	2.7	29	2.9
Brewing	32	4.3	14	5.3	46	4.6
Accommodation	3	0.4	1	0.4	4	0.4
Other	25	3.4	12	4.6	37	3.7

These findings suggest to us that PSP households are showing a more entrepreneurial orientation, with more frequent and greater investment in enterprise; this includes using credit and rolling over business profits into additional business investment. This orientation includes a propensity to take on ventures such as livestock investment, which is a common cultural signifier of wealth in East Africa but is viewed in development economics as relatively riskier.[5] FA households appear to favor a more conservative route, with less business investment overall and a higher propensity for combined cash crop and subsistence cultivation (feeding themselves as they seek some profit).

5 The point here draws on conventional arguments in agricultural economics that livestock investments are relatively unpredictable. Success depends on the health and breeding output of the animals.

Credit

The survey included questions on all types of credit, including but not limited to SILC loans. A central comparison in the credit analysis was total money borrowed from all sources.

The findings here were clear: PSP respondents took on more credit. The difference was robust and held for both total credit and logged credit. The difference in credit between PSP and FA households totaled about $35 per household (measured without reference to loan term at the time of the endline survey).[6] Moreover, when the analysis was restricted to business owners, the result held again, with a slightly larger difference. (The greater likelihood to borrow for business purposes was noted in the previous section.)

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TABLE 5 - HOUSEHOLD LOANS ACQUIRED IN THE PAST 12 MONTHS

	PSP			FA			Overall	
	(*N*)	(%)	(Mean)	(*N*)	(%)	(Mean)	(*N*)	(%)
SILC Group	474	34.27	$47.31	188	35.07	$38.25	662	34.50
Family Friend	1,004	77.83	$38.82	450	85.23	$28.50	1,454	79.98
Local Shop	297	20.53	$11.73	76	13.19	$9.55	373	18.44
Savings and Credit Cooperatives	29	1.92	$327.38	14	2.35	$317.74	43	2.04
Bank	49	3.24	$839.60	17	2.84	$489.93	66	3.13
Microfinance Institution	52	3.42	$403.77	15	2.50	$212.83	67	3.16
Accumulating Savings and Credit Association	43	2.85	$68.80	17	2.86	$32.42	60	2.85
Buyer	33	2.21	$36.81	8	1.35	$11.65	41	1.97
Goods on Hire	11	0.73	$20.38	6	1.01	$127.78	17	0.81
Moneylender	24	1.59	$38.53	13	2.20	$29.35	37	1.76
Employer	12	0.79	$27.31	4	0.67	$12.59	16	0.76
Other	2	0.13	$5.10	1	0.17	$0.60	3	0.14

In terms of the sources of credit, the profiles of the PSP and FA samples were similar, with just two notable differences (Table 5, significant differences in red). The FA households relied more on informal credit from friends, while PSP households acquired more credit from local shops. (Both differences are about 7 percent with $p < .01$.) The survey found that PSP households tended to secure better terms for their loans, including longer terms in cases of bank loans and a higher likelihood of zero-interest loans.

Table 5 displays the mean value of loans disaggregated by loan type. Here we see what appears to be more active borrowing by PSP households nearly across the board, including larger loans from their SILC groups and substantially larger loans from banks and microfinance institutions. These findings may indeed be indicative of trends in the two subpopulations. However, because there are so few observations relative to the size of the entire sample, and the errors around those estimates are even larger, none of these differences on loan value disaggregated by source are statistically significant.

6 All monetary figures in this document are expressed in U.S. dollars using an average exchange rate over the 2010–2011 research period, as follows: 84 Kenyan shillings per 1 U.S. dollar, 1,512 Tanzanian shillings per 1 U.S. dollar and 2,349 Ugandan shillings per 1 U.S. dollar.

All told, these finding suggest that PSP households are more effective in using semiformal and formal finance than FA households were. This is consistent with the finding that PSP households were generally more active in using credit and more likely to apply their credit toward business purposes.

Savings

PSP respondents were initially found to have about $30 more in total savings relative to FA respondents (measured at the time of the endline survey). This effect appears in each of the three comparisons described above and includes the statistical significance for the "total money" model. However, when we account for country effects,[7] the significance of the PSP advantage on total savings disappears. Our conclusion is that there is in fact no significant relationship between PSP/FA status and total savings—a clear case of "omitted variable bias" in the initial comparison. FA households did report significantly more *growth* in their total savings over the previous 12 months, a result that holds with significance and shows a difference of about 6 percent.

At the same time, a clear trend emerges on savings related to business activity. For both savings derived from business activity, and savings set aside for the purpose of business investment, PSP households emerged significantly ahead of FA households, with the former significant at .05 and the latter at .01. These findings are quite consistent with the aforementioned results on credit.

In terms of choices of locations for savings, a few significant differences emerged: PSP households were more likely to keep current savings with their SILC groups and to save in mobile money accounts than FA households (Table 6, significant differences in red). FA households, on the other hand, were significantly more likely to save in the previous six months in a "hiding place,"[8] and had higher mean value of savings kept with "friends" (though the last finding is significant only at the .10 level). All of these differences were in the 2–4 percent range.

Table 6 displays mean value of savings broken down by account type. Here we see a variety of differences, including PSP households saving more actively with their SILC groups and with banks, while FA household are saving more with merry-go-rounds[9] and savings and credit cooperatives,[10] and in "hiding places." To a considerable extent, these findings fit with others in the analysis and may be indicative of trends in the two subpopulations. However, as in the credit analysis, because there are so few observations relative to the size of the entire sample, and the errors around those estimates are even larger, none of these differences on savings value is statistically significant.

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7 The respondent's country of residence was a potentially important control variable that was considered here and elsewhere in the analysis. The percentage of respondents belonging to the PSP and FA groups varied widely across countries. PSP respondents compose 78.3 percent of the sample in Kenya, 72.8 percent of the sample in Tanzania and only 61.9 percent in Uganda. As a result, the bivariate PSP-FA comparisons could be biased by differences between countries. (E.g., perhaps PSP respondents saved more not because of a PSP-FA difference, but because economic conditions were better in Kenya than they were in Uganda.) We dealt with this cross-country bias using two methods. First, we weighted observations to correct for the disproportionate PSP populations across countries, giving less weight to PSP villages where PSP respondents are overrepresented (Kenyan villages) and giving more weight to PSP villages where they are underrepresented (Ugandan villages). The second approach did not weight observations. Instead, country indicators were added to the regressions to capture any country effects. Neither analysis presented major challenges to the comparison of means on which we report, with a handful of exceptions—the most significant being total savings.

8 Note that the findings on savings in the "previous six months" were separate from the findings on current saving displayed in Table 6.

9 *Merry-go-rounds* is the common name for rotating savings and credit associations or RoSCAs in East Africa.

10 Savings and credit cooperatives are also known as credit unions in other parts of the world.

TABLE 6 - RESPONDENT'S (OR HOUSEHOLD MEMBER'S) CURRENT SAVINGS

	PSP			FA			Overall	
	(*N*)	(%)	(Value)	(*N*)	(%)	(Value)	(*N*)	(%)
SILC Group	915	97.34	$ 38.87	393	95.62	$ 33.15	1,308	96.82
Crop	393	41.81	$ 34.55	161	39.17	$ 34.84	554	41.01
Hiding Place	397	42.23	$ 46.69	168	40.88	$ 57.18	565	41.82
Merry-Go-Round	250	26.60	$ 175.15	108	26.28	$ 266.16	358	26.50
Bank	159	16.91	$ 127.55	69	16.79	$ 99.60	228	16.88
Mobile Money	136	14.47	$ 158.11	45	10.95	$ 60.07	181	13.40
Group Friends	62	6.60	$ 23.60	27	6.57	$ 20.01	89	6.59
Family	68	7.23	$ 37.03	31	7.54	$ 29.58	99	7.33
Savings and Credit Cooperatives	78	8.30	$ 25.76	40	9.73	$ 66.09	118	8.73
Microfinance Institution	61	6.49	$ 130.42	19	4.62	$ 130.27	80	5.92
Other	44	2.89	$ 362.58	15	2.50	$ 302.91	59	2.78
Total	**2,563**			**1,076**			**3,639**	

PSP households are clearly linking their savings more often to business activity. They also show greater propensity to save in semiformal vehicles, including transforming their mobile phone into cash-storage devices

In sum, while there may be no differences in total savings, PSP households are clearly linking their savings more often to business activity. They also show greater propensity to save in semiformal vehicles, including transforming their mobile phone into cash-storage devices (at least in incidence if not value of savings). As in the credit analysis, FA households show some propensity to fall back on informal finance, though they appear to be saving more actively overall, as evident in the growth during the previous year.

SILC Activity

In terms of basic saving activities of the SILC groups, the PSP and FA subpopulations look quite comparable (Table 7, significant differences in red).[11] In addition, the number and size of SILC shareouts showed no robust differences between FA and PSP. As in the previous analysis of credit and savings, while it appears that PSP households saw larger shareouts, and this may indeed be the trend, the difference noted in Table 7 is not statistically significant.

As reported in Table 5, the PSP and FA households are equally likely to borrow from their SILC groups. There is some indication that PSP households are borrowing at higher levels (though the difference is not significant). As noted in Table 6, PSP households also appear to save more actively with their SILC groups (though again the value of those savings is not significantly different).

These comparisons of basic SILC activity are important to consider because they may provide some insight into the mechanics of change seen elsewhere in the survey. Are the differences we see in other areas of this analysis simply due to having more money on hand as a result of SILC? We will return to this question at the end of the brief.

We do see some divergence on use of SILC shareouts. The FA households were more likely not to use their SILC shareout for anything in particular, with high significance ($p < .01$), while PSP households showed a weaker propensity (at the .1 level) to use

11 The findings here are different from similar metrics reported in Michael Ferguson, *Group Performance in Fee-for-Service Savings Groups*, SILC Innovations, Research Brief 3 (Baltimore: Catholic Relief Services, 2012), http://www.crsprogramquality.org/publications/2012/7/24/group-performance-in-fee-for-service-savings-groups.html. There, the PSP groups substantially outperformed the FA groups. The major reason is a difference in samples. The group-performance brief relied on a comparison of groups *created under randomized PSP or FA status*, while the household survey tracked respondents in groups created while all agents were in their initial 12-month FA training phase.

shareouts for daily needs and school fees. One possible interpretation here is that FA households may have more immediate financial security, in that they have the flexibility not to use the shareout right away on pressing needs.

TABLE 7 - SUMMARY OF SILC SAVINGS ACTIVITY

	PSP		FA	
	(*N*)	(Mean USD)	(*N*)	(Mean USD)
Saved at the Last SILC Meeting	897	$4.26	390	$4.25
Contributed to the Social Fund at the Last SILC Meeting*	862	$0.45	359	$0.47
Last Shareout	749	$68.00	288	$58.00

* We note that the per-meeting savings here does not square with other data we have collected on savings levels. Ferguson, *Group Performance*, has shown that most groups meet weekly and that average savings tends to be around $1 per week. However, it appears that these differences result largely from differences in group cycle. The group performance analysis focused on groups created during each agent's randomization period; hence, almost none of them was beyond the second cycle when the endline measure was taken. The household survey focused mostly on groups created during each agent's 12-month training period; hence, many more of those groups were beyond the second cycle at the time of the survey endline. We know that per-member savings tend to increase as cycle number goes up. A final point: the effect here is clearly distributed in the same way across the PSP and FA samples, supporting a valid comparison, which is most critical to this analysis.

General Expenditures and Consumption

The PSP households showed higher levels of total expenditures and slightly higher levels of total consumption, compared with FA households. However, neither of the differences is significant at the .05 level.

Risk Management and Health

The PSP and FA subpopulations responded to economic shocks in similar ways. The time required to recover from their respective shocks was comparable. The causes of those shocks, however, varied.

PSPs were significantly more likely to have suffered a shock as a result of an enterprise failure (closure), and/or a loss of livestock, with 4–5 percent differences, both $p <$ .01 (Table 8, significant differences in red). Generally, this fits with the idea that PSP households were taking on more businesses. Livestock ownership is a case in point—PSP households invested more heavily in animals and suffered the consequences disproportionately if and when those investments went bad.

For their part, FA households were more likely to suffer economic shocks due to festival expenses[12] or sickness/injury (Table 8). The latter difference was around 7 percent and carried the highest significance ($p < .01$). To be clear, PSP and FA households experienced comparable *incidence* of illness and injury during the research period, but FA households were more likely to experience an economic *shock* due to those events. They showed significantly more money spent on health care overall as compared with PSP households.

Given the randomization and the relatively large sample, it is unlikely that FA households suffered illnesses and injuries that were simply more severe and costly to treat than those experienced by PSP households. Hence the two subpopulations may be responding to sickness/injury in different ways. The survey included a variety of questions about basic health care–seeking behaviors (e.g., number of days a household waited before seeking care), and there were no robust differences for most. We did see

12 Festival expenses are defined as expenditures associated with holidays and community events that are celebrated as part of the village social calendar.

TABLE 8 - CAUSES OF FINANCIAL PRESSURE IN PREVIOUS SIX MONTHS (ROBUST DIFFERENCES IN RED)

Type of Financial Pressure	PSP		FA		Overall	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
Lump sum, school	791	52.04	313	52.25	1,104	52.10
Marriage Expenses	72	4.74	27	4.51	99	4.67
Festival Expenses	507	33.36	227	37.90	734	34.64
Business Closed	136	8.95	31	5.18	167	7.88
Loss of Job	37	2.43	14	2.34	51	2.41
Loss of Crop	721	47.43	259	43.24	980	46.25
Damaged House/Assets	102	6.71	50	8.35	152	7.17
Sickness/Injury	833	54.80	368	61.44	1,201	56.68
Loss of Livestock	293	19.28	86	14.36	379	17.89
Death in Family	201	13.22	80	13.36	281	13.26
Left by Spouse	13	0.86	6	1.00	19	0.90
Totals	**1,520**		**599**		**2,119**	

To establish an important proxy for the financial health of a household, we compared the number of school absences among the children of PSP and FA households, and we found no significant difference.

significant divergence on the ways PSP and FA households paid for health care. PSP households were more likely to use cash on hand at home or to get a loan from the SILC Social Fund (generally interest free), which are both low-stress coping mechanisms.[13] FA households, on the other hand, were more likely to use conventional SILC loans or work for the money. Taking out relatively high-interest loans from the SILC groups or working as a day laborer in others' fields are considered to be coping mechanisms that are more stressful[14] and more likely to snowball into major economic shocks.

School Attendance, School Fees and Food Security

To establish an important proxy for the financial health of a household, we compared the number of school absences among the children of PSP and FA households, and we found no significant difference. When such absences did occur, we found a significant difference in one *reason* that was cited for the absence: the PSP households were significantly (5 percent) more likely to cite lack of funds as the reason their children missed school.

Two lines of questioning revealed small but significant differences regarding food security, namely (1) how often the households went to sleep hungry in the past month and (2) how often the households failed to meet food needs in the past year (Table 9, significant differences in red). Both measures showed that the PSPs were less food-secure than FA households with moderate significance ($p < .05$), and differences in the 3–4 percent range.

TABLE 9 - FREQUENCY THAT HOUSEHOLD DID NOT SATISFY FOOD NEEDS IN PREVIOUS YEAR

	PSP		FA		Overall	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
Never	732	48.16	307	51.34	1,039	49.06
Sometimes	611	40.20	243	40.64	854	40.32
Often	177	11.64	48	8.03	225	10.62
Total	**1,520**		**598**		**2,118**	

13 See Monique Cohen and Pamela Young, "Using Microinsurance and Financial Education to Protect and Accumulate Assets," in *Reducing Global Poverty: The Case for Asset Accumulation*, ed. Caroline O. N. Moser (Washington, DC: Brookings Institution Press, 2007).

14 Ibid.

To some extent, these findings seem at odds with the findings on total consumption; at this point, we have no particular way to reconcile the two. Yet the findings seem consistent with earlier findings. The earlier findings suggested that FA households may be favoring a lower-risk economic strategy, with emphasis on subsistence, as opposed to taking chances on business investment. In a related finding, PSP households purchased significantly more food than FA households ($p < .01$), which, considering the typical irregularity of income streams at the village level, may have left them more prone to food deficits, as opposed to FA households that cultivated more of their food.

Housing and Assets

The survey included a variety of questions on housing. Some of the questions were country-specific for standardized poverty indices embedded for each country (e.g., Progress Out of Poverty Index tools). Both the survey-wide questions and the country-specific questions indicated that FA households tended to reside in larger structures, composed of sturdier materials—for example, FA households resided in brick structures approximately 3 percent more often than PSP households did (Table 10, significant differences in red). FA households invested significantly more money in major improvements to those structures (e.g., improved roofing). Finally, FA homes were more likely to be fueled by *purchased* firewood, while PSP homes were more likely to be fueled by *collected* firewood.

TABLE 10 - MAIN MATERIAL OF HOUSEHOLD WALLS (ROBUST DIFFERENCES IN RED)

Wall Material	PSP		FA		Overall	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
Mud/Cow Dung	1,136	74.74	425	70.95	1,561	73.67
Grass/Sticks	58	3.82	24	4.01	82	3.87
Stone	37	2.43	12	2.00	49	2.31
Cement Bricks	141	9.28	74	12.35	215	10.15
Fired Bricks	98	6.45	57	9.52	155	7.31
Iron Sheets	7	0.46	4	0.67	11	0.52
Other	43	2.83	3	0.50	46	2.17
Total	**1,520**		**599**		**2,119**	

The inquiries on assets were country-specific and derived from the poverty indices. Most of these comparisons showed no robust difference. Where differences emerged, they tended to favor the FA households, especially in Uganda (Table 11, significant differences in red).

TABLE 11 - ITEMS OWNED BY HOUSEHOLDS IN UGANDA

	PSP		FA		All	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
Boat/Canoe	15	3.85	3	1.25	18	2.86
Mosquito Net	291	74.62	197	82.08	488	77.46
Radio	255	65.38	168	70.00	423	67.14
Bicycle	188	48.21	137	57.08	325	51.59
Chicken or Duck	266	68.21	184	76.67	450	71.43
Shoes owned by Spouse of Household Head	287	73.59	184	76.67	671	74.76

(Continued on the next page)

(Table 10, continued)

	PSP		FA		All	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
Panga	281	72.05	192	80.00	473	75.08
Metal CookingPot/ Sauce Pan	362	92.82	222	92.50	584	92.70
Mobile Telephone (by Respondent)	154	39.49	107	44.58	261	41.43
Mobile Telephone (by Household)	149	38.21	112	46.67	261	41.43
Mobile Telephone (by SILC Group Member)	177	45.38	94	39.17	271	43.02

Thus it would appear that FA households are adopting livelihood strategies that include more investment in housing, fixed assets and the accumulation of material wealth.

Leadership and Activism

Of all areas tested, leadership and activism are perhaps the most unequivocal in terms of favoring the PSP households.

Of all areas tested, leadership and activism are perhaps the most unequivocal in terms of favoring the PSP households. PSP households showed a robust difference, around 6 percent, for propensity to get involved in community mobilization (Table 12, significant differences in red). They were 3–5 percent more likely to question a neighbor or to question a village leader (Table 13, significant differences in red) when they disagreed with their views. All three of those differences were highly significant ($p < .01$) compared with FA households.

TABLE 12 - PARTICIPATION IN ACTIVISM

Type of Activism	PSP		FA		All	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
Aired Views at Public Meeting	658	43.29	257	42.90	915	43.18
Visited Local Administrative Leader	346	22.76	140	23.37	486	22.94
Visited School to Complain	533	35.07	187	31.22	720	33.98
Been Invited to Speak at Public Meeting	280	18.42	119	19.87	399	18.83
Taken Action to Change Local Laws	106	6.97	38	6.34	144	6.80
Mobilized Other Community Members	257	16.91	64	10.68	321	15.15
Made Inquiries to Government Official about Youth or Women's Fund (in Kenya)	2	0.42	0	0.00	2	3.03
Made Inquiries to Government Official about Kikwete Millions or JK Funds	57	8.77	16	8.89	73	8.80
None of these	527	34.67	202	33.72	729	3.44

TABLE 13 - AGREEMENT WITH THE STATEMENT, "IF I DISAGREE WITH SOMETHING THE VILLAGE LEADER IS DOING, I KEEP QUIET"

	PSP		FA		Overall	
	(*N*)	(%)	(*N*)	(%)	(*N*)	(%)
I Completely Agree that I Keep Quiet	90	5.92	58	9.68	148	6.98
I Agree that I Keep Quiet	264	17.37	134	22.37	398	18.78
I Don't Agree that I Keep Quiet	726	47.76	263	43.91	989	46.67
I Strongly Don't Agree that I Keep Quiet	418	27.50	136	22.70	554	26.14
I Don't Know	22	1.45	8	1.34	30	1.42
Total	**1,520**		**599**		**2,119**	

In short, it appears that the PSP model has engendered a change in attitude among the members it serves; this has led to a greater propensity to stand up for their beliefs and/or challenge what they believe to be incorrect. We hypothesize that this change has to do with the idea of becoming consumers under the PSP model, which includes the experience of negotiating with PSP agents over fee structures and holding the PSPs accountable for the services delivered. These consumers may have in the process internalized the right to expect value commensurate with personal investment.

Subtle Difference and Its Mechanisms

The PSP and FA subpopulations look comparable in many important ways. It is important for the reader to keep in mind that the differences we see are subtle. The vast majority of the divergences deemed significant in the *t*-tests are in the 3–5 percent range, with the most significant cases typically around 7 percent. Thus these subpopulations are very alike, even in terms of variables deemed significantly different.

Yet despite this subtlety, the differences invite the formulation of different profiles for our subpopulations at the time of the endline. In short, PSP households seem to be more business-oriented. They engage in more entrepreneurship and perhaps more diverse, market-based livelihood strategies. They own more businesses, invest more in them, borrow more to support them, derive more savings from them, apply more of their savings toward them and suffer more economic shocks when their businesses fail. Their strategies are supported in part by higher total borrowing and deeper engagement with semiformal and formal finance, compared with FA households. As they assert themselves in businesses, PSP households are also asserting themselves more and more as leaders and activists in their communities.

FA households, on the other hand, are making safer investments in subsistence, fixed assets and housing. As a result, they are enjoying better immediate living conditions, resulting in a reduced likelihood of food shortage, compared with PSP households. FA households are saving their money more actively, overall. However, FA households are not necessarily displaying sounder financial management, as evidenced by their greater difficulties in coping with health crises and recurring life-cycle events like festival expenses, and their greater propensity to rely on credit and savings though informal sources.

Over the course of a one-year interval, the PSP households appear to be investing more actively in their futures, with an eye toward larger payoffs down the road and a willingness to make more sacrifices (forego) in the short term. These differences are attributable to the different delivery models and are consistent with RCT design. As with most RCTs, the precise mechanism of change is not yet fully understood.

As noted earlier, the findings suggest only a very limited relationship to the most obvious and immediate causal factor—that is, how PSP and FA households save and borrow in their SILC groups. The PSP households show some tendency both to save and to borrow more actively within their SILC groups, but most of those differences are statistically insignificant. There seem to be some broader behavioral shifts that are linked to the SILC agents' services, but these behavioral shifts do not appear to be reducible to the core SILC activity itself.

We therefore propose that the two delivery models are engendering change in the behavior of agents, who then interact with their constituents in different ways. Beyond that, we can say little with confidence about the mechanics of that change. Yet there is a certain speculative logic to the patterns. PSP agents are asserting themselves and taking their chances as entrepreneurs on the free market. They may be encouraging their constituents to act in much the same way. FAs have livelihood strategies characterized by the safety and stability of the stipends they are paid. Their advice and encouragement may follow suit, as they help steer clients toward more immediate security (with perhaps less growth potential) in their livelihood strategies.

An Eye Toward Triangulation

Findings such as these—subtle differences, measured over a relatively short interval—call out for triangulation. We hope to see similar findings in other research that uses other methods with this population. When findings match up in this way, they are mutually strengthened, and the importance of the results greatly increases.

PSP agents are asserting themselves and taking their chances as entrepreneurs on the free market. They may be encouraging their constituents to act in much the same way.

As noted earlier, this research project includes multiple components, in addition to the household survey. We had hoped to see our findings triangulated between components. However, for the most part, we do not have that, as similar findings on PSP versus FA populations simply did not emerge. There are limited exceptions. For example, analysis of the management information system data showed that PSP groups took on more internal credit than FA groups, which matches with the findings here on credit.

Even better would be triangulation with separate, external research—for example, another RCT focused on the two delivery models carried out by another organization. Unfortunately, we do not have the opportunity for such corroboration at this time, as no other organizations have endeavored to compare models in this way. We hope that this research landscape changes and that potential triangulation of these findings can be revisited in other research, either by CRS or by another agency.

ADDITIONAL BACKGROUND INFORMATION ABOUT THE RESEARCH

a. *Design of the RCT*

The study's experimental design was intended to create statistically comparable cohorts of agents (PSPs and FAs) who were serving villages and households in comparable environments. Of those FAs who successfully completed their examination and qualified to be certified as PSPs, some were randomly assigned for immediate certification (and were designated the *treatment group*), while others were randomly assigned to remain as FAs for an additional 12 months (and were designated the *control group*), before officially becoming PSPs. The treatment and control agents were equally qualified, and were supervised and supported in the same way. The only difference was how they were paid—by the project (control) or by the SILC groups (treatment).

The design thereby controls for observable and unobservable differences between agents, their supervisors and areas of operation. Through randomization, the treatment PSPs and the control FAs are statistically comparable, and any differences in performance and outcomes can be attributed to the delivery channel.

The researchers selected 333 agents for the study. The household survey focused on a subset of 240 such agents and the villages they served.

b. Research questions and issues

The RCT compares PSP and the FA delivery channels along the following dimensions:

- Quality and financial performance of the group
- Impact on the group members and their households
- Depth of poverty outreach
- Member satisfaction with agent services
- Agent satisfaction with their work and remuneration
- Competitiveness with respect to other financial service providers
- Sustainability of services to groups

c. Data sources

CRS employed four primary data sources in the research:

1. The project's existing management information system, which tracks agents' productivity and group financial performance (quarterly).
2. Agents' self-reports on their work and income (every six months).
3. Qualitative research with agents and group members, carried out by MicroSave, regarding satisfaction with the delivery channel and other topics (baseline/endline).
4. A household survey (designed in collaboration with Professor Joseph P. Kaboski of the University of Notre Dame and administered by Synovate, comprising SILC members and non-members in 240 villages) to establish impact (baseline/endline).

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