

10. POVERTY ASSESSMENT TOOLS¹

INTRODUCTION

The microfinance industry began as grassroots initiatives by local and international NGOs to alleviate poverty via the extension of credit to micro- and small enterprises owned and operated by the poor. In the midst of rapid growth and increasing commercialization, the industry in general (although not in all cases) retains this original purpose. It is natural, therefore, that within the industry there is demand for credible, yet practical, poverty assessment tools.

Although poverty assessment tools (e.g., poverty scorecards) have been available for some time now, they have generally not been user friendly, so they have failed to gain traction among development practitioners. Standard methods for measuring poverty (e.g., household income, per capita household expenditures, etc.) have proven impractical given the scarce resources, time limitations, and technical constraints of microfinance institutions (MFIs). Some MFIs have instead relied on **outcome indicators**—asset ownership, housing conditions, access to services, children’s education, or food security—to estimate poverty, but their relationship with poverty is unknown. Plus, as Manfred Zeller (2004) has pointed out,² they are also plagued by problems related to data collection, management, analysis, and interpretation.

In light of the problems associated with outcome indicators, and in lieu of direct information on poverty, industry stakeholders have tended to rely on simple poverty **proxies**, the most common being the average loan size adjusted for gross national income (ALS/GNI). (The average loan size is adjusted by GNI to account for different income levels across countries. For example, a \$100 loan is relatively large in a poor country such as Bangladesh but relatively small in a middle-income country such as Argentina.) But as demonstrated by Schreiner (2001)³ and Zeller (2005),⁴ ALS/GNI may or may not be a good proxy of poverty. In addition, ALS/GNI does not take into account the fact that clients, including poor ones, increase their loan size over time. ALS/GNI, in effect, penalizes MFIs for retaining poor clients and making larger loans to them over time.

A common adjustment made to account for loan growth is to take the ALS/GNI for new clients as a proxy for poverty status on program entry. Even then, however, ALS/GNI is a questionable proxy for poverty, for reasons already mentioned. ALS/GNI, therefore, is useful only as a broad indicator of depth of outreach. For MFIs looking for a tool to target their services to the poor or extremely poor, ALS/GNI is of little use. (ALS/GNI for new loan clients, on the other hand, may still retain some use as a proxy for poverty outreach.)

1. Anthony Leegwater of the IRIS Center and Mark Schreiner of Microfinance Risk Management provided much of the content found in this chapter of the Social Performance Map.

2. Manfred Zeller’s “Review of Poverty Assessment Tools” can be found at www.povertytools.org/Project_Documents/Review%20of%20Poverty%20Assessment%20Tools.pdf.

3. Mark Schreiner, (2001), “Seven Aspects of Loan Size,” *Journal of Microfinance*, 3, 2, 27–48 (marriottschool.byu.edu/esr/review/view_archive_issue.cfm?issue=fall01).

4. Manfred Zeller’s “Results from Accuracy Test in Bangladesh” can be found at www.povertytools.org/Project_Documents/Bangladesh%20Accuracy%20Report%20Final.pdf.

In lieu of ALS/GNI, a number of MFIs and MFI support organizations have developed their own poverty assessment tools using either simple poverty proxies (e.g., the housing index, food security survey), rapid assessment methods (e.g., wealth ranking) or more complicated, multidimensional assessment tools (e.g., FINCA client assessment tool).⁵ While many of these tools are relatively simple to administer, none of them is linked to, or derived from, an actual poverty or extreme poverty line, and their accuracy is unknown.

Two poverty assessment tools, however, *are* directly derived from international and/or national poverty lines, have known levels of accuracy, and are relatively simple to administer: the IRIS Poverty Assessment Tool (PAT) and the Progress Out of Poverty Index (PPI) developed by Mark Schreiner for Grameen Foundation, CGAP, and the Ford Foundation. Based on their accuracy and ease of use, the PAT and PPI probably have the greatest potential among the various poverty assessment tools for widespread diffusion. Each is discussed in greater detail below.

IRIS Poverty Assessment Tool

A 2003 amendment to the U.S. Microenterprise for Self-Reliance Act reaffirmed past legislation requiring USAID to spend half of its microenterprise funding on the very poor. The amendment redefined the “very poor” as those living below the international poverty line of \$1/day (purchasing power parities) or in the poorest half below the national poverty line. The amendment went on to require USAID to develop, field test, and certify poverty assessment tools for use by microenterprise practitioners.⁶

To satisfy this congressional requirement, USAID contracted the IRIS Center at the University of Maryland (IRIS) to develop simple, low-cost quantitative tools for measuring the prevalence of extreme poverty among clients of microfinance and microenterprise programs. These tools, known as the Poverty Assessment Tools (PATs), are short household questionnaires with 16 to 33 questions on topics ranging from consumer durables ownership to educational attainment. The individual questions have been chosen to balance practicality of implementation and the accuracy of aggregate poverty predictions.

The questionnaire is administered by interviewers in the field, preferably by enumerators not known by those being interviewed. The questionnaire responses are entered into a custom-designed computer template that mirrors the survey instrument. Then, after some basic quality control steps, a few mouse clicks will produce an estimate of the percentage of very poor.

To date, IRIS has developed tools for 17 countries (Albania, Azerbaijan, Bangladesh, Colombia, East Timor, Ghana, Guatemala, India, Indonesia, Jamaica, Kazakhstan, Madagascar, Malawi, Peru, Tajikistan, Uganda, and Vietnam),⁷ led tools trainings in Peru, Cambodia, Uganda, and Washington, DC, and developed a variety of online resources to assist in the use of the tools. All these can be found at the [USAID.. Poverty.Tools.website](#). And as part of its ongoing work for USAID, IRIS is developing additional poverty assessment tools, planning additional regional trainings for 2008, and creating additional training resources for implementers, including an e-learning portal.

5. These and other poverty assessment tools are described in the [Consumer's Guide](#) chapter of the Social Performance Map.

6. For more on the Microenterprise for Self-Reliance Act, see www.microlinks.org/cv02.php?ID=7744_201&ID2=DO_TOPIC. For more information on definitions of poverty lines, see Note D on page 184.

7. The IRIS Center also adapted PPIs from the Grameen Foundation as USAID PATs for Haiti, Mexico, and the Philippines.

Progress Out of Poverty Index

Concurrent to the development of the PAT, the Grameen Foundation (GF) undertook a similar initiative to create a simple poverty assessment tool with funding from CGAP and the Ford Foundation. GF named this tool the Progress Out of Poverty Index (PPI).⁸

The PPI is a scorecard consisting of 10 indicators, each with two or more possible responses. Each response in turn is assigned a point value with lower points corresponding to greater poverty likelihood. The scorecard is simple enough that, if desired, the loan officer or another enumerator could administer the scorecard and tally up the overall score in the field by hand. The score is then converted (in the field, back at the office, or with software) to a **poverty likelihood**. The poverty likelihood of an individual is the probability that the person is below a given poverty line. When applied to a group of persons (e.g., a sample of MFI clients), the group's **poverty rate** is defined as the average of the poverty likelihoods of the individuals.

CGAP and the Ford Foundation have since funded the development of several poverty scorecards using the PPI methodology both as part of the original GF initiative and as a complement to it. Scorecards affiliated with GF have been produced for Bangladesh, Bolivia, Haiti, India, Mexico, Morocco, and Pakistan. Additional scorecards have been produced to date for El Salvador, Ghana, Guatemala, Kenya, Malawi, Nicaragua, Nepal, Nigeria, Palestinian Territories, Romania, South Africa, and Vietnam.

PAT vs. PPI

The PAT and PPI share similarities but also have a number of differences, although functionally they are very similar. The similarities and differences are shown in Table 1. One point of comparison not addressed in Table 1 is tool accuracy. There is not sufficient information at the moment to determine conclusively that one tool is more accurate than the other. Both tools are derived through credible means, and both depend critically on data quality. Overall, the relative accuracy of the two tools is probably reasonably high and reasonably similar in many instances. Both the 16 PATs developed by IRIS and the three PPIs submitted by GF have surpassed the minimum USAID accuracy requirements to satisfy its reporting requirements under the U.S. Microenterprise for Self-Reliance Act.⁹

The PAT and PPI have a few notable drawbacks: They are limited to the relatively small subset of countries for which relatively recent national-level household expenditure data is available; they can be expensive to develop and validate; and they make no distinction between urban and rural households, which will likely have different poverty characteristics. While making this distinction would increase the accuracy of the tools, it would also increase their complexity and cost. Even without accounting for the urban-rural distinction, however, both tools score high on the accuracy criterion.

8. For more on the PPI, see www.grameenfoundation.org/what_we_do/microfinance_support/social_performance/the_ppi_tool and www.microfinance.com/#Poverty_Scoring. The second link includes copies of PPI scorecards along with background and explanatory documents.

9. This does not necessarily imply that they are equally accurate.

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Table 1. PAT vs. PPI

Item	PAT	PPI
Purpose	Provide low-cost and accurate estimate of poverty incidence	Provide low-cost and accurate estimate of poverty incidence Measure change in poverty incidence through time Targeting
Method	Estimate percentage of population falling below absolute extreme poverty line using a short set of proxy indicators for household expenditures	Estimate percentage of population falling below absolute poverty line using a short set of proxy indicators for household expenditures Poverty status is probabilistic
Source of Information ^a	Existing data from recent national household survey Primary data collection by IRIS on nationally representative sample	Existing data from recent national household survey
Derivation Method ^b	Selects the most accurate model for each country from a pool of eight potential regression methods	Unique process based in part on Logit regression
Types of Indicators ^c	Simple and practical Most indicators show variation over time	Simple, objective, practical, and objectively verifiable Indicators show variation over time
Poverty Lines ^d	Extreme poverty: <ul style="list-style-type: none"> • \$1 DPCE • Bottom 50% below national poverty line 	Extreme poverty: <ul style="list-style-type: none"> • \$1 DPCE • \$2 DPCE (CEE countries) • Bottom 50% below national poverty line • National extreme poverty line • Other extreme poverty lines Poverty: <ul style="list-style-type: none"> • \$2 DPCE • \$4 DPCE (CEE countries) • National poverty line • Other poverty lines
Data Collection	Collected in field by staff or other enumerators not known by the interviewee	Collected in field by loan officers
Poverty Calculation	Automated—done at office by customized freeware computer program	Can be calculated by loan officers or survey enumerators in the field or in the office by hand or with electronic device (e.g., PDA or computer)
Level of Poverty Analysis ^e	Aggregated	Individual client Aggregated
Poverty Targeting ^f	Not used for poverty targeting	Used for poverty targeting

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Item	PAT	PPI
Transparency ^g	Enumerator does not see poverty score	Enumerator sees poverty score Scoring weights are public knowledge
Poverty Monitoring ^h	Some indicators used for poverty tool do not vary or vary little over time	Indicators used for poverty tool are objective and vary over time with changes in poverty status

- a. Both tools are constructed using existing [Living Standards Measurement Survey \(LSMS\)](#) or an LSMS-like national household survey with expenditure data. During the development and testing phase, IRIS also conducted original LSMS-style surveys in Bangladesh, Kazakhstan, Peru, and Uganda.
- b. The PAT development team tests a variety of statistical models and chooses the most accurate of these for the final tool, whereas the PPI uses a single statistical procedure (Logit regression). The regression methods for the PAT include four types—OLS, Quantile, Linear Probability, and Probit. Each type is performed on both the full sample (one-step model) and sequentially on the full sample, followed by a reestimation on a reduced sample of households predicted to be at the lower end of the expenditure distribution (two-step model).
- c. PPI indicators are fewer in number but do not include questions on household size, age of household head, location (city, region, or urban/rural), or adult schooling, all of which are frequently strongly associated with poverty status. The PPI elected to focus on objectively verifiable indicators that might vary over time as poverty changes. The aforementioned indicators tend not to vary much over time and for this reason were not included in the PPI. (Possible exceptions occur in areas with high HIV/AIDS rates in which households may face poverty pressures from taking care of AIDS orphans.)
- d. The language of the Microenterprise for Self-Reliance Act limited the PAT to the “very poor,” and IRIS has followed this mandate. The PAT can also be used with multiple poverty lines as well, and future PATs will include additional poverty lines. For instance, the PAT developed for Malawi includes the national poverty line in addition to the extreme poverty line. The PPI is used with multiple poverty lines. (In addition to the poverty lines mentioned in Table 1 above, designers of the PPI are open to using the tool with any credible poverty line.)
- The World Bank defines the extreme poverty line in low-income countries as roughly equivalent to \$1 in daily per capita household expenditures (DPCE) adjusted for purchasing power parities (PPPs) and the poverty line in low-income countries as roughly \$2 DPCE. In certain medium-income countries with higher average incomes, however, the \$2 and \$1 DPCE poverty and extreme poverty lines are not relevant. This is particularly true in Central and Eastern Europe (CEE) countries. In these cases, the World Bank uses a \$4 DPCE poverty line and a \$2 DPCE extreme poverty line. In addition to official national poverty lines, many countries have also established official poverty and extreme poverty lines, often defined as the level of expenditures necessary to purchase, respectively, a basket of goods or a minimum basket of food.
- e. The PAT is used to calculate the overall percentage of clients below the relevant extreme poverty line. It could also easily be used, however, to predict whether a particular person is extremely poor. The PPI is used to calculate the overall percentage of clients below the relevant poverty or extreme poverty line. It is also used to estimate the likelihood that a particular person is either poor or extremely poor.

f. Because the PAT is analyzed only at the aggregate level, it cannot be used in its present form for poverty targeting (admitting or denying admittance of clients into the program based on their poverty status). With very slight modification, it could also be used for poverty targeting.

g. The survey results for the PAT are recorded by the enumerator but no poverty score is calculated. This is done at the office by computer and then for all clients surveyed, not individual clients. Neither the loan officer nor client knows how each survey response affects the client's predicted poverty status. Moreover, because the PAT is not used for poverty targeting, there is less incentive for loan officers or clients to try to manipulate it, although the possibility for manipulation cannot be conclusively eliminated.

For the PPI, the loan officer or enumerator can quickly calculate the poverty score and corresponding poverty likelihood in the field. This transparency and ease of calculation has the benefits of allowing the loan officer to see and understand the tool and of allowing quick results. It has the drawback of increasing the incentive and opportunity for manipulation by loan officers and clients, particularly when it is used for poverty targeting. In either case, good training and careful oversight are important to secure the integrity of the tool and the credibility of its results.

h. The PAT includes more indicators than the PPI; some of these indicators—such as family size, adult literacy, geographic location—do not vary or vary little over time. (The overall poverty values, however, *are* expected to show reasonable variation over time.) The limited set of PPI indicators are selected explicitly with the expectation that a large share of them can, in principle, vary over time with changes in household well-being.