

## A Practical Tool to Create Economic Opportunity for Low-Income Communities

Private businesses and investors can create markets and accelerate growth for low-income communities in emerging markets. In doing so, they benefit from estimates of poverty in the targeted market segments they seek to serve. While national household surveys provide poverty data, they are often too costly and overly broad for the purposes of private enterprises. Use of the Poverty Probability Index can help businesses improve their estimates of poverty and thereby better tailor their operations and strategies to specific populations.

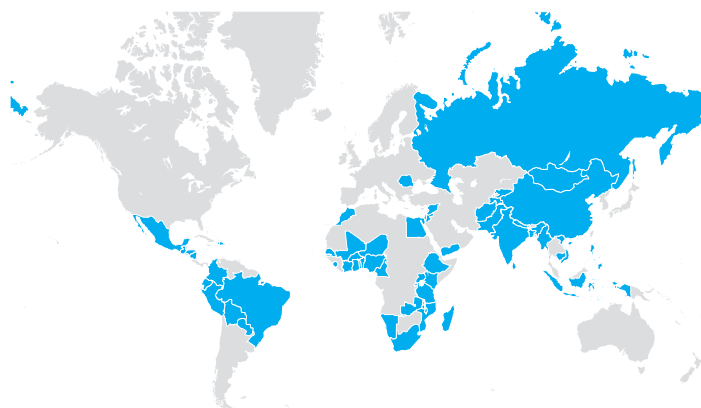
The International Finance Corporation, or IFC—a sister organization of the World Bank and member of the World Bank Group—is the largest global development institution focused on the private sector in emerging markets. Among IFC’s goals are ending extreme poverty by 2030 and boosting shared prosperity in every developing country. A strong poverty measurement tool suitable to the needs of the private sector will be critical to attaining these goals. Given the time and resource constraints of the private sector and the development community, it was important to identify a simple and credible poverty measurement tool that could be easily adopted and implemented across programs and geographies.

### About PPI and IFC

Many different types of poverty measurement approaches and tools exist, so IFC set out to identify the most appropriate measurement tool for its purposes. This involved a survey and analysis of all available tools. These included: The Poverty Probability Index (supported by Innovations for Poverty Action); Poverty Assessment Tools, or PATs (supported by United States Agency for International Development)<sup>1</sup>; Equity Tool (supported by Metrics for Management)<sup>2</sup>; Global Multidimensional Poverty Index (supported by the University of Oxford)<sup>3</sup>; and the Survey of Well-being via Instant and Frequent Tracking, or SWIFT (supported by the World Bank)<sup>4</sup>.

IFC piloted PPI, the Equity Tool, and SWIFT to better understand the tradeoffs between their key features (for example, simplicity versus accuracy).

Among these various measurement tools, PPI has by far the largest market share. Thanks to the PPI Alliance, it is maintained as a public good, free for download at [www.povertyindex.org](http://www.povertyindex.org). Many organizations value PPI because it is versatile, simple, easy to use, available in 61 countries, and covers more than 90 percent of the world’s poor living below 1.90 \$/day (2011 purchasing power parity).



**FIGURE 1** The PPI is a country-specific tool, currently developed for 61 Countries

Source: PPI website

Beneficial PPI features include:

- Just 10 questions, allowing the survey to be completed in 10 minutes.
- Straightforward, easy-to-answer questions.
- Data collection that can be incorporated into existing interactions/surveys with customers and suppliers.
- An estimation of poverty based on household consumption, which is generally considered an objective and standard measure of welfare (as compared to income, which is more variable and often overestimates poverty).
- An objective measure of poverty calibrated against several widely recognized poverty lines, including a country's national poverty line and the World Bank's 2011 and 2005 international lines that serve as measures of poverty across countries. This makes the PPI's estimates of poverty easy to interpret, report, and compare.

### The Need to Measure Poverty Accurately

Private businesses and investors can create markets and accelerate growth for low-income communities in emerging markets. To do so effectively and sustainably, however, these private enterprises and investors need accurate information about poverty levels in the specific market segments they seek to serve.<sup>5</sup> This information informs their business strategies and operations, and is critical to forming and sustaining businesses that serve all parties.

For example, a coffee trader in Nicaragua needed better information about the poverty levels of coffee farmers it did

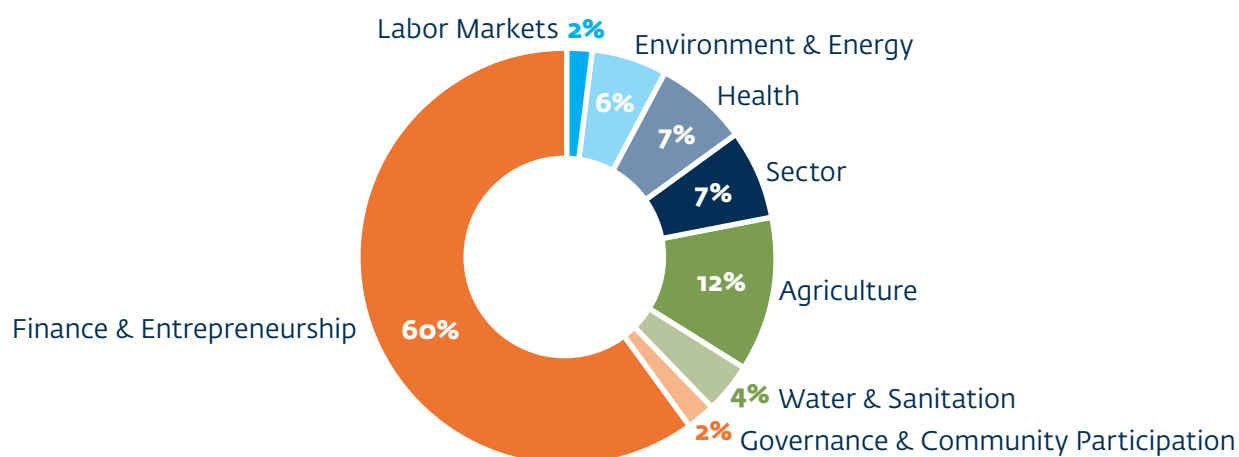
business with in order to identify the services most likely to increase their incomes and output.

Poverty estimation methodologies are the tools used to provide this invaluable data, yet the most rigorous of these methodologies are often not practical for private sector firms or the development organizations that seek to assist them. The best sources of poverty data are government-run, large-scale national surveys that collect highly detailed socioeconomic household information.

These surveys typically cost millions of dollars and take years to design and implement. And however useful these survey instruments and data may be for many applications, they often lack the ability to directly estimate poverty rates in targeted populations.

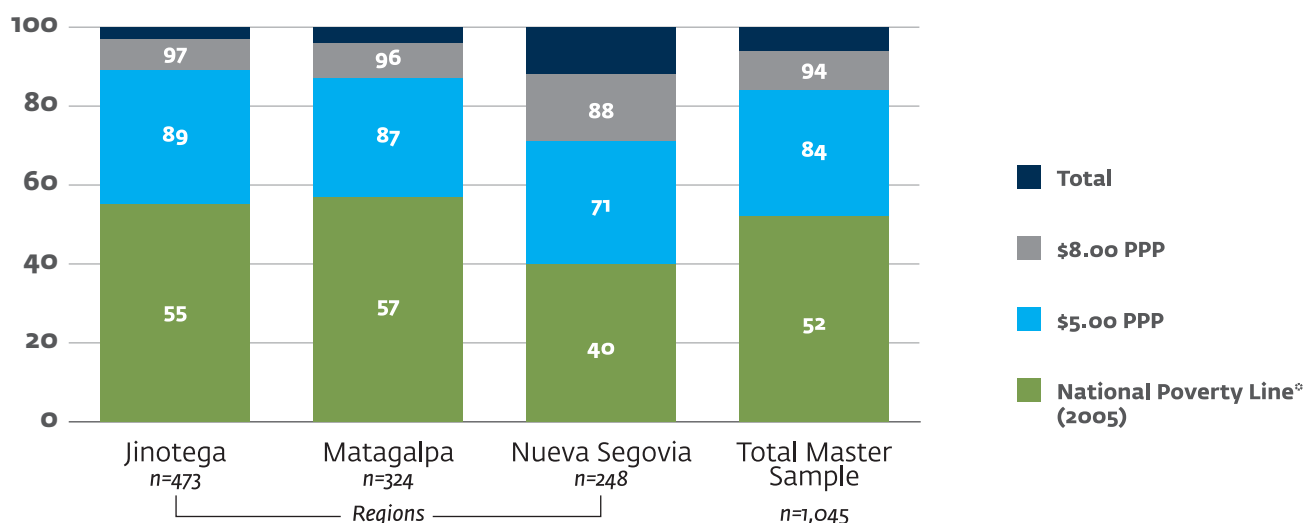
Fortunately, alternatives to costly national household surveys exist. The most widely used of these, one that provides project-specific poverty estimation data, is the Poverty Probability Index, or PPI.

PPI is statistically sound yet easy to use. It involves a 10-question survey and, in its basic form, a statistical reference table. The answers to 10 questions concerning household characteristics and asset ownership are scored to compute the likelihood that the household is living below the poverty line. PPI is also a country-specific tool, and versions of it currently exist for 61 countries (Figure 1). With PPI, organizations can identify the consumers, suppliers, or employees most likely to be poor, integrating objective poverty data into their assessments and strategic decision-making (Figure 2).



**FIGURE 2** More than 600 organizations currently use the PPI across multiple sectors. These include corporations, donors, foundations, funders, investors, microfinance institutions, networks, NGOs, social enterprises, and universities.

Source: Poverty Probability Index PPI



**FIGURE 3** PPI Results showed that over 50% of ECOM farmers were below the National Poverty Line

Source: “The ECOM Nicaragua Monitoring Pilot – Measuring what Matters to Business and Development”, May 2012, IFC.

IFC ultimately chose PPI to test with several clients because of these features. The tool’s simplicity and low cost made it extremely appealing to IFC clients, which are private companies and investors looking to avoid long, intensive, and costly surveys.

IFC tested PPI with clients in a broad range of sectors, including, microfinance, agribusiness, and tertiary education. The following are just a few examples of how IFC clients used PPI to better understand the impact of their businesses on their suppliers or consumers, and to gain insights into ways to improve their business approaches. Such examples served as a model for other development finance institutions, companies, and impact investors that replicated such efforts.

### A Coffee Trader in Nicaragua

IFC worked with coffee trader ECOM in Nicaragua to identify indicators with the potential to add commercial value to ECOM and improve reporting on impact. The main monitoring tools used were PPI, consumer-insight research, and the database of coffee farmers. The study surveyed 1,300 farmers about service relevance and quality, as well as ECOM’s relationship characteristics with farmers, both tangible (such as increased income) and intangible (confidence, empowerment).

The study found that farmers are eager to access certain services that have the potential to improve income, as these represent an opportunity to escape poverty and reach their goals. The services they indicated that contribute the most

to increased income are market information, financing, and agricultural extension (visits to farms and agricultural inputs). PPI results showed that about half of ECOM farmers were below the national poverty line and over 90 percent were within the base of the pyramid (Figure 3).

Based on insights obtained from the study, including understanding the impact of the services provided on the welfare of the farmers, ECOM made several changes to strengthen its relationship with coffee farmers and improve its service offerings. ECOM modified the role of some farmer-facing staff positions and also included some of the survey questions in its information system to receive feedback from farmers on a more systematic basis. ECOM requested that IFC replicate the study with its cocoa farmers in Cote d’Ivoire and made similar changes to its cocoa business model in that country as a result of that survey.

### Water Distribution in Ghana

IFC worked with WaterHealth Ghana (WHG) to conduct a study to assess the company’s impact in current areas of operation in terms of service delivery, public health, social well-being, and other objectives.<sup>6</sup> Responses, which were based on a narrative methodology and PPI, were captured from 668 consumers in Ghana communities, one served by WHG (Pakro) and one not served by a water distribution company (Teachermente).

The main objectives of the study were: (i) to assess water use in areas WHG was serving (through customers and non-customers) and areas where WHG was not yet serving,

## A PARTNERSHIP IN RESEARCH ON POVERTY MEASUREMENT

IFC also partnered with the Poverty Global Practice in the World Bank to better understand PPI's ability to produce accurate poverty estimates and make recommendations on how to optimize PPI. This partnership led to the completion of a World Bank Group Policy Research Working Paper.<sup>7</sup>

As innovations for Poverty Action (IPA), a research and policy nonprofit that specializes in rigorous evaluations and measurement, took on long-term stewardship of PPI, it incorporated findings and recommendations from the World Bank Group Policy Research Working Paper in the redesign of the PPI's methodology. It presented the approach in 2017 in a paper explaining the new methodology.<sup>8</sup>

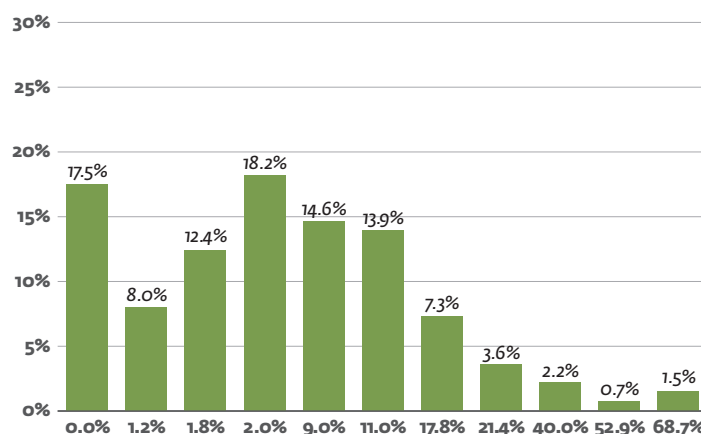
as a means to better understand drivers of behavior and identify opportunities for expanding usage; and (ii) to develop a deeper sense of areas of improvement where WHG could focus its efforts on extending and growing its service delivery and enhancing its operational performance.

The study found that people who used “WHG Dr. Water” and “Another treated” water sources were less likely to be poor (Figures 4 and 5), and that those who used “Untreated water” were more likely to be in poverty (Figure 6). In terms of preferences, bottled water is often seen as a luxury good, and WHG water was perceived as affordable by a large portion of the population in Pakro.

The study also cross-tabulated the poverty likelihood of respondents (obtained using PPI) with the water source used by them in order to gain insights into several unusual findings: Why do some customers not use treated water when it appears they are not in poverty. Also, why do they buy purified water when it appears they are more likely to be living in poverty? WHG used insights from the study to implement changes to its service delivery—customer education campaigns, advertising, packaging, pricing, and water distribution via pipelines to remote areas. These changes were replicated across WHG's Ghana operations.

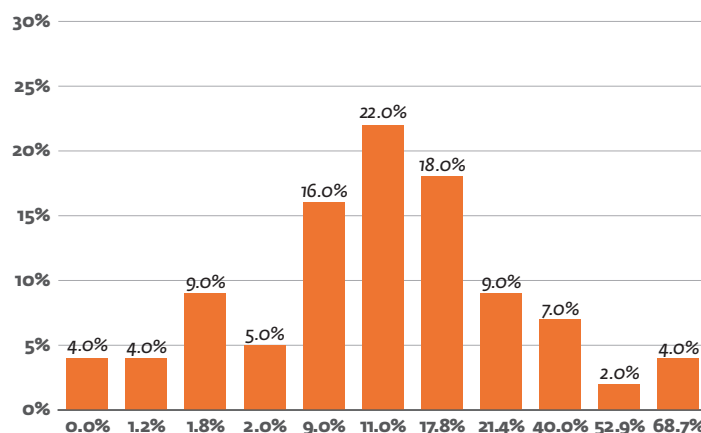
## Microfinance Institutions in Latin America

IFC partnered with the Grameen Foundation, the Cisco Foundation, and 14 microfinance institutions (MFIs) that agreed to participate in a study covering six Latin



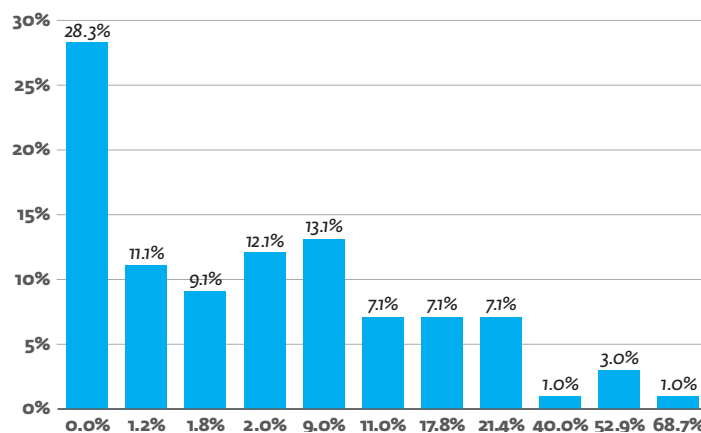
**FIGURE 4** Percent of Water Health Ghana plotted against the \$1.25 a day poverty scale

Source: “Narrative analysis report - Ghana water use”, December 2012, IFC



**FIGURE 5** Percent of untreated water users plotted against the \$1.25 a day poverty scale

Source: “Narrative analysis report - Ghana water use”, December 2012, IFC



**FIGURE 6** Percent of another treated source users plotted against the \$1.25 a day poverty scale

Source: “Narrative analysis report - Ghana water use”, December 2012, IFC



American countries—Peru, Colombia, Bolivia, Ecuador, Guatemala, and Nicaragua.<sup>9</sup> The study used the PPI data already collected by these MFIs, complemented by in-depth interviews with their senior staff and industry experts.



### Customer from a MFI included in the study.

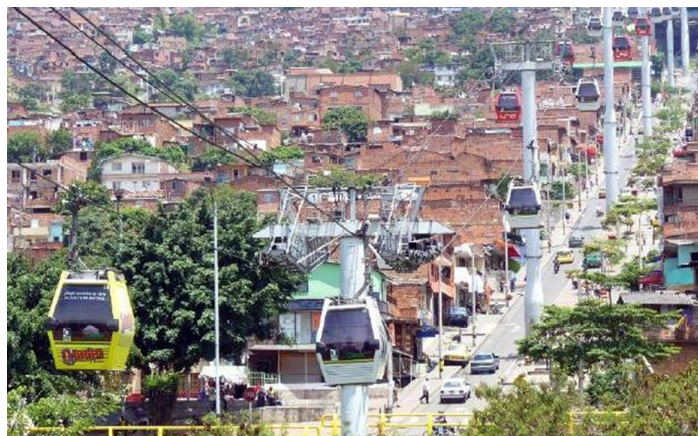
The study uncovered two interlinked factors driving the market focus of MFIs across these countries in Latin America: competition and high levels of debt. MFIs reached more poor clients in regions with higher commercial banking saturation, despite the fact that the mission of the MFIs may not have been to reach the poor. Commercial banks in these typically urban areas tended to serve wealthier clients, so market forces encouraged MFIs to serve more poor clients. The MFIs interviewed in the study also mentioned the indebtedness of relatively wealthier clients in urban areas as a motivation to serve more poor clients there. The strong competition from commercial banks in urban areas also led MFIs to shift the geographic focus of their operations to more suburban and rural areas. There, the MFIs tended to serve the relatively wealthier but unbanked clients.

### Uniminuto Colombia

To better inform decision-making and policy dialogue on private education, Colombian university Uniminuto attempted to track development outcomes by measuring socioeconomic mobility, gender parity, income, and student and employer satisfaction. Uniminuto wanted to validate the income segments of the population that it is reaching through its programs and assess the impact of their education on the quality of life and well-being of graduates. PPI was a key component of the study's methodological approach.

Uniminuto's business model is unique in the country.

It emphasizes enhanced diversity of academic offerings (professional university programs, technological programs, and technical professional programs); extended geographical coverage (more than 30 locations, including rural, peri-urban, and border regions); ample access to its programs; making education available to vulnerable population groups; comparatively low tuition, and affordable financing options.



### Neighborhood of the Bello Campus of Uniminuto, Medellín, Colombia.

The study found that Uniminuto achieves its objective of offering affordable tertiary education to low-income individuals. About 56 percent of Uniminuto graduates were living below the 200 percent national poverty line at enrollment. The study also found that a high proportion of females were enrolled in Uniminuto: about 57 percent of the students were women and generally single. Overall, the study found that receiving an education from Uniminuto had a positive impact on the quality of life and well-being of its graduates, and that the education improves their socioeconomic status. For example, the probability of living below the poverty line dropped significantly for Uniminuto graduates from all programs (professional, technical, technological) compared with those who had not completed their programs. Ultimately, results from the study signaled that private tertiary education contributed to significant poverty reduction. In addition, an Uniminuto education generated a larger positive impact on the lives of female graduates compared with male graduates.

### Conclusion

Private companies seeking to measure their impact on advancing business models that address poverty benefited from the increased adoption and the refinement of the

Poverty Probability Index, the poverty estimation tool with the largest global market share.

As more and more businesses employed the PPI to estimate poverty in target markets, IFC supported the creation or update of several country-specific PPIs and became a founding member of the PPI Alliance, a group of organizations committed to funding and governing PPI as a global public good.

The new PPI methodology predicts poverty more accurately at a sub-national level. In addition, it makes it easier to customize PPIs for sub-national regions or rural/urban areas.

These actions not only benefited all PPI users, but also acted as an incentive for other players in the poverty measurement market to evaluate and improve their own tools.

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<sup>1</sup> <https://www.povertytools.org/>

<sup>2</sup> <http://www.equitytool.org/>

<sup>3</sup> <http://ophi.org.uk/multidimensional-poverty-index/>

<sup>4</sup> <http://blogs.worldbank.org/developmenttalk/revolutionizing-datacollection-big-data-all-data>

<sup>5</sup> The poor are defined for the purpose of the study as those living below the national poverty line. Each country typically calculates its national poverty line every two to five years based on its Living Standards Measurement Survey (LSMS), which is based on the methodology supported by the World Bank. The poverty line is the minimum level of income deemed adequate in a particular country. Determining the poverty line is usually done by finding the total cost of all the essential resources that an average human adult consumes in one year.

<sup>6</sup> Based on the SenseMaker® methodology provided by Cognitive Edge (<http://cognitive-edge.com/sensemaker/>).

<sup>7</sup> Diamond, Alexis, Michael Gill, Miguel Rebolledo Dellepiane, Emmanuel Skoufias, Katja Vinha, and Yiqing Xu. 2016. "Estimating Poverty Rates in Target Populations: An Assessment of the Simple Poverty Scorecard and Alternative Approaches." Policy Research Working Paper No. 7793. World Bank, Washington, DC.

<sup>8</sup> Kshirsagar, Varun, Jerzy Wieczorek, Sharada Ramanathan, and Rachel Wells. 2017. "Household poverty classification in data-scarce environments: a machine learning approach." Paper presented at the 31st NIPS (Neural Information and Processing Systems) 2017 Workshop on Machine Learning for the Developing World, Long Beach, CA, USA.

<sup>9</sup> Grameen Foundation and IFC. 2015. "Factors Influencing Poverty Outreach Among Microfinance Institutions in Latin America." <https://www.povertyindex.org/factors-influencing-poverty-outreachamong-microfinance-institutions-latin-america>.