SILC INNOVATIONS

RESEARCH BRIEF 2

Agent Productivity in Fee-for-service Savings Groups

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Project Background – SILC and the PSP model

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

SILC Innovations is a pilot project within CRS' broader SILC program, funded by the Bill & Melinda Gates Foundation from 2008-2012, which 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 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. The project currently serves over 350,000 savings group members, mostly rural villagers, across the three pilot countries of Kenya, Tanzania, and Uganda.

KEY FINDINGS ON AGENT PRODUCTIVITY:

- In Kenya and Tanzania, without project financial support, PSPs achieved 70-90 percent of FA productivity, based on community remuneration; in Uganda, PSPs achieved about 1/3 of FA productivity.

- Variance in productivity is substantially higher among PSPs than FAs, reflecting: 1) market potential/variations, including varied acceptance of fee-for-service development activities among communities; 2) tighter project control of FA activity; 3) that some PSPs responded to entrepreneurial challenges better than others; and 4) that PSPs tended more toward diversified livelihoods and income hedging than exclusively focusing on SILC.

- The difference in results between countries is wide, with Kenya emerging as a clear leader and as the likely benchmark for PSP productivity measures.

- The findings call into question whether equivalence in productivity between project-paid and member-paid agents is a reasonable comparison in a one-year interval.

Research Design and Productivity

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 between two delivery channels: the fee-for-service PSP model and the more conventional project-paid FA model. To rigorously compare the two, an experimental design established statistically comparable cohorts of agents serving members in comparable environments over approximately a one-year interval (see the additional research background section on page 9).

In total, the study tracked 333 randomized agents across two cohorts (separated by about one year). The agents were assigned either fee-for-service PSP status or stipend-paid FA status for the research interval, which followed a 12-month training phase in which all agents were paid a stipend. Management Information System data was collected from all agents on a quarterly basis, and included a multitude of data points, from agent earnings to group performance measures. This brief draws on the data specifically pertaining to productivity, with a key question at the heart of the investigation: how does PSP productivity compare to field agent productivity, taking into account that PSPs have to charge communities for their service?

Cumulative Comparisons on Productivity

The metrics favored in our productivity comparison are "average number of members mobilized per month" and "average number of groups mobilized per month" posted by the randomized agents.

Using these metrics, the clear answer to our key question on productivity is that PSPs, on average, did not keep pace with their FA counterparts (Table 1). In Kenya, the gap was the narrowest at 13 and 17 percent respectively for the overall sample. Tanzania came next, with a substantially wider gap at 32 and 35 percent. Finally, in Uganda, PSPs trailed most dramatically, with gaps of 64 and 66 percent.

TABLE 1 - SUMMARY OF RANDOMIZED PRODUCTIVITY COMPARISONS

	Cohort 1			Cohort 2			Overall		
	FA	PSP	Difference (FA to PSP)	FA	PSP	Difference (FA to PSP)	FA	PSP	Difference (FA to PSP)
Kenya									
Memb/Mo	15.35	15.87	3.37%	16.65	13.85	-16.79%	16.28	14.12	-13.28%
Grps/Mo	0.84	0.75	-10.73%	0.86	0.71	-18.19%	0.86	0.71	-16.90%
Tanzania									
Memb/Mo	13.73	9.13	-33.53%	13.73	9.52	-30.65%	13.73	9.40	-31.55%
Grps/Mo	0.71	0.44	-38.50%	0.66	0.44	-32.51%	0.68	0.44	-35.28%
Uganda[1]									
Memb/Mo	n/a	n/a	n/a	18.48	6.62	-64.19%	18.48	6.62	-64.19%
Grps/Mo	n/a	n/a	n/a	0.75	0.26	-65.85%	0.75	0.26	-65.85%

1 Due to operational considerations, the study did not include a Cohort 1 sample in Uganda.

The research was set up to make a fundamental comparison between two delivery channels: the fee-for-service PSP model and the more conventional project-paid FA model.

We note that when formal statistical tests were applied, the differences in Uganda and Tanzania emerged as significant, while the difference in Kenya did not. The near-parity and failed significance test in Kenya evidences that Kenya stands out clearly in the three-country project—a major theme of this brief.

In addition, as noted above, the research encompassed two cohorts, with the data disaggregated by cohort to determine whether project learning after Cohort 1 led to better agent selection or process improvement, thereby elevating productivity for the second cohort in the two countries that featured both. The results; however, showed no consistent narrowing of the gap between Cohort 1 and Cohort 2. While we do see some narrowing or positive trend in Tanzania, the reverse is true in Kenya.

Productivity and Variance

We also examined variance within the productivity data. The project had anticipated higher levels of variance among PSPs than FAs—meaning the transition from stipend-based work to market-based work might work better for some agents than others. Given the above findings on productivity, variance can be an important contextual factor in understanding and explaining the underlying patterns in the aggregations.

TABLE 2 - VARIANCE IN AGENT PRODUCTIVITY

	FA			PSP			Difference in COEFVAR (FA to PSP)
	Mean	Standard Deviation	Coefficient of Variation	Mean	Standard Deviation	Coefficient of Variation	
Kenya							
Memb/Mo	16.28	8.51	52.26	14.12	11.14	78.87	+26.61
Grps/Mo	0.86	0.39	45.89	0.71	0.52	72.41	+26.52
Tanzania							
Memb/Mo	13.73	9.62	70.10	9.40	9.93	105.66	+35.56
Grps/Mo	0.68	0.54	80.07	0.44	0.43	96.81	+16.74
Uganda							
Memb/Mo	18.48	14.30	77.39	6.62	7.27	109.86	+32.47
Grps/Mo	0.75	0.54	71.61	0.26	0.25	99.41	+27.80

Here the coefficient of variation (CV) figures tell the story (Table 2). There is indeed substantially more variance in the productivity of PSPs, compared with FAs, in all three countries. The heightened variance may be explained a natural function of capitalist dynamics in a market-driven intervention. In other words, the model may be working well for self-starter types, but not working as well for other agents in the same area who lack those qualities. Alternatively, it may be working better for those agents with prime territories, based on population density and other factors, such as geography and cultural acceptance of fee-for-service development activities.

There are undoubtedly limits to healthy variance in a situation such as this. Since the program lacks precedent, it is difficult to posit what those limits might be, especially within the one-year research interval. In any case, the findings reflect that the project exerted more control and hence achieved more consistency among FAs; the PSP model emphasizes independence, which led to a wider range of achievements.

Trend Analysis on Productivity

Given the above cumulative figures, how did productivity look over the course of the experimental period, as PSPs transitioned into fee-for-service and established their markets? Did the gap between PSPs widen or narrow over the experimental period? Also, do we see any difference in the trend between the cohorts?

Focusing on the groups/month metric (which best depicts how agents mobilize on the ground), the gap between PSPs and FAs widened over time, though in certain cases (e.g., Kenya Cohort 2), the difference remained fairly consistent. Between Cohort 1 and 2, we observe some mild improvement in Tanzania, in the sense that the widening of the gap is less dramatic.

FIGURE 1 – INCREMENTAL GROUPS/AGENT PRODUCTIVITY OVER EXPERIMENTAL PERIOD, KENYA SAMPLE
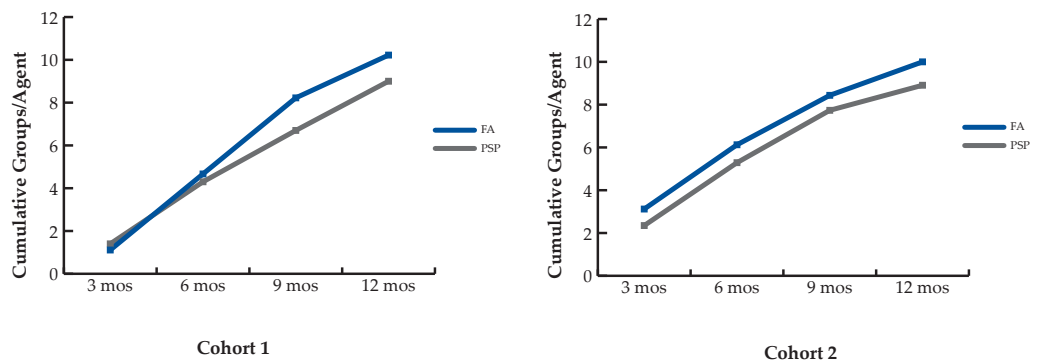

Cohort 1

Cohort 2

FIGURE 2 – INCREMENTAL GROUPS/AGENT PRODUCTIVITY OVER EXPERIMENTAL PERIOD, TANZANIA SAMPLE
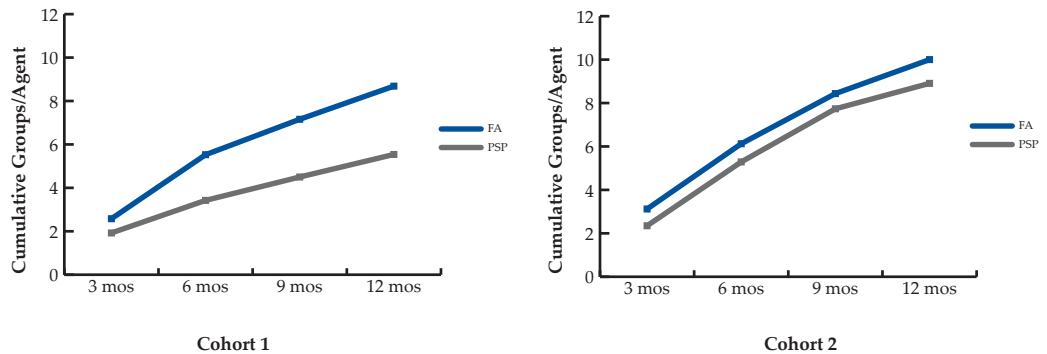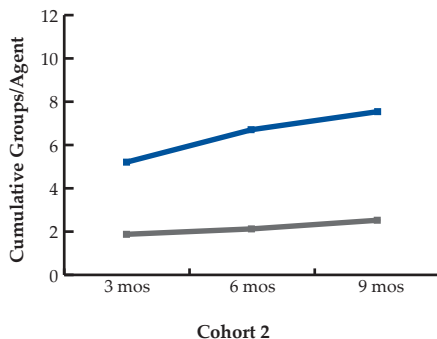

Cohort 1

Cohort 2

FIGURE 3 - INCREMENTAL GROUPS/AGENT PRODUCTIVITY OVER EXPERIMENTAL PERIOD, UGANDA SAMPLE[2]

Cohort 2

2 Due to operational considerations, the research interval in Uganda was shorter than the other two countries, hence the final data point at 9 months rather than 12.

Understanding the Trend, Part 1: Part-time Agents and the Low-outlier Factor

Over time, the project has gathered ample anecdotal evidence that many agents view and engage in SILC work as a part-time endeavor. It functions in a complementary manner alongside other income-generating or subsistence activities, from trading to farming. The relative importance of SILC work, in terms of time spent and income earned, varies from agent to agent, depending on one's prior income-generating activities, population density/geography, and other factors.

Given the findings on productivity, a question follows: are more PSPs than FAs treating SILC work as a nominal income-generating activity, thereby pulling down the productivity means above? One might speculate that the challenges and uncertainties of having to earn from groups discouraged a certain number of PSPs from making SILC a major part of their livelihood strategies, compared to FAs, who had the certainty/consistency of the project-paid stipend. This phenomenon would be consistent with the elevated levels of variance in PSP productivity documented above.

> The PSP approach functions in a complementary manner alongside other income-generating or subsistence activities, from trading to farming.

A key line of evidence here is the distribution of productivity among the two types of agents, illustrated in box-and-whisker plots (Figure 4). There are different ways the "low outlier" factor might play out in such a graph, but the most likely is that the PSP 1st quartile "whisker" would look compressed at the low end, relative to the FA 1st quartile "whisker." The PSP 2nd and 3rd quartiles (in green and purple boxes below) would likely begin lower than the FA 2nd and 3rd quartiles but show some indication of "catching up" to the FA range by the end of the 3rd quartile.

In fact, we do see this pattern, but only in Kenya. In the other two countries, the PSP quartiles lag markedly and consistently behind the FAs through the 2nd and 3rd quartile ranges, with little to no indication of "catching up." Interestingly, in Kenya, we also see that the PSP 4th quartile range exceeds the FA 4th quartile range—another indication that a subpopulation of PSPs was doing quite well in Kenya.

FIGURE 4 - PRODUCTIVITY DISTRIBUTIONS ON GROUPS/MONTH BY AGENT TYPE
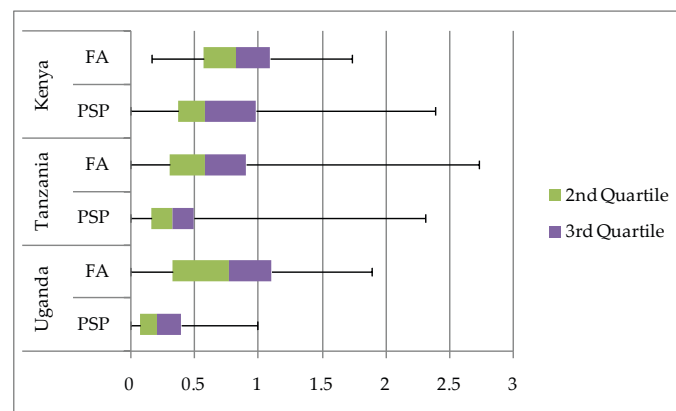
A second way to examine the "low-outlier effect" is to cut the productivity distribution in half by the median, and then compare the means for agents falling below the median. If the low achievers are disproportionately represented among PSPs, their low productivity figures should drag the below-median averages down, compared to the FAs.

TABLE 3 - DEVIATION OF GROUP/MONTH AVERAGES BELOW THE MEDIAN

		Median	Average below median	Deviation of average below median from median
Kenya	*FA*	0.82	0.56	33%
	PSP	0.58	0.33	43%
Tanzania	*FA*	0.59	0.30	49%
	PSP	0.33	0.18	47%
Uganda	*FA*	0.77	0.33	57%
	PSP	0.21	0.06	70%

In fact, we do see some of this effect in Kenya and Uganda (Table 3) but not in Tanzania. There we find a 10 and 13 percentage point difference, respectively, in deviation away from the median. This provides some confirmation that a subpopulation of low outliers is indeed dragging down the productivity means for Kenyan and Ugandan PSPs, compared to FAs. Tanzania emerges as nearly identical on the measure, which suggests a more even distribution of low achievement.

In sum, both lines of analysis suggest a low-outlier effect in Kenya that may be distorting the achievement level of the PSP group as a whole. Comparable evidence is mixed in Uganda, and weak in Tanzania.

Understanding the Trend, Part II: PSPs and the Efficiency Issue

Another factor in understanding these outcomes is the issue of efficiency. There is emerging evidence that the PSPs are adopting a more efficient work pattern relative to FAs—one that serves their interests in a market-driven system, but does not necessarily serve the project's drive for net productivity.

A first point is that, while PSPs are serving fewer groups relative to FAs, they are also serving larger groups on the whole in all three countries (Table 4). The differences in Table 4 are reinforced by the fact that the gap between PSPs and FAs in every case is smaller in terms of members/month than in terms of groups/month (see Table 1), with PSPs even exceeding the productivity of FAs on members/month in one case (Kenya Cohort 1).[3] In addition, the project's emergent qualitative work with PSPs is confirming a tendency toward larger groups.

TABLE 4 - AVERAGE GROUP SIZES

	FA	PSP
Kenya	19.1	19.8
Tanzania	20.1	21.3
Uganda	25.9	27.9

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3 None of these differences are statistically significant, but this is largely a product of the small sample sizes that results when the data is cut by country and/or cohort. The relevant differences in both Table 1 and Table 4, while small in many cases, are entirely unidirectional, which we believe to be supportive of the trend.

At the same time that PSPs are serving larger groups, they are spending a smaller fraction of their working hours in order to do it. The evidence for this comes from another data source: self-administered surveys that agents completed as part of this study. In these surveys, 16 percent of PSPs reported that they were spending less than half of their time on SILC work, compared to 5 percent of FAs. Similarly, 94 percent of FAs work somewhere between half and full-time on SILC, compared to 83 percent of PSPs.

In sum, the PSPs are acting more like neoliberal capitalists than FAs. They are paid on a per-member basis, so larger groups mean fewer groups to visit for the same amount of revenue. They are also compressing PSP work into a smaller pocket of their working day— again, highly rational behavior that frees up time to create and support more groups (i.e., more revenue) or other income-generating activities. This is generally consistent with the idea that FAs operated with tighter controls from the project, while PSPs operated with relative independence that would allow for the emergence of these kinds of patterns.

From an operational perspective, the hope is that heightened PSP efficiency would lead foremost to higher net productivity relative to FAs (i.e., they free up time from existing groups to take on more groups). Thus far, that has not happened on average, which may be related to challenges inherent in the market (see next section). In any case, market-driven interventions must be prepared for a variety of market-driven outcomes, and we propose that the observed pattern falls squarely into that category.

Understanding the Trend, Part III: Having to Pay vs. Getting Things for Free

There is another very simple argument as to why PSPs have lagged behind FAs on productivity: PSP work is harder than FA work, since PSPs have to compel groups to pay for services. FAs have the luxury of offering their services at no cost to any groups that want it, and it is difficult to dispute the appeal of receiving something of apparent value for free. It is the ultimate cost-benefit equation: all benefit, no cost.

These arguments cut across cultures. But in the East African context, there are two additional complicating factors to note. First, much of the SILC constituency (like much of the developing world) has been exposed to a tradition of free aid and aid-based services, usually linked to foreign NGOs, dating back decades. This is especially true in current post-conflict Northern Uganda[4], where foreign NGOs are deluging the population with free services. Second, in all cases of PSPs, this exact SILC service was offered for free at some point in the recent past in the areas where PSPs are now working, either by the PSPs themselves (in the FA training phase) or another agent. PSPs must work through any such collective memory of free services. By way of the project's qualitative work, PSPs themselves are confirming this challenge: that simply convincing the groups to pay continues to be a daunting task in many instances.

This project anticipated that the market forces surrounding PSP work would help overcome the challenges of competing with free services. That is to say, with unlimited earning potential, the PSPs would be compelled to provide superior service, compared to FAs. The market/members would see this difference and respond to it, in turn making PSPs at least as productive as FAs.

This project anticipated that the market forces surrounding PSP work would help overcome the challenges of competing with free services.

4 The civil conflict in Northern Uganda, centered on the movement that became known as the Lord's Resistance Army, dates to the late 1980s, with violence reaching a peak in the mid-2000s. Since 2008, the conflict has continued in pockets but most population centers in Northern Uganda have been pacified, clearing the way for the escalation in NGO activity.

This parity on productivity did not occur. However, a critical point is that the full trajectory of PSP development may not be clear in our one-year research interval. There is, for example, reason to believe that PSPs will eclipse FAs on productivity eventually. PSPs can be expected to continue creating groups at the same rate, while FAs cease activities off as soon the project supporting them runs dry of funds, and are not allowed to create new groups within 6 months of project end-dates (since those groups' share-outs would not be supervised). Hence the PSP approach is likely to be more productive in the medium- and long-term.

In the end, the results are open to interpretation: early in their careers over a one-year interval, against counterparts offering the same service for free, the project's PSPs were 70-90 percent as productive in two countries, and one-third as productive in the other.

Conclusion: Kenya is "Best Performer"

Clearly these results suggest the PSP model will work better in some settings than others. Uganda stands out as the least productive country program. Tanzania might be termed a mixed-bag of results. Even in these contexts, we must bear in mind that the PSP approach is likely to be more sustainable in the medium- and long-term than the period available for observation to date.

Kenya, on the other hand, is clearly the best performer on productivity to this point. The gap between PSPs and FAs on basic productivity measures is by far the narrowest (and the only statistically insignificant) of the three countries. Kenya shows what is likely to be a healthy level of variance compared to other two countries. Within that variance, we see both high outliers, who have demonstrated an ability to outpace their FA counterparts on productivity, and low outliers, who may be clouding the achievements of the PSP group by disproportionately dragging down the mean. In sum, Kenya appears to be emerging as a benchmark for what PSPs can achieve, and what program managers can and should expect in this early stage of the model's deployment.

A critical point is that the full trajectory of PSP development may not be clear in our one-year research interval.

Additional Research Background

a. Design of the RCT

The study's experimental design was intended to create statistically comparable cohorts of agents, serving villages and households in comparable environments. Among FAs who successfully completed their examination and qualified to be certified as PSPs, some were randomly assigned for immediate certification (treatment), while others were randomly assigned to remain as FAs for an additional 12 months (control), 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.

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

b. Research questions/issues

The RCT compares PSP and the FA delivery channels along the following dimensions:
- Group quality and financial performance
- Impact on group members and their households
- 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 is employing four primary data sources in the research:

1. The project's existing Management Information System, which tracks agent productivity and group financial performance (quarterly).

2. Agent self-reports on their work and income (every six months).

3. Qualitative research with agents and with 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 Joe Kaboski of Notre Dame University and administered by Synovate, of both SILC members and non-members in 240 villages to establish impact (baseline/endline).