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IS MICROCREDIT TARGETED TO POOR PEOPLE?  
EVIDENCES FROM A CAMBODIAN  
MICROFINANCE INSTITUTION

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# Is Microcredit Targeted to Poor People? Evidences From a Cambodian Microfinance Institution

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This study extends research on the social performance of microfinance institutions. The research methodology is based on Grameen Progress out of Poverty Index™ (PPI™) for Cambodia applied to a sample of borrowers randomly extracted from a Cambodian microfinance institution's loan portfolio. Dataset has been directly collected through in-house interviews. Main questions discussed here are: (1) Is microcredit targeted to poor people? (2) Has the poverty rate of the sample changed in last six months? and (3) What percentage of male vs. female clients is poor? We found an average poverty likelihood of about 8.1%, estimated at the day of the interview, steady over a period of six months and not statistically different between male and female borrowers. This evidence might be related to business geographical location or targeting. Actually, PPI too much relies on asset ownership rather than on cash flows and saving capacity. Despite the general wisdom microcredit is targeted to the “poorest among the poor people”, this is utterly consistent with a sound and safe (micro)banking activity, aimed at sustainable results. Here comes a call for a triple bottom line performance evaluation on microfinance institutions: economic, social and environmental effects of their activities.

**Keywords:** microcredit, social performance, poverty index, case study, Cambodia.

**JEL Codes:** G29, O16, I32.

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## Introduction

Since the seminal work of Hossain (1988), for more than ten years microfinance has been depicted as an effective pathway out of poverty (Pitt & Khandker, 1998) and its eradication (Yunus, 2007). Access to financial services is claimed to be a key driver to reach sustainable development goals as long as improvements in healthcare, nutritional advice and education can be sustained only whenever households have increased income, consumption and greater control on financial resources (Littlefield, Morduch, & Hashemi, 2003; Khandker, 2005; Morduch, 1999). Microfinance Institutions (MFIs) should consequently be supported by government (Hardy, Holden, & Prokopenko, 2002) and investors since they contribute to develop the financial sector and the rural economy (Holden & Propenko, 2001) by addressing capital flows to people excluded by the commercial banking.

Nonetheless, the impact of credit on people poverty depends on several factors, such as the credit use, the type of microenterprise and the skills of the borrower (Karnani, 2007). The measurement of how poor people lives would have changed had the microcredit not been granted, is a tough challenge of assessment. Roodman and Morduch (2009), Goldberg (2005), and Duvendack, Palmer-Jones, Copestake, Hooper, Loke, and Rao (2011), among the others, reviewed several studies in microcredit impact evaluation, but the picture they draw is still inconclusive. Overall, unchallenged statistical proof of the impact of microfinance on outcomes such as poverty, women's empowerment, health, and education remains elusive, mainly due to difficulties in creating randomized controlled experiments that are free of bias (Karlan & Goldberg, 2006).

While impact of microfinance has been questioned, donors and investors experienced great concerns that MFIs might be leaving their social missions behind the quest for profits. As a matter of fact, microcredit industry is becoming quickly an asset class suitable to generate adequate and growing return on capital (Dieckmann, 2007). This trend requires MFIs to be increasingly transparent about the achievements of their declared objectives.

As a result, a call for new specific indicators to measure and track over time the social performance of MFIs activities is emerging—whether or not microfinance is the determinant of people's welfare.<sup>1</sup> Poverty outreach (e.g., poverty levels of clients at entry and their movement out of poverty over time) is one of them. The objective of poverty assessment is twofold: poverty assessment and poverty targeting. The former intends to determine whether the program reached relatively poor people (within a community or region), the latter to identify in advance poorer households in order to deliver services to them rather than to the relatively better-off or non-poor.

Poverty might be measured in alternative ways either by using existing secondary data or through field research that collects primary data on household's welfare (Zeller, 2004). Grameen Progress out of Poverty Index™ (PPI™) and USAID Poverty Assessment Tool (PAT) are two examples of scorecards that are gaining credits in the microfinance industry (Ford Foundation, CGAP, & Social Performance Taskforce, 2010). Since

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<sup>1</sup> The Social Performance Task Force (SPTF), an association between more than 850 members among practitioners, donors and investors, academics and researchers, has been charged with clearly defining social performance and addressing questions about measuring and managing social performance. The SPTF is currently working to create a common reporting framework for MFIs which would include standardized social performance indicators.

these scorecards differ across countries<sup>2</sup> and use different algorithms, an MFI could get a different estimate of poverty depending on the methodology applied.

While a large body of literature has been addressed to impact evaluation, monitoring poverty level in MFIs borrowers and, broadly, its social performance is a relatively less explored issue. A growing number of organizations around the world are supposed to monitor poverty outreach and to track changes on poverty level over time. However, in the author's best knowledge there is little evidence on these results<sup>3</sup>.

Should MFIs target the marginally poor or the extremely poor? Morduch (1999, p. 1592) suggests that a dollar increase in income for the very poor borrower has a five times greater impact than the same dollar for the marginally poor borrower. Hence, in terms of poverty alleviation, MFIs should focus on the poorest borrowers first. Nonetheless, as MFIs seek to become financially independent, they would target only the marginally poor (Sengupta & Aubuchon, 2008, p. 21).

In this study we extend the research on MFI's social performance through a case study. This article shows the results of an empirical application of the standards use of the PPI™ for Cambodia within a sample of clients of an MFI. Main questions discussed here are: is microcredit targeted to poor people? Has the poverty rate of the sample changed in last six months? What percentage of male vs. female clients is poor?

The article is structured as follows: Section 2 will describe the Cambodian economic background and its microcredit sector; Section 3 will introduce the MFI case-study; Section 4 will describe the survey design, data, and methodology of this study; Section 5 will show and discuss the main findings; the last section will conclude with consideration on microfinance practice in the broader context of the Cambodian economic development.

### **The Case Study Background: Cambodian Economy and Microcredit Sector**

A brief summary of Cambodian economic data and trends is shown in Table 1. While the incidence of poverty has declined from 47.0% in 1994 to 30.1% in 2007, it remains higher in countryside and almost absent (lower than 5%) in Phnom Penh (World bank, 2006). Thus, policy-makers are faced with a clear challenge as some 77.8% of Cambodians live in the countryside and fostering urbanization will in part transfer the issue to cities.

Economic growth (narrowly concentrated on garment production, tourism, and construction industries) is urban-focused, with limited linkages to the rural economy. This has led to a rapid increase in inequality over the past decade: Gini index in 2007 reached the value of 44.2% (38.3% in 1994)<sup>4</sup>. There is a pressing need to diversify the economy to enable the rural poor to contribute to, and benefit from, economic growth.

Microfinance in Cambodia emerged from non-profit microcredit projects initiated by international donors, NGOs, and institutions in the early 1990s to fill the institutional void left by the virtually nonexistent banking sector. The "Law on Banking and Financial Institutions", enacted in November 1999, and the government decree for implementation (Prakas), enacted in early 2000, recognizes three categories of banking institutions:

- (1) Commercial banks;
- (2) Specialized banks;

<sup>2</sup> Currently, 34 and 30 countries are available for PPI and PAT scorecard respectively.

<sup>3</sup> As of today only four MFIs get the PPI certification released by the Grameen Foundation. Retrieved September 1, 2011, from <http://progressoutofpoverty.org/certification>.

<sup>4</sup> Higher than, as a comparison, a 37.8% recorded in Vietnam in 2006.

## (3) Microfinance institutions.

Both registered<sup>5</sup> and licensed<sup>6</sup> MFIs must adhere to a strict set of reserve requirements and accounting practices, most of which depend on deposit base and loan portfolio size. In 2007 the National Bank of Cambodia issued new regulations that allowed more freedom in taking deposits from the public.<sup>7</sup> However, capital requirement has proven difficult to meet for most of Cambodia's existing MFIs, and as of December 2010, only 13 institutions have obtained licenses.

Table 1

*Selected Key Data on Cambodia*

	2004	2005	2006	2007	2008	2009
Population (mln)	13.6	13.9	14.1	14.3	14.6	14.8
GDP (current US\$, mln)	5,510.3	6,454.5	7,293.5	8,357.5	9,430.4	9,872.2
GDP growth (annual %, LCU)	10.34	13.25	10.77	10.21	6.69	(1.87)
GDP per capita (current US\$)	403.8	465.5	517.6	583.5	647.6	666.8
GINI Index (%0 perfect equality, 100 perfect inequality)	41.9			44.2		
Literacy rate, adult total (% of people ages 15 and above)	73.6				77.6	
Poverty headcount ratio at national poverty line (% of population)	34.7			30.1		
Poverty headcount ratio at rural poverty line (% of rural population)	39.2			34.7		
Official exchange rate (LCU per US\$, period average)	4,016	4,093	4,103	4,056	4,054	4,153

Note. Source: World Bank.

As of December 2010, Cambodia Microfinance Association (CMA) reported 25 active members, including 23 MFIs, one NGO, and one commercial bank—ACLEDA<sup>8</sup>. The industry's aggregate loan portfolio is heavily concentrated among the largest institutions, with the four largest MFIs (excluding ACLEDA) accounting for over 64.3 percent of the gross loan portfolio (see Table 2). The sector weighted average portfolio at risk (more than 30 days past due) ratio is 1.07%, with a write-off ratio of 0.879%.

Multiple lending, whereby an individual has taken out loans from more than one MFI, is becoming quickly a critical issue, as some clients have taken out four to five loans, which increase the probability of default. These unfavorable cases leave the MFIs to resort to suboptimal actions, including selling the clients' collateral, writing-off the outstanding loan as nonperforming, restructuring or rescheduling the loan, or bringing the client to court (Hoy & Foelster, 2010).

<sup>5</sup> An MFI shall be registered if it meets one or more of the following conditions: (1) a loan portfolio outstanding equal to or greater than KHR 100 million; (2) savings mobilized from the general public amounting to KHM 1 million or more; and (3) 100 depositors or more.

<sup>6</sup> Licensing is compulsory for any MFI that meets one or more of the following conditions: (1) a loan portfolio outstanding equal to or greater than KHR 1,000 million; (2) 1,000 borrowers or more; (3) savings mobilized from the general public amounting to KHM 100 million or more; and (4) 1,000 depositors or more.

<sup>7</sup> To qualify for the new deposit-taking MFI license, MFIs must have a minimum of 2.5 million USD in capital to ensure adequate deposit protection.

<sup>8</sup> ACLEDA is the dominant player in the market for micro-savings, with over 98% of the market, and its microfinance loan portfolio accounts for 34% of the outstanding loans.

Table 2

*Selected Data on CMA Reporting MFIs (as of December 2010)*

	Provinces	Districts	Active borrowers		Loan outstanding	
	(out of 24)	(out of 193)	Nr.	%	Mln KHR	%
PRASAC	24	176	112,872	11.4	425,374	24.6
AMRET	15	100	238,535	24.0	270,119	15.6
SATHAPANA	19	140	43,565	4.4	234,140	13.6
HKL	16	114	47,952	4.8	179,588	10.4
CREDIT	10	75	49,964	5.0	132,760	7.7
AMK	24	180	251,352	25.3	128,543	7.4
VISIONFUND	17	100	108,047	10.9	121,659	7.0
TPC	16	100	87,186	8.8	90,230	5.2
SEILANITHIH	7	56	14,395	1.5	31,179	1.8
SAMIC	7	30	10,410	1.0	24,547	1.4
CAMCAPITAL	2	11	266	0.0	19,459	1.1
IPR	6	22	3,578	0.4	14,173	0.8
GCMF	1	8	1,411	0.1	11,537	0.7
FIRSTFINANCE	2	12	157	0.0	8,305	0.5
MAXIMA	2	15	2,587	0.3	8,293	0.5
EAP	7	19	193	0.0	7,668	0.4
CHAMROEUN (NGO)	7	37	14,936	1.5	6,802	0.4
CBIRD	5	20	2,220	0.2	5,199	0.3
FUDF	4	4	2,545	0.3	4,471	0.3
FARMERFINANCE	1	5	161	0.0	1,119	0.1
YCP	2	9	120	0.0	1,090	0.1
Total			992,452	100.0	1,726,257	100.0
Mean	9	59	47,260	4.76	82,203	4.76
Standard deviation	8	58	74,985	7.56	113,743	6.59

Note. Source: CMA data (2011).

### A Case Study: Maxima

Maxima Organization for Household Economic Development, headquartered in Phnom Penh, was founded in 2000 with the objective of providing financial services to low income clients through small loans to individuals, groups and small to medium-sized enterprises (SMEs). Registered as an NGO by the Ministry in 2001, one year later it became an MFI for rural credit operator and, three years later, it obtained a full license as an MFI under the official name MAXIMA Mikroheranhvatho Co. Ltd. (hereinafter “Maxima”).

As of the end of December 2010 (CMA, 2011) Maxima runs its activities in the head office in Phnom Penh and in three branches in Kandal province, its business spreads over 15 districts, 79 communes and 262 villages.

Maxima shows a well diversified source of funds, mostly from foreign investors (Consortio Etimos, Kiva, LMDF, Luxmint—ADA), and a sound and effective risk management performance (see Table 3) which made it suitable to get in 2009 a  $\beta +$  rating, with a positive outlook, by the international rating agency M-CRIL. Maxima business is both operationally and financially sustainable. The former is reached by raising enough revenues to cover the operating cost (nominal yield on gross portfolio higher than the operating expense on

loan portfolio ratio), the latter by raising funds at market interest rates covered by lending activity (operational self-sufficiency<sup>9</sup> higher than 1).

Maxima sells amortizing and bullet term loans to individuals<sup>10</sup>, on three different duration (6, 12 or 20 months), at fixed interest rates (between 1.9% and 2.8% per month) which depend only on the amount borrowed (less than 1,000 USD, between 1,000 and 2,000 USD, more than 2,000 USD) and the selected way of repaying (e.g., if installments are settled at household's home, an additional spread of 10 basis points is due). As predicted by Stiglitz and Weiss (1981), Maxima sells loans at the fixed interest rate at which the expected return to the bank is maximized. Unsatisfied borrowers would offer to pay a higher interest rate (or greater collaterals) to the bank, however the bank would not lend to those people, as, from its perspective, such loan is likely to be a worse risk than the average loan at the fixed interest rate.

Table 3

*Maxima Selected Operating Data (End of the Year)*

	2006	2007	2008	2009	2010
<b>Outreach</b>					
Gross loan portfolio (thousand USD)	660.6	806.2	1,373.1	1,717.8	2,049.4
Number of borrowers (thousand)	1.6	1.6	2.1	2.4	2.6
Average loan per borrower (USD)	422.6	514.5	639.8	723.9	790.0
% female	86.1%	81.8%	n.a.	61.1%	57.8%
<b>Risk</b>					
PAR > 30 days	0.33%	0.26%	0.25%	1.96%	0.23%
Write-off ratio	0.00%	0.82%	0.04%	n.a.	1.29%
<b>Financial performance</b>					
ROA	4.42%	3.60%	3.27%	3.32%	4.72%
ROE	10.89%	11.36%	13.25%	13.79%	17.74%
Yield on gross portfolio (nominal)	38.58%	30.78%	29.64%	29.04%	28.63%
<b>Efficiency</b>					
Cost per borrower (USD)	84	95	124	124	123
Operating expense/loan portfolio	24.29%	20.28%	21.11%	18.11%	16.87%
<b>Productivity</b>					
Borrowers per loan officer	98	92	98	77	81
Personnel allocation ratio	69.57%	70.83%	61.11%	62.00%	58.18%

Note. Source: MIX Market (2011).

Loans are categorized according to their purpose: (1) agriculture; (2) trade and commerce; (3) services; (4) transportation; (5) housing; and (6) family consumption and miscellaneous.

In order get access to credit, a (potential) borrower must have already repaid any other loan previously granted by banks or MFIs: This is the effective way Maxima applies the client protection principle avoidance of over-indebtedness (SPTF, 2011). Optimal borrower's debt repayment capacity is assessed by a Maxima's credit officer, who forecasts the client expected weekly cash flows and then he or she fixes the best sustainable monthly installments. Eventually, if the borrower cannot make his/her payments, he/she is allowed to renegotiate, under the supervision of the village master, the loan contract rather than default.

<sup>9</sup> Defined as the following ratio: financial revenue/(Financial Expense + Net Impairment Loss + Operating Expense).

<sup>10</sup> Actually, there are two borrowers: the principal and a co-borrower.

Cash flows on loans (disbursement and repayments) are settled in dollars, as a consequence, currency risk is mostly transferred (Maxima is mostly funded in US dollars) to borrowers, who get their income in local currency—basically rural people.

### Survey Design, Data, and Methodology

#### Sampling

Sample size ( $N$ ) was determined by the following formula (Grameen Foundation, 2008, p. 64):

$$N = \left\lceil \frac{(Z^2 \times P \times (1 - P) \times D)}{E^2} \right\rceil$$

Where:

$Z$ : is the  $z$ -score is derived from the desired confidence interval;

$P$ : is a guess value for the proportion of the population that it is anticipated will be measured;

$D$ : (in a range of 1-10) is a design effect, the extent to which the sample deviates from random sampling<sup>11</sup>;

$E$ : is the margin of error.<sup>12</sup>

In order to provide at least a 95% confidence level for a population of 2,500 active borrowers ( $P = 10\%$ ) with a precision of 5%, and  $D = 1.5$ , a target sample size of 207 was fixed.<sup>13</sup>

We then randomly extract borrowers in a two-stage sampling technique (“strata sampling”): we first randomly selected nine out of 15 Districts covered by Maxima and then randomly select borrowers within the selected districts. We excluded from the pick-up list borrowers who ended the relationship with Maxima more than six months before.

#### Data Collection

Data used in this study were directly collected from October 11 to November 10, 2010 by in-house interviewing<sup>14</sup> random selected borrowers.

In case borrowers were unavailable<sup>15</sup> we phoned from site to Maxima head office asking to randomly extract a new borrower living in the same village to be interviewed on the same day (“random walk” method), if any. If no other extracted borrowers were available to be interviewed on the same day, we would randomly extract a new borrower to be added in the interview list for the following days (IRIS Center, 2011).

At the end of the scheduled interview period we got 230 interviews, of which 216 with full data. Descriptive statistics on sample clients are shown in Tables 4 and 5.

<sup>11</sup>  $D = 1$  means that the sample is a random sample, while  $D = 10$  means that the sample is intentionally non-random.

<sup>12</sup> A 5% margin of error combined with a 95% confidence level means that 95 times out of 100 you expect the score to be accurate within +/- 5% of the true value.

<sup>13</sup> A sample size of 333 would have been fixed according to IRIS Center (2007) methodology.

<sup>14</sup> Each interviewer was accompanied by a Maxima’s credit officer, who introduced him/her to the borrower and translated the survey in the local language. An interview would take from 10 to 20 minutes. We are aware of the potential risk of “translation bias”: different results could depend on the translator’s personality and the way he/she addressed the questions into the Cambodian culture. However, we hired ten different credit officers, as a consequence the marginal impact, if any, of translation bias is weak.

<sup>15</sup> All people we met accepted to be interviewed (e.g., no refusal was recorded).



Table 4

*Sample Descriptive Statistics*

		Gender	Age	Literacy	Real estate value	Cycle	Amount borrowed	Household members
Nr.	Valid	230	229	223	225	225	225	230
	Missing	0	1	7	5	5	5	0
Mean			43	0.76	8,005	2.71	1,111.33	5.8
Standard deviation			11	0.43	6,082	1.85	743.11	2.1
Minimum			18	0	400	1	100	2
Maximum			67	1	50,000	9	4,500	17

“Literacy” is the borrower capacity of reading and writing: on average 76% of borrowers are able to. This is consistent with the average national literacy rate.

“Real estate value” is the dollar value, estimated by the credit officer at the loan grant date, of land and house owned by the household. Although real estates do not formally guarantee the loan, contrary to a common wisdom that microcredit is typically addressed to people who do not own any valuable assets (Pankaj, 1996; Sengupta & Aubuchon, 2008), we found an average asset value of 8,000 USD (e.g., more than ten times the national GDP per capita).

“Cycle” is the number of repeated loans already granted to the borrower. Since a borrower must have previously reimbursed the earlier loan, this value is a proxy of the length of the relationship between the MFI and its client.

“Amount borrowed” is the value of the last loan granted, either still under amortization or already fully reimbursed (within last six months).

“Household members” is defined as the “number of people who share the same pot” (IRIS Center, 2011).

Table 5

*Sample Group Geographical Distribution*

District	Frequency	Percent	Cumulative percent
n.a.	1	0.4	0.4
AS	6	2.6	3.0
DK	22	9.6	12.6
KK	45	19.6	32.2
KS	56	24.3	56.5
MC	3	1.3	57.8
MK	53	23.0	80.9
ML	3	1.3	82.2
PNL	26	11.3	93.5
TK	15	6.5	100.0
Total	230	100.0	

**Methodology**

The survey is based on Schreiner (2009) PPI™ scorecard designed for Cambodia (hereinafter “PPI for Cambodia”)<sup>16</sup>, which collect household primary data on few indicators estimating the likelihood of a household has expenditure to be below the national poverty line<sup>17</sup>, e.g., his/her poverty status.

<sup>16</sup> PPI for Cambodia is based on ten clear-cut questions, provided in Annex 1.

For each value of any answer to ten questions, points are associated. All points in the scorecard are non-negative integers, and total scores range from 0 (most likely below a poverty line) to 100 (least likely below poverty line). The total scores must be converted into probabilities of being below a poverty line via a look-up table (see Table 6). For example, a score of 16 and 32 get a poverty likelihood of 56.1 percent and 21.9 percent respectively of being below the Cambodian poverty line.

The change in a group's poverty rate between two points in time is estimated as the change in the average poverty likelihood of the households in the group. Of course, poverty could get better or worse, and scoring does not indicate what caused change. Poverty scoring plainly estimates change, and it does not indicate the determinant of the change. In particular, estimating microcredit impact on borrowers' poverty requires knowing what would have happened to participants if they had not been granted the loan.

Table 6

*Derivation of Estimated Poverty (National Poverty Line) Likelihoods Associated With Scores*

Score	Households below poverty line	All households at score	Estimated poverty likelihood*
0-4	1,148	1,338	85.80%
5-9	1,812	2,462	73.60%
10-14	5,866	8,619	68.06%
15-19	5,067	9,034	56.09%
20-24	6,401	14,127	45.31%
25-29	4,669	13,625	34.27%
30-34	2,689	12,305	21.85%
35-39	1,656	12,407	13.35%
40-44	635	6,774	9.37%
45-49	169	4,818	3.51%
50-54	142	3,540	4.01%
55-59	72	3,013	2.39%
60-64	0	2,544	0.00%
65-69	0	1,904	0.00%
70-74	0	1,592	0.00%
75-79	0	1,078	0.00%
80-84	0	693	0.00%
85-89	0	87	0.00%
90-94	0	0	n.a.
95-100	0	40	0.00%

*Note.* Number of households normalized to sum to 100,000. Source: Schreiner (2009).

\* Estimated poverty likelihood is the households below poverty line to All households at score ratio.

We basically measured PPI for Cambodia for each individual randomly selected at the time of the interview and at six months before (e.g., we basically asked if there were any changes to response referred to six months before).

<sup>17</sup> It is common to define a national line as the food line plus the non-food expenditure observed for households whose food expenditure (not total expenditure) matches the food line. Schreiner (2009) calibrates scores from its single scorecard to poverty likelihoods for nine lines: National, Food, 125% of national, 150% of national, 200% of national, USAID "extreme", USD1.25/day 2005 PPP, USD2.50/day 2005 PPP, USD3.75/day 2005 PPP.

## Results

### Is Microcredit Targeted to Poor People?

We found an average poverty likelihood of about 8.1%, estimated at the day of the interview (see Table 7, left side). This might depend on their location (Phnom Penh and Kandal province): since poverty headcount is higher among rural people, a lower percentage of poor people is expected within Maxima loan portfolio.

Conversely such a low percentage of poor people might be related to Maxima's access to credit process: Maxima's loans seem not be targeted at the poorest people. Again, this might depend either on customers' self-selection bias (people who apply for a credit mostly live very close to the capital city, where poverty level is relatively lower than in other districts) and by the evidences that MFI, instead of NGOs, do seek for a sound and sustainable financial performance. Portfolio quality indicators are indeed better than the industry average.

### Has the Poverty Rate of Maxima Client Sample Changed in Last Six Months?

We collected data referred to six months before the day of the interview by direct reviewing any changes in the value of the ten PPI for Cambodia questions. At a first glance, a little improvement is recorded during six months: sample average poverty likelihood moves from 9.42% to 8.07% (see Table 7, right side).

Table 7

#### Results

At the day of the interview			At six months before the interview		
PPI™	Frequency	Frequency × Estimated poverty likelihood	PPI™	Frequency	Frequency × Estimated poverty likelihood
Missing	4	n. a.	Missing	5	n. a.
00-04	0	-	00-04	0	-
05-09	1	0.7360	05-09	1	0.7360
10-14	1	0.6806	10-14	1	0.6806
15-19	3	1.6826	15-19	5	2.8044
20-24	7	3.1717	20-24	8	3.6248
25-29	8	2.7414	25-29	8	2.7414
30-34	7	1.5297	30-34	10	2.1853
35-39	18	2.4025	35-39	24	3.2034
40-44	21	1.9686	40-44	22	2.0623
45-49	27	0.9471	45-49	24	0.8418
50-54	47	1.8853	50-54	43	1.7249
55-59	21	0.5018	55-59	25	0.5974
60-64	28	-	60-64	26	-
65-69	14	-	65-69	9	-
70-74	10	-	70-74	9	-
75-79	7	-	75-79	5	-
80-84	3	-	80-84	4	-
85-89	3	-	85-89	1	-
Total	230	18.2474	Total	230	21.2023
Average poverty likelihood		0.0807	Average poverty likelihood		0.0942
Standard deviation		0.1302	Standard deviation		0.1397

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<i>T</i> -value	-1.06088
$P(T \leq t)$ one-tailed	0.14466

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This difference might depend on an effective poverty reduction or on the standard deviation in the sample mean, e.g., by chance. Hence, to check the robustness of this evidence, we run a one-tailed *T*-test on the two sample mean. However, our findings are not statically significant: there is a probability lower than 14.47% (e.g., well higher than 10%) that this difference is due to chance (e.g., there are too weak evidences against the null hypothesis that two sample are equal).

Even if loans granted by MFIs fall due within 12 months, changes at poverty level should be accounted over a longer period (Berhane & Gardebroek, 2011).

### **What Percentage of Male vs. Female Clients Is Poor?**

Because microcredit programs targeted to poor women have gained prominence, it might appear that women's access to credit is more extensive than the reality suggests.<sup>18</sup>

Table 8 shows frequencies of males and females, their PPI scores and the sample average. At a first glance, average poverty likelihood in women seems to be lower than those recorded in man (7.9% vs. 8.3%). Again, we run a *T*-test on the two sample mean to test whether the difference is driven by chance or by a statistical significant difference among two groups. However, the difference between sample means is not statically significant: there is a probability lower than 83% (e.g., well higher than 10%) that this difference is due to chance.

Hence, average poverty likelihood is the same among males and females. As a consequence, this suggests that Maxima does not discriminate on gender poverty in credit access. Male and females share the same (target) level of poverty.

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<sup>18</sup> However, in African countries, women still receive less than 10% of all credit reaching small farmers and only 1% of the total credit reaching the agricultural sector (Blackden & Bhanu, 1999).

Table 8

*PPI Gender Distribution (at the Day of Interview)*

PPI™	Male		Female	
	Frequency	Frequency × Estimated poverty likelihood	Frequency	Frequency × Estimated poverty likelihood
Missing	1	n. a.	3	n. a.
05-09	1	0.7360	0	-
10-14	0	-	1	0.6806
15-19	1	0.5609	2	1.1218
20-24	3	1.3593	4	1.8124
25-29	5	1.7134	3	1.0280
30-34	5	1.0926	2	0.4371
35-39	4	0.5339	14	1.8686
40-44	3	0.2812	18	1.6873
45-49	7	0.2455	20	0.7015
50-54	17	0.6819	30	1.2034
55-59	8	0.1912	13	0.3107
60-64	19	0.7360	9	-
65-69	6	-	8	-
70-74	4	0.5609	6	-
75-79	4	1.3593	3	-
80-84	1	1.7134	2	-
85-89	1	1.0926	2	-
Total	90	7.3960	140	10.8514
Average poverty likelihood		0.0831		0.0792
Standard deviation		0.1439		0.1210
<i>T</i> -value		0.21134		
<i>P</i> ( $T \leq t$ ) two-tailed		0.83288		

## Conclusion

Performance measures in microfinance focus almost exclusively on an institution's financial performance. As a result, MFIs have a full range of financial data available to support donors and investors funding process, but there are still little evidences on how they are performing against their social goals or what steps they would need to take to improve their social performance.

Even financial institutions that do not have a social mission might find social performance tools useful indeed. In particular, client protection principle "do no harm to clients" is a non-negotiable aspect of social performance that any financial service provider should respect (SPTF, 2011).

This paper enlarges knowledge on microcredit activities by exploring social performance and, namely, poverty outreach.

This study is based on the Progress out of Poverty Index™ for Cambodia (Schreiner, 2009), applied to a sample of borrowers from a Cambodian MFI shows. We found an average poverty likelihood (to be below the national poverty line) of about 8.1%, estimated at the day of the interview, steady over a period of six months and not statistically different between male and female borrowers. This might be related to business

geographical location or a self-selection bias or to access to credit internal procedures (e.g., loans are not targeted at the “poorest among the poor people”).

Actually, there might be a third methodological explanation: PPI is a misleading methodology as it is too slow to track poverty predicting indicators over time (e.g., scores and parameters do not change over time). In fast developing countries this is even more problematic since people might suddenly own new assets or items which do not predict correctly the poverty level (e.g., mobile phones or motorbike). From a more general point of view, we found that PPI too much relies on asset ownership rather than on cash flows and saving capacity. As a consequence, it fails to track backward movements at an effective poverty level (since assets still remain even if free cash flow tends to vanish).

The author’s modest opinion is that saving capacity is the ultimate measure to track steps taken in a pathway out of poverty. We encourage future researches about it and on head-to-head comparison of poverty level estimates (i.e., PPI vs. PAT) over time within the same sample clients of an MFI, to check for errors in predicting poverty.

Despite the general wisdom that microcredit is targeted to the “poorest among the poor people”, our findings are fully consistent with a sound and safety (micro) banking activity, aimed at sustainable results (such as those accounted in Maxima financial reports).

However, here comes a call for a triple bottom line MFI’s performance evaluation: economic, social and environmental effects of their activities.

Maxima case study shows that low-income markets can be served on a “sustainable” basis, that is, with full cost recovery and a market return, without subsidy. As a result, in Cambodia the formal financial sector should start to take notice and to service these traditionally marginalized sectors.

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## Progress out of Poverty Index™ for Cambodia

<u>Entity</u>	<u>Name</u>	<u>ID</u>	<u>Date (DD/MM/YY)</u>
Member:	_____	_____	Joined: _____
Loan officer:	_____	_____	Today: _____
Branch:	_____	_____	Household size: _____

Indicator	Value	Points	Score
1. How many members does the household have?	A. Eight or more	0	
	B. Seven	2	
	C. Six	6	
	D. Five	10	
	E. Four	14	
	F. Three	19	
	G. One or two	27	
2. How many children ages 7 to 15 attend school?	A. Not all	0	
	B. All, or no children ages 7 to 15	4	
3. What is the primary construction material of the outer wall of the dwelling unit occupied by the household?	A. Bamboo or thatch, makeshift, salvaged, or improvised materials, other, or no data	0	
	B. Wood or logs, plywood, galvanized iron or aluminum, or fibrous cement	2	
	C. Concrete, brick, or stone	14	
4. What type of fuel does the household mainly use for cooking?	A. Firewood or other	0	
	B. Charcoal, firewood and charcoal, liquefied petroleum gas, kerosene, publicly-provided electricity, gas and electricity, privately-generated electricity, or none/does not cook	6	
5. What toilet facility does the household have?	A. Open land	0	
	B. None	4	
	C. Pit latrine, septic tank, other without septic tank, public toilet, shared toilet, or other	6	
	D. Connected to sewerage	13	
6. How many bicycles and motorcycles does the household own?	A. No bicycles, and no motorcycles	0	
	B. One bicycle, and no motorcycles	4	
	C. Two bicycles, and no motorcycles	7	
	D. Three or more bicycles, and no motorcycles	11	
	E. One or more motorcycles (regardless of bicycles)	13	
7. Does the household own a bed set?	A. No	0	
	B. Yes	4	
8. Does the household own a wardrobe or cabinet?	A. No	0	
	B. Yes	8	
9. Does the household own a water pump?	A. No	0	
	B. Yes	5	
10. Does the household own a television?	A. No	0	
	B. Yes	6	

Microfinance Risk Management, L.L.C.,

**Total score**