Simple Poverty Scorecard® Tool
Côte d'Ivoire

Mark Schreiner and Jean Paul Sossou

17 March 2018

Voir ce document en Français sur scorocs.com
Aw ye sɛbɛn nin filɛ julakan na scorocs.com siti kan
This document is in English at scorocs.com

Abstract

The Scorocs Simple Poverty Scorecard-brand poverty-assessment tool for Côte d'Ivoire is a low-cost, transparent way for pro-poor programs to get to know the socio-economic status of their participants so as to prove and improve their poverty outreach and social performance. Responses to its 10 indicators can be collected in about 10 minutes and then used to estimate consumption-based poverty rates, to track changes in poverty rates, and to segment clients for differentiated treatment.

Version note

The new scorecard here is based on data from 2015. It should be used from now on in place of the old scorecard in Schreiner (2013a) that uses data from 2008. Both scorecards used the same definition of *poverty*, so—given the scorecards' standard assumptions and given poverty lines that are supported by both scorecards—estimates from the two scorecards can be compared.

Acknowledgements

Data come from Côte d'Ivoire's *Institut National de la Statistique*. Thanks go to Doria Deza, Joëlle Gouali, Jonas Yao N'Dri, and Christian Tapé.

Legal: "Scorocs" and "Prove and improve the good you do" are Trademarks (and "Simple Poverty Scorecard" is a Registered Trademark) of Scorocs, L.L.C. for its brand of poverty-assessment tools. Copyright © 2018 Scorocs.

Scorocs™ Simple Poverty Scorecard® Tool

			Name	Identifier
Interview ID:				
Interview date:		Participant:		
Country:	CIV	Field agent:		
Scorecard:	002	Service point:		
Sampling wgt.:		Number of household members:		

Indicator	Response	Points Score
1. How many household members are there?	A. Seven or more	0
	B. Six	7
	C. Five	15
	D. Four	21
	E. Three	29
	F. Two	39
	G. One	49
2. Do all household members ages 7 to 18 go to school this school year?	A. No	0
	B. No members 7 to 18	2
	C. Yes	3
3. Can the male head/spouse read and write in French or in another language?	A. No male head/spouse	0
	B. No	3
	C. Yes	5
4. Can the (eldest) female head/spouse read and write in French or in another language?	A. No female head/spouse	0
	B. No	1
	C. Yes	6
5. What is the main construction material of the outer walls? (*Observe and record.*)	A. Packed earth, bamboo/leaves, planks/wood, packed earth with a cement veneer, red clay with a little cement (*géo-béton*), or other	0
	B. Sheet metal, or cement	3
6. What toilet arrangement does the household use?	A. None/bush/no toilet arrangement, or other	0
	B. Latrine inside the yard/compound	4
	C. Latrine outside the yard/compound	6
	D. Flush toilet (inside or outside the residence)	8
7. Did the household have a TV, VCR/DVD player, or satellite dish in good working order in the last 3 months?	A. No TV (regardless of VCR/DVD or satellite dish)	0
	B. TV, but no VCR/DVD or satellite dish	4
	C. TV, and VCR/DVD or satellite dish	9
8. Do you currently have a table?	A. No	0
	B. Yes	3
9. How many beds in good working order did your household have in the last 3 months?	A. None	0
	B. One	3
	C. Two or more	7
10. How many cells phones in good working order did your household have in the last 3 months?	A. None, or one	0
	B. Two	2
	C. Three or more	7

Copyright © 2018 Scorocs.
Score:

Back-page Worksheet: Household Members, Ages, and School Attendance

Fill out the scorecard header first. Include the interview's unique identifier (if known), the interview date, and the sampling weight of the participant (if known). Then record the full name and the unique identification number of the participant (who may differ from the respondent), of the participant's field agent (who may differ from you the enumerator), and of the service point that the participant uses.

Then read to the respondent: *Please tell me the first names (or nicknames) and ages of all the members of your household, starting with the head and the (eldest) spouse/conjugal partner of the head (if he/she exists). A* household *is a single person who lives alone or a group of people (regardless of blood or marital relationship) who have usually slept under the same roof and shared meals for at least three of the past 12 months and who acknowledge the authority of one household member as the head of the household.*

Write down the name/nickname and age of each member, and note the head and the spouse/conjugal partner of the head (if he/she exists). You need to know a member's precise age only if it may be close to 7 or 18. Record the number of household members in the scorecard header next to "Number of household members:", and then circle the answer to the first scorecard indicator.

For each member ages 7 to 18, ask, "Does [NAME] go to school this school year?" and mark the response. Then circle the answer to the second indicator. Mark "B. No members ages 7 to 18" if no members are ages 7 to 18. Mark "C. Yes" if there are members ages 7 to 18 and if they all go to school. Mark "A. No" if there are members ages 7 to 18 but at least one does not go to school.

Always keep in mind and apply the detailed instructions in the "Interview Guide".

First name (or nickname)	How old is [NAME]?	Is [NAME] the head or the spouse/conjugal partner of the head?	Does [NAME] go to school this school year?		
1. (Head)		Head (male) Head (female)	<7 or >18	No	Yes
2.		(Eldest) spouse of head (female) Spouse of head (male) Other	<7 or >18	No	Yes
3.		Other	<7 or >18	No	Yes
4.		Other	<7 or >18	No	Yes
5.		Other	<7 or >18	No	Yes
6.		Other	<7 or >18	No	Yes
7.		Other	<7 or >18	No	Yes
8.		Other	<7 or >18	No	Yes
9.		Other	<7 or >18	No	Yes
10.		Other	<7 or >18	No	Yes
11.		Other	<7 or >18	No	Yes
12.		Other	<7 or >18	No	Yes
13.		Other	<7 or >18	No	Yes
Number of HH members:	—	—		—	

Look-up table to convert scores to poverty likelihoods: National poverty lines

	Poverty likelihood (%)		
	National (2008 def.)		
Score	100%	150%	200%
0–18	88.7	97.8	99.4
19–25	78.4	94.3	98.5
26–29	72.9	91.4	97.5
30–32	65.9	90.0	96.0
33–35	56.3	86.8	95.5
36–38	53.5	81.9	93.7
39–41	45.1	74.4	90.4
42–43	41.8	71.9	88.1
44–45	40.3	69.1	85.5
46–48	31.4	64.6	84.0
49–51	27.2	55.7	74.2
52–54	20.1	48.9	69.6
55–57	15.8	39.4	65.6
58–59	14.8	34.5	62.0
60–61	10.4	28.5	51.0
62–63	9.3	25.3	46.6
64–66	7.2	20.2	39.4
67–69	5.9	16.5	35.8
70–75	1.6	10.3	22.2
76–100	0.5	2.8	6.4

Look-up table to convert scores to poverty likelihoods: International 2005 and 2011 PPP lines

	Poverty likelihood (%)							
	Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
Score	$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
0–18	73.7	94.7	97.9	99.9	68.5	94.7	99.5	100.0
19–25	60.0	90.1	95.0	99.5	54.1	89.5	98.6	100.0
26–29	51.7	86.3	92.6	99.4	46.2	85.3	97.6	100.0
30–32	42.8	79.7	90.8	99.3	35.8	78.8	96.7	100.0
33–35	35.1	74.9	88.2	99.3	29.1	72.8	96.2	100.0
36–38	29.4	69.2	84.2	99.2	25.2	67.5	94.3	100.0
39–41	24.7	60.3	78.1	99.2	22.0	58.6	91.1	100.0
42–43	24.7	58.0	74.5	98.4	19.3	55.6	89.4	100.0
44–45	21.9	54.7	70.7	97.2	16.5	52.3	87.5	99.9
46–48	15.6	50.5	67.8	95.8	11.9	48.5	85.5	99.8
49–51	12.2	44.8	58.7	92.2	9.5	40.6	77.3	99.5
52–54	9.8	35.1	52.6	90.6	8.3	31.8	72.5	99.5
55–57	8.5	27.8	43.0	87.5	7.4	26.0	66.6	99.5
58–59	7.1	25.4	36.6	83.4	4.0	23.9	62.8	98.9
60–61	5.8	17.5	31.4	78.6	4.0	16.4	53.9	98.3
62–63	4.7	16.1	27.0	74.3	3.8	15.0	51.0	98.2
64–66	3.2	13.2	22.5	69.3	2.7	12.0	42.6	98.2
67–69	2.5	10.5	18.1	66.8	2.3	8.9	39.1	98.1
70–75	1.1	3.5	11.1	56.9	0.9	2.7	23.3	95.7
76–100	0.5	1.0	2.8	24.6	0.2	1.0	6.5	90.7

Look-up table to convert scores to poverty likelihoods: Relative and percentile-based poverty lines

	Poverty likelihood (%)						
	Poorest 1/2	Percentile-based lines (2008 def.)					
Score	< 100% Natl.	10th	20th	40th	50th	60th	80th
0–18	62.9	35.2	55.8	82.7	91.5	94.9	99.4
19–25	47.7	20.4	42.0	72.4	82.2	90.5	98.1
26–29	38.8	15.7	33.8	64.0	77.6	86.8	96.9
30–32	30.8	11.5	26.8	54.0	71.9	82.7	95.8
33–35	25.1	9.4	23.2	48.9	64.1	76.7	94.5
36–38	19.7	6.9	15.8	45.3	60.6	71.0	92.1
39–41	18.6	6.0	14.8	36.0	49.4	61.4	87.9
42–43	16.5	5.2	14.2	34.3	46.5	58.9	85.7
44–45	12.1	3.2	10.8	31.2	42.9	56.2	83.7
46–48	10.3	2.6	7.2	22.0	37.7	51.7	82.1
49–51	8.0	2.3	6.1	20.9	30.1	46.2	72.3
52–54	6.7	2.3	5.5	15.8	22.9	36.7	67.6
55–57	6.3	1.7	4.7	12.7	17.1	28.5	61.6
58–59	3.3	1.2	2.3	11.6	15.9	25.8	56.4
60–61	3.0	0.9	2.3	9.4	12.1	19.0	47.1
62–63	3.0	0.9	2.3	8.0	11.2	16.8	42.4
64–66	2.2	0.7	1.9	5.3	7.9	13.5	36.5
67–69	1.2	0.1	1.1	4.1	6.2	11.3	34.2
70–75	0.3	0.0	0.3	1.6	1.6	3.8	20.7
76–100	0.2	0.0	0.2	0.5	0.5	1.0	5.5

Scorocs™ Simple Poverty Scorecard® Tool
Côte d'Ivoire

1. Introduction

The Scorocs Simple Poverty Scorecard poverty-assessment tool is a low-cost, transparent way for pro-poor programs in Côte d'Ivoire to prove and improve their poverty outreach and social performance. The scorecard can be used to estimate the likelihood that a household has consumption below a given poverty line, to estimate a population's poverty rate at a point in time, to estimate the annual change in a population's poverty rate, and to segment participants for differentiated treatment.

The direct approach to poverty assessment via consumption surveys is difficult and costly. A case in point is the 2015 Living Standards Survey (*Enquête Niveau de Vie des Ménages*, ENV) by Côte d'Ivoire's *Institut National de la Statistique* (INS). Its questionnaire has 65 pages and covers more than 700 questions, most of which have follow-up questions and/or are asked multiple times (for example, for each household member, crop, or field). Enumerators completed surveys at a rate of about 1.5 households per day.

In comparison, the indirect approach of the scorecard is quick and low-cost. It uses 10 verifiable indicators drawn from the 2015 ENV (such as "What is the main construction material of the outer walls?" and "Do you currently have a table?") to get a score that is correlated with poverty status as measured by the exhaustive ENV survey.

The scorecard differs from "proxy-means tests" (Coady, Grosh, and Hoddinott, 2004) in that it is transparent, it is freely available,[1] and it is tailored to the capabilities and purposes not of national governments but rather of local pro-poor organizations. The feasible poverty-assessment options for such organizations are typically blunt (such as rules based on land ownership or housing quality) or subjective and relative (such as participatory wealth ranking facilitated by skilled field workers). Poverty estimates from these approaches may be costly, their accuracy is unknown, and they are not comparable across places, organizations, nor time.

The scorecard can be used to estimate the share of a program's participants who are below a given poverty line (for example, Côte d'Ivoire's national line). USAID microenterprise partners in Côte d'Ivoire can use the scorecard with the $1.90/day 2011 PPP line to report how many of their participants are "very poor".[2] The scorecard can also be used to estimate the annual change in poverty rates. For all these applications,

[1] The Scorocs Simple Poverty Scorecard tool for Côte d'Ivoire is not, however, in the public domain. Copyright is held by Scorocs, L.L.C.

[2] USAID defines a household as *very poor* if its daily per-capita consumption is less than the highest of the $1.90/day 2011 PPP line (XOF472, Table 1) or the line that marks the poorest half of people below 100% of the national line (XOF437).

the scorecard is a low-cost, consumption-based, objective tool. While consumption surveys are costly even for governments, some pro-poor organizations may be able to implement a low-cost scorecard to help with monitoring poverty and (if desired) segmenting clients for differentiated treatment.

The technical approach here aims to be understood by non-specialists. After all, if program managers are to adopt the scorecard on their own and apply it to inform their decisions, then they must first trust that it works. Transparency and straightforwardness build trust. Getting "buy-in" matters; proxy-means tests and regressions on the "determinants of poverty" have been around for decades, but they are rarely used to inform decisions by pro-poor organizations. This is not because these tools do not work, but because they are often presented (when they are presented at all) as tables of regression coefficients incomprehensible to non-specialists (with cryptic indicator names such as "`LGHHSZ_2`" and with points with negative values and many decimal places). Thanks to the predictive-modeling phenomenon known as the "flat maximum", straightforward, transparent approaches are usually about as accurate as complex, opaque ones (Schreiner, 2012a; Caire and Schreiner, 2012).

Beyond its low cost and transparency, the technical approach of the scorecard is innovative in how it associates scores with poverty likelihoods, in the extent of its accuracy tests, and in how it derives formulas for standard errors. Although the accuracy tests are straightforward and commonplace in statistical practice and in the

for-profit field of credit-risk scorecards, the tests have rarely been applied to poverty-assessment tools.

The scorecard is based on data from the 2015 ENV from Côte d'Ivoire's INS. Indicators are selected to be:

- Inexpensive to collect, easy to answer quickly, and straightforward to verify
- Strongly correlated with poverty
- Liable to change over time as poverty status changes
- Applicable in all regions of Côte d'Ivoire

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 a poverty line). Non-specialists can collect data and tally scores on paper in the field in about ten minutes.

The scorecard can be used to estimate three basic quantities. First, it can estimate a particular household's *poverty likelihood*, that is, the probability that the household has per-capita consumption below a given poverty line.

Second, the scorecard can estimate the poverty rate of a population of households at a point in time. This estimate is the average of estimated poverty likelihoods among a representative sample of households from the population.

Third, the scorecard can estimate the annual change in a poverty rate. With two independent samples of households from the same population, this is the difference in the average estimated poverty likelihood in the baseline sample versus the average estimated likelihood in the follow-up sample, divided by the difference (in years) between the average interview date in the baseline sample and the average interview date in the follow-up sample.

With one sample in which each household is scored twice, the estimate of the annual change in a poverty rate is the sum of the changes in each household's estimated poverty likelihood from baseline to follow-up, divided by the sum of years between each household's pair of interviews (Schreiner, 2014a).

The scorecard can also be used to segment participants for differentiated treatment. To help managers choose appropriate targeting cut-offs for their purposes, several aspects of targeting accuracy are reported for a range of possible cut-offs.

This paper presents a single scorecard whose indicators and points are derived with Côte d'Ivoire's national poverty line and data from the 2015 ENV. Scores from this one scorecard are calibrated with this same data to poverty likelihoods for 18 poverty lines.

The scorecard is constructed using data from about three-fifths of the households in the 2012 E123. Data from that same three-fifths of households is also used to calibrate scores to poverty likelihoods for the 18 poverty lines. Data from the other two-fifths of households is used to validate the scorecard's accuracy for estimating households' poverty likelihoods, for estimating populations' poverty rates at a point in time, and for segmenting participants.

Given their assumptions, all three scorecard-based estimators (the poverty likelihood of a household, the poverty rate of a population at a point in time, and the annual change in a population's poverty rate) are *unbiased*. That is, their average matches the true value in repeated samples when constructed from (and applied to) a

single, unchanging population in which the relationship between scorecard indicators and poverty is unchanging. Like all predictive models, the scorecard makes errors when applied (as in this paper) to a validation sample. Furthermore, it makes errors to some unknown extent when applied (in practice) to a different population or when applied after 2015 (because the relationships between indicators and poverty change over time).[3]

Thus, while the indirect-scorecard approach is less costly than the direct-survey approach, it makes errors when applied in practice. (Observed values from the direct-survey approach are taken as correct, ignoring sampling variation.) There are errors because the scorecard necessarily assumes that future relationships between indicators and poverty in all populations will be the same as in the construction data. Of course, this assumption—inevitable in predictive modeling—holds only partly.

The error in the scorecard's estimated poverty rate at a point in time (that is, the average of differences between estimated and observed values across 1,000 bootstrap samples of $n = 16{,}384$ from the validation sample) for 100% of the national poverty line is +0.5 percentage points. The average across all 18 poverty lines of the absolute values of the average error is about 0.8 percentage points, and the maximum of the absolute values of the average error is 1.6 percentage points. These estimation errors are due to sampling variation, not bias; the average error would be zero if the whole 2015 ENV

[3] Examples include nationally representative samples at a later point in time and sub-national populations that are not nationally representative (Schreiner, forthcoming; Diamond *et al.*, 2016; Tarozzi and Deaton, 2009).

were to be repeatedly re-fielded and re-divided into sub-samples before repeating the entire process of constructing and validating the resulting scorecards.

With $n = 16{,}384$, the 90-percent confidence intervals are ± 0.6 percentage points or smaller. For $n = 1{,}024$, the 90-percent intervals are ± 2.4 percentage points or smaller.

Section 2 below documents data and poverty lines. Sections 3 and 4 describe scorecard construction and offer guidelines for implementation. Sections 5 and 6 tell how to estimate households' poverty likelihoods and populations' poverty rates at a point in time. Section 7 discusses estimating the annual change in a population's poverty rate. Section 8 covers targeting. The last section is a summary. Schreiner (2013a) discusses the scorecard in the context of four older poverty-assessment tools for Côte d'Ivoire.

The "Interview Guide" (found after the References) tells how to ask questions—and how to interpret responses—so as to mimic practice in Côte d'Ivoire's 2015 ENV as closely as possible. The "Interview Guide" (and the "Back-page Worksheet") are integral parts of the Scorocs Simple Poverty Scorecard tool for Côte d'Ivoire.

2. Data and poverty lines

This section presents the data used to construct and validate the scorecard. It also documents Côte d'Ivoire's definition of *poverty* as well as the 18 poverty lines to which scores are calibrated.

2.1 Data

Indicators and points for the scorecard are selected (*constructed*) based on data from a random three-fifths of the 12,899 households in the 2015 ENV, Côte d'Ivoire's most-recent national household consumption survey.

The data from the three-fifths of observations from the 2015 ENV that is used to construct the scorecard is also used to associate (*calibrate*) scores to poverty likelihoods for all poverty lines.

Data from the other two-fifths of households from the 2015 ENV is used to test (*validate*) scorecard accuracy for point-in-time estimates of poverty rates *out-of-sample*, that is, with data that is not used in construction/calibration. That same data is also used to test out-of-sample targeting accuracy.

The ENV was fielded from 23 January 2015 to 25 March 2015. Consumption is in units of XOF per person per day in prices in Abidjan on average during field work.

2.2 Poverty rates at the household, person, and participant level

A *poverty rate* is the share of units in households in which total household consumption (divided by the number of household members) is below a given poverty line. The unit of analysis is either the household itself or a person in the household. By assumption, each member of a given household has the same poverty status (or estimated poverty likelihood) as the other members in that household.

To illustrate, suppose that a pro-poor program serves two households. The first household is poor (its per-capita consumption is less than a given poverty line), and it has three members, one of whom is a program participant. The second household is non-poor and has four members, two of whom are program participants.

Poverty rates are in terms of either households or people. If the program defines its *participants* as households, then the household level is relevant. The estimated household-level poverty rate is the weighted[4] average of poverty statuses (or estimated poverty likelihoods) across households with participants. This is $\frac{1 \cdot 1 + 1 \cdot 0}{1 + 1} = \frac{1}{2} = 0.5 = 50$ percent. In the "$1 \cdot 1$" term in the numerator, the first "1" is the first household's weight, and the second "1" represents the first household's poverty status (poor) or its estimated poverty likelihood. In the "$1 \cdot 0$" term in the numerator, the "1" is the second household's weight, and the "0" represents the second household's

[4] The examples here assume simple random sampling at the household level. This means that each household has the same selection probability and thus the same sampling weight, taken here to be one (1).

poverty status (non-poor) or its estimated poverty likelihood. The "$1 + 1$" in the denominator is the sum of the weights of the two households. Household-level weights are used because the unit of analysis is the household.

Alternatively, a person-level rate is relevant if a program defines all people in the households that benefit from its services as *participants*. In the example here, the person-level rate is the household-size-weighted[5] average of poverty statuses (or estimated poverty likelihoods) for households with participants, that is, $\frac{3 \cdot 1 + 4 \cdot 0}{3 + 4} = \frac{3}{7} = 0.43 = 43$ percent. In the "$3 \cdot 1$" term in the numerator, the "3" is the first household's weight because it has three members, and the "1" represents its poverty status (poor) or its estimated poverty likelihood. In the "$4 \cdot 0$" term in the numerator, the "4" is the second household's weight because it has four members, and the zero represents its poverty status (non-poor) or its estimated poverty likelihood. The "$3 + 4$" in the denominator is the sum of the weights of the two households. A household's weight is its number of members because the unit of analysis is the household member.

As a final example, a pro-poor program might count as *participants* only those household members who directly participate in the program. For the example here, this means that some—but not all—household members are counted. The person-level rate

[5] Given simple random sampling at the household level, a household's person-level weight is the number of people in that household.

is now the participant-weighted average[6] of the poverty statuses (or estimated poverty likelihoods) of households with participants, that is, $\frac{1 \cdot 1 + 2 \cdot 0}{1 + 2} = \frac{1}{3} = 0.33 = 33$ percent. The first "1" in the "$1 \cdot 1$" in the numerator is the first household's weight because it has one participant, and the second "1" represents its poverty status (poor) or its estimated poverty likelihood. In the "$2 \cdot 0$" term in the numerator, the "2" is the second household's weight because it has two participants, and the zero represents its poverty status (non-poor) or its estimated poverty likelihood. The "$1 + 2$" in the denominator is the sum of the weights of the two households. Each household's weight is its number of participants because the unit of analysis is the participant.[7]

To sum up, estimated poverty rates are weighted averages of households' poverty statuses (or estimated poverty likelihoods), where—assuming simple random sampling at the household level—the weights are the number of relevant units in the household. When reporting, organizations should make explicit the unit of analysis—whether households, household members, or participants—and explain why that unit is relevant.

Table 1 reports poverty lines and poverty rates for households and people in the 2015 ENV for Côte d'Ivoire as a whole and for each its 14 districts by urban/rural/all.

[6] Given simple random sampling at the household level, a household's participant-level weight is the number of participants in that household.
[7] If all households with participants have (or are assumed to have) one participant each, then the participant-level poverty rate is the same as the household-level rate.

Household-level poverty rates are reported because—as shown above—household-level poverty likelihoods can be straightforwardly converted into poverty rates for other units of analysis and because sampling is almost always done at the level of households. This is also why the scorecard is constructed, calibrated, and validated with household weights. Person-level poverty rates are also included in Table 1 because these are the rates reported by the government of Côte d'Ivoire. Furthermore, popular discussions and policy discourse usually proceed in terms of person-level rates, and the goal of pro-poor programs is to help people (not households) to improve their well-being.

2.3 Definition of *poverty*, and poverty lines

A household's *poverty status* as poor or non-poor depends on whether its per-capita consumption is below a given poverty line. Thus, a definition of *poverty* is a poverty line together with a measure of consumption.

INS (2015, p. 49) describes Côte d'Ivoire's measure of *consumption* in broad terms. According to International Monetary Fund (2009) and INS (2015, p. 18), Côte d'Ivoire's national poverty line was first defined as the highest value in the first decile of total consumption for people in the 1985 *Enquête Permanente Auprès des Ménages* (EPAM). For use with the 2015 ENV, the INS adjustes this line for price changes over time (using Côte d'Ivoire's national consumer price index) and also for price differences across urban and rural areas by district, with the base being average prices in Abidjan duing field work for the 2015 ENV. INS (2015) considers this definition of *poverty* to be

the same in both the 2008 and 2015 ENV, as shown by the INS' comparisons between the two surveys' estimated poverty rates.

Because pro-poor programs in Côte d'Ivoire may want to use different or various poverty lines, this paper calibrates scores from its single scorecard to poverty likelihoods for 18 lines:

- 100% of national
- 150% of national
- 200% of national
- $1.25/day 2005 PPP
- $2.00/day 2005 PPP
- $2.50/day 2005 PPP
- $5.00/day 2005 PPP
- $1.90/day 2011 PPP
- $3.20/day 2011 PPP
- $5.50/day 2011 PPP
- $21.70/day 2011 PPP
- Line marking the poorest half of people below 100% of the national line
- First-decile (10^{th}-percentile) line
- First-quintile (20^{th}-percentile) line
- Second-quintile (40^{th}-percentile) line
- Median (50^{th}-percentile) line
- Third-quintile (60^{th}-percentile) line
- Fourth-quintile (80^{th}-percentile) line

2.3.1 National poverty line

As noted above, Côte d'Ivoire's national poverty line (usually called here "100% of the national line") is the first decile (10th percentile) of total daily per-capita household consumption by people in the 1985 EPAM, adjusted for inflation over time and for price differences across urban and rural areas by district. On average for Côte d'Ivoire as a whole in prices in Abidjan during the 2015 ENV field work, this line is XOF656 per person per day, giving a household-level poverty rate of 32.8 percent and a person-level poverty rate of 46.3 percent (Table 1).[8]

150% and 200% of the national line are multiples of 100% of the national line.

2.3.2 2005 and 2011 PPP poverty lines

International 2005 and 2011 PPP lines are derived from:

- PPP exchange rates for Côte d'Ivoire for "individual consumption expenditure by households":
  - 2005:[9] XOF325.81 per $1.00
  - 2011:[10] XOF235.69 per $1.00
- Consumer Price Index (CPI):[11]
  - Calendar-year 2005 average: 90.09
  - Calendar-year 2011 average: 107.28
  - Average Jan. to March 2015 (ENV field work): 113.08
- All-Côte d'Ivoire person-weighted price deflator: 0.8895553
- Price deflators for urban and rural by district (INS, 2015, p. 20)

[8] This person-level rate matches INS (2015, p. 9), suggesting that this paper uses the same data and calculations as the INS.
[9] World Bank, 2008.
[10] iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&CO=CIV_3&PPPO=235.688&PLO=1.90&YO=2015&NumOfCountries=1, retrieved 24 February 2018.
[11] The monthly CPI is from edenpub.bceao.int/rapport.php, retrieved 26 December 2017. It is base = 100 in April 2008.

2.3.2.1 $1.25/day 2005 PPP line

For an urban or rural area in a given district in Côte d'Ivoire, the $1.25/day 2005 PPP line in prices in Abidjan on average during the 2015 ENV field work is

$$\frac{\$1.25 \cdot 2005 \text{ PPP factor} \cdot \left(\frac{\text{CPI}_{\text{ENV15}}}{\text{CPI}_{2005}}\right) \cdot \text{Area - district deflator}}{\text{Average all - Côte d' Ivoire deflator}}.$$

For the example of rural Bas-Sassandra, the area-district deflator is 0.793607, so the $1.25/day 2005 PPP line is

$$\frac{\$1.25 \cdot \left(\frac{\text{XOF325.81}}{\$1}\right) \cdot \left(\frac{113.08}{90.09}\right) \cdot 0.793607}{0.8895553} = \text{XOF456 (Table 1)}.$$

The all-Côte d'Ivoire $1.25/day 2005 PPP line is the person-weighted average of the 27 area-district lines. This is XOF511 per person per day, with a household-level poverty rate of 20.7 percent and a person-level poverty rate of 30.8 percent (Table 1).

The lines for $2.00/day, $2.50/day, and $5.00/day 2005 PPP are multiples of the $1.25/day 2005 PPP line.

The World Bank's PovcalNet does not report poverty lines nor poverty rates for $1.25/day 2005 PPP based on the 2015 ENV.

2.3.2.2 $1.90/day 2011 PPP line

Given the parameters in the previous sub-section, the $1.90/day 2011 PPP line for a given area-district in Côte d'Ivoire is

$$\frac{\$1.90 \cdot 2011 \text{ PPP factor} \cdot \left(\frac{\text{CPI}_{\text{ENV15}}}{\text{CPI}_{2011}}\right) \cdot \text{Area - district deflator}}{\text{Average all - Côte d'Ivoire deflator}}$$

For the example of rural Bas-Sassandra, the $1.90/day 2011 PPP line is

$$\frac{\$1.90 \cdot \left(\frac{\text{XOF}235.69}{\$1}\right) \cdot \left(\frac{113.08}{107.28}\right) \cdot 0.793607}{0.8895553} = \text{XOF}421 \text{ (Table 1)}.$$

The all-Côte d'Ivoire $1.90/day 2011 PPP line is the person-weighted average of the 27 area-district lines. This is XOF472 per person per day, with a household-level poverty rate of 17.5 percent and a person-level poverty rate of 26.6 percent (Table 1).

PovcalNet[12] reports almost the same $1.90/day 2011 PPP line for the 2015 ENV (XOF473 versus 472) but a higher person-level poverty rate (27.9 percent versus 26.6). The reasons for the differences are not known with certainty because PovcalNet does not report:

- The time/place of its price units
- Whether/how it adjusts for price differences across regions
- How it deflates 2011 PPP factors over time
- Whether it uses the same data as INS (2015)

[12] iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=CIV_3&PPP0=235.688&PL0=1.90&Y0=2015&NumOfCountries=1, retrieved 24 February 2018.

For $1.90/day 2011 PPP on average for Côte d'Ivoire as a whole, this paper and PovcalNet report the almost the same poverty line but different poverty rates. This suggests that the lines are derivevd in the same way, except that PovcalNet does not adjust for area-district differences in prices. Of course, such within-country adjustments make sense (when deflators exist, as they do for Côte d'Ivoire). After all, the motivation for PPP lines in the first place is to adjust for differences in purchasing power across countries, and if that makes sense, then it also makes sense to adjust for differences in purchasing power across regions within a country. This paper's figures for $1.90/day 2011 PPP are to be preferred both for this reason and because they are more completely documented (Schreiner, 2014b).

The 2011 PPP poverty lines for $3.20/day, $5.50/day, and $21.70/day are multiples of the $1.90/day line.[13]

[13] Jolliffe and Prydz (2016) discuss the World Bank's choice of the four 2011 PPP lines.

2.3.3 USAID "very poor" line

Microenterprise programs in Côte d'Ivoire that use the scorecard to report the number of their participants who are "very poor" to USAID should use the $1.90/day 2011 PPP line. This is because USAID defines the "very poor" as those people in households whose daily per-capita consumption is below the highest of the following two poverty lines (U.S. Congress, 2004):

- The line that marks the poorest half of people below 100% of the national line (XOF437, with a person-level poverty rate of 23.2 percent, Table 1)
- The $1.90/day 2011 PPP line (XOF472, with a person-level poverty rate of 26.6 percent)

2.3.4 Percentile-based lines

The scorecard for Côte d'Ivoire also supports percentile-based poverty lines.[14] This facilitates a number of types of analyses. For example, the second-quintile (40^{th}-percentile) line might be used to help track Côte d'Ivoire's progress toward the World Bank's (2013) goal of "shared prosperity/inclusive economic growth", defined as income growth among the bottom 40 percent of the world's people.

The four quintile lines, analyzed together, can also be used to look at the relationship of consumption with health outcomes (or anything else related with the distribution of consumption). The scorecard thus offers an alternative for health-equity analyses that typically have used a "wealth index" such as that supplied with the data

[14] Following the DHS wealth index, percentiles are in terms of people (not households) for Côte d'Ivoire as a whole. For example, the all-Côte-d'Ivoire person-level poverty rate for the first-quintile (20^{th}-percentile) poverty line is 20 percent (Table 1). The household-level poverty rate for that same line is not 20 percent but rather 12.8 percent.

from the Demographic and Health Surveys (Rutstein and Johnson, 2004) to compare some estimate of wealth with health outcomes.

Of course, relative-wealth analyses were always possible (and still are possible) with scores from the scorecard. But support for relative consumption lines allows a more straightforward use of a single tool to analyze any or all of:

- Relative wealth (via scores)
- Absolute consumption (via poverty likelihoods and absolute poverty lines)
- Relative consumption (via poverty likelihoods and percentile-based poverty lines)

Unlike the scorecard, wealth indexes serve only to analyze relative wealth. Furthermore, the scorecard—unlike wealth indexes based on Principal Component Analysis or similar approaches—uses a straightforward, well-understood poverty standard whose definition is external to the tool itself (consumption related to a poverty line defined in monetary units).

In contrast, a wealth index opaquely defines *poverty* in terms of its own indicators and points, without reference to an external standard. This means that two wealth indexes with different indicators or different points—even if derived from the same data for a given country—imply two different definitions of *poverty*. In the same set-up, two scorecards would provide comparable estimates under a single definition of *poverty*.

3. Scorecard construction

For Côte d'Ivoire, about 80 candidate indicators are initially prepared in the areas of:

- Household composition (such as the number of household members)
- Education (such as the school attendance of household members ages 7 to 18)
- Housing (such as the main material of the outer walls)
- Ownership of durable assets (such as beds or televisions)
- Employment (such as whether the male head/spouse works)
- Agriculture (such as the whether any household member works as a farmer)

Table 2 lists the candidate indicators, ordered by the entropy-based "uncertainty coefficient" (Goodman and Kruskal, 1979) that measures how well a given indicator predicts poverty status on its own.[15]

One possible application of the scorecard is to estimate the annual change in poverty rates. Thus, when selecting indicators—and holding other considerations constant—preference is given to more sensitive indicators. For example, the possession of a bed is probably more likely to change in response to changes in poverty than is the age of the male head/spouse.

The scorecard itself is built using 100% of the national poverty line and Logit regression on the construction sub-sample. Indicator selection is based on both judgment and statistics. The first step is to use Logit to build one scorecard for each candidate indicator. The power of each one-indicator scorecard to rank households by poverty status is measured as "c" (SAS Institute Inc., 2004).

[15] The uncertainty coefficient is *not* used when selecting scorecard indicators. It is only used as a way to order the candidate indicators listed in Table 2.

One of these one-indicator scorecards is then selected based on several factors (Schreiner *et al.*, 2014; Zeller, 2004). These include improvement in accuracy, likelihood of acceptance by users (determined by simplicity, cost of collection, and "face validity" in terms of experience, theory, and common sense), sensitivity to changes in consumption, variety among types of indicators, applicability across regions, tendency to have a slow-changing relationship with poverty over time, relevance for distinguishing among households at the poorer end of the distribution of consumption, and verifiability.

A series of two-indicator scorecards are then built, each adding a second indicator to the one-indicator scorecard selected from the first round. The best two-indicator scorecard is then selected, again using judgment to balance statistical accuracy with the non-statistical criteria. These steps are repeated until the scorecard has 10 indicators that work well together.

The final step is to transform the Logit coefficients into non-negative integers such that total scores range from 0 (most likely below a poverty line) to 100 (least likely below a poverty line).

This algorithm is similar to common R^2-based stepwise least-squares regression. It differs from naïve stepwise in that the selection of indicators considers both statistical[16] and non-statistical criteria. The use of non-statistical criteria can improve robustness through time and across non-nationally representative groups. It also helps ensure that indicators are straightforward, common-sense, inexpensive-to-collect, and acceptable to users.

The single scorecard here applies to all of Côte d'Ivoire. Segmenting poverty-assessment tools by urban/rural does not improve targeting accuracy much. This is documented for nine countries in Sub-Saharan Africa (Brown, Ravaillon, and van de Walle, 2016)[17], Indonesia (World Bank, 2012), Bangladesh (Sharif, 2009), India and Mexico (Schreiner, 2006 and 2005a), Sri Lanka (Narayan and Yoshida, 2005), and Jamaica (Grosh and Baker, 1995). In general, segmentation may improve the accuracy of estimates of poverty rates (Schreiner, forthcoming; Diamond *et al.*, 2016; Tarozzi and Deaton, 2009), but it may also increase the risk of overfitting (Haslett, 2012).

[16] The statistical criterion for selecting an indicator is not the p values of its coefficients but rather the indicator's contribution to the ranking of households by poverty status.
[17] The nine countries are Burkina Faso, Ethiopia, Ghana, Malawi, Mali, Niger, Nigeria, Tanzania, and Uganda. On average across these countries when targeting people in the lowest quintile or in the lowest two quintiles of scores and when 20 or 40 percent of people are poor, segmenting by urban/rural increases the number of poor people correctly targeted by about one per 200 or one per 400 poor people (Schreiner, 2017d).

4. Practical guidelines for scorecard use

The main challenge of scorecard design is not to maximize statistical accuracy but rather to improve the chances that the scorecard is actually used and used properly (Schreiner, 2005b). When scorecard projects fail, the reason is not usually statistical inaccuracy but rather the failure of an organization to decide to do what is needed to integrate the scorecard in its processes and to train and convince its employees to use the scorecard properly (Schreiner, 2002). After all, most reasonable scorecards have similar targeting accuracy, thanks to the empirical phenomenon known as the "flat maximum" (Caire and Schreiner, 2012; Hand, 2006; Baesens *et al.*, 2003; Lovie and Lovie, 1986; Kolesar and Showers, 1985; Stillwell, Barron, and Edwards, 1983; Dawes, 1979; Wainer, 1976; Myers and Forgy, 1963). The bottleneck is less technical and more human, not statistics but organizational-change management. Accuracy is easier to achieve than adoption.

The scorecard here is designed to encourage understanding and trust so that users will want to adopt it on their own and use it properly. Of course, accuracy matters, but it must be balanced with cost, ease-of-use, and "face validity". Programs are more likely to collect data, compute scores, and pay careful attention to the results if, in their view, the scorecard does not imply a lot of additional work and if the whole process generally seems to them to make sense.

To this end, Côte d'Ivoire's scorecard fits on one page. The construction process, indicators, and points are straightforward and transparent. Additional work is

minimized; non-specialists can compute scores by hand in the field because the scorecard has:

- Only 10 indicators
- Only "multiple-choice" indicators
- Only simple points (non-negative integers, and no arithmetic beyond addition)

The scorecard (and its "Back-page Worksheet") is ready to be photocopied. A field worker using Côte d'Ivoire's scorecard would:

- Record the interview identifier, interview date, country code ("CIV"), scorecard code ("002") and the sampling weight assigned to the household of the participant by the organization's survey design (if known)
- Record the names and identifiers of the participant (who is not necessarily the same as the respondent), of the field agent who is the participant's main point of contact with the organization (who is not necessarily the same as the enumerator), and of the organizational service point that is relevant for the participant (if there is such a service point)
- Complete the "Back-page Worksheet" with each household member's first name (or nickname), age, and school attendance, starting with the head and his/her spouse/conjugal partner (if he/she exists)
- Based on the "Back-page Worksheet", record household size (that is, the number of household members) in the scorecard header next to "Number of household members:"
- Based on the "Back-page Worksheet", mark the response to the first scorecard indicator ("How many household members are there?")
- Based on the "Back-page Worksheet", mark the response to the second scorecard indicator ("Do all household members ages 7 to 18 go to school this school year?")
- Read the rest of the scorecard indicators to the respondent one-by-one. Circle each of the responses and their points, and write each point value in the far right-hand column
- For the fifth question ("What is the main construction material of the outer walls?"), try to determine the response via observation, asking the question of the respondent only if the main material of the walls is not obvious
- Add up the points to get a total score (if desired)
- Implement targeting policy (if any) based on the score
- Deliver the paper scorecard to a central office for data entry and filing

Of course, field workers must be trained. The quality of outputs depends on the quality of inputs. Field worker's training should be based solely on the "Interview Guide" in this document.

If organizations or field workers gather their own data and believe that they have an incentive to exaggerate poverty rates (for example, if managers or funders reward them for higher poverty rates), then it is wise to do on-going quality control via data review and random audits (Matul and Kline, 2003).[18] IRIS Center (2007a) and Toohig (2008) are useful nuts-and-bolts guides for logistics, budgeting, training field workers and supervisors, sampling, interviewing, piloting, recording data, and controlling quality. Schreiner (2014a) explains how to compute estimates and analyze them.

[18] If a program does not want field workers or respondents to know the points associated with responses, then it can give them a version of the scorecard that does not display the points and then apply the points and compute scores later at a central office. Even if points are hidden, however, field workers and respondents can use common sense to guess how response options are linked with poverty. Schreiner (2012b) argues that hiding points in Colombia (Camacho and Conover, 2011) did little to deter cheating and that, in any case, cheating by the user's central office was more damaging than cheating by field workers and respondents.

In particular, while collecting scorecard indicators is relatively easier than alternative ways of assessing poverty, it is still absolutely difficult. Training and explicit definitions of the terms and concepts in the scorecard are essential, and field workers should scrupulously study and follow the "Interview Guide" found after the References in this paper, as this "Interview Guide"—along with the "Back-page Worksheet"—are integral parts of the Scorocs Simple Poverty Scorecard tool.[19]

For the example of Nigeria, one study (Onwujekwe, Hanson, and Fox-Rushby, 2006) found distressingly low inter-rater and test-retest correlations for indicators as seemingly incontrovertible as whether a household owns an automobile. Yet Grosh and Baker (1995) suggest that gross underreporting of assets does not affect targeting. For the first stage of targeting in a conditional cash-transfer program in Mexico, Martinelli and Parker (2007, pp. 24–25) find that "under-reporting [of asset ownership] is widespread but not overwhelming, except for a few goods . . . [and] over-reporting is common for a few goods". Still, as is done in Mexico in the second stage of its targeting process, most false self-reports can be corrected (or avoided in the first place) by field workers who make a home visit. This is the recommended procedure for organizations that use the scorecard for targeting in Côte d'Ivoire.

[19] The guidelines here are the only ones that organizations should give to field workers. All other issues of interpretation should be left to the judgment of field workers and respondents, as this seems to be what Côte d'Ivoire's INS did in the 2015 ENV.

In terms of implementation and sampling design, an organization must make choices about:

- Who will do the interviews
- Where interviews will be done
- How responses and scores will be recorded
- Which households of participants will be interviewed
- How many households of participants will be interviewed
- How frequently households of participants will be interviewed
- Whether the scorecard will be applied at more than one point in time
- Whether the same households of participants will be scored at more than one point in time

In general, the sampling design should follow from the organization's goals for the exercise, the questions to be answered, and the budget. The main goals should be to make sure that the sample is representative of a well-defined population and that the use of the scorecard will inform issues that matter to the organization.

The non-specialists who apply the scorecard in the field with the households of an organization's participants can be:

- Employees of the organization
- Third parties

There is only one correct, on-label way to do interviews: in-person, at the sampled household's residence, with an enumerator trained to follow the "Interview Guide". This is how Côte d'Ivoire's INS did interviews in the 2015 ENV, and this provides the most-accurate and most-consistent data (and thus the best poverty-rate estimates).

Of course, it is possible to do interviews in other ways such as:

- Without an enumerator (for example, respondents fill out paper or web forms on their own or answer questions sent via e-mail, text messaging, or automated voice-response systems)
- Away from the residence (for example, at an organizational service point or at a group-meeting place)
- Not in-person (for example, an enumerator interviewing by phone)

While such off-label methods may reduce costs, they also affect responses (Schreiner, 2015a) and thus reduce the accuracy of scorecard estimates. This is why interviewing by a trained enumerator at the residence is recommended and why off-label methods are not recommended.

In some contexts—such as when an organization's field agents do not already visit participants periodically at home anyway—the organization might judge that the lower costs an off-label approach are enough to compensate for less-accurate estimates. The business wisdom of off-label methods depends on context-specific factors that an organization must judge for itself. To judge carefully, an organization that is considering an off-label method should do a test to check how responses differ with the off-label method versus with a trained enumerator at the residence.

Responses, scores, and poverty likelihoods can be recorded by enumerators on:

- Paper in the field, and then filed at a central office
- Paper in the field, and then keyed into a database or spreadsheet at a central office
- Portable electronic devices in the field, and then uploaded to a database[20]

[20] The author of this paper can support organizations that want to set up a system to collect data with portable electronic devices in the field or to capture data in a database at the office once paper forms come in from the field. Support is also available for automating the calculation of estimates as well as for reporting and analysis.

Given a population of participants relevant for a particular business question, the participants whose households will be interviewed can be:

- All relevant participants (a census)
- A representative sample of relevant participants
- All relevant participants in a representative sample of relevant field offices and/or in a representative sample of relevant field agents
- A representative sample of relevant participants in a representative sample of relevant field offices and/or in a representative sample of relevant field agents

If not determined by other factors, the number of participants whose households are to be interviewed can be derived from sample-size formulas (presented later) to achieve a desired confidence level and a desired confidence interval. To have the best chance to meaningfully inform questions that matter to the organization, however, the focus should be less on having a sample size large enough to achieve some arbitrary level of statistical significance and more on having a representative sample from a well-defined population that is relevant for issues that matter to the organization. In practice, errors due to implementation issues and due to interviewing a non-representative sample will usually swamp errors due to not having a larger sample size.

The frequency of application can be:

- As a once-off project (precluding estimating change)
- Every three years (or at any other fixed or variable time interval, allowing estimating change)
- Each time a field worker visits a participant at home (allowing estimating change)

If a scorecard is applied more than once in order to estimate annual changes in poverty rates, then it can be applied:

- With a different set of participants from the same population
- With the same set of participants

An example set of choices is illustrated by BRAC and ASA, two microfinance organizations in Bangladesh who each have about 7 million participants and who declared their intention to apply the Scorocs Simple Poverty Scorecard tool for Bangladesh (Schreiner, 2013b) with a sample of about 25,000 participants. Their design is that all loan officers in a random sample of branches score all participants each time loan officers visit a homestead (about once a year) as part of their standard due diligence prior to loan disbursement. The loan officers record responses on paper in the field before sending the forms to a central office to be entered into a database and converted to poverty likelihoods.

5. Estimates of a household's poverty likelihood

The sum of scorecard points for a household is called the *score*. For Côte d'Ivoire, scores range from 0 (most likely below a poverty line) to 100 (least likely below a poverty line). While higher scores indicate less likelihood of being poor, the scores themselves have only relative units. For example, doubling the score decreases the likelihood of being below a given poverty line, but it does not cut it in half.

To get absolute units, scores are converted to *poverty likelihoods*, that is, probabilities of being below a poverty line. This is done via easy-to-use look-up tables. For the example of 100% of the national line, scores of 36–38 have a poverty likelihood of 53.5 percent, and scores of 39–41 have a poverty likelihood of 45.1 percent (Table 3).

The poverty likelihood associated with a score varies by poverty line. For example, scores of 36–38 are associated with a poverty likelihood of 53.5 percent for 100% of the national line but of 25.2 percent for the $1.90/day 2011 PPP line.[21]

[21] From Table 3 on, many tables have 18 versions, one for each of the 18 supported poverty lines. To keep them straight, they are grouped by line. Single tables pertaining to all lines appear with the first group of tables for 100% of the national line.

5.1 Calibrating scores with poverty likelihoods

A given score is associated ("calibrated") with a *poverty likelihood* that is defined as the share of households in the calibration sub-sample who have the score and who have per-capita consumption below a given poverty line.

For the example of 100% of the national line (Table 4), there are 8,285 (normalized) households in the calibration sub-sample with a score of 36–38. Of these, 4,434 (normalized) are below the poverty line. The estimated poverty likelihood associated with a score of 36–38 is then 53.5 percent, because 4,434 ÷ 8,285 = 53.5 percent.

To illustrate with 100% of the national line and a score of 39–41, there are 7,419 (normalized) households in the calibration sub-sample, of whom 3,342 (normalized) are below the line (Table 4). The poverty likelihood for this score range is then 3,342 ÷ 7,419 = 45.1 percent.

The same method is used to calibrate scores with estimated poverty likelihoods for all 18 poverty lines.[22]

[22] To ensure that poverty likelihoods never increase as scores increase, likelihoods across pairs of adjacent scores may be iteratively averaged before grouping scores into ranges. This preserves unbiasedness while keeping users from balking when sampling variation in score ranges with few households would otherwise lead to higher scores being linked with higher poverty likelihoods.

Even though the scorecard is constructed partly based on judgment related to non-statistical criteria, the calibration process produces poverty likelihoods that are objective, that is, derived from monetary poverty lines and from survey data on consumption. The calibrated poverty likelihoods would be objective even if the process of selecting indicators and points did not use any data at all. In fact, objective scorecards of proven accuracy are often constructed using only expert judgment to select indicators and points (Fuller, 2006; Caire, 2004; Schreiner *et al.*, 2014). Of course, the scorecard here is constructed with both data and judgment. The fact that this paper acknowledges that some choices in scorecard construction—as in any statistical analysis—are informed by judgment in no way impugns the objectivity of the poverty likelihoods, as their objectivity depends on using data in score calibration, not on using data (and nothing else) in scorecard construction.

Although the points in the Côte d'Ivoire scorecard are transformed coefficients from a Logit regression, (untransformed) scores are not converted to poverty likelihoods via the Logit formula of $2.718281828^{\text{score}} \text{ x } (1 + 2.718281828^{\text{score}})^{-1}$. This is because the Logit formula is esoteric and difficult to compute by hand. It is more intuitive to define the poverty likelihood as the share of households with a given score in the calibration sample who are below a poverty line. Going from scores to poverty likelihoods in this way requires no arithmetic at all, just a look-up table. This approach to calibration can also improve accuracy, especially with large samples.

5.2 Accuracy of estimates of households' poverty likelihoods

As long as the relationships between indicators and poverty do not change over time, and as long as the scorecard is applied to samples of households who are representative of the same population as that from which the scorecard was originally constructed, then this calibration process produces unbiased estimates of poverty likelihoods. *Unbiased* means that in repeated samples from the same population, the average estimate matches the population's true value. Given the assumptions above, the scorecard also produces unbiased estimates of poverty rates at a point in time and unbiased estimates of the annual change in poverty rates between two points in time.[23]

Of course, the relationships between indicators and poverty do change to some unknown extent over time, and they also vary across sub-national groups in Côte d'Ivoire's population. Thus, scorecard estimates will generally have errors when applied after March 2015 (the last month of field work for the 2015 ENV) or when applied with sub-groups that are not nationally representative.

[23] This is because these estimates of populations' poverty rates are linear functions of the unbiased estimates of households' poverty likelihoods.

How accurate are estimates of households' poverty likelihoods, given the assumption of unchanging relationships between indicators and poverty over time and the assumption of a sample that is representative of Côte d'Ivoire as a whole? To find out, the scorecard is applied to 1,000 bootstrap samples of size $n = 16{,}384$ from the validation sample. This means to:

- Score each household in the validation sample
- Draw a bootstrap sample *with replacement* from the validation sample and accounting for household-level sampling weights
- For each score range, compute the observed poverty likelihood in the bootstrap sample, that is, the share of households with the score and with consumption below a poverty line
- For each score range, record the difference between the estimated poverty likelihood (Table 3) and the observed poverty likelihood in the bootstrap sample
- Repeat the previous three steps 1,000 times
- For each score range, report the average difference between estimated and observed poverty likelihoods across the 1,000 bootstrap samples
- For each score range, report the intervals containing the central 900, 950, and 990 differences between estimated and observed poverty likelihoods

For each score range and for $n = 16{,}384$, Table 5 shows the errors in the estimates of poverty likelihoods, that is, the average of differences between the estimates and observed values. It also shows confidence intervals for the errors.

For 100% of the national line and on average across bootstrap samples from the validation sample, the estimated poverty likelihood for scores of 36–38 (53.5 percent, Table 3) is too high by 0.2 percentage points. For scores of 39–41, the estimate is too high by 0.8 percentage points.[24]

[24] These differences are not zero, in spite of the estimator's unbiasedness, because the scorecard comes from a single sample. The average difference by score would be zero if

The 90-percent confidence interval for the differences for scores of 36–38 is ±3.0 percentage points (Table 5). This means that in 900 of 1,000 bootstraps, the average difference between the estimate and the observed value for households in this score range is between –2.8 and +3.2 percentage points (because +0.2 – 3.0 = –2.8, and +0.2 + 3.0 = +3.2). In 950 of 1,000 bootstraps (95 percent), the difference is +0.2 ± 3.7 percentage points, and in 990 of 1,000 bootstraps (99 percent), the difference is +0.2 ± 4.7 percentage points.

Some of the absolute errors between estimated and observed poverty likelihoods in Table 5 for 100% of the national line are large. The differences are at least partly due to the fact that the validation sample is a single sample that—thanks to sampling variation—differs in distribution from the construction/calibration sub-sample and from the population of Côte d'Ivoire. For targeting, however, what matters is less the difference in all score ranges and more the differences in the score ranges just above and just below the targeting cut-off. This mitigates the effects of error and sampling variation on targeting (Friedman, 1997). Section 8 below looks at targeting accuracy in detail.

---

samples were repeatedly drawn from the population and split into sub-samples before repeating the entire process of scorecard construction/calibration and validation.

In addition, if estimates of populations' poverty rates are to be usefully accurate, then errors for individual households' poverty likelihoods must largely balance out. As discussed in the next section, this is generally the case for nationally representative samples in 2015 in Côte d'Ivoire, although it will hold less well for samples from sub-national populations and in other time periods.

Another possible source of errors between estimates and observed values is overfitting. The scorecard here is unbiased, but it may still be *overfit* when applied after the end of the ENV field work in March 2015. That is, the scorecard may fit the construction/calibration data from 2015 so closely that it captures not only some real patterns that exist in the population of Côte d'Ivoire but also some random patterns that, due to sampling variation, show up only in the 2015 ENV construction/calibration data. Or the scorecard may be overfit in the sense that it is not robust when relationships between indicators and poverty change over time or when the scorecard is applied to samples that are not nationally representative.

Overfitting can be mitigated by simplifying the scorecard and by not relying only on data but rather also considering theory, experience, and judgment. Of course, the scorecard here does this. Combining scorecards can also reduce overfitting, at the cost of greater complexity.

Most errors in individual households' likelihoods do balance out in the estimates of poverty rates for nationally representative samples (see the next two sections). Furthermore, at least some of the differences in change-over-time estimates come from non-scorecard sources such as changes in the relationships between indicators and poverty, sampling variation, changes in poverty lines, inconsistencies in data quality across time, and imperfections in price adjustments across time and across geographic areas. These factors can be addressed only by improving the availability, frequency, quantity, and quality of data from national consumption surveys (which is beyond the scope of the scorecard) or by reducing overfitting (which likely has limited returns, given the scorecard's parsimony).

6. Estimates of a poverty rate at a point in time

A population's estimated poverty rate at a point in time is the average of the estimated poverty likelihoods of the sampled households.

To illustrate, suppose a program samples three households on 1 January 2019 and that they have scores of 20, 30, and 40, corresponding to estimated poverty likelihoods of 78.4, 65.9, and 45.1 percent (100% of the national line, Table 3). The population's estimated poverty rate is the households' average poverty likelihood of $(78.4 + 65.9 + 45.1) \div 3 = 63.1$ percent.[25]

Be careful; the population's estimated poverty rate is *not* the poverty likelihood associated with the average score. Here, the average score is 30, which corresponds to an estimated poverty likelihood of 65.9 percent. This differs from the 63.1 percent found as the average of the three individual poverty likelihoods associated with each of the three scores. Unlike poverty likelihoods, scores are ordinal symbols, like letters in the alphabet or colors in the spectrum. Because scores are not cardinal numbers, they cannot meaningfully be added up or averaged across households. Only three operations are valid for scores: conversion to poverty likelihoods, analysis of distributions (Schreiner, 2012a), or comparison—if desired—with a cut-off for segmentation. There are a few contexts in which the analysis of scores is appropriate, but, in general, the

[25] This example assumes simple random sampling (or a census) and analysis at the level of households so that each household's household-level weight is one (1). The weights would differ by household if there were stratified sampling or—as discussed in Section 2—if the analysis were at the level of the person or at the level of the participant.

safest rule to follow is: If you are not completely sure what to do, then use poverty likelihoods, not scores.

Scores from the scorecard are calibrated with data from the 2015 ENV for all 18 poverty lines. The process of calibrating scores to poverty likelihoods and the approach to estimating poverty rates is exactly the same for all poverty lines. For users, the only difference in terms of what they do with one poverty line versus with another has to do with the specific look-up table used to convert scores to poverty likelihoods.

6.1 Accuracy of estimated poverty rates at a point in time

For the scorecard applied to 1,000 bootstraps of $n = 16{,}384$ from the validation sample and 100% of the national line, the error (average difference between the estimate and observed value in the 2015 ENV) for a poverty rate at a point in time is +0.5 percentage points (Table 7, summarizing Table 6 for all poverty lines). Across the 18 poverty lines in the validation sample, the maximum of the absolute values of the error is 1.6 percentage points, and the average of the absolute values of the average error is about 0.8 percentage points. At least part of these differences is due to sampling variation in the division of the 2015 ENV into sub-samples.

When estimating poverty rates at a point in time for a given poverty line, the error reported in Table 7 should be subtracted from the average poverty likelihood to give a corrected estimate. For the example of the scorecard and 100% of the national line in the validation sample, the error is +0.5 percentage points, so the corrected estimate in the three-household example above is 63.1 – (+0.5) = 62.6 percent.

In terms of precision, the 90-percent confidence interval for a population's estimated poverty rate at a point in time with n = 16,384 is ±0.6 percentage points or smaller for all poverty lines (Table 7). This means that in 900 of 1,000 bootstraps of this size, the estimate (after correcting for the known average error) is within 0.6 percentage points of the observed value.

For example, suppose that the (uncorrected) average poverty likelihood in a sample of n = 16,384 with the scorecard and 100% of the national line is 63.1 percent. Then estimates in 90 percent of such samples would be expected to fall in the range of 63.1 – (+0.5) – 0.6 = 62.0 percent to 63.1 – (+0.5) + 0.6 = 63.2 percent, with the most likely observed value being the corrected estimate in the middle of this range, that is, 63.1 – (+0.5) = 62.6 percent. This is because the original (uncorrected) estimate is 63.1 percent, the average error is +0.5 percentage points, and the 90-percent confidence interval for 100% of the national line in the validation sample with this sample size is ±0.6 percentage points (Table 7).

6.2 Formula for standard errors for estimates of poverty rates

How precise are the point-in-time estimates? Because these estimates are averages, they have (in "large" samples) a Normal distribution and can be characterized by their error (average difference vis-à-vis observed values), together with their standard error (precision).

Schreiner (2008) proposes an approach to deriving a formula for the standard errors of estimated poverty rates at a point in time from indirect estimation via a poverty-assessment tool. It starts with Cochran's (1977) textbook formula of $\pm c = \pm z \cdot \sigma$ that relates confidence intervals with standard errors in the case of the direct measurement of ratios, where:

$\pm c$ is a confidence interval as a proportion (*e.g.*, ± 0.02 for ± 2 percentage points),

z is from the Normal distribution and is $\begin{cases} 1.04 \text{ for confidence levels of 70 percent} \\ 1.28 \text{ for confidence levels of 80 percent} \\ 1.64 \text{ for confidence levels of 90 percent} \end{cases}$,

σ is the standard error of the estimated poverty rate, that is, $\sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \phi$,

$\hat{p}$ is the estimated proportion of households below the poverty line in the sample,

ϕ is the finite population correction factor $\sqrt{\frac{N - n}{N - 1}}$,

N is the population size, and

n is the sample size.

For example, Côte d'Ivoire's 2015 ENV gives a direct-measure household-level poverty rate for 100% of the national line of $\hat{p} = 32.8$ percent (Table 1).[26] If this measure came from a sample of $n = 16{,}384$ households from a population N of 6,509,574 (the number of households in Côte d'Ivoire in 2015 according to the ENV sampling weights), then the finite population correction ϕ is $\sqrt{\frac{6{,}509{,}574 - 16{,}384}{6{,}509{,}574 - 1}} = 0.9987$, which is very close to $\phi = 1$. If the desired confidence level is 90-percent ($z = 1.64$), then the confidence interval $\pm c$ is

$$\pm z \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}} = \pm 1.64 \cdot \sqrt{\frac{0.328 \cdot (1 - 0.328)}{16{,}384}} \cdot \sqrt{\frac{6{,}509{,}574 - 16{,}384}{6{,}509{,}574 - 1}} = \pm 0.601$$

percentage points. If ϕ were taken as 1, then the interval is ± 0.602 percentage points.

Unlike the 2015 ENV, however, the scorecard does not measure poverty directly, so this formula is not applicable. To derive a formula for the scorecard, consider Table 6, which reports empirical confidence intervals $\pm c$ for the errors for the scorecard applied to 1,000 bootstrap samples of various sizes from the validation sample. For example, with $n = 16{,}384$ and 100% of the national line in the validation sample, the 90-percent confidence interval is ± 0.569 percentage points.[27]

[26] The analysis here ignores that poverty-rate estimates from the ENV are themselves based on a sample and so have their own sampling distribution.
[27] Due to rounding, Table 6 displays 0.6, not 0.569.

Thus, the 90-percent confidence interval with $n = 16{,}384$ is ± 0.569 percentage points for the scorecard and ± 0.601 percentage points for direct measurement. The ratio of the two intervals is $0.569 \div 0.601 = 0.95$.

Now consider the same exercise, but with $n = 8{,}192$. The confidence interval under direct measurement and 100% of the national line in the validation sample is $\pm 1.64 \cdot \sqrt{\frac{0.328 \cdot (1 - 0.328)}{8{,}192}} \cdot \sqrt{\frac{6{,}509{,}865 - 8{,}192}{6{,}509{,}865 - 1}} = \pm 0.850$ percentage points. The empirical confidence interval with the scorecard (Table 6) is ± 0.818 percentage points. Thus for $n = 8{,}192$, the ratio of the two intervals is $0.818 \div 0.850 = 0.96$.

This ratio of 0.96 for $n = 8{,}192$ is close to the ratio of 0.95 for $n = 16{,}384$. Across all sample sizes of 256 or more in Table 6, these ratios are generally close to each other, and the average of these ratios in the validation sample turns out to be 0.98. This implies that confidence intervals for indirect estimates of poverty rates via Côte d'Ivoire's scorecard and 100% of the national line are—for a given sample size—about the same as the confidence intervals for direct estimates via the 2015 ENV. This 0.98 appears in Table 7 as the "α factor for precision" because if $\alpha = 0.98$, then the formula for approximate confidence intervals c for the scorecard is $\pm c = \pm z \cdot \alpha \cdot \sigma$. That is, the formula for the approximate standard error σ for point-in-time estimates of poverty rates via the scorecard is $\alpha \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}}$.

In general, α can be greater than or less than 1.00. When α is less than 1.00, it means that the scorecard is more precise than direct measurement. It turns out that α is less than 1.00 for 15 of the 18 poverty lines in Table 7, and its highest value is 1.28.

The formula relating confidence intervals with standard errors for the scorecard can be rearranged to give a formula for determining sample size before estimation. If $\widetilde{p}$ is the expected poverty rate before estimation, then the formula for sample size n from a population of size N that is based on the desired confidence level that corresponds to z and the desired confidence interval $\pm c$ is $n = N \cdot \left(\frac{z^2 \cdot \alpha^2 \cdot \widetilde{p} \cdot (1 - \widetilde{p})}{z^2 \cdot \alpha^2 \cdot \widetilde{p} \cdot (1 - \widetilde{p}) + c^2 \cdot (N - 1)} \right)$. If the population N is "large" relative to the sample size n, then the finite-population correction factor ϕ can be taken as one (1), and the formula becomes

$$n = \left(\frac{\alpha \cdot z}{c} \right)^2 \cdot \widetilde{p} \cdot (1 - \widetilde{p}).$$

To illustrate how to use this, suppose the population N is 6,509,574 (the number of households in Côte d'Ivoire in 2015), suppose $c = 0.04792$, $z = 1.64$ (90-percent confidence), and the relevant poverty line is 100% of the national line so that the most sensible expected poverty rate $\widetilde{p}$ is Côte d'Ivoire's overall poverty rate for that line in 2015 (32.8 percent at the household level, Table 1). The α factor is 0.98 (Table 7). Then the sample-size formula gives

$$n = 6{,}509{,}574 \cdot \left(\frac{1.64^2 \cdot 0.98^2 \cdot 0.328 \cdot (1 - 0.328)}{1.64^2 \cdot 0.98^2 \cdot 0.328 \cdot (1 - 0.328) + 0.04792^2 \cdot (6{,}509{,}574 - 1)} \right) = 248,$$ which is close to the sample size of 256 observed for these parameters in Table 6 for 100% of

the national line. Taking the finite population correction factor ϕ as one (1) gives the same result, as $n = \left(\frac{0.98 \cdot 1.64}{0.04792}\right)^2 \cdot 0.328 \cdot (1 - 0.328) = 248$.[28]

Of course, the α factors in Table 7 are specific to Côte d'Ivoire, its poverty lines, its poverty rates, and this scorecard. The derivation of the formulas for standard errors using the α factors, however, is valid for any poverty-assessment tool following the approach in this paper.

[28] Although USAID has not specified confidence levels nor intervals, IRIS Center (2007a and 2007b) says that a sample size of $n = 300$ is sufficient for USAID reporting. USAID's microenterprise partners in Côte d'Ivoire should report using the $1.90/day 2011 PPP line. Given the α factor of 0.92 for this line (Table 7), an expected before-measurement household-level poverty rate of 17.5 percent (the all-Côte-d'Ivoire rate for this line in 2015, Table 1), and a confidence level of 90 percent ($z = 1.64$), then $n = 300$ implies a confidence interval of $\pm 1.64 \cdot 0.92 \cdot \sqrt{\frac{0.175 \cdot (1 - 0.175)}{300}} = \pm 3.3$ percentage points.

In practice after the end of field work for the ENV in March 2015, a program would select a poverty line (say, 100% of the national line), note its participants' population size (for example, $N = 10{,}000$ participants), select a desired confidence level (say, 90 percent, or $z = 1.64$), select a desired confidence interval (say, ±2.0 percentage points, or $c = \pm 0.02$), make an assumption about $\widetilde{p}$ (perhaps based on a previous estimate such as the household-level poverty rate for 100% of the national line for Côte d'Ivoire of 32.8 percent in the 2015 ENV in Table 1), look up α (here, 0.98 in Table 7), assume that the scorecard will still work in the future and for sub-groups that are not nationally representative,[29] and then compute the required sample size. In this illustration, $n = 10{,}000 \cdot \left(\frac{1.64^2 \cdot 0.98^2 \cdot 0.328 \cdot (1 - 0.328)}{1.64^2 \cdot 0.98^2 \cdot 0.328 \cdot (1 - 0.328) + 0.02^2 \cdot (10{,}000 - 1)} \right) = 1{,}247.$

[29] This paper reports accuracy for the scorecard applied to its validation sample, but it does not test accuracy for later years nor for sub-populations that are not nationally representative. Performance after March 2015 will resemble that in the 2015 ENV with deterioration over time and across non-nationally representative sub-groups to the extent that the relationships between indicators and poverty status change.

7. Estimates of changes in poverty rates over time

The change in a population's poverty rate between two points in time is estimated as the change in the average poverty likelihood of a sample of households from the population.

This paper cannot test the accuracy of scorecard estimates of the annual change in poverty rates in Côte d'Ivoire because some indicators in the new scorecard here (based on the 2015 ENV) are not the same—or are not asked—in the 2008 ENV (and vice versa).[30] Likewise, this paper can only suggest approximate formulas for standard errors. Nonetheless, the relevant concepts are presented here because, in practice, pro-poor programs in Côte d'Ivoire can apply the scorecard to collect their own data and estimate annual changes (given the standard assumptions of the scorecard).

7.1 Warning: *Change* is not necessarily *impact*

The scorecard can estimate change. Of course, poverty could get better or worse, and the scorecard does not indicate what caused change. This point is often forgotten or confused, so it bears repeating: the scorecard merely estimates change, and it does not, in and of itself, indicate the causes of change. In particular, estimating the impact of participation requires knowledge or assumptions about what would have happened to participants if they had not been participants. Making judgments or drawing

[30] The two surveys have different reponse options for the type of floor, source of water, and toilet arrangement, and the 2008 ENV does not ask about tables or beds.

conclusions about causality requires either strong assumptions or a control group that resembles participants in all ways except participation. To belabor the point, the scorecard can help estimate the impact of participation only if there is some way to know—or explicit assumptions about—what would have happened in the absence of participation. And that must come from beyond the scorecard.

7.2 Estimating annual changes in poverty rates

Consider the illustration begun in the previous section. On 1 January 2019, an organization samples three households who score 20, 30, and 40 and so have poverty likelihoods of 78.4, 65.9, and 45.1 percent (100% of the national line, Table 3). Given the known average error for this line in the validation sample of +0.5 percentage points (Table 7), the corrected baseline estimated poverty rate is the households' average poverty likelihood of [(78.4 + 65.9 + 45.1) ÷ 3] – (+0.5) = 62.6 percent.

After baseline, two sampling approaches are possible for the follow-up round:

- Score a new, independent sample from the same population
- Score the same sample that was scored at baseline

By way of illustration, suppose that three years later on 1 January 2022, the organization samples three additional households who are in the same population as the three original households and finds that their scores are 25, 35, and 45 (poverty likelihoods of 78.4, 56.3, and 40.3 percent, 100% of the national line, Table 3). Adjusting for the known average error, the average poverty likelihood at follow-up is [(78.4 + 56.3 + 40.3) ÷ 3] – (+0.5) = 57.8 percent. The reduction in the poverty rate is

then 62.6 – 57.8 = 4.8 percentage points.[31] Supposing that exactly three years passed between the average baseline interview and the average follow-up interview, the estimated annual decrease in the poverty rate is 4.8 ÷ 3 = 1.6 percentage points per year. That is, about one in 63 participants in this hypothetical example cross the poverty line each year.[32] Among those who start below the line, about one in 40 (1.6 ÷ 62.6 = 2.6 percent) on net end up above the line each year.[33]

Alternatively, suppose that the same three original households who were scored at baseline are scored again on 1 January 2022. Given scores of 25, 35, and 45, their follow-up poverty likelihoods are 78.4, 56.3, and 40.3 percent. The average across households of the difference in each given household's baseline poverty likelihood and its follow-up poverty likelihood is [(78.4 – 78.4) + (65.9 – 56.3) + (45.1 – 40.2)] ÷ 3 = 4.8 percentage points.[34] Assuming in this example that there are exactly three years between each household's interviews, the estimated annual decrease in the poverty rate is (again) 4.8 ÷ 3 = 1.6 percentage points per year.

[31] Of course, such a large reduction in poverty in three years is unlikely, but this is just an example to show how the scorecard can be used to estimate change.
[32] This is a net figure; some start above the line and end below it, and vice versa.
[33] The scorecard does not reveal the reasons for this change.
[34] In this approach, the error for this line in Table 7 should *not* be subtracted off.

Given the assumptions of the scorecard, both approaches give unbiased estimates of the annual change in poverty rates. In general and in practice, however, they will give different estimates due to differences in the timing of interviews, in the composition of the samples, and in the nature of two samples being scored once versus one sample being scored twice (Schreiner, 2014a).

7.3 Precision for estimated change in two independent samples

For two equal-sized independent samples, the same logic as in the previous section can be used to derive a formula relating the confidence interval $\pm c$ with the standard error σ of a poverty-assessment tool's estimate of the change in poverty rates over time:

$$\pm\, c = \pm z \cdot \sigma = \pm z \cdot \alpha \cdot \sqrt{\frac{2 \cdot \hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}}\,.$$

Here, z, c, $\hat{p}$ and N are defined as above, n is the sample size at both baseline and follow-up,[35] and α is the average (across a range of bootstrapped sample sizes) of the ratio of the observed confidence interval from a scorecard divided by the theoretical confidence interval under direct measurement.

[35] This means that—for a given level of precision—estimating the change in a poverty rate between two points in time requires four times as many interviews (not twice as many) as does estimating a poverty rate at a point in time.

As before, the formula for standard errors can be rearranged to give a formula for sample sizes before indirect estimation via a poverty-assessment tool, where $\widetilde{p}$ is based on previous estimates and is assumed equal at both baseline and follow-up: $n = 2 \cdot N \cdot \left(\frac{z^2 \cdot \alpha^2 \cdot \widetilde{p} \cdot (1 - \widetilde{p})}{z^2 \cdot \alpha^2 \cdot \widetilde{p} \cdot (1 - \widetilde{p}) + c^2 \cdot (N - 1)} \right)$. If ϕ can be taken as one (1), then the formula becomes $n = 2 \cdot \left(\frac{\alpha \cdot z}{c} \right)^2 \cdot \widetilde{p} \cdot (1 - \widetilde{p})$.

With the available data for Côte d'Ivoire, it is not possible to estimate values of α here. Nevertheless, this α has been estimated for 18 countries (Schreiner 2017a, 2017b, 2017c, 2016a, 2016b, 2016c, 2016d, 2015b, 2015c, 2015d, 2015e, 2013b, 2013c, 2012c, 2010, 2009a, 2009b, and Chen and Schreiner, 2009). The unweighted average of α across countries—after averaging α across poverty lines and pairs of survey rounds within each country—is 1.08. This rough figure is as reasonable as any to use for Côte d'Ivoire.

To illustrate the use of this formula to determine sample size for estimating changes in poverty rates across two independent samples, suppose the desired confidence level is 90 percent ($z = 1.64$), the desired confidence interval is ± 2 percentage points ($\pm c = \pm 0.02$), the poverty line is 100% of the national line, $\alpha = 1.08$, $\widetilde{p} = 0.328$ (the household-level poverty rate in 2015 for 100% of the national line in Table 1), and the population N is large enough relative to the expected sample size n that the finite population correction ϕ can be taken as one (1). Then the baseline

sample size is $n = 2 \cdot \left(\frac{1.08 \cdot 1.64}{0.02}\right)^2 \cdot 0.328 \cdot (1 - 0.328) \cdot 1 = 3{,}458$, and the follow-up sample size is also 3,458.

7.4 Precision of estimates of change for one sample, scored twice

Analogous to previous derivations, the general formula relating the confidence interval $\pm c$ to the standard error σ when using a scorecard to estimate change for a single sample of households, all of whom are scored at two points in time, is:[36]

$$\pm c = \pm z \cdot \sigma = \pm z \cdot \alpha \cdot \sqrt{\frac{\hat{p}_{12} \cdot (1 - \hat{p}_{12}) + \hat{p}_{21} \cdot (1 - \hat{p}_{21}) + 2 \cdot \hat{p}_{12} \cdot \hat{p}_{21}}{n}} \cdot \sqrt{\frac{N - n}{n - 1}},$$

where z, c, α, N, and n are defined as usual, $\hat{p}_{12}$ is the share of all sampled households that move from below the poverty line to above it, and $\hat{p}_{21}$ is the share of all sampled households that move from above the line to below it. With the available data for Côte d'Ivoire, it is not possible to estimate values of α here.

The formula for confidence intervals can be re-arranged to give a formula for sample size before estimation. This requires an estimate (based on information available before estimation) of the expected shares of all households who cross the poverty line $\tilde{p}_{12}$ and $\tilde{p}_{21}$. Before estimation, an agnostic assumption is that the change in the poverty rate will be zero, which implies $\tilde{p}_{12} = \tilde{p}_{21} = \tilde{p}_*$, giving:

$$n = 2 \cdot \left(\frac{\alpha \cdot z}{c}\right)^2 \cdot \tilde{p}_* \cdot \sqrt{\frac{N - n}{n - 1}}.$$

[36] See McNemar (1947) and Johnson (2007). John Pezzullo helped find this formula.

Because $\widetilde{p}_*$ could be anything between 0 and 0.5, more information is needed to apply this formula. Suppose that the observed relationship between $\widetilde{p}_*$, the number of years y between baseline and follow-up, and $p_{\text{pre-baseline}} \cdot \left(1 - p_{\text{pre-baseline}}\right)$ is—as in Peru (Schreiner, 2009c)—close to:

$$\widetilde{p}_* = -0.02 + 0.016 \cdot y + 0.47 \cdot \left[p_{\text{pre-baseline}} \cdot \left(1 - p_{\text{pre-baseline}}\right)\right].$$

Given this, a sample-size formula for a sample of households to whom the scorecard is applied twice (once after March 2015 and then again later) is

$$n = 2 \cdot \left(\frac{\alpha \cdot z}{c}\right)^2 \cdot \left[-0.02 + 0.016 \cdot y + 0.47 \cdot p_{\text{pre-baseline}} \cdot \left(1 - p_{\text{pre-baseline}}\right)\right] \cdot \sqrt{\frac{N - n}{n - 1}}.$$

In Peru (the only source of a data-based estimate, Schreiner, 2009c), the average α across years and poverty lines is about 1.30.

To illustrate the use of this formula, suppose the desired confidence level is 90 percent ($z = 1.64$), the desired confidence interval is ±2.0 percentage points ($\pm c = \pm 0.02$), the poverty line is 100% of the national line, the sample will first be scored in 2019 and then again in 2022 ($y = 3$), and the population N is so large relative to the expected sample size n that the finite population correction ϕ can be taken as one (1). The pre-baseline household-level poverty rate p_{2019} is taken as 32.8 percent (Table 1), and α is assumed to be 1.30. Then the baseline sample size is

$n = 2 \cdot \left(\frac{1.30 \cdot 1.64}{0.02}\right)^2 \cdot \left[-0.02 + 0.016 \cdot 3 + 0.47 \cdot 0.328 \cdot \left(1 - 0.328\right)\right] \cdot 1 = 2{,}991$. The same group of 2,991 households is scored at follow-up as well.

8. Targeting

When a program uses the scorecard for segmenting clients for differentiated treatment (*targeting*), households with scores at or below a cut-off are labeled *targeted* and given one type of treatment by the program. Households with scores above a cut-off are labeled *non-targeted* and given another type of treatment.

There is a distinction between *targeting status* (having a score at or below a targeting cut-off) and *poverty status* (having consumption below a poverty line). Poverty status is a fact that is defined by whether consumption is below a poverty line as directly measured by a survey. In contrast, targeting status is a program's policy choice that depends on a cut-off and on an indirect estimate from a poverty-assessment tool.

Households that score at or below a given cut-off should be labeled as *targeted*,[37] not as *poor*. After all, unless all targeted households have poverty likelihoods of 100 percent, some of them are non-poor (their consumption is above a given poverty line). In the context of the scorecard, the terms *poor* and *non-poor* have specific definitions. Using these same terms for targeting status is incorrect and misleading.

[37] Others labels are acceptable as long as they describe the segment and do not confuse targeting status (having a score below a program-selected cut-off) with poverty status (having consumption below an externally-defined poverty line). Examples of acceptable labels include: *Groups A, B, and C*; *Households with scores of 29 or less, 30 to 69, or 70 or more*; and *Households that qualify for reduced fees, or that do not qualify.*

Targeting is successful to the extent that households truly below a poverty line are targeted (*inclusion*) or households truly above a poverty line are not targeted (*exclusion*). Of course, no poverty-assessment tool is perfect, and targeting is unsuccessful to the extent that households truly below a poverty line are not targeted (*undercoverage*) or households truly above a poverty line are targeted (*leakage*).

Table 8 depicts these four possible targeting outcomes. Targeting accuracy varies by the cut-off score. A higher cut-off has better inclusion and better undercoverage (but worse exclusion and worse leakage), while a lower cut-off has better exclusion and better leakage (but worse inclusion and worse undercoverage).

Programs should weigh these trade-offs when setting a cut-off. A formal way to do this is to assign net benefits—based on a program's values and mission—to each of the four possible targeting outcomes and then to choose the cut-off that maximizes total net benefits (Adams and Hand, 2000; Hoadley and Oliver, 1998).

Table 9 shows the distribution of households by targeting outcome for Côte d'Ivoire. For an example cut-off of 38 or less, outcomes for 100% of the national line in the validation sample are:

- Inclusion: 19.6 percent are below the line and correctly targeted
- Undercoverage: 13.2 percent are below the line and mistakenly not targeted
- Leakage: 8.2 percent are above the line and mistakenly targeted
- Exclusion: 59.1 percent are above the line and correctly not targeted

Increasing the cut-off to 41 or less improves inclusion and undercoverage but worsens leakage and exclusion:

- Inclusion: 21.9 percent are below the line and correctly targeted
- Undercoverage: 10.8 percent are below the line and mistakenly not targeted
- Leakage: 11.3 percent are above the line and mistakenly targeted
- Exclusion: 56.0 percent are above the line and correctly not targeted

Which cut-off is preferred depends on total net benefit. If each targeting outcome has a per-household benefit or cost, then total net benefit for a given cut-off is:

Benefit per household correctly included	x	Households correctly included	–
Cost per household mistakenly not covered	x	Households mistakenly not covered	–
Cost per household mistakenly leaked	x	Households mistakenly leaked	+
Benefit per household correctly excluded	x	Households correctly excluded.	

To set an optimal cut-off, a program would:

- Assign benefits and costs to possible outcomes, based on its values and mission
- Tally total net benefits for each cut-off using Table 9 for a given poverty line
- Select the cut-off with the highest total net benefit

The most difficult step is assigning benefits and costs to targeting outcomes. A program that uses targeting—with or without the scorecard—should thoughtfully consider how it values successful inclusion and exclusion versus errors of undercoverage and leakage. It is healthy to go through a process of thinking explicitly and intentionally about how possible targeting outcomes are valued.

A common choice of benefits and costs is the "hit rate", where total net benefit is the number of households correctly included or correctly excluded:

Hit rate =	1	x	Households correctly included	–
	0	x	Households mistakenly undercovered	–
	0	x	Households mistakenly leaked	+
	1	x	Households correctly excluded.	

Table 9 shows the hit rate for all cut-offs for the scorecard. For the example of 100% of the national line in the validation sample, total net benefit under the hit rate is 78.7 for a cut-off of 38 or less, with about three in four households in Côte d'Ivoire correctly classified.

The hit rate weighs successful inclusion of households below the poverty line the same as successful exclusion of households above the line. If a program values inclusion more (say, twice as much) than exclusion, then it can reflect this by setting the benefit for inclusion to 2 and the benefit for exclusion to 1. Then the chosen cut-off will maximize (2 x Households correctly included) + (1 x Households correctly excluded).[38]

[38] Table 9 also reports BPAC, the Balanced Poverty Accuracy Criterion adopted by USAID for certifying poverty-assessment tools for use by its microenterprise partners. IRIS Center (2005) made BPAC to consider accuracy in terms of the errors in estimated poverty rates and in terms of targeting inclusion. BPAC = (Inclusion – |Undercoverage – Leakage|) x [100 ÷ (Inclusion + Undercoverage)]. Schreiner (2014b) explains why BPAC does not add information over-and-above that provided by the other, more-standard, disaggregated measures used here.

As an alternative to assigning benefits and costs to targeting outcomes and then choosing a cut-off to maximize total net benefits, a program could set a cut-off to achieve a desired poverty rate among targeted households. The third column of Table 10 ("% targeted HHs who are poor") shows, for the scorecard applied to the validation sample, the estimated poverty rate among households who score at or below a given cut-off. For the example of 100% of the national line, targeting households in the validation sample who score 38 or less would target 27.7 percent of all households (second column) and would be associated with an estimated poverty rate among those targeted of 70.5 percent (third column).

Table 10 also reports two other measures of targeting accuracy. The first is a version of coverage ("% poor HHs who are targeted"). For the example of 100% of the national line with the validation sample and a cut-off of 38 or less, an estimated 59.8 percent of all poor households are covered.

The final targeting measure in Table 10 is the number of successfully targeted poor households for each non-poor household mistakenly targeted (right-most column). For 100% of the national line with the validation sample and a cut-off of 38 or less, it is estimated that covering about 2.4 poor households means leaking to 1 non-poor household.

9. Conclusion

Pro-poor programs in Côte d'Ivoire can use the scorecard to prove and improve their social performance. The scorecard can serve to segment clients for differentiated treatment as well as to estimate:

- The likelihood that a household has consumption below a given poverty line
- The poverty rate of a population at a point in time
- The annual change in the poverty rate of a population

The scorecard is inexpensive to use and can be understood by non-specialists. It is designed to be practical for pro-poor programs in Côte d'Ivoire that want to improve how they monitor and manage their social performance.

The scorecard is constructed with data from about three-fifths of the observations on households in Côte d'Ivoire's 2015 ENV. Those households' scores are then calibrated to poverty likelihoods for 18 poverty lines. The scorecard's accuracy (errors and standard errors) for targeting and for estimating poverty rates at a point in time is tested out-of-sample on data that is not used in scorecard construction.

When the scorecard is applied to the 18 poverty lines in the validation sample, the maximum absolute value of the average error for point-in-time estimates of poverty rates is 1.6 percentage points, and the average of the absolute values of the average error across the 18 lines is about 0.8 percentage points. Corrected estimates may be found by subtracting the known error for a given poverty line from original, uncorrected estimates.

For $n = 16{,}384$ and 90-percent confidence, the precision of point-in-time estimates of poverty rates is ± 0.6 percentage points or smaller. With $n = 1{,}024$, the 90-percent confidence intervals are ± 2.4 percentage points or smaller.

If an organization wants to use the scorecard for segmenting clients for differentiated treatment, then the results here provide useful information for selecting a targeting cut-off that fits its values and mission.

Although the statistical technique is innovative, and although technical accuracy is important, the design of the scorecard focuses on low-cost, transparency, and ease-of-use. After all, accuracy is irrelevant if an organization's managers feel so daunted by a tool's complexity or its cost that they do not even try to use it.

For this reason, the scorecard uses 10 indicators that are straightforward, low-cost, and verifiable. Points are all zeros or positive integers, and scores range from 0 (most likely below a poverty line) to 100 (least likely below a poverty line). Scores are converted to poverty likelihoods via look-up tables, and targeting cut-offs are likewise straightforward to apply. The design attempts to facilitate voluntary adoption by helping program managers to understand and to trust the scorecard and by allowing non-specialists to add up scores quickly in the field.

In summary, the scorecard is a low-cost, practical, objective, transparent way for pro-poor programs in Côte d'Ivoire to estimate consumption-based poverty rates, track changes in poverty rates over time, and segment participants for differentiated treatment. The same approach can be applied to any country with similar data.

References

Adams, Niall M.; and David J. Hand. (2000) "Improving the Practice of Classifier Performance Assessment", *Neural Computation*, Vol. 12, pp. 305–311.

Baesens, Bart; Van Gestel, Tony; Viaene, Stijn; Stepanova, Maria; Suykens, Johan A.K.; and Jan Vanthienen. (2003) "Benchmarking State-of-the-Art Classification Algorithms for Credit Scoring", *Journal of the Operational Research Society*, Vol. 54, pp. 627–635.

Brown, Caitlin; Ravallion, Martin; and Dominique van de Walle. (2016) "A Poor Means Test? Econometric Targeting in Africa", World Bank Policy Research Working Paper No. 7915, documents.worldbank.org/curated/en/484991481639919564/pdf/WPS7915.pdf, retrieved 24 February 2018.

Caire, Dean. (2004) "Building Credit Scorecards for Small-Business Lending in Developing Markets", microfinance.com/English/Papers/Scoring_SMEs_Hybrid.pdf, retrieved 24 February 2018.

_____; and Mark Schreiner. (2012) "Cross-Tab Weighting for Credit Scorecards in Developing Markets", microfinance.com/English/Papers/Cross_Tab_Weights_for_Scoring.pdf, retrieved 24 February 2018.

Camacho, Adriana; and Emily Conover. (2011) "Manipulation of Social-Program Eligibility", *American Economic Journal: Economic Policy*, Vol. 3, No. 2, pp. 41–65.

Chen, Shiyuan; and Mark Schreiner. (2009) "Scorocs Simple Poverty Scorecard Tool: Vietnam", SimplePovertyScorecard.com/VNM_2006_ENG.pdf, retrieved 24 February 2018.

Coady, David; Grosh, Margaret; and John Hoddinott. (2004) *Targeting of Transfers in Developing Countries*, hdl.handle.net/10986/14902, retrieved 24 February 2018.

Cochran, William G. (1977) *Sampling Techniques, Third Edition.*

Dawes, Robyn M. (1979) "The Robust Beauty of Improper Linear Models in Decision-Making", *American Psychologist*, Vol. 34, No. 7, pp. 571–582.

Diamond, Alexis; Gill, Michael; Rebolledo Dellepiane, Miguel Angel; Skoufias, Emmanuel; Vinha, Katja; and Yiqing Xu. (2016) "Estimating Poverty Rates in Target Populations: An Assessment of the Simple Poverty Scorecard Poverty-Assessment Tool and Alternative Approaches", World Bank Policy Research Working Paper No. 7793, hdl.handle.net/10986/25038, retrieved 24 February 2018.

Friedman, Jerome H. (1997) "On Bias, Variance, 0–1 Loss, and the Curse-of-Dimensionality", *Data Mining and Knowledge Discovery*, Vol. 1, pp. 55–77.

Fuller, Rob. (2006) "Measuring the Poverty of Microfinance Clients in Haiti", microfinance.com/English/Papers/Scoring_Poverty_Haiti_Fuller.pdf, retrieved 24 February 2018.

Goodman, Leo A.; and Kruskal, William H. (1979) *Measures of Association for Cross Classification*.

Grosh, Margaret; and Judy L. Baker. (1995) "Proxy-Means Tests for Targeting Social Programs: Simulations and Speculation", World Bank LSMS Working Paper No. 118, go.worldbank.org/W9OWN57PD0, retrieved 24 February 2018.

Hand, David J. (2006) "Classifier Technology and the Illusion of Progress", *Statistical Science*, Vol. 22, No. 1, pp. 1–15.

Haslett, Stephen. (2012) "Practical Guidelines for the Design and Analysis of Sample Surveys for Small-Area Estimation", *Journal of the Indian Society of Agricultural Statistics*, Vol. 66, No. 1, pp. 203–212.

Hoadley, Bruce; and Robert M. Oliver. (1998) "Business Measures of Scorecard Benefit", *IMA Journal of Mathematics Applied in Business and Industry*, Vol. 9, pp. 55–64.

Institut National de la Statistique. (2015) "Profil de Pauvreté", www.ins.ci/n/templates/docss/env2015.pdf, retrieved 24 February 2018.

International Monetary Fund. (2009) "Côte d'Ivoire : Stratégie de Réduction de la Pauvreté, Rapport d'Etape au Titre de l'Année 2009", www.imf.org/external/pubs/ft/scr/2009/cr09156.pdf, retrieved 24 February 2018.

IRIS Center. (2007a) "Manual for the Implementation of USAID Poverty Assessment Tools", povertytools.org/training_documents/Manuals/USAID_PAT_Manual_Eng.pdf, retrieved 24 February 2018.

_____. (2007b) "Introduction to Sampling for the Implementation of PATs", povertytools.org/training_documents/Sampling/Introduction_Sampling.ppt, retrieved 24 February 2018.

_____. (2005) "Notes on Assessment and Improvement of Tool Accuracy", povertytools.org/other_documents/AssessingImproving_Accuracy.pdf, retrieved 24 February 2018.

Johnson, Glenn. (2007) "Lesson 3: Two-Way Tables—Dependent Samples", onlinecourses.science.psu.edu/stat504/node/96, retrieved 24 February 2018.

Jolliffe, Dean; and Espen Beer Prydz. (2016) "Estimating International Poverty Lines from Comparable National Thresholds", *Journal of Economic Inequality*, Vol. 14, pp. 185–198.

Kolesar, Peter; and Janet L. Showers. (1985) "A Robust Credit-Screening Model Using Categorical Data", *Management Science*, Vol. 31, No. 2, pp. 124–133.

Lovie, Alexander D.; and Patricia Lovie. (1986) "The Flat-Maximum Effect and Linear Scoring Models for Prediction", *Journal of Forecasting*, Vol. 5, pp. 159–168.

Martinelli, César; and Susan W. Parker. (2007) "Deception and Misreporting in a Social Program", *Journal of the European Economic Association*, Vol. 4, No. 6, pp. 886–908.

Matul, Michal; and Sean Kline. (2003) "Scoring Change: Prizma's Approach to Assessing Poverty", Microfinance Centre for Central and Eastern Europe and the New Independent States Spotlight Note No. 4, mfc.org.pl/wp-content/uploads/2016/04/spotlight4.pdf, retrieved 24 February 2018.

McNemar, Quinn. (1947) "Note on the Sampling Error of the Difference between Correlated Proportions or Percentages", *Psychometrika*, Vol. 17, pp. 153–157.

Myers, James H.; and Edward W. Forgy. (1963) "The Development of Numerical Credit-Evaluation Systems", *Journal of the American Statistical Association*, Vol. 58, No. 303, pp. 779–806.

Narayan, Ambar; and Nobuo Yoshida. (2005) "Proxy-Means Tests for Targeting Welfare Benefits in Sri Lanka", World Bank Report No. SASPR–7, documents.worldbank.org/curated/en/2005/07/6209268/proxy-means-test-targeting-welfare-benefits-sri-lanka, retrieved 24 February 2018.

Onwujekwe, Obinna; Hanson, Kara; and Julia Fox-Rushby. (2006) "Some Indicators of Socio-Economic Status May Not Be Reliable and Use of Indexes with These Data Could Worsen Equity", *Health Economics*, Vol. 15, pp. 639–644.

Rutstein, Shea Oscar; and Kiersten Johnson. (2004) "The DHS Wealth Index", DHS Comparative Reports No. 6, measuredhs.com/pubs/pdf/CR6/CR6.pdf, retrieved 24 February 2018.

SAS Institute Inc. (2004) "The LOGISTIC Procedure: Rank Correlation of Observed Responses and Predicted Probabilities", *SAS/STAT User's Guide, Version 9*, support.sas.com/documentation/cdl/en/statug/63033/HTML/default/viewer.htm#statug_logistic_sect035.htm, retrieved 24 February 2018.

Schreiner, Mark. (forthcoming) "How Accurate is the Scorocs Simple Poverty Scorecard Tool for Sub-National Groups?"

_____. (2017a) "Scorocs Simple Poverty Scorecard Tool: Zambia", SimplePovertyScorecard.com/ZMB_2015_ENG.pdf, retrieved 24 February 2018.

_____. (2017b) "Scorocs Simple Poverty Scorecard Tool: Mexico", SimplePovertyScorecard.com/MEX_2014_ENG.pdf, retrieved 24 February 2018.

_____. (2017c) "Scorocs Simple Poverty Scorecard Tool: El Salvador", SimplePovertyScorecard.com/SLV_2014_ENG.pdf, retrieved 24 February 2018.

_____. (2017d) "Comments on Brown, Ravallion, and van der Walle's 'A Poor Means Test? Econometric Targeting in Africa'".

_____. (2016a) "Scorocs Simple Poverty Scorecard Tool: Guatemala", SimplePovertyScorecard.com/GTM_2014_ENG.pdf, retrieved 24 February 2018.

_____. (2016b) "Scorocs Simple Poverty Scorecard Tool: India", SimplePovertyScorecard.com/IND_2011_ENG.pdf, retrieved 24 February 2018.

_____. (2016c) "Scorocs Simple Poverty Scorecard Tool: Sri Lanka", SimplePovertyScorecard.com/LKA_2012_ENG.pdf, retrieved 24 February 2018.

_____. (2016d) "Scorocs Simple Poverty Scorecard Tool: Cameroon", SimplePovertyScorecard.com/CMR_2014_ENG.pdf, retrieved 24 February 2018.

_____. (2015a) "There's No Place Like Home? How the Interview Method Affects Results with the Progress out of Poverty Index®", microfinance.com/English/Papers/Scoring_Poverty_Interview_Method_Effects_EN.pdf, retrieved 24 February 2018.

_____. (2015b) "Scorocs Simple Poverty Scorecard Tool: Ghana", SimplePovertyScorecard.com/GHA_2012_ENG.pdf, retrieved 24 February 2018.

_____. (2015c) "Scorocs Simple Poverty Scorecard Tool: Bolivia", SimplePovertyScorecard.com/BOL_2013_ENG.pdf, retrieved 24 February 2018.

_____. (2015d) "Scorocs Simple Poverty Scorecard Tool: Malawi", SimplePovertyScorecard.com/MWI_2010_ENG.pdf, retrieved 24 February 2018.

_____. (2015e) "Scorocs Simple Poverty Scorecard Tool: Cambodia", SimplePovertyScorecard.com/KHM_2011_ENG.pdf, retrieved 24 February 2018.

_____. (2014a) "The Process of Poverty-Scoring Analysis", SimplePovertyScorecard.com/Process_Poverty_Scoring_Analysis.pdf, retrieved 24 February 2018.

_____. (2014b) "How Do the Simple Poverty Scorecard and the PAT Differ?", microfinance.com/English/Papers/Scorecard_versus_PAT.pdf, retrieved 24 February 2018.

_____. (2013a) "Scorocs Simple Poverty Scorecard Tool: Côte d'Ivoire", SimplePovertyScorecard.com/CIV_2008_ENG.pdf, retrieved 24 February 2018.

_____. (2013b) "Scorocs Simple Poverty Scorecard Tool: Bangladesh", SimplePovertyScorecard.com/BGD_2010_ENG.pdf, retrieved 24 February 2018.

_____. (2013c) "Scorocs Simple Poverty Scorecard Tool: Nicaragua", SimplePovertyScorecard.com/NIC_2009_ENG.pdf, retrieved 24 February 2018.

_____. (2012a) "An Expert-Based Poverty Scorecard for Rural China", microfinance.com/English/Papers/Scoring_Poverty_China_EN.pdf, retrieved 24 February 2018.

_____. (2012b) "Scorocs Simple Poverty Scorecard Tool: Colombia", SimplePovertyScorecard.com/COL_2009_ENG.pdf, retrieved 24 February 2018.

_____. (2012c) "Scorocs Simple Poverty Scorecard Tool: Peru", SimplePovertyScorecard.com/PER_2010_ENG.pdf, retrieved 24 February 2018.

_____. (2010) "Scorocs Simple Poverty Scorecard Tool: Honduras", SimplePovertyScorecard.com/HND_2007_ENG.pdf, retrieved 24 February 2018.

_____. (2009a) "Scorocs Simple Poverty Scorecard Tool: Philippines", SimplePovertyScorecard.com/PHL_2004_ENG.pdf, retrieved 24 February 2018.

_____. (2009b) "Scorocs Simple Poverty Scorecard Tool: Pakistan", SimplePovertyScorecard.com/PAK_2005_ENG.pdf, retrieved 24 February 2018.

_____. (2009c) "Scorocs Simple Poverty Scorecard Tool: Peru", SimplePovertyScorecard.com/PER_2007_ENG.pdf, retrieved 24 February 2018.

_____. (2008) "Scorocs Simple Poverty Scorecard Tool: Peru", SimplePovertyScorecard.com/PER_2003_ENG.pdf, retrieved 24 February 2018.

_____. (2006) "Is One Simple Poverty Scorecard Enough for India?", microfinance.com/English/Papers/Scoring_Poverty_India_Segments.pdf, retrieved 24 February 2018.

_____. (2005a) "La Herramienta del Índice de Calificación de la Pobreza de Scorocs™: México", SimplePovertyScorecard.com/MEX_2002_SPA.pdf, retrieved 24 February 2018.

_____. (2005b) "IRIS Questions on the Simple Poverty Scorecard", microfinance.com/English/Papers/Scoring_Poverty_Response_to_IRIS.pdf, retrieved 24 February 2018.

_____. (2002) *Scoring: The Next Breakthrough in Microfinance?* CGAP Occasional Paper No. 7, microfinance.com/English/Papers/Scoring_Breakthrough_CGAP.pdf, retrieved 24 February 2018.

_____; Matul, Michal; Pawlak, Ewa; and Sean Kline. (2014) "Poverty Scoring: Lessons from a Microlender in Bosnia-Herzegovina", *Poverty and Public Policy*, Vol. 6, No. 4, pp. 407–428.

Sharif, Iffath Anwar. (2009) "Building a Targeting System for Bangladesh Based on Proxy-Means Testing", World Bank Social Protection Discussion Paper No. 0914, siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Safety-Nets-DP/0914.pdf, retrieved 24 February 2018.

Stillwell, William G.; Barron, F. Hutton; and Ward Edwards. (1983) "Evaluating Credit Applications: A Validation of Multi-Attribute Utility-Weight Elicitation Techniques", *Organizational Behavior and Human Performance*, Vol. 32, pp. 87–108.

Tarozzi, Alessandro; and Angus Deaton. (2009) "Using Census and Survey Data to Estimate Poverty and Inequality for Small Areas", *Review of Economics and Statistics*, Vol. 91, No. 4, pp. 773–792.

Toohig, Jeff. (2008) "PPI Pilot Training Guide", microfinancegateway.org/sites/default/files/mfg-en-paper-progress-out-of-poverty-index-ppi-pilot-training-mar-2008.pdf, retrieved 24 February 2018.

United States Congress. (2004) "Microenterprise Results and Accountability Act of 2004 (HR 3818 RDS)", November 20, smith4nj.com/laws/108-484.pdf, retrieved 24 February 2018.

Wainer, Howard. (1976) "Estimating Coefficients in Linear Models: It Don't Make No Nevermind", *Psychological Bulletin*, Vol. 83, pp. 223–227.

World Bank. (2013) "Shared Prosperity: A New Goal for a Changing World", worldbank.org/en/news/feature/2013/05/08/shared-prosperity-goal-for-changing-world, retrieved 24 February 2018.

_____. (2012) *Targeting Poor and Vulnerable Households in Indonesia*, documents.worldbank.org/curated/en/2012/01/15879773/targeting-poor-vulnerable-households-indonesia, retrieved 24 February 2018.

_____. (2008) "International Comparison Project: Tables of Results", siteresources.worldbank.org/ICPINT/Resources/icp-final-tables.pdf, retrieved 24 February 2018.

Zeller, Manfred. (2004) "Review of Poverty Assessment Tools", pdf.usaid.gov/pdf_docs/PNADH120.pdf, retrieved 24 February 2018.

Interview Guide

The excerpts quoted here are from:

Institut National de la Statistique. (2014) « Manuel de l'Agent » [the *Manual*].

Basic interview instructions

Fill out the scorecard header and the "Back-page Worksheet" first, following the directions on the "Back-page Worksheet".

In the scorecard header, fill in the number of household members based on the list you compiled as part of the "Back-page Worksheet".

Do not directly ask the first scorecard indicator ("How many household members are there?"). Instead, fill in the appropriate answer based on the number of household members that you have listed on the "Back-page Worksheet".

Do not directly ask the second scorecard indicator ("Do all household members ages 7 to 18 go to school this school year?"). Instead, fill in the appropriate answer based on the information that you collected on the "Back-page Worksheet".

Ask all of the other scorecard questions directly of the respondent, except for the fifth question ("What is the main construction material of the outer walls? (*Observe and record.*)"). For this question, follow instead the specific directions provided later in this "Guide".

General interviewing advice

Study this "Guide" carefully, and carry it with you while you work. Follow the instructions in this "Guide" (including this one).

Remember that the respondent for the interview need not be the same person as the household member who is a participant with your organization. Likewise, the "field agent" to be recorded in the scorecard header is not necessarily the same as you the enumerator who is conducting the interview. Rather, the "field agent" is the employee of the pro-poor program with whom the participant has an on-going relationship. If the program does not have such a field agent, then the relevant spaces in the scorecard header may be left blank.

Read each question word-for-word, in the order presented in the scorecard.

According to p. 12 of the *Manual*, "Read the questions exactly as they are written [in the scorecard]." Do not read the response options.

When you mark a response to a scorecard indicator, circle the spelled-out response option and its point value, and write the point value in the "Score" column, like this:

2. Do all household members ages 7 to 18 go to school this school year?	A. No	0	
	B. No members 7 to 18	2	2
	C. Yes	3	

To help to reduce transcription errors, you should circle the response option, the printed points, and the hand-written points that correspond to the response.

When an issue comes up that is not addressed here, its resolution should be left to the unaided judgment of the enumerator, as that apparently was the practice of Côte d'Ivoire's INS in the 2015 ENV. That is, an organization using the Scorocs Simple Poverty Scorecard poverty-assessment tool should not promulgate any definitions or rules (other than those in this "Guide") to be used by all its field agents. Anything not explicitly addressed in this "Guide" is to be left to the unaided judgment of each individual enumerator.

Do not read the response options to the respondent. Simply read the question, and then stop; wait for a response. If the respondent asks for clarification or otherwise hesitates or seems confused, then read the question again or provide additional assistance based on this "Guide" or as you, the enumerator, deem appropriate.

In general, you should accept the responses given by the respondent. Nevertheless, if the respondent says something—or if you see or sense something—that suggests that the response may not be accurate, that the respondent is uncertain, or that the respondent desires assistance in figuring out how to respond, then you should read the question again and provide whatever help you deem appropriate based on this "Guide".

While most indicators in the scorecard are verifiable, you do not—in general—need to verify responses. You should verify a response only if something suggests to you that the response may be inaccurate and thus that verification might improve data accuracy. For example, you might choose to verify if the respondent hesitates, seems nervous, or otherwise gives signals that he/she may be lying or be confused. Likewise, verification is probably appropriate if a child in the household or a neighbor says something that does not square with the respondent's answer. Verification is also a good idea if you can see something yourself—such as a consumer durable that the respondent avers not to possess, or a child eating in the room who has not been counted as a member of the household—that suggests that a response may be inaccurate.

In general, the application of the scorecard should mimic as closely as possible the application of the 2015 ENV by Côte d'Ivoire's INS. For example, interviews should take place in respondents' homesteads because the 2015 ENV took place in respondents' homesteads.

Translation:

As of this writing, the scorecard itself, the "Back-page Worksheet", and this "Guide" are available only in French and English. There are not yet official, professional translations to other major local languages spoken in Côte d'Ivoire such as Jula/Dioula. Users should check scorocs.com to see what translations have been completed since this writing.

If there is not yet a professional translation to a given local language, then users should contact the author of this document for help in creating such a translation. In particular, the translation of scorecard indicators should follow as closely as possible the meaning of the original French wording in the 2015 ENV questionnaire. Likewise, the *Enumerator Manual* for the 2015 ENV is written in French, so this "Guide" must be translated from the *Manual*'s original French, not from this English "Guide" here.

Who should be the respondent?

Remember that the respondent does not need to be the same person as the household member who is a participant with your organization.

According to p. 12 of the *Manual*, "For a given question, choose as the respondent the member of the interviewed household who knows the topic best."

According to p. 22 of the *Manual*, "The preferred respondent is the head of the household. In principle, the head should answer on behalf of all the other household members. The other members may also supply complementary information or clarifications for the head's responses, especially for questions that pertain specifically to them."

According to p. 28 of the *Manual*, "The preferred respondent is the head of the household. In the case of an absent head, the principal respondent should be the person responsible for important decisions. If this person is also absent, then you may select as the respondent any adult who knows the household and its members well. You can also direct specific questions to the household member who knows the most about—or who is responsible for—that activity within the household."

Who is the head of the household?

Note that the head of the household may or may not be the same person who participates with your organization (although the head of the household can be that person).

General guidelines for enumerators

According to pp. 12–13 of the *Manual*, "As an enumerator, your job is to collect information to improve the planning and evaluation of [your organization's] policies. This task is important, so always be a model of competence, honesty, discipline, focus, and professionalism. To gather high-quality, accurate data, scrupulously follow:

- The instructions from your superiors and, in particular, from your field boss
- [This "Guide".] It is your exclusive source of technical instructions while filling out [the scorecard]

"You must keep the information that you collect strictly confidential; do not reveal it to anyone [outside of your survey team] for any reason.

How to do the interviews

- "Each time that you meet with a sampled household, introduce yourself as an enumerator for [your organization]
- To show good faith and encourage trust, show your badge and/or other official evidence that you represent [your organization]
- Emphasize that all responses are kept strictly confidential and so all people who are not members of the interviewed household (except interpreters) must go away
- For a given question, choose as the respondent the member of the interviewed household who knows the topic best
- Read the questions exactly as they are written [in the scorecard] . . .
- Mark the responses in the space provided
- Do not interrupt the respondent, even if he/she takes a long time to respond. It may be that he/she is trying to remember something
- Wait for the respondent to finish what he/she is saying before marking a response
- If a response seems inaccurate, then check to be sure that the respondent understands the question
- Do not contradict the respondent, as this may send the message that you suspect that his/her responses are inaccurate
- When the interview is over, thank the responding household warmly for cooperating and for giving generously of its time (even if the household has not, in fact, been very enthusiastic) . . .

"As an enumerator, you play a key role in the survey. The quality of your work determines the quality of the data and thus the quality of the survey. This is why you must follow all the instructions in [this "Guide", including this one]. . . .

"At the end of each interview, . . . check to make sure that all parts of [the scorecard] are filled out correctly and legibly.

"Do not change a response that you have already marked and that you think is inaccurate unless you have asked the question again of the respondent, even if you think that you know what the accurate response is."

According to pp. 15–16 of the *Manual*, "To encourage an atmosphere of good will and trust, you as the enumerator should model the following professional habits:

- Be polite with everyone (the respondent and his/her entourage, your boss, other enumerators on your team, and so on). How you act affects the extent to which people in the area believe that the survey deserves their cooperation and support
- Do not let yourself be annoyed or shocked by anyone else's behavior, and do not do anything yourself that might annoy or shock people in the survey area
- Dress professionally so that the interviewed household sees you as serious and responsible
- Show up on time. Do not make the responding household wait for you
- Be patient and gentle when interviewing so as to avoid annoying the respondent or making him/her feel like giving inaccurate responses

"When you first meet the interviewed household, greet everyone, introduce yourself as an enumerator for [your organization], show your badge and any other supporting material, and explain that:

- You are part of a survey about [the socio-economic status of participants with your organization]
- The household was selected at random
- The survey have nothing to do with taxes
- The survey has nothing to do with politics
- All information provided will be kept strictly confidential"

Guidelines for each indicator in the scorecard

1. How many household members are there?
    A. Seven or more
    B. Six
    C. Five
    D. Four
    E. Three
    F. Two
    G. One

Do not ask this question directly of the respondent. Instead, mark the response based on the information you collected about household members on the "Back-page Worksheet".

According to page 21 of the *Manual*, a *household* is "a single person who lives alone or a group of people (regardless of blood or marital relationship) who for at least three of the past 12 months have usually slept under the same roof, shared meals, and acknowledged the authority of one household member as the head of the household.

Examples of households include:

- A man, his wife or wives, their children, the man's father, and other people (regardless of blood or marital relationship) who have slept under the same roof and shared meals for at least three of the past 12 months
- A single adult who lives alone
- A couple, with or without children

"Be sure to count all household members. In particular:

- Count as *members of the household* any lodgers and household employees (such as domestic servants or maids) who have slept under the same roof and shared meals with the household [for at least three of the past 12 months]. (A *lodger* is someone who pays money to the household for his/her room and board.)
- Do not count people who are deceased, even if they lived with the interviewed household for at least three of the past 12 months
- Count as *members of the household* any new-born babies who are three-months-old or younger
- Count the person identified as the head of the household as a *member of the household*, even if he/she does not currently live with the household"

According to pp. 22–23 of the *Manual*, "Compile the household roster as follows:

Enumerator: "*I would like to make a complete list of all the people who usually sleep here and who also eat their meals together in this residence.*

"*To that end, I would like to know the names of all the people in your immediate family who usually live here and who eat their meals together. This includes the head of the household, his wife or wives (or her husband), and their children, in order of age from the oldest to the youngest.*

"Always list the head of the household first, followed by his/her spouse and their children (from the oldest to the youngest). If the head has more than one wife, then list the first wife and her children (in order of age) first. After that, list the second wife and her children (in order of age). And so on.

Record each person's first name (or nickname), age, whether he/she is the head or the (eldest) spouse of the head, and whether he/she goes to school this school year (if his/her age is from 7 to 18).

Enumerator: "*Please tell me the names of anyone else who is related to the head or to his spouse (or her husband), as well as the names of their family members who usually live here and who eat their meals together.*

"Record each person's first name (or nickname), age, and whether the person goes to school this school year (if his/her age is from 7 to 18).

Enumerator: "*What are the names of anyone else who is not related to the head or to his spouse (or her husband) but who usually live here and eat meals together with the rest of the household? For example, lodgers, domestic servants, and other people who are not related to the head by blood or marriage.*

"Record each person's first name (or nickname), age, and whether the person goes to school this school year (if his/her age is from 7 to 18).

Enumerator: "*Is there anyone who has joined the household in the past three months and who plans to stay for a total duration of at least three months?*

"Record each person's first name (or nickname), age, and whether the person goes to school this school year (if his/her age is from 7 to 18).

"Now read back to the respondent the full list of names that you have recorded and ask him/her whether anyone has been left out."

Record age in terms of completed years. You need to know a member's precise age only if it may be close to 7 or 18.

2. Do all household members ages 7 to 18 go to school this school year?
    A. No
    B. No members 7 to 18
    C. Yes

Do not ask this question directly of the respondent. Instead, mark the response based on the information you collected about household members, their ages, and their school attendance on the "Back-page Worksheet".

Record age in terms of completed years. You need to know a member's precise age only if it may be close to 7 or 18.

When determining how to mark the appropriate response, keep in mind that this indicator can be viewed as a combination of two questions:

- Are there any household members ages 7 to 18?
- Do all household members ages 7 to 18 (if any) go to school this school year?

Mark the response on the scorecard according to the combination of responses to these two questions:

Are there any household members ages 7 to 18?	**Do all household members ages 7 to 18 (if any) go to school this school year?**	**Response**
No	N/A	B
Yes	No	A
No	N/A	B
Yes	Yes	C

3. Can the male head/spouse read and write in French or in another language?
    A. No male head/spouse
    B. No
    C. Yes

According to p. 33 of the *Manual*, "This question concerns the ability of a person to read and write a simple sentence in French or in another language (for example, in a local language such as Baoulé, Dioula, Bété, and so on)."

Remember that you already know the name of the male head/spouse (and whether he exists) from compiling the "Back-page Worksheet". Thus, if there is a male head/spouse, do not mechanically ask, "Can the male head/spouse read and write in French or in another language?". Instead, use the actual name of the male head/spouse, for example: "Can Mamadou read and write in French or in another language?" If there is no male head/spouse, then mark "A. No male head/spouse" and go to the next question.

For the purposes of the scorecard, the *male head/spouse* is defined as:

- The household head, if the head is male
- The spouse/conjugal partner of the household head, if the head is female
- Non-existent, if the head is female and if she does not have a spouse/conjugal partner who is a member of her household

Note that the head of the household may or may not be the same person who is a participant with your organization (although the head of the household can be that person).

4. Can the (eldest) female head/spouse read and write in French or in another language?
    A. No female head/spouse
    B. No
    C. Yes

According to p. 33 of the *Manual*, "This question concerns the ability of a person to read and write a simple sentence in French or in another language (for example, in a local language such as Baoulé, Dioula, Bété, and so on)."

Remember that you already know the name of the (eldest) female head/spouse (and whether she exists) from compiling the "Back-page Worksheet". Thus, if there is a female head/spouse, do not mechanically ask, "Can the (eldest) female head/spouse read and write in French or in another language?". Instead, use the actual name of the (eldest) female head/spouse, for example: "Can Mariam read and write in French or in another language?" If there is no female head/spouse, then mark "A. No female head/spouse" and go on to the next question.

For the purposes of the scorecard, the *(oldest) female head/spouse* is defined as:

- The household head, if the head is female
- The (eldest) spouse/conjugal partner of the household head, if the head is male
- Non-existent, if the head is male and if he does not have a spouse/conjugal partner who is a member of his household

Note that the head of the household may or may not be the same person who is a participant with your organization (although the head of the household can be that person).

5. What is the main construction material of the outer walls? (*Observe and record.*)
    A. Packed earth, bamboo/leaves, planks/wood, packed earth with a cement veneer, red clay with a little cement (*géo-béton*), or other
    B. Sheet metal, or cinder blocks

According to p. 85 of the *Manual*, "This question is not exactly a question, given that you the enumerator may be able to identify the main construction material of the external walls via your own observation without asking anything of the respondent.

"The follow definitions should be helpful:

- *Packed earth*: Traditional construction material consisting of mud
- *Bamboo*: Cylindrical, wooden stems with prominent knotty rings
- *Leaves*: The flat extremities of plants. Some leaves—such as palm leaves—are used as a construction material
- *Plank*: A thin, smoothed piece of wood that is longer than it is wide
- *Wood*: A stiff, compact material that is more or les solid and that is made of the trunk, roots, or branches of trees
- *Other*: Any construction material that is not covered by any of the other response options
- *Sheet metal*: Metal sheets manufactured via a rolling process. Usually second-hand sheets are used for walls
- *Cement*: Construction material made up of various substances that, when mixed with water, forms a sticky paste that can be molded before it hardens. Cement can be formed into bricks or cinder blocks, or it can be used to bind together bricks or cinder blocks to construct a wall."

6. What toilet arrangement does the household use?
    A. None/bush/no toilet arrangement, or other
    B. Latrine inside the yard/compound
    C. Latrine outside the yard/compound
    D. Flush toilet (inside or outside the residence)

According to p. 93 of the *Manual*, "The response options include:

- *Latrine*: A man-made hole made to collect human waste
- *Flush toilet*: A piece of furniture that uses water to carry away human waste. The tank that holds the water for flushing may be above the toilet itself (with the water released via a pull-cord), or the tank may be an integral part of the toilet (with the water released via a push-handle)"

7. Did the household have a TV, VCR/DVD player, or satellite dish in good working order in the last 3 months?
    A. No TV (regardless of VCR/DVD or satellite dish)
    B. TV, but no VCR/DVD or satellite dish
    C. TV, and VCR/DVD or satellite dish

According to p. 67 of the *Manual*, "This question concerns whether household members have any TVs, VCR/DVD players, or satellite dishes, even if those appliances were bought on credit and are not yet paid-off. Do not count TVs, VCR/DVD players, or satellite dishes if the interviewed household shares their ownership with people who are not members of the interviewed household.

According to p. 68 of the *Manual*, "This question has two aspects: the first is possession, and the second is use. The reference period is three months. If a TV, VCR/DVD player, or satellite dish was not used during the reference period, then you should focus on whether the household has a TV, VCR/DVD player, or satellite dish at the time of the interview."

According to p. 68 of the *Manual*, "A *television* is an electronic appliance that receives and displays televised images and sound.

"A *VCR/DVD player* is an electronic appliance that reads films (images and sound) that have been recorded in standardized formats on a CD (video CD or VCD) or on a DVD (video DVD or DVD). The VCR/DVD player transmits the images and sound to a television.

"A *satellite dish* is an antenna with a cupped/parabolic shape that receives television signals from a satellite."

When figuring out how to mark the appropriate response, keep in mind that this indicator can be viewed as a combination of three questions:

- Did the household have a TV in good working order in the last 3 months?
- Did the household have a VCR/DVD player in good working order in the last 3 months?
- Did the household have a satellite dish in good working order in the last 3 months?

Mark the response on the scorecard according to the combination of responses to the three questions above:

TV?	**VCR/DVD player?**	**Satellite dish?**	**Response**
No	No	No	A
Yes	No	No	B
No	Yes	No	A
Yes	Yes	No	C
No	No	Yes	A
Yes	No	Yes	C
No	Yes	Yes	A
Yes	Yes	Yes	C

8. Do you currently have a table?
    A. No
    B. Yes

According to p. 93 of the *Manual*, a *table* is "a piece of furniture used for various purposes that has a flat surface set atop legs."

9. How many beds in good working order did your household have in the last 3 months?
    A. None
    B. One
    C. Two or more

According to p. 67 of the *Manual*, "This question concerns whether household members have any beds, even if the beds were bought on credit and are not yet paid-off. Do not count a bed if the interviewed household shares its ownership with people who are not members of the interviewed household.

According to p. 68 of the *Manual*, "This question has two aspects: the first is possession, and the second is use. The reference period is three months. If a bed was not used during the reference period, then you should focus on whether the household has a bed at the time of the interview."

10. How many cells phones in good working order did your household have in the last 3 months?
    A. None, or one
    B. Two
    C. Three or more

According to p. 67 of the *Manual*, "This question concerns whether household members have any cell phones, even if the cell phones were bought on credit and are not yet paid-off. Do not count cell phones that the interviewed household shares with people who are not members of the interviewed household.

According to p. 68 of the *Manual*, "This question has two aspects: the first is possession, and the second is use. The reference period is three months. If a cell phone was not used during the reference period, then you should focus on whether the household has a cell phone at the time of the interview."

According to p. 68 of the *Manual*, "A *cell phone* is an end point linked with a telephone network via radio waves. It is a portable device (in contrast with a classic land-line phone) that provides access to a cellular-telephone network."

Table 1 (All of Côte d'Ivoire): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		706	1,059	1,413
	Rate	Households	5,869	25.2	45.2	61.8
	Rate	People		36.5	59.3	75.3
Rural						
	Line	People		603	904	1,206
	Rate	Households	7,030	40.4	62.2	75.9
	Rate	People		56.7	78.2	88.2
All						
	Line	People		656	984	1,312
	Rate	Households	12,899	32.8	53.7	68.8
	Rate	People		46.3	68.5	81.6

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (All of Côte d'Ivoire): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		551	881	1,101	2,202	508	856	1,472	5,806
	Rate	Households	5,869	14.6	36.0	47.5	80.8	11.9	34.4	63.5	98.1
	Rate	People		22.2	49.1	61.7	89.5	18.5	47.3	76.6	99.2
Rural											
	Line	People		470	752	940	1,880	434	731	1,256	4,957
	Rate	Households	7,030	26.9	52.3	64.1	89.6	23.1	50.6	77.4	99.4
	Rate	People		39.9	69.1	79.7	96.0	35.0	67.4	89.1	99.8
All											
	Line	People		511	818	1,022	2,045	472	795	1,366	5,391
	Rate	Households	12,899	20.7	44.1	55.8	85.2	17.5	42.5	70.4	98.8
	Rate	People		30.8	58.9	70.5	92.7	26.6	57.2	82.8	99.5

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (All of Côte d'Ivoire): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		471	321	441	636	752	900	1,349
	Rate	Households	5,869	10.0	3.3	8.3	20.9	27.9	37.0	59.6
	Rate	People		15.7	5.5	13.3	30.8	39.9	50.3	73.2
Rural										
	Line	People		402	274	376	543	642	768	1,152
	Rate	Households	7,030	20.1	8.9	17.3	34.4	43.9	53.3	74.1
	Rate	People		31.0	14.7	27.0	49.6	60.5	70.1	87.1
All										
	Line	People		437	298	409	591	698	835	1,253
	Rate	Households	12,899	15.0	6.1	12.8	27.6	35.9	45.1	66.8
	Rate	People		23.2	10.0	20.0	40.0	50.0	60.0	80.0

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Ville d'Abidjan): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		737	1,106	1,474
	Rate	Households	1,346	17.6	34.9	52.0
	Rate	People		25.0	46.2	64.7
Rural						
	Line	People		—	—	—
	Rate	Households	—	—	—	—
	Rate	People		—	—	—
All						
	Line	People		737	1,106	1,474
	Rate	Households	1,346	17.6	34.9	52.0
	Rate	People		25.0	46.2	64.7

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Ville d'Abidjan): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		575	919	1,149	2,299	531	894	1,536	6,060
	Rate	Households	1,346	8.4	26.2	37.4	74.0	7.3	24.9	53.3	97.0
	Rate	People		12.2	35.9	49.2	83.6	10.8	34.5	66.0	98.6
Rural											
	Line	People		—	—	—	—	—	—	—	—
	Rate	Households	—	—	—	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—	—	—
All											
	Line	People		575	919	1,149	2,299	531	894	1,536	6,060
	Rate	Households	1,346	8.4	26.2	37.4	74.0	7.3	24.9	53.3	97.0
	Rate	People		12.2	35.9	49.2	83.6	10.8	34.5	66.0	98.6

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Ville d'Abidjan): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		492	335	460	664	785	939	1,408
	Rate	Households	1,346	6.1	1.6	5.0	13.9	19.6	27.6	49.5
	Rate	People		9.3	3.0	7.7	20.1	27.6	37.7	62.1
Rural										
	Line	People		—	—	—	—	—	—	—
	Rate	Households	—	—	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—	—
All										
	Line	People		492	335	460	664	785	939	1,408
	Rate	Households	1,346	6.1	1.6	5.0	13.9	19.6	27.6	49.5
	Rate	People		9.3	3.0	7.7	20.1	27.6	37.7	62.1

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Autonome de Yamoussoukro): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		673	1,009	1,346
	Rate	Households	207	26.5	44.9	61.7
	Rate	People		34.5	59.5	76.1
Rural						
	Line	People		585	878	1,170
	Rate	Households	122	31.5	51.5	66.8
	Rate	People		47.0	71.0	83.4
All						
	Line	People		639	958	1,277
	Rate	Households	329	28.6	47.7	63.8
	Rate	People		39.4	64.0	79.0

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Autonome de Yamoussoukro): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		525	839	1,049	2,098	484	816	1,402	5,532
	Rate	Households	207	18.3	35.5	45.9	83.9	14.9	35.1	63.9	98.7
	Rate	People		23.3	45.1	60.1	91.3	18.1	44.1	77.9	99.7
Rural											
	Line	People		456	730	912	1,824	421	709	1,219	4,810
	Rate	Households	122	14.4	42.9	54.0	86.3	13.2	42.3	68.3	98.5
	Rate	People		23.0	63.1	73.3	95.4	20.5	60.9	84.5	99.6
All											
	Line	People		498	797	996	1,991	460	774	1,331	5,250
	Rate	Households	329	16.6	38.7	49.3	84.9	14.2	38.1	65.8	98.6
	Rate	People		23.2	52.1	65.3	92.9	19.0	50.7	80.5	99.7

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Autonome de Yamoussoukro): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		449	306	420	606	716	857	1,286
	Rate	Households	207	13.3	5.5	12.3	22.6	31.3	37.2	57.5
	Rate	People		16.7	8.2	15.3	29.4	40.0	47.9	71.6
Rural										
	Line	People		390	266	365	527	623	745	1,118
	Rate	Households	122	10.0	3.7	7.1	24.0	34.5	42.9	64.7
	Rate	People		15.5	4.4	9.0	36.5	51.6	63.1	81.7
All										
	Line	People		426	290	399	575	680	814	1,220
	Rate	Households	329	11.9	4.7	10.1	23.2	32.7	39.7	60.5
	Rate	People		16.2	6.7	12.9	32.2	44.5	53.8	75.6

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Bas-Sassandra): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		680	1,020	1,361
	Rate	Households	336	25.3	49.0	65.4
	Rate	People		38.6	63.6	79.2
Rural						
	Line	People		585	878	1,170
	Rate	Households	864	25.6	48.0	64.0
	Rate	People		39.4	65.8	79.0
All						
	Line	People		616	924	1,232
	Rate	Households	1,200	25.5	48.4	64.4
	Rate	People		39.1	65.1	79.1

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Bas-Sassandra): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		530	849	1,061	2,121	490	825	1,417	5,593
	Rate	Households	336	17.1	35.8	52.0	83.3	14.4	34.6	68.5	98.7
	Rate	People		26.9	50.0	66.0	92.7	23.0	48.6	82.0	99.6
Rural											
	Line	People		456	730	912	1,824	421	709	1,219	4,810
	Rate	Households	864	14.6	36.8	49.4	83.5	12.6	35.2	65.8	99.9
	Rate	People		23.4	53.3	67.4	92.5	19.8	51.4	80.1	99.9
All											
	Line	People		480	769	961	1,921	444	747	1,284	5,066
	Rate	Households	1,200	15.4	36.5	50.2	83.4	13.2	35.0	66.7	99.5
	Rate	People		24.6	52.3	66.9	92.5	20.9	50.5	80.7	99.8

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Bas-Sassandra): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		454	309	425	613	724	867	1,300
	Rate	Households	336	12.4	4.2	9.3	21.6	26.4	36.6	64.3
	Rate	People		19.8	6.3	16.0	33.1	40.5	50.8	78.5
Rural										
	Line	People		390	266	365	527	623	745	1,118
	Rate	Households	864	10.4	4.6	8.4	19.0	28.5	38.0	61.8
	Rate	People		16.4	7.6	13.2	30.5	43.5	55.2	77.5
All										
	Line	People		411	280	385	555	656	785	1,177
	Rate	Households	1,200	11.1	4.5	8.7	19.8	27.8	37.5	62.6
	Rate	People		17.5	7.2	14.1	31.3	42.5	53.7	77.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Comoé): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		705	1,058	1,411
	Rate	Households	308	19.4	42.1	59.9
	Rate	People		35.9	63.0	76.8
Rural						
	Line	People		617	926	1,235
	Rate	Households	444	36.1	56.9	72.9
	Rate	People		55.8	78.5	88.2
All						
	Line	People		653	980	1,307
	Rate	Households	752	29.5	51.1	67.8
	Rate	People		47.7	72.1	83.5

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Comoé): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		550	880	1,100	2,200	508	855	1,470	5,800
	Rate	Households	308	11.2	30.2	43.0	81.9	8.4	28.2	62.8	98.2
	Rate	People		23.0	48.5	64.1	92.4	19.1	45.7	79.1	99.5
Rural											
	Line	People		481	770	963	1,925	444	748	1,286	5,075
	Rate	Households	444	24.3	45.6	60.2	89.1	21.0	44.2	75.9	99.3
	Rate	People		40.0	65.5	80.9	96.4	34.9	64.0	89.9	99.7
All											
	Line	People		509	815	1,019	2,038	470	792	1,362	5,372
	Rate	Households	752	19.1	39.5	53.4	86.2	16.0	37.9	70.7	98.9
	Rate	People		33.1	58.5	74.0	94.8	28.4	56.5	85.5	99.6

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Comoé): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		471	321	440	635	751	899	1,348
	Rate	Households	308	6.9	0.4	4.8	17.9	20.8	32.6	56.4
	Rate	People		16.6	0.8	11.8	34.0	37.1	50.8	74.8
Rural										
	Line	People		412	281	385	556	657	787	1,179
	Rate	Households	444	17.1	5.4	14.0	32.0	39.2	46.5	71.4
	Rate	People		29.5	10.4	25.3	50.7	59.3	66.9	87.4
All										
	Line	People		436	297	408	588	695	833	1,248
	Rate	Households	752	13.0	3.4	10.3	26.4	31.9	41.0	65.5
	Rate	People		24.2	6.5	19.8	43.9	50.2	60.3	82.3

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Denguélé): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		678	1,016	1,355
	Rate	Households	159	28.1	51.4	61.5
	Rate	People		40.3	71.4	79.9
Rural						
	Line	People		588	883	1,177
	Rate	Households	420	63.8	79.2	85.4
	Rate	People		79.4	90.7	93.9
All						
	Line	People		607	911	1,214
	Rate	Households	579	54.3	71.8	79.0
	Rate	People		71.2	86.6	90.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Denguélé): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		528	845	1,056	2,113	488	821	1,412	5,570
	Rate	Households	159	19.3	42.4	52.9	79.2	15.1	39.7	63.2	99.2
	Rate	People		31.2	60.1	72.5	91.0	25.5	57.5	81.2	99.5
Rural											
	Line	People		459	734	917	1,835	424	713	1,226	4,837
	Rate	Households	420	49.1	71.9	82.0	93.8	44.2	71.5	85.9	99.8
	Rate	People		65.6	85.5	92.1	97.5	60.1	85.2	94.2	99.9
All											
	Line	People		473	757	947	1,893	437	736	1,265	4,992
	Rate	Households	579	41.2	64.1	74.3	90.0	36.5	63.1	79.9	99.6
	Rate	People		58.4	80.1	88.0	96.2	52.8	79.4	91.4	99.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Denguélé): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		452	308	423	610	721	863	1,294
	Rate	Households	159	13.7	4.2	10.7	25.7	33.7	44.2	59.2
	Rate	People		22.2	5.4	17.5	37.5	48.0	62.4	78.2
Rural										
	Line	People		393	268	367	530	626	750	1,124
	Rate	Households	420	39.0	16.1	32.1	57.3	65.5	72.7	85.0
	Rate	People		53.9	24.7	44.7	73.5	80.4	86.0	93.8
All										
	Line	People		405	276	379	547	646	774	1,160
	Rate	Households	579	32.3	12.9	26.4	48.9	57.1	65.2	78.2
	Rate	People		47.2	20.6	39.0	65.9	73.6	81.0	90.5

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Gôh-Djiboua): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		694	1,041	1,388
	Rate	Households	383	33.7	53.9	69.7
	Rate	People		45.3	68.4	83.7
Rural						
	Line	People		628	942	1,256
	Rate	Households	468	42.5	62.3	77.0
	Rate	People		55.6	75.1	87.4
All						
	Line	People		654	981	1,307
	Rate	Households	851	39.2	59.1	74.2
	Rate	People		51.6	72.5	85.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Gôh-Djiboua): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		541	866	1,082	2,165	500	842	1,446	5,707
	Rate	Households	383	21.4	45.4	56.8	88.6	16.2	43.1	72.1	99.3
	Rate	People		28.9	59.6	71.1	95.9	23.2	56.5	85.4	99.8
Rural											
	Line	People		490	783	979	1,958	452	761	1,308	5,162
	Rate	Households	468	29.8	54.2	64.5	91.2	26.7	52.3	79.0	99.8
	Rate	People		39.1	68.4	77.0	96.6	35.1	66.6	89.0	99.9
All											
	Line	People		510	815	1,019	2,038	471	792	1,362	5,374
	Rate	Households	851	26.6	50.9	61.6	90.2	22.7	48.8	76.4	99.6
	Rate	People		35.1	65.0	74.7	96.3	30.5	62.7	87.6	99.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Gôh-Djiboua): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		463	316	433	625	739	884	1,326
	Rate	Households	383	13.7	7.1	11.5	27.2	36.5	46.0	65.7
	Rate	People		19.0	10.4	15.9	36.6	48.9	60.8	80.6
Rural										
	Line	People		419	286	392	565	668	800	1,200
	Rate	Households	468	25.2	14.6	22.1	37.6	45.5	55.1	75.9
	Rate	People		32.5	20.8	28.8	50.1	59.3	69.2	86.7
All										
	Line	People		436	297	408	589	696	833	1,249
	Rate	Households	851	20.8	11.7	18.1	33.6	42.1	51.7	72.0
	Rate	People		27.3	16.8	23.8	44.9	55.3	65.9	84.3

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Lacs): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		682	1,022	1,363
	Rate	Households	441	33.9	57.3	74.3
	Rate	People		51.1	76.5	88.3
Rural						
	Line	People		608	913	1,217
	Rate	Households	811	43.3	63.8	77.8
	Rate	People		62.7	82.1	91.6
All						
	Line	People		634	950	1,267
	Rate	Households	1,252	40.0	61.6	76.6
	Rate	People		58.7	80.2	90.5

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Lacs): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		531	850	1,062	2,125	491	826	1,420	5,603
	Rate	Households	441	20.6	49.0	60.3	87.7	17.2	47.4	76.9	98.7
	Rate	People		32.5	68.5	78.1	95.0	27.7	67.1	89.7	99.7
Rural											
	Line	People		474	759	949	1,897	438	738	1,268	5,002
	Rate	Households	811	25.3	55.4	65.9	91.5	20.9	53.6	79.2	99.7
	Rate	People		40.3	75.1	83.7	97.4	34.9	73.7	92.4	99.9
All											
	Line	People		494	790	988	1,976	456	768	1,320	5,208
	Rate	Households	1,252	23.7	53.2	64.0	90.2	19.6	51.5	78.4	99.3
	Rate	People		37.6	72.8	81.8	96.5	32.4	71.4	91.5	99.8

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Lacs): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		455	310	425	614	725	868	1,302
	Rate	Households	441	14.3	1.9	12.0	28.7	37.6	49.6	72.1
	Rate	People		25.0	5.3	22.0	44.4	57.1	69.0	87.0
Rural										
	Line	People		406	277	380	548	648	775	1,162
	Rate	Households	811	17.4	4.3	14.4	36.3	47.4	56.6	74.5
	Rate	People		29.8	8.1	25.2	54.4	67.7	76.4	89.7
All										
	Line	People		423	288	395	571	674	807	1,210
	Rate	Households	1,252	16.3	3.5	13.6	33.7	44.0	54.2	73.7
	Rate	People		28.1	7.1	24.1	51.0	64.0	73.9	88.7

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Lagunes): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		670	1,005	1,340
	Rate	Households	373	26.8	44.9	63.0
	Rate	People		39.9	63.7	80.6
Rural						
	Line	People		615	922	1,229
	Rate	Households	565	38.4	58.3	70.5
	Rate	People		56.2	78.0	86.9
All						
	Line	People		636	953	1,271
	Rate	Households	938	33.7	53.0	67.5
	Rate	People		50.0	72.6	84.5

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Lagunes): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		522	836	1,044	2,089	482	812	1,396	5,508
	Rate	Households	373	17.9	35.2	47.5	81.7	15.1	33.7	63.7	99.1
	Rate	People		28.6	49.9	65.7	92.4	24.4	48.7	81.1	99.7
Rural											
	Line	People		479	767	958	1,917	442	745	1,281	5,053
	Rate	Households	565	27.2	50.1	59.8	85.2	23.6	47.8	73.2	98.4
	Rate	People		42.2	69.7	79.1	94.4	36.8	66.8	88.6	99.5
All											
	Line	People		495	793	991	1,982	457	771	1,324	5,225
	Rate	Households	938	23.5	44.2	54.9	83.8	20.2	42.2	69.4	98.7
	Rate	People		37.0	62.3	74.0	93.6	32.1	60.0	85.8	99.6

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Lagunes): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		447	305	418	603	713	854	1,280
	Rate	Households	373	13.4	6.5	12.5	24.6	28.6	35.6	62.2
	Rate	People		22.7	11.3	21.3	37.7	42.1	50.8	80.1
Rural										
	Line	People		410	280	384	554	654	783	1,174
	Rate	Households	565	20.4	10.3	17.6	32.9	41.0	50.7	69.6
	Rate	People		32.6	17.0	28.3	50.3	59.2	70.5	86.4
All										
	Line	People		424	289	397	572	676	810	1,214
	Rate	Households	938	17.6	8.8	15.6	29.6	36.1	44.7	66.7
	Rate	People		28.9	14.9	25.7	45.6	52.8	63.0	84.1

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Montagnes): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		632	948	1,264
	Rate	Households	456	24.5	44.5	59.8
	Rate	People		38.9	60.9	74.6
Rural						
	Line	People		545	817	1,089
	Rate	Households	732	39.6	60.2	72.0
	Rate	People		56.1	75.3	84.3
All						
	Line	People		576	864	1,152
	Rate	Households	1,188	33.7	54.1	67.2
	Rate	People		49.9	70.1	80.8

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Montagnes): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		493	788	985	1,970	455	766	1,317	5,195
	Rate	Households	456	16.2	34.1	46.4	77.2	12.0	32.9	60.4	97.9
	Rate	People		27.3	49.8	63.5	86.8	20.4	48.4	75.0	99.0
Rural											
	Line	People		424	679	849	1,698	392	660	1,135	4,477
	Rate	Households	732	26.8	50.3	61.4	86.7	22.4	48.7	73.1	98.4
	Rate	People		40.8	66.8	76.3	94.2	35.4	65.4	85.3	99.5
All											
	Line	People		449	718	898	1,796	415	698	1,200	4,735
	Rate	Households	1,188	22.7	44.0	55.5	83.0	18.3	42.5	68.1	98.2
	Rate	People		36.0	60.7	71.7	91.5	30.0	59.3	81.6	99.3

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Montagnes): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		422	287	394	569	673	805	1,207
	Rate	Households	456	9.4	3.3	7.4	21.2	26.9	34.8	58.2
	Rate	People		15.5	5.1	12.1	34.5	42.4	50.7	73.3
Rural										
	Line	People		363	248	340	490	580	694	1,040
	Rate	Households	732	20.6	10.2	18.2	34.1	42.9	51.5	70.3
	Rate	People		32.9	17.5	29.8	49.5	59.5	68.0	82.9
All										
	Line	People		384	262	359	519	613	734	1,100
	Rate	Households	1,188	16.2	7.5	14.0	29.1	36.7	45.0	65.6
	Rate	People		26.6	13.0	23.4	44.1	53.3	61.8	79.4

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Sassandra-Marahoué): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		736	1,104	1,472
	Rate	Households	444	33.9	56.5	71.9
	Rate	People		45.3	69.5	84.3
Rural						
	Line	People		660	990	1,319
	Rate	Households	551	45.7	68.9	81.9
	Rate	People		60.4	82.2	91.6
All						
	Line	People		690	1,035	1,380
	Rate	Households	995	41.1	64.1	78.0
	Rate	People		54.4	77.2	88.7

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Sassandra-Marahoué): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		574	918	1,147	2,295	530	892	1,533	6,049
	Rate	Households	444	18.9	50.1	57.3	86.2	15.4	47.6	72.8	99.3
	Rate	People		27.7	63.9	70.6	94.1	22.0	61.2	84.7	99.7
Rural											
	Line	People		514	823	1,029	2,057	475	800	1,375	5,423
	Rate	Households	551	31.8	57.9	70.2	92.8	27.9	56.9	82.9	100.0
	Rate	People		42.5	72.7	83.5	97.5	38.1	72.0	92.2	100.0
All											
	Line	People		538	861	1,076	2,151	497	836	1,438	5,672
	Rate	Households	995	26.8	54.9	65.2	90.2	23.1	53.3	79.0	99.7
	Rate	People		36.6	69.2	78.4	96.1	31.7	67.7	89.2	99.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Sassandra-Marahoué): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		491	335	459	663	783	938	1,406
	Rate	Households	444	12.6	4.0	11.3	26.9	39.4	50.8	70.1
	Rate	People		17.9	5.2	16.7	36.9	53.0	64.4	82.6
Rural										
	Line	People		440	300	412	594	702	840	1,260
	Rate	Households	551	24.0	10.4	21.4	39.9	50.2	59.1	80.3
	Rate	People		33.8	14.4	29.7	52.8	65.7	73.6	90.4
All										
	Line	People		460	314	431	621	734	879	1,318
	Rate	Households	995	19.6	7.9	17.5	34.8	46.0	55.9	76.3
	Rate	People		27.5	10.7	24.5	46.5	60.7	70.0	87.3

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Savanes): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		674	1,011	1,348
	Rate	Households	456	32.9	57.9	74.6
	Rate	People		49.2	74.6	88.4
Rural						
	Line	People		582	873	1,164
	Rate	Households	576	47.8	72.1	85.2
	Rate	People		69.1	87.8	94.6
All						
	Line	People		620	930	1,240
	Rate	Households	1,032	41.7	66.3	80.8
	Rate	People		60.8	82.3	92.0

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Savanes): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		525	841	1,051	2,102	485	817	1,405	5,542
	Rate	Households	456	20.9	47.6	60.5	91.1	16.9	44.4	76.0	99.2
	Rate	People		35.5	65.9	76.9	97.1	29.5	62.9	89.1	99.8
Rural											
	Line	People		454	726	907	1,815	419	705	1,213	4,784
	Rate	Households	576	32.8	62.9	74.8	93.7	28.0	60.5	86.2	99.3
	Rate	People		52.8	81.5	89.5	97.9	46.8	79.8	95.2	99.7
All											
	Line	People		483	774	967	1,934	446	752	1,292	5,098
	Rate	Households	1,032	28.0	56.7	69.0	92.6	23.5	53.9	82.0	99.2
	Rate	People		45.6	75.0	84.3	97.6	39.7	72.8	92.6	99.7

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Savanes): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		450	307	421	607	717	859	1,288
	Rate	Households	456	14.1	5.4	12.3	27.2	35.9	48.3	70.8
	Rate	People		25.1	11.0	21.6	42.5	52.8	66.5	85.7
Rural										
	Line	People		388	265	363	524	619	741	1,112
	Rate	Households	576	23.7	10.4	20.9	42.6	52.9	63.7	83.7
	Rate	People		41.9	24.0	38.9	64.4	73.9	82.0	94.1
All										
	Line	People		414	282	387	558	660	790	1,185
	Rate	Households	1,032	19.8	8.4	17.4	36.4	46.0	57.4	78.5
	Rate	People		35.0	18.6	31.7	55.3	65.1	75.6	90.6

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Vallée du Bandama): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		699	1,049	1,399
	Rate	Households	444	34.8	55.5	72.2
	Rate	People		50.7	71.8	85.5
Rural						
	Line	People		642	963	1,284
	Rate	Households	385	46.6	69.2	82.5
	Rate	People		61.8	82.9	92.4
All						
	Line	People		676	1,014	1,351
	Rate	Households	829	39.8	61.4	76.6
	Rate	People		55.3	76.4	88.3

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Vallée du Bandama): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		545	872	1,090	2,181	503	848	1,457	5,750
	Rate	Households	444	18.8	46.1	57.4	87.7	14.6	45.0	76.0	98.9
	Rate	People		28.6	62.4	73.7	95.0	23.0	61.4	88.0	99.7
Rural											
	Line	People		500	800	1,001	2,001	462	778	1,337	5,276
	Rate	Households	385	29.9	60.5	71.0	93.3	25.6	56.1	83.6	99.7
	Rate	People		43.2	75.2	84.7	97.9	36.9	71.5	93.0	99.8
All											
	Line	People		527	843	1,053	2,107	486	819	1,408	5,555
	Rate	Households	829	23.6	52.3	63.2	90.1	19.3	49.7	79.2	99.2
	Rate	People		34.6	67.7	78.2	96.2	28.7	65.5	90.1	99.8

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Vallée du Bandama): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		467	318	436	630	744	891	1,336
	Rate	Households	444	11.9	4.5	9.3	27.9	38.0	46.3	71.1
	Rate	People		19.0	8.2	16.1	42.1	54.2	62.6	84.1
Rural										
	Line	People		428	292	400	578	683	818	1,226
	Rate	Households	385	20.6	11.7	18.5	38.7	49.6	61.1	80.7
	Rate	People		30.7	16.8	28.4	52.6	64.6	75.6	91.6
All										
	Line	People		451	307	422	608	719	861	1,291
	Rate	Households	829	15.6	7.6	13.3	32.5	43.0	52.6	75.2
	Rate	People		23.8	11.7	21.2	46.5	58.5	68.0	87.2

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Woroba): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		674	1,011	1,347
	Rate	Households	240	43.3	68.5	79.9
	Rate	People		59.8	84.2	92.3
Rural						
	Line	People		573	860	1,147
	Rate	Households	660	45.4	70.6	84.5
	Rate	People		57.8	80.7	91.7
All						
	Line	People		597	895	1,193
	Rate	Households	900	44.9	70.1	83.4
	Rate	People		58.3	81.5	91.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Woroba): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		525	840	1,050	2,101	485	817	1,404	5,539
	Rate	Households	240	26.9	56.9	70.7	94.1	24.4	55.7	82.4	100.0
	Rate	People		37.8	74.0	85.8	98.0	34.8	73.0	93.7	100.0
Rural											
	Line	People		447	715	894	1,788	413	695	1,195	4,713
	Rate	Households	660	29.1	59.4	73.0	95.7	24.7	58.4	85.4	99.9
	Rate	People		40.2	70.9	82.3	98.3	34.9	69.6	92.2	100.0
All											
	Line	People		465	744	930	1,860	429	723	1,243	4,905
	Rate	Households	900	28.6	58.8	72.4	95.3	24.7	57.7	84.6	99.9
	Rate	People		39.6	71.6	83.1	98.2	34.9	70.4	92.6	100.0

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Woroba): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		449	306	420	607	717	858	1,287
	Rate	Households	240	22.3	7.1	18.3	35.1	48.3	59.3	76.8
	Rate	People		30.9	9.6	25.5	48.5	65.9	76.6	90.6
Rural										
	Line	People		382	261	358	516	610	730	1,095
	Rate	Households	660	22.0	9.8	19.2	38.0	49.2	60.9	83.1
	Rate	People		31.4	13.1	27.1	49.9	60.9	72.2	90.7
All										
	Line	People		398	271	372	537	635	760	1,140
	Rate	Households	900	22.0	9.1	19.0	37.3	49.0	60.5	81.5
	Rate	People		31.3	12.3	26.7	49.6	62.1	73.2	90.7

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Zanzan): National poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	*n*	Poverty lines and poverty rates (%) National (2008 def.) 100%	150%	200%
Urban						
	Line	People		684	1,026	1,367
	Rate	Households	276	35.6	55.3	74.1
	Rate	People		50.2	70.6	86.4
Rural						
	Line	People		617	925	1,234
	Rate	Households	432	45.7	69.8	83.8
	Rate	People		56.1	81.5	92.8
All						
	Line	People		637	956	1,274
	Rate	Households	708	42.5	65.2	80.7
	Rate	People		54.3	78.2	90.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Zanzan): International 2005 and 2011 PPP poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	n	Poverty lines and poverty rates (%)							
				Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Urban											
	Line	People		533	853	1,066	2,132	492	829	1,425	5,621
	Rate	Households	276	20.7	48.5	59.1	90.8	16.9	46.1	75.7	98.7
	Rate	People		31.2	63.7	72.8	95.8	26.9	61.5	87.8	99.7
Rural											
	Line	People		481	770	962	1,924	444	748	1,286	5,072
	Rate	Households	432	31.6	59.1	72.3	94.2	26.8	57.9	84.4	100.0
	Rate	People		41.3	70.6	83.4	98.0	36.6	69.3	93.0	100.0
All											
	Line	People		497	795	993	1,987	459	772	1,328	5,238
	Rate	Households	708	28.1	55.7	68.1	93.1	23.6	54.2	81.6	99.6
	Rate	People		38.2	68.5	80.2	97.3	33.6	67.0	91.4	99.9

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 1 (Zanzan): Relative and percentile-based poverty lines and poverty rates for households and people by urban/rural/all in 2015

Area	Line or Rate	Households or People	n	Poverty lines and poverty rates (%)						
				Poorest 1/2	Percentile-based lines (2008 def.)					
				< 100% Natl.	10th	20th	40th	50th	60th	80th
Urban										
	Line	People		456	311	427	616	728	871	1,306
	Rate	Households	276	14.5	3.0	11.0	30.6	38.6	49.1	71.1
	Rate	People		23.6	6.8	18.5	44.2	54.3	64.7	83.8
Rural										
	Line	People		412	281	385	556	657	786	1,179
	Rate	Households	432	23.3	6.7	19.0	38.7	48.4	59.7	81.5
	Rate	People		32.2	10.7	26.0	49.1	59.4	71.1	91.2
All										
	Line	People		425	290	398	574	678	812	1,217
	Rate	Households	708	20.5	5.5	16.4	36.1	45.3	56.3	78.2
	Rate	People		29.6	9.5	23.7	47.6	57.9	69.2	89.0

Source: 2015 ENV

Poverty rates are percentages.

Poverty lines are XOF per-person per-day.

Poverty lines are XOF in prices in Abidjan on average from January to March 2015.

Table 2: Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
1,727	How many household members are 15-years-old or younger? (Four or more; Three; Two; One; None)
1,725	How many household members are 14-years-old or younger? (Four or more; Three; Two; One; None)
1,713	How many household members are 13-years-old or younger? (Four or more; Three; Two; One; None)
1,690	How many household members are 16-years-old or younger? (Four or more; Three; Two; One; None)
1,690	How many household members are 17-years-old or younger? (Four or more; Three; Two; One; None)
1,687	How many household members are 18-years-old or younger? (Four or more; Three; Two; One; None)
1,654	How many household members are 12-years-old or younger? (Four or more; Three; Two; One; None)
1,641	How many household members are there? (Seven or more; Six; Five; Four; Three; Two; One)
1,578	How many household members are 11-years-old or younger? (Four or more; Three; Two; One; None)
1,139	How many household members are 6-years-old or younger? (Two or more; One; None)
856	Do all household members ages 7 to 13 go to school this school year? (No; No members 7 to 13; Yes)
854	Do all household members ages 7 to 14 go to school this school year? (No; No members 7 to 14; Yes)
843	Do all household members ages 7 to 15 go to school this school year? (No; No members 7 to 15; Yes)
827	Do all household members ages 7 to 12 go to school this school year? (No; No members 7 to 12; Yes)
805	What is the highest grade that the (eldest) female head/spouse has passed? (Never went to school/none, or day-care; Koranic (any year), CP1, CP2, CE1, CE2, CM1, CM2, sixth, fifth, or fourth; No female head/spouse; Third, second, first, terminal, or post-secondary (any year))
782	Do all household members ages 7 to 16 go to school this school year? (No; No members 7 to 18; Yes)
755	Do all household members ages 7 to 17 go to school this school year? (No; No members 7 to 17; Yes)
743	Can the (eldest) female head/spouse read and write in French or in another language? (No female head/spouse; No; Yes)
739	Do all household members ages 7 to 11 go to school this school year? (No; No members 7 to 11; Yes)
734	Can the (eldest) female head/spouse read and write in French ? (No female head/spouse; No; Yes)
731	Do all household members ages 7 to 18 go to school this school year? (No; No members 7 to 18; Yes)

Table 2 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
578	If the (eldest) female head/spouse did at least one hour of marketable work in the last 7 days, then what was the payment arrangement in her main occupation? (In kind, not remunerated, commission, by the task, did not work, or other; Business profits, or by the day or hour; No female head/spouse; Salary or wage)
555	If the (eldest) female head/spouse did at least one hour of marketable work in the last 7 days, then was her job, occupation, or profession in her main type of work in farming, animal husbandry, or fishing? (Works in farming, animal husbandry, or fishing; Does not work; Works in something other than farming, animal husbandry, or fishing; No female head/spouse)
547	Can the female head/spouse read and write a language other than French? (No; Yes; No female head/spouse)
502	Does the household head have a spouse/conjugal partner? (Yes; Female head without a spouse/conjugal partner; Male head without a spouse/conjugal partner)
471	What is the main source of drinking water? (Standing surface water (puddle, river, and so on), village pump, or other; Public well, or well in yard/compound; Faucet outside the residence, or faucet in the yard/compound; Faucet inside the residence)
469	In the past 7 days, did the (eldest) female head/spouse do at least one hour of marketable work for payment, profit, or without remuneration for a business or for a household enterprise? (No; Yes; No female head/spouse)
456	How many mats in good working order did your household have in the last 3 months? (Three or more; Two; One; None)
429	What is the household's main cooking fuel? (Collected wood, does not cook, or other; Purchased wood, or kerosene; Charcoal; LPG, or electricity)
369	Did the household have a fan in good working order in the last 3 months? (No; Yes)

Table 2 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
348	What toilet arrangement does the household use? (None/bush/no toilet arrangement, or other; Latrine inside the yard/compound; Latrine outside the yard/compound; Flush toilet (inside or outside the residence))
329	What is your tenancy status of your residence? (Owner-occupied; Sub-let, or free from a relative; Renter, rent-to-own, or subsidized (all or part))
301	What is the main construction material of the floor? (Dirt or sand, planks/wood, carpet/rug, or other; Cement; Tile/marble)
294	Did the household have a TV, VCR/DVD player, or satellite dish in good working order in the last 3 months? (No TV (regardless of VCR/DVD or satellite dish); TV, but no VCR/DVD or satellite dish; TV, and VCR/DVD or satellite dish)
293	What is the household's main source of lighting? (Flashlight, or other; Firewood, lamp (kerosene, gaz, oil), solar panel, or generator; Electricity (CIE))
288	What is the highest grade that the male head/spouse has passed? (Never went to school/none, or day-care; Koranic (any year), CP1, CP2, CE1, CE2, or CM1; No male head/spouse; CM2, sixth, fifth, or fourth; Third, second, first, or terminal; Post-secondary (any year))
287	Where do you take baths? (Outside, rudimentary shower, or other; Bathroom)
246	Did the household have a VCR/DVD player in good working order in the last 3 months? (No; Yes)
238	In the last 12 months, did the household or any of its members own any agricultural land or farm any land that belonged to someone else? (Yes; No)
235	Did the household have a television in good working order in the last 3 months? (No; Yes)
228	How many pestles and mortars in good working status did your household have in the last 3 months? (Two or more; One; None)
223	Do you currently have an armchair? (No; Yes)
209	Did the household have a stove in good working order in the last 3 months? (No; Yes)
200	Does the household possess a residence? (Yes; No)

Table 2 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
187	What is the main construction material of the outer walls? (Observe and record) (Packed earth, bamboo/leaves, planks/wood, packed earth with a cement veneer, red clay with a little cement (géo-béton), or other; Sheet metal, or cement)
171	If the male head/spouse did at least one hour of marketable work in the last 7 days, then what was the payment arrangement in his main occupation? (Business profits, or not remunerated; By the task, in kind, did not work, or other; No male head/spouse; Salary or wage, commission, or by the day or hour)
160	If the male head/spouse did at least one hour of marketable work in the last 7 days, then was his job, occupation, or profession in his main type of work in farming, animal husbandry, or fishing? (Works in farming, animal husbandry, or fishing; Does not work; No male head/spouse; Works in something other than farming, animal husbandry, or fishing)
156	Can the male head/spouse read and write in French or in another language? (No male head/spouse; No; Yes)
154	Did the household have a armchair (lounge suite) in good working order in the last 3 months? (No; Yes)
152	Does the household possess any agricultural land? (Yes; No)
148	Did the household have a refrigerator or freezer in good working order in the last 3 months? (No; Yes)
148	In what type of residence does the household live? (Traditional hut, detached rural house, or shack; Apartment in a compound; Housing (*bande*) owned by individual; Housing (*bande*) owned by a real-estate company, apartment, or modern detached house)
137	Can the male head/spouse read and write in French? (No male head/spouse; No; Yes)
130	Did any household members 5-years-old or older do at least one hour of marketable work in the last 7 days for a salary or wage in their main occupation? (No; Yes)
129	Do you currently have a stool? (Yes; No)
127	How many rooms does the household use for sleeping? (Three or more; Two; One)

Table 2 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
127	How many household members 5-years-old or older did at least one hour of marketable work in the last 7 days and were paid in kind or were not remunerated at all in their main occupation? Two or more; One; None)
118	Did the household have a bicycle, motorcycle/scooter, automobile, or van in good working order in the last 3 months? (Only bicycle; None; motorcycle/scooter, automobile, or van (regardless of bicycle))
114	In the past 7 days, how many household members 5-years-old or older did at least one hour of marketable work for payment, profit, or without remuneration for a business or for a household enterprise? (Three or more; Two; One; None)
112	Did the household have a bicycle in good working order in the last 3 months? (Yes; No)
112	Can the male head/spouse read and write in a language other than French? (No; No male head/spouse; Yes)
94	Did the household have a parabolic dish in good working order in the last 3 months? (No; Yes)
84	How many household members 5-years-old or older did at least one hour of marketable work in the last 7 days and had their main occupation in agriculture, animal husbandry, or fishing? (Five; Four; Three or fewer)
76	What is the main construction material of the roof? (Plant fibers, plastic sheets, tile/asbestos sheets, or other; Sheet metal, or reinforced concrete/cement)
69	Did the household have a car or pick-up in good working order in the last 3 months? (No; Yes)
68	Do you currently have a table? (No; Yes)
67	How many beds in good working order did your household have in the last 3 months? (None; One; Two or more)
41	How many tables in good working order did your household have in the last 3 months? (None; One; Two; Three or more)
27	How many plastic buckets in good working order did your household have in the last 3 months? (Four or more; Three; Two; One; None)

Table 2 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
23	In the last 12 months, did the household or any of its members own any livestock (such as cattle or poultry) or take care of any livestock that belonged to someone else? (Yes; No)
21	Do you currently have a chair? (No; Yes)
20	Did the household have a radio in good working order in the last 3 months? (No; Yes))
15	In the past 7 days, did the male head/spouse do at least one hour of marketable work for payment, profit, or without remuneration for a business or for a household enterprise? (No; No male head/spouse; Yes)
15	How many cells phones in good working order did your household have in the last 3 months? (None, or one; Two; Three or more)
15	How many chairs in good working order did your household have in the last 3 months? (None; One or more)
13	How many sheets and blankets in good working order did your household have in the last 3 months? (None; One; Two; Three; Four; Five; Six or more)
5	How many mattresses in good working order did your household have in the last 3 months? (None; One; Two; Three or more)
3	Did any household members 5-years-old or older do at least one hour of marketable work in the last 7 days and were paid by the day, hour, or task in their main occupation? (Yes; No)
3	Did the household have a motorcycle/scooter in good working order in the last 3 months? (No; Yes)
1	In the last 12 months, has any member of the household earned income from self-employment (such as, for example, selling things or cutting hair) or owned a business or small enterprise engaged in something other than agriculture, animal husbandry, or fishing? (Yes; No)
0	Does the household possess any undeveloped or vacant lots? (Yes; No)
0	Did the household have a wheelbarrow, plow, or sprayer in good working order in the last 3 months? (No; Yes)

Source: 2015 ENV with 100% of the national poverty line

Tables for
100% of the National Poverty Line

(and Tables Pertaining
to All Poverty Lines)

Table 3 (100% of the national line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	88.7
19–25	78.4
26–29	72.9
30–32	65.9
33–35	56.3
36–38	53.5
39–41	45.1
42–43	41.8
44–45	40.3
46–48	31.4
49–51	27.2
52–54	20.1
55–57	15.8
58–59	14.8
60–61	10.4
62–63	9.3
64–66	7.2
67–69	5.9
70–75	1.6
76–100	0.5

Table 4 (100% of the national line): Derivation of estimated poverty likelihoods

Score	Households in range and < poverty line		All households in range		Poverty likelihood (%)
0–18	6,022	÷	6,790	=	88.7
19–25	5,994	÷	7,640	=	78.4
26–29	4,687	÷	6,427	=	72.9
30–32	4,094	÷	6,215	=	65.9
33–35	3,712	÷	6,598	=	56.3
36–38	4,434	÷	8,285	=	53.5
39–41	3,342	÷	7,419	=	45.1
42–43	2,477	÷	5,926	=	41.8
44–45	2,470	÷	6,129	=	40.3
46–48	2,601	÷	8,280	=	31.4
49–51	1,987	÷	7,308	=	27.2
52–54	1,943	÷	9,653	=	20.1
55–57	1,434	÷	9,074	=	15.8
58–59	1,027	÷	6,924	=	14.8
60–61	702	÷	6,777	=	10.4
62–63	649	÷	6,968	=	9.3
64–66	690	÷	9,641	=	7.2
67–69	373	÷	6,346	=	5.9
70–75	143	÷	8,949	=	1.6
76–100	32	÷	7,153	=	0.5

Number of all households normalized to sum to 100,000.

Table 5 (100% of the national line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–4.1	2.9	3.0	3.3
19–25	–5.7	4.0	4.2	4.4
26–29	+4.6	3.7	4.4	5.4
30–32	+6.6	3.8	4.7	5.9
33–35	–8.2	5.7	6.1	6.7
36–38	+0.2	3.0	3.7	4.7
39–41	+0.8	3.3	4.0	5.4
42–43	+5.3	3.6	4.2	5.6
44–45	+2.6	3.6	4.2	5.5
46–48	+2.7	2.7	3.1	3.9
49–51	+2.9	2.8	3.5	4.4
52–54	–5.4	4.2	4.5	4.9
55–57	+2.8	1.8	2.1	2.8
58–59	+6.9	1.7	2.1	2.9
60–61	–0.9	2.2	2.6	3.4
62–63	–6.4	4.6	4.9	5.5
64–66	–0.7	1.6	1.9	2.4
67–69	+4.2	0.7	0.8	1.1
70–75	+1.5	0.1	0.1	0.1
76–100	+0.5	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps of n = 16,384 from validation sample.

Table 6 (100% of the national line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.1	64.5	74.0	85.1
4	+0.1	32.8	40.5	53.2
8	–0.1	24.9	29.3	39.2
16	+0.4	17.6	21.7	29.9
32	+0.5	12.8	14.8	19.8
64	+0.5	8.9	10.7	15.9
128	+0.5	6.7	7.8	9.7
256	+0.5	4.8	5.7	7.2
512	+0.5	3.3	3.9	5.2
1,024	+0.5	2.4	2.8	3.6
2,048	+0.5	1.7	2.0	2.6
4,096	+0.5	1.2	1.4	1.8
8,192	+0.5	0.8	1.0	1.3
16,384	+0.5	0.6	0.7	0.9

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 7 (National lines): Errors in households' estimated poverty rates at a point in time, precision, and the α factor for precision

	Poverty lines		
	National (2008 def.)		
	100%	150%	200%
Error (estimate minus observed value)	+0.5	+1.3	+1.4
Precision of estimate	0.6	0.6	0.6
Alpha factor for precision	0.98	0.94	0.98

Scorecard applied to 1,000 bootstraps from the validation sample.
Errors (differences between estimates and observed values) are in units of percentage points.
Precision is measured as 90-percent confidence intervals in units of ± percentage points.
Errors and precision estimated from 1,000 bootstraps with n = 16,384.
Alpha is estimated from 1,000 bootstrap samples of n = 256, 512, 1,024, 2,048, 4,096, 8,192, and 16,384.

Table 7 (International 2005 and 2011 PPP lines): Errors in households' estimated poverty rates at a point in time, precision, and the α factor for precision

	Poverty lines							
	Intl. 2005 PPP (2008 def.)				Intl. 2011 PPP (2008 def.)			
	$1.25	$2.00	$2.50	$5.00	$1.90	$3.20	$5.50	$21.70
Error (estimate minus observed value)	+0.3	+1.3	+0.9	+0.4	+0.9	+1.2	+1.6	+0.2
Precision of estimate	0.5	0.6	0.6	0.5	0.4	0.6	0.6	0.2
Alpha factor for precision	0.92	0.96	0.95	1.05	0.92	0.96	1.00	1.28

Scorecard applied to 1,000 bootstraps from the validation sample.

Errors (differences between estimates and observed values) are in units of percentage points.

Precision is measured as 90-percent confidence intervals in units of ± percentage points.

Errors and precision estimated from 1,000 bootstraps with n = 16,384.

Alpha is estimated from 1,000 bootstrap samples of n = 256, 512, 1,024, 2,048, 4,096, 8,192, and 16,384.

Table 7 (Relative and percentile-based lines): Errors in households' estimated poverty rates at a point in time, precision, and the α factor for precision

	Poverty lines						
	Poorest 1/2	Percentile-based lines (2008 def.)					
	< 100% Natl.	10th	20th	40th	50th	60th	80th
Error (estimate minus observed value)	+0.6	–0.3	+0.4	+0.5	+0.8	+1.1	+1.2
Precision of estimate	0.4	0.3	0.4	0.5	0.0	0.6	0.6
Alpha factor for precision	0.94	0.99	0.93	0.97	0.98	0.96	0.96

Scorecard applied to 1,000 bootstraps from the validation sample.

Errors (differences between estimates and observed values) are in units of percentage points.

Precision is measured as 90-percent confidence intervals in units of ± percentage points.

Errors and precision estimated from 1,000 bootstraps with n = 16,384.

Alpha is estimated from 1,000 bootstrap samples of n = 256, 512, 1,024, 2,048, 4,096, 8,192, and 16,384.

Table 8 (All poverty lines): Possible targeting outcomes

Observed poverty status	Targeting segment: Targeted	Targeting segment: Non-targeted
Poor	**Inclusion** Poor correctly targeted	**Undercoverage** Poor mistakenly not targeted
Non-poor	**Leakage** Non-poor mistakenly targeted	**Exclusion** Non-poor correctly not targeted

Table 9 (100% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.0	28.7	0.4	66.9	71.0	–74.2
<=25	8.1	24.6	1.2	66.0	74.2	–46.5
<=29	11.1	21.7	2.6	64.7	75.8	–24.7
<=32	13.6	19.1	4.0	63.3	76.9	–4.7
<=35	16.6	16.1	5.7	61.6	78.2	+18.8
<=38	19.6	13.2	8.2	59.1	78.7	+44.5
<=41	21.9	10.8	11.3	56.0	77.9	+65.4
<=43	23.5	9.3	13.6	53.7	77.2	+58.6
<=45	24.9	7.8	15.7	51.6	76.5	+52.0
<=48	26.9	5.8	20.4	46.8	73.7	+37.6
<=51	28.3	4.4	25.0	42.3	70.6	+23.6
<=54	29.7	3.0	30.2	37.1	66.8	+7.9
<=57	30.6	2.1	35.5	31.7	62.3	–8.6
<=59	31.0	1.7	38.9	28.4	59.4	–18.8
<=61	31.5	1.2	42.7	24.6	56.1	–30.4
<=63	32.1	0.7	46.7	20.6	52.7	–42.6
<=66	32.6	0.2	52.5	14.7	47.3	–60.5
<=69	32.7	0.0	57.1	10.1	42.8	–74.6
<=75	32.7	0.0	62.9	4.3	37.1	–92.2
<=100	32.7	0.0	67.3	0.0	32.7	–105.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (100% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	92.0	12.4	11.5:1
<=25	9.4	86.9	24.9	6.6:1
<=29	13.6	81.2	33.8	4.3:1
<=32	17.6	77.4	41.6	3.4:1
<=35	22.3	74.6	50.8	2.9:1
<=38	27.7	70.5	59.8	2.4:1
<=41	33.2	65.9	66.9	1.9:1
<=43	37.0	63.4	71.7	1.7:1
<=45	40.6	61.4	76.1	1.6:1
<=48	47.3	56.8	82.1	1.3:1
<=51	53.4	53.1	86.6	1.1:1
<=54	59.9	49.6	90.7	1.0:1
<=57	66.2	46.3	93.5	0.9:1
<=59	69.9	44.3	94.7	0.8:1
<=61	74.2	42.5	96.2	0.7:1
<=63	78.7	40.7	98.0	0.7:1
<=66	85.1	38.3	99.5	0.6:1
<=69	89.9	36.4	100.0	0.6:1
<=75	95.7	34.2	100.0	0.5:1
<=100	100.0	32.7	100.0	0.5:1

Scorecard applied to the validation sample.

Tables for
150% of the National Poverty Line

Table 3 (150% of the national line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	97.8
19–25	94.3
26–29	91.4
30–32	90.0
33–35	86.8
36–38	81.9
39–41	74.4
42–43	71.9
44–45	69.1
46–48	64.6
49–51	55.7
52–54	48.9
55–57	39.4
58–59	34.5
60–61	28.5
62–63	25.3
64–66	20.2
67–69	16.5
70–75	10.3
76–100	2.8

Table 5 (150% of the national line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–0.5	0.9	1.0	1.3
19–25	+0.3	1.7	1.9	2.6
26–29	+3.5	3.2	3.9	5.1
30–32	+2.6	2.6	3.3	4.2
33–35	–0.4	2.4	2.8	3.5
36–38	+4.0	2.8	3.2	4.1
39–41	–2.0	2.8	3.4	4.2
42–43	–1.2	3.4	4.2	5.4
44–45	–6.8	5.1	5.3	5.9
46–48	+3.1	2.9	3.3	4.1
49–51	+4.0	3.1	3.8	4.8
52–54	–3.2	3.1	3.7	4.7
55–57	+5.8	2.8	3.3	4.1
58–59	–0.7	3.6	4.3	5.9
60–61	+4.5	2.9	3.4	4.4
62–63	–3.9	3.6	4.0	5.0
64–66	–6.0	4.3	4.6	5.1
67–69	+7.7	1.7	2.0	2.8
70–75	+8.5	0.6	0.7	1.0
76–100	+0.5	0.9	1.1	1.5

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (150% of the national line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.4	66.2	78.3	88.2
4	–0.5	37.4	43.7	54.7
8	+0.5	26.0	31.3	40.2
16	+0.8	19.4	22.7	28.7
32	+1.2	14.2	16.9	21.8
64	+1.3	9.8	11.8	14.7
128	+1.2	7.0	8.1	10.8
256	+1.2	4.8	5.9	7.8
512	+1.3	3.5	4.2	5.3
1,024	+1.3	2.4	2.9	4.1
2,048	+1.3	1.8	2.0	2.8
4,096	+1.3	1.2	1.4	1.8
8,192	+1.3	0.8	1.0	1.4
16,384	+1.3	0.6	0.7	1.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (150% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.3	49.4	0.1	46.2	50.5	–83.8
<=25	9.0	44.7	0.4	45.9	55.0	–65.8
<=29	12.9	40.8	0.7	45.6	58.5	–50.6
<=32	16.5	37.2	1.1	45.2	61.6	–36.6
<=35	20.6	33.2	1.7	44.6	65.1	–20.3
<=38	25.0	28.8	2.8	43.5	68.5	–1.9
<=41	29.1	24.6	4.1	42.2	71.3	+16.1
<=43	32.0	21.7	5.0	41.3	73.3	+28.6
<=45	34.8	18.9	5.9	40.4	75.2	+40.3
<=48	39.0	14.7	8.3	38.0	76.9	+60.6
<=51	42.3	11.4	11.1	35.2	77.5	+78.1
<=54	45.4	8.3	14.4	31.9	77.3	+73.1
<=57	47.7	6.0	18.5	27.8	75.5	+65.6
<=59	48.9	4.8	21.0	25.3	74.2	+60.9
<=61	50.0	3.7	24.1	22.1	72.2	+55.0
<=63	51.3	2.4	27.5	18.8	70.1	+48.9
<=66	52.9	0.8	32.3	14.0	66.9	+39.9
<=69	53.4	0.3	36.4	9.9	63.3	+32.2
<=75	53.6	0.1	42.1	4.2	57.8	+21.7
<=100	53.7	0.0	46.3	0.0	53.7	+13.8

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (150% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	98.1	8.0	51.8:1
<=25	9.4	96.2	16.8	25.5:1
<=29	13.6	94.8	24.0	18.3:1
<=32	17.6	93.6	30.7	14.7:1
<=35	22.3	92.3	38.3	12.0:1
<=38	27.7	90.0	46.5	9.0:1
<=41	33.2	87.7	54.3	7.1:1
<=43	37.0	86.5	59.6	6.4:1
<=45	40.6	85.6	64.7	5.9:1
<=48	47.3	82.4	72.6	4.7:1
<=51	53.4	79.2	78.7	3.8:1
<=54	59.9	75.9	84.6	3.1:1
<=57	66.2	72.0	88.7	2.6:1
<=59	69.9	70.0	91.1	2.3:1
<=61	74.2	67.5	93.2	2.1:1
<=63	78.7	65.1	95.5	1.9:1
<=66	85.1	62.1	98.4	1.6:1
<=69	89.9	59.4	99.5	1.5:1
<=75	95.7	56.0	99.8	1.3:1
<=100	100.0	53.7	100.0	1.2:1

Scorecard applied to the validation sample.

Tables for
200% of the National Poverty Line

Table 3 (200% of the national line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	99.4
19–25	98.5
26–29	97.5
30–32	96.0
33–35	95.5
36–38	93.7
39–41	90.4
42–43	88.1
44–45	85.5
46–48	84.0
49–51	74.2
52–54	69.6
55–57	65.6
58–59	62.0
60–61	51.0
62–63	46.6
64–66	39.4
67–69	35.8
70–75	22.2
76–100	6.4

Table 5 (200% of the national line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–0.5	0.3	0.3	0.3
19–25	+1.1	1.2	1.4	2.0
26–29	–1.0	0.8	0.9	1.0
30–32	+1.5	1.8	2.1	2.9
33–35	–2.3	1.6	1.6	1.8
36–38	–0.6	1.4	1.6	2.1
39–41	+1.9	2.4	2.8	3.6
42–43	–0.8	2.4	3.0	4.3
44–45	–8.5	5.1	5.2	5.5
46–48	+4.5	2.4	2.9	3.6
49–51	–6.4	4.3	4.4	4.7
52–54	–3.3	2.9	3.2	4.2
55–57	+7.5	2.8	3.4	4.5
58–59	+6.2	3.8	4.5	5.9
60–61	+11.8	3.3	4.0	5.1
62–63	+6.0	3.5	4.1	5.3
64–66	–6.1	4.6	5.0	5.4
67–69	+12.6	2.7	3.2	4.2
70–75	+0.6	2.9	3.5	4.3
76–100	+3.0	1.0	1.2	1.6

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (200% of the national line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.9	66.3	73.2	85.8
4	0.0	35.7	41.4	55.2
8	+1.3	26.1	31.1	40.1
16	+1.4	18.2	22.2	30.9
32	+1.4	13.2	16.2	20.5
64	+1.4	9.5	11.4	14.7
128	+1.4	6.5	7.6	10.8
256	+1.4	4.7	5.7	7.3
512	+1.4	3.3	4.0	4.9
1,024	+1.4	2.3	2.7	3.5
2,048	+1.4	1.6	1.8	2.3
4,096	+1.4	1.2	1.4	1.8
8,192	+1.4	0.8	1.0	1.3
16,384	+1.4	0.6	0.7	1.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (200% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.4	64.3	0.0	31.3	35.6	–87.2
<=25	9.3	59.5	0.1	31.2	40.4	–72.9
<=29	13.4	55.3	0.2	31.1	44.5	–60.7
<=32	17.2	51.5	0.4	30.9	48.1	–49.4
<=35	21.8	47.0	0.5	30.8	52.5	–35.9
<=38	26.9	41.8	0.8	30.4	57.3	–20.5
<=41	31.9	36.9	1.4	29.9	61.8	–5.3
<=43	35.3	33.4	1.7	29.6	64.9	+5.3
<=45	38.7	30.0	1.9	29.4	68.1	+15.4
<=48	44.2	24.6	3.1	28.1	72.3	+33.1
<=51	49.0	19.8	4.4	26.9	75.8	+48.9
<=54	53.6	15.1	6.3	25.0	78.6	+65.1
<=57	57.3	11.4	8.8	22.5	79.8	+79.7
<=59	59.5	9.2	10.4	20.9	80.4	+84.9
<=61	61.4	7.3	12.8	18.5	79.9	+81.4
<=63	63.3	5.5	15.5	15.8	79.0	+77.5
<=66	66.0	2.7	19.1	12.1	78.1	+72.2
<=69	67.4	1.3	22.4	8.8	76.3	+67.4
<=75	68.5	0.2	27.2	4.1	72.6	+60.5
<=100	68.7	0.0	31.3	0.0	68.7	+54.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (200% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	99.7	6.4	365.0:1
<=25	9.4	98.9	13.5	89.5:1
<=29	13.6	98.6	19.5	68.9:1
<=32	17.6	97.8	25.0	45.4:1
<=35	22.3	97.7	31.7	43.3:1
<=38	27.7	97.0	39.1	31.8:1
<=41	33.2	95.9	46.4	23.5:1
<=43	37.0	95.4	51.4	20.9:1
<=45	40.6	95.3	56.3	20.4:1
<=48	47.3	93.4	64.3	14.1:1
<=51	53.4	91.8	71.2	11.1:1
<=54	59.9	89.6	78.0	8.6:1
<=57	66.2	86.7	83.4	6.5:1
<=59	69.9	85.1	86.6	5.7:1
<=61	74.2	82.8	89.4	4.8:1
<=63	78.7	80.3	92.0	4.1:1
<=66	85.1	77.5	96.0	3.4:1
<=69	89.9	75.0	98.1	3.0:1
<=75	95.7	71.6	99.7	2.5:1
<=100	100.0	68.7	100.0	2.2:1

Scorecard applied to the validation sample.

Tables for
$1.25/day 2005 PPP Poverty Line

Table 3 ($1.25/day 2005 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	73.7
19–25	60.0
26–29	51.7
30–32	42.8
33–35	35.1
36–38	29.4
39–41	24.7
42–43	24.7
44–45	21.9
46–48	15.6
49–51	12.2
52–54	9.8
55–57	8.5
58–59	7.1
60–61	5.8
62–63	4.7
64–66	3.2
67–69	2.5
70–75	1.1
76–100	0.5

Table 5 ($1.25/day 2005 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–3.0	3.0	3.5	4.5
19–25	+0.3	3.1	3.8	5.1
26–29	–2.5	3.8	4.6	5.7
30–32	–3.9	3.9	4.6	5.8
33–35	–9.4	6.5	6.8	7.6
36–38	+4.5	2.6	3.1	4.2
39–41	+3.3	2.6	3.2	4.0
42–43	+2.9	3.1	3.6	4.7
44–45	+1.2	3.0	3.6	4.7
46–48	+3.6	1.7	2.0	2.7
49–51	–0.2	1.8	2.2	2.6
52–54	–3.1	2.6	2.8	3.1
55–57	+4.8	0.9	1.0	1.3
58–59	+4.5	0.9	1.1	1.5
60–61	–0.8	1.7	2.0	2.5
62–63	–0.3	1.4	1.7	2.4
64–66	–2.9	2.2	2.3	2.6
67–69	+2.3	0.1	0.2	0.2
70–75	+1.1	0.0	0.0	0.0
76–100	+0.5	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($1.25/day 2005 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	–0.3	60.5	75.1	84.0
4	–0.6	27.7	34.6	50.1
8	–0.5	20.7	25.5	32.1
16	–0.1	14.8	17.8	23.1
32	+0.1	10.9	12.9	16.3
64	+0.2	7.8	9.3	12.0
128	+0.3	5.4	6.8	8.7
256	+0.3	3.9	4.6	5.7
512	+0.3	2.7	3.3	4.3
1,024	+0.3	1.9	2.3	3.0
2,048	+0.3	1.4	1.6	2.2
4,096	+0.3	0.9	1.2	1.5
8,192	+0.3	0.7	0.8	1.1
16,384	+0.3	0.5	0.5	0.7

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($1.25/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	3.3	17.5	1.1	78.1	81.4	–63.0
<=25	6.3	14.5	3.1	76.1	82.4	–24.9
<=29	8.5	12.3	5.1	74.1	82.5	+6.1
<=32	10.4	10.4	7.2	72.0	82.3	+34.3
<=35	12.4	8.4	9.9	69.3	81.7	+52.6
<=38	13.9	6.9	13.8	65.3	79.2	+33.5
<=41	15.2	5.6	18.0	61.2	76.4	+13.4
<=43	16.1	4.7	20.9	58.2	74.3	–0.7
<=45	16.9	3.9	23.7	55.5	72.4	–13.8
<=48	17.9	2.9	29.4	49.8	67.6	–41.4
<=51	18.7	2.1	34.6	44.6	63.3	–66.4
<=54	19.4	1.4	40.4	38.8	58.2	–94.2
<=57	19.8	1.0	46.4	32.8	52.6	–122.8
<=59	19.9	0.9	49.9	29.2	49.2	–140.0
<=61	20.2	0.6	54.0	25.2	45.4	–159.4
<=63	20.4	0.4	58.3	20.9	41.3	–180.2
<=66	20.8	0.0	64.3	14.8	35.6	–209.2
<=69	20.8	0.0	69.0	10.1	31.0	–231.8
<=75	20.8	0.0	74.8	4.3	25.2	–259.6
<=100	20.8	0.0	79.2	0.0	20.8	–280.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($1.25/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	75.5	15.9	3.1:1
<=25	9.4	67.0	30.1	2.0:1
<=29	13.6	62.3	40.8	1.7:1
<=32	17.6	59.0	49.8	1.4:1
<=35	22.3	55.7	59.6	1.3:1
<=38	27.7	50.1	66.7	1.0:1
<=41	33.2	45.8	73.1	0.8:1
<=43	37.0	43.4	77.3	0.8:1
<=45	40.6	41.7	81.3	0.7:1
<=48	47.3	37.8	85.9	0.6:1
<=51	53.4	35.1	90.0	0.5:1
<=54	59.9	32.5	93.5	0.5:1
<=57	66.2	29.9	95.1	0.4:1
<=59	69.9	28.5	95.8	0.4:1
<=61	74.2	27.2	97.1	0.4:1
<=63	78.7	25.9	98.2	0.4:1
<=66	85.1	24.4	99.9	0.3:1
<=69	89.9	23.2	100.0	0.3:1
<=75	95.7	21.8	100.0	0.3:1
<=100	100.0	20.8	100.0	0.3:1

Scorecard applied to the validation sample.

Tables for
$2.00/day 2005 PPP Poverty Line

Table 3 ($2.00/day 2005 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	94.7
19–25	90.1
26–29	86.3
30–32	79.7
33–35	74.9
36–38	69.2
39–41	60.3
42–43	58.0
44–45	54.7
46–48	50.5
49–51	44.8
52–54	35.1
55–57	27.8
58–59	25.4
60–61	17.5
62–63	16.1
64–66	13.2
67–69	10.5
70–75	3.5
76–100	1.0

Table 5 ($2.00/day 2005 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–1.1	1.3	1.6	2.0
19–25	–1.5	1.8	2.1	2.9
26–29	+5.8	3.3	4.0	5.1
30–32	+2.0	3.2	3.8	5.1
33–35	+0.8	3.0	3.6	5.0
36–38	+4.3	2.9	3.5	4.6
39–41	+0.3	3.3	3.8	4.9
42–43	+1.7	3.7	4.3	5.9
44–45	–14.3	8.8	9.1	9.6
46–48	+6.0	3.0	3.5	4.5
49–51	+8.4	3.1	3.6	4.5
52–54	–1.1	3.0	3.7	4.6
55–57	+3.1	2.4	2.8	3.6
58–59	–0.7	3.6	4.2	5.6
60–61	+1.2	2.5	3.0	4.3
62–63	–5.1	4.1	4.4	5.0
64–66	–2.0	2.1	2.6	3.3
67–69	+5.9	1.3	1.5	2.0
70–75	+2.0	0.6	0.7	0.9
76–100	–1.0	1.0	1.1	1.4

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($2.00/day 2005 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.7	68.8	76.7	88.5
4	+0.6	35.9	41.7	54.2
8	+0.9	25.2	30.3	42.9
16	+1.4	19.1	22.1	29.3
32	+1.3	14.2	16.6	21.6
64	+1.4	9.9	12.0	15.1
128	+1.3	6.9	8.5	11.3
256	+1.2	5.1	6.1	8.1
512	+1.2	3.4	4.0	5.6
1,024	+1.2	2.3	2.8	4.1
2,048	+1.2	1.7	2.0	2.7
4,096	+1.3	1.3	1.5	1.9
8,192	+1.3	0.9	1.1	1.3
16,384	+1.3	0.6	0.7	0.9

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($2.00/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.2	40.0	0.2	55.6	59.8	–80.5
<=25	8.7	35.4	0.6	55.2	64.0	–59.0
<=29	12.3	31.9	1.3	54.5	66.8	–41.4
<=32	15.4	28.7	2.2	53.7	69.1	–25.3
<=35	19.0	25.2	3.3	52.5	71.5	–6.6
<=38	22.7	21.5	5.0	50.8	73.5	+14.2
<=41	26.1	18.1	7.1	48.7	74.8	+34.3
<=43	28.4	15.8	8.6	47.2	75.6	+48.1
<=45	30.8	13.3	9.8	46.0	76.9	+61.7
<=48	34.0	10.1	13.3	42.6	76.6	+70.0
<=51	36.4	7.8	17.0	38.9	75.3	+61.6
<=54	38.5	5.7	21.4	34.5	73.0	+51.6
<=57	40.2	4.0	26.0	29.9	70.1	+41.3
<=59	41.1	3.1	28.8	27.0	68.1	+34.8
<=61	41.9	2.3	32.3	23.5	65.4	+26.8
<=63	42.7	1.5	36.1	19.8	62.5	+18.4
<=66	43.7	0.5	41.5	14.4	58.0	+6.1
<=69	43.9	0.2	45.9	9.9	53.9	–3.9
<=75	44.1	0.1	51.6	4.3	48.3	–16.8
<=100	44.2	0.0	55.8	0.0	44.2	–26.4

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($2.00/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	95.7	9.5	22.1:1
<=25	9.4	93.4	19.8	14.3:1
<=29	13.6	90.2	27.8	9.2:1
<=32	17.6	87.7	34.9	7.2:1
<=35	22.3	85.3	43.0	5.8:1
<=38	27.7	81.9	51.4	4.5:1
<=41	33.2	78.5	59.1	3.7:1
<=43	37.0	76.7	64.3	3.3:1
<=45	40.6	75.9	69.8	3.1:1
<=48	47.3	71.9	77.0	2.6:1
<=51	53.4	68.2	82.4	2.1:1
<=54	59.9	64.3	87.2	1.8:1
<=57	66.2	60.8	91.0	1.5:1
<=59	69.9	58.8	93.0	1.4:1
<=61	74.2	56.4	94.8	1.3:1
<=63	78.7	54.2	96.6	1.2:1
<=66	85.1	51.3	98.9	1.1:1
<=69	89.9	48.9	99.5	1.0:1
<=75	95.7	46.1	99.8	0.9:1
<=100	100.0	44.2	100.0	0.8:1

Scorecard applied to the validation sample.

Tables for
$2.50/day 2005 PPP Poverty Line

Table 3 ($2.50/day 2005 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	97.9
19–25	95.0
26–29	92.6
30–32	90.8
33–35	88.2
36–38	84.2
39–41	78.1
42–43	74.5
44–45	70.7
46–48	67.8
49–51	58.7
52–54	52.6
55–57	43.0
58–59	36.6
60–61	31.4
62–63	27.0
64–66	22.5
67–69	18.1
70–75	11.1
76–100	2.8

Table 5 ($2.50/day 2005 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–0.4	0.9	1.0	1.3
19–25	+0.7	1.6	1.9	2.5
26–29	–3.7	2.4	2.5	2.7
30–32	–0.6	2.1	2.4	3.2
33–35	+0.9	2.4	2.8	3.5
36–38	+5.7	2.7	3.2	4.1
39–41	–2.6	2.6	3.1	3.9
42–43	–1.7	3.4	4.1	5.0
44–45	–6.8	5.0	5.3	5.8
46–48	+3.5	2.7	3.2	4.0
49–51	0.0	3.1	3.7	4.6
52–54	–1.9	3.1	3.6	4.8
55–57	+6.3	2.9	3.4	4.3
58–59	–1.6	3.7	4.4	6.0
60–61	+6.8	3.0	3.5	4.5
62–63	–3.7	3.5	3.9	5.0
64–66	–4.2	3.4	3.7	4.3
67–69	+6.9	1.8	2.1	2.8
70–75	+7.4	1.1	1.3	1.7
76–100	+0.3	1.0	1.1	1.5

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($2.50/day 2005 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.7	69.0	78.6	87.8
4	–0.6	36.5	43.2	53.9
8	+0.3	26.0	31.5	40.2
16	+0.6	19.2	21.8	30.1
32	+0.9	14.1	16.6	21.1
64	+1.0	9.7	11.3	15.0
128	+0.9	6.9	8.2	10.7
256	+0.9	5.0	5.7	7.6
512	+0.9	3.4	4.2	5.4
1,024	+0.9	2.4	3.0	3.7
2,048	+0.9	1.8	2.0	2.6
4,096	+0.9	1.2	1.4	1.9
8,192	+0.9	0.9	1.0	1.3
16,384	+0.9	0.6	0.7	0.9

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($2.50/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.3	51.5	0.1	44.1	48.4	–84.4
<=25	9.0	46.8	0.3	43.9	52.9	–67.0
<=29	13.1	42.7	0.6	43.7	56.7	–52.2
<=32	16.7	39.1	0.9	43.3	60.0	–38.5
<=35	20.8	35.0	1.5	42.7	63.5	–22.8
<=38	25.3	30.5	2.5	41.8	67.0	–5.0
<=41	29.7	26.1	3.6	40.7	70.3	+12.7
<=43	32.7	23.1	4.4	39.8	72.5	+24.9
<=45	35.5	20.3	5.1	39.1	74.5	+36.4
<=48	39.8	16.0	7.5	36.7	76.6	+56.2
<=51	43.4	12.4	10.0	34.3	77.7	+73.4
<=54	46.7	9.0	13.1	31.1	77.9	+76.5
<=57	49.2	6.6	17.0	27.2	76.4	+69.6
<=59	50.6	5.2	19.3	24.9	75.5	+65.4
<=61	51.8	4.0	22.4	21.8	73.5	+59.8
<=63	53.1	2.7	25.7	18.5	71.6	+54.0
<=66	54.7	1.1	30.4	13.8	68.5	+45.4
<=69	55.4	0.4	34.5	9.8	65.2	+38.2
<=75	55.7	0.1	40.0	4.2	59.9	+28.3
<=100	55.8	0.0	44.2	0.0	55.8	+20.8

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($2.50/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	98.1	7.7	51.8:1
<=25	9.4	96.5	16.2	27.7:1
<=29	13.6	95.9	23.4	23.7:1
<=32	17.6	95.0	29.9	18.9:1
<=35	22.3	93.4	37.3	14.2:1
<=38	27.7	91.1	45.3	10.3:1
<=41	33.2	89.3	53.2	8.4:1
<=43	37.0	88.2	58.6	7.5:1
<=45	40.6	87.3	63.6	6.9:1
<=48	47.3	84.2	71.4	5.3:1
<=51	53.4	81.3	77.8	4.4:1
<=54	59.9	78.1	83.8	3.6:1
<=57	66.2	74.4	88.2	2.9:1
<=59	69.9	72.4	90.7	2.6:1
<=61	74.2	69.8	92.8	2.3:1
<=63	78.7	67.4	95.1	2.1:1
<=66	85.1	64.2	98.0	1.8:1
<=69	89.9	61.7	99.3	1.6:1
<=75	95.7	58.2	99.8	1.4:1
<=100	100.0	55.8	100.0	1.3:1

Scorecard applied to the validation sample.

Tables for
$5.00/day 2005 PPP Poverty Line

Table 3 ($5.00/day 2005 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	99.9
19–25	99.5
26–29	99.4
30–32	99.3
33–35	99.3
36–38	99.2
39–41	99.2
42–43	98.4
44–45	97.2
46–48	95.8
49–51	92.2
52–54	90.6
55–57	87.5
58–59	83.4
60–61	78.6
62–63	74.3
64–66	69.3
67–69	66.8
70–75	56.9
76–100	24.6

Table 5 ($5.00/day 2005 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–0.1	0.1	0.1	0.1
19–25	+1.0	0.9	1.1	1.4
26–29	–0.5	0.3	0.3	0.3
30–32	–0.7	0.3	0.3	0.3
33–35	–0.7	0.4	0.4	0.4
36–38	+0.6	0.6	0.8	1.0
39–41	+0.5	0.7	0.8	0.9
42–43	+0.6	1.0	1.1	1.5
44–45	–2.6	1.4	1.4	1.4
46–48	+4.2	1.9	2.3	3.0
49–51	–3.4	2.2	2.3	2.4
52–54	–1.5	1.5	1.7	2.3
55–57	+5.4	2.3	2.7	3.7
58–59	–3.5	2.9	3.1	3.7
60–61	+3.0	3.1	3.6	4.5
62–63	+7.5	3.3	3.8	4.9
64–66	+0.2	2.8	3.3	4.3
67–69	–9.0	5.8	6.0	6.5
70–75	+2.6	3.1	3.9	5.2
76–100	+1.7	2.9	3.5	4.9

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($5.00/day 2005 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+0.8	53.8	64.3	85.6
4	–0.8	27.3	32.5	45.4
8	0.0	20.5	24.6	34.7
16	+0.4	15.1	17.2	24.4
32	+0.6	11.3	13.4	16.0
64	+0.6	7.8	9.4	12.1
128	+0.5	5.2	6.6	8.8
256	+0.5	3.9	4.8	6.1
512	+0.5	2.6	3.2	4.4
1,024	+0.4	2.0	2.3	2.8
2,048	+0.4	1.3	1.6	2.1
4,096	+0.4	0.9	1.1	1.6
8,192	+0.4	0.7	0.8	1.0
16,384	+0.4	0.5	0.6	0.7

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($5.00/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.4	81.0	0.0	14.6	19.0	–89.7
<=25	9.3	76.1	0.0	14.6	23.9	–78.1
<=29	13.6	71.8	0.1	14.5	28.1	–68.2
<=32	17.5	67.9	0.1	14.5	32.1	–58.9
<=35	22.2	63.2	0.1	14.5	36.8	–47.9
<=38	27.6	57.8	0.1	14.5	42.1	–35.2
<=41	33.0	52.4	0.2	14.4	47.4	–22.5
<=43	36.7	48.7	0.3	14.3	51.0	–13.6
<=45	40.3	45.1	0.3	14.3	54.6	–5.3
<=48	46.6	38.8	0.7	13.9	60.6	+10.0
<=51	52.3	33.1	1.0	13.6	65.9	+23.8
<=54	58.3	27.1	1.6	13.0	71.3	+38.3
<=57	63.6	21.8	2.5	12.1	75.7	+52.0
<=59	66.8	18.6	3.1	11.5	78.3	+60.0
<=61	70.1	15.3	4.0	10.6	80.7	+69.0
<=63	73.3	12.1	5.5	9.1	82.4	+78.0
<=66	77.8	7.6	7.4	7.2	85.0	+90.8
<=69	81.1	4.3	8.8	5.9	87.0	+89.8
<=75	84.2	1.2	11.5	3.2	87.3	+86.6
<=100	85.4	0.0	14.6	0.0	85.4	+82.9

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($5.00/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	100.0	5.1	Only poor targeted
<=25	9.4	99.6	10.9	222.2:1
<=29	13.6	99.6	15.9	239.7:1
<=32	17.6	99.7	20.5	310.1:1
<=35	22.3	99.7	26.0	393.0:1
<=38	27.7	99.5	32.3	203.6:1
<=41	33.2	99.3	38.6	149.3:1
<=43	37.0	99.2	43.0	118.6:1
<=45	40.6	99.2	47.2	124.9:1
<=48	47.3	98.6	54.6	69.3:1
<=51	53.4	98.1	61.3	51.7:1
<=54	59.9	97.4	68.3	37.1:1
<=57	66.2	96.2	74.5	25.0:1
<=59	69.9	95.5	78.2	21.4:1
<=61	74.2	94.5	82.1	17.3:1
<=63	78.7	93.0	85.8	13.4:1
<=66	85.1	91.4	91.1	10.6:1
<=69	89.9	90.3	95.0	9.3:1
<=75	95.7	88.0	98.6	7.4:1
<=100	100.0	85.4	100.0	5.8:1

Scorecard applied to the validation sample.

Tables for
$1.90/day 2011 PPP Poverty Line

Table 3 ($1.90/day 2011 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	68.5
19–25	54.1
26–29	46.2
30–32	35.8
33–35	29.1
36–38	25.2
39–41	22.0
42–43	19.3
44–45	16.5
46–48	11.9
49–51	9.5
52–54	8.3
55–57	7.4
58–59	4.0
60–61	4.0
62–63	3.8
64–66	2.7
67–69	2.3
70–75	0.9
76–100	0.2

Table 5 ($1.90/day 2011 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–1.8	3.4	3.9	5.1
19–25	+5.9	3.4	4.1	5.3
26–29	–3.1	3.8	4.4	5.5
30–32	–3.9	3.8	4.5	5.9
33–35	–9.8	6.6	6.9	7.7
36–38	+2.6	2.5	3.0	4.1
39–41	+7.2	2.1	2.5	3.2
42–43	+2.2	2.9	3.3	4.3
44–45	+5.1	2.1	2.4	3.5
46–48	+2.7	1.4	1.7	2.1
49–51	+0.2	1.6	2.0	2.5
52–54	+0.3	1.8	2.1	2.8
55–57	+3.9	0.9	1.0	1.2
58–59	+2.6	0.7	0.8	1.1
60–61	–2.5	2.1	2.3	2.6
62–63	0.0	1.3	1.5	2.2
64–66	–1.3	1.2	1.2	1.6
67–69	+2.1	0.1	0.2	0.2
70–75	+0.9	0.0	0.0	0.0
76–100	+0.2	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($1.90/day 2011 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.2	60.5	71.1	82.2
4	0.0	27.4	33.0	47.1
8	0.0	20.8	23.4	32.3
16	+0.5	14.1	16.4	21.4
32	+0.7	9.6	11.3	16.1
64	+0.7	7.0	8.4	11.3
128	+0.8	5.1	6.2	8.3
256	+0.8	3.6	4.2	5.2
512	+0.8	2.6	3.1	4.2
1,024	+0.8	1.9	2.2	2.9
2,048	+0.8	1.3	1.6	2.0
4,096	+0.9	0.9	1.1	1.4
8,192	+0.9	0.6	0.7	1.0
16,384	+0.9	0.4	0.5	0.7

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($1.90/day 2011 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	3.1	14.2	1.3	81.4	84.5	–56.8
<=25	5.6	11.7	3.8	78.9	84.5	–13.5
<=29	7.5	9.8	6.1	76.6	84.1	+22.2
<=32	9.1	8.2	8.5	74.2	83.3	+50.9
<=35	10.8	6.5	11.5	71.2	82.1	+33.8
<=38	12.1	5.2	15.6	67.1	79.2	+9.6
<=41	13.1	4.2	20.1	62.6	75.7	–16.3
<=43	13.8	3.5	23.3	59.4	73.2	–34.5
<=45	14.3	3.0	26.3	56.4	70.7	–52.1
<=48	15.1	2.2	32.2	50.5	65.5	–86.3
<=51	15.7	1.6	37.6	45.1	60.8	–117.6
<=54	16.2	1.1	43.7	39.0	55.2	–152.5
<=57	16.5	0.8	49.7	33.0	49.5	–187.1
<=59	16.6	0.7	53.3	29.4	46.0	–208.2
<=61	16.8	0.5	57.4	25.4	42.2	–231.6
<=63	17.0	0.3	61.7	21.0	38.0	–257.0
<=66	17.3	0.0	67.9	14.9	32.1	–292.3
<=69	17.3	0.0	72.6	10.1	27.4	–319.5
<=75	17.3	0.0	78.4	4.3	21.6	–353.0
<=100	17.3	0.0	82.7	0.0	17.3	–378.2

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($1.90/day 2011 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	70.3	17.8	2.4:1
<=25	9.4	59.7	32.3	1.5:1
<=29	13.6	55.3	43.5	1.2:1
<=32	17.6	51.7	52.5	1.1:1
<=35	22.3	48.6	62.5	0.9:1
<=38	27.7	43.6	70.0	0.8:1
<=41	33.2	39.4	75.7	0.7:1
<=43	37.0	37.2	79.6	0.6:1
<=45	40.6	35.2	82.7	0.5:1
<=48	47.3	31.9	87.1	0.5:1
<=51	53.4	29.5	90.8	0.4:1
<=54	59.9	27.0	93.6	0.4:1
<=57	66.2	24.9	95.4	0.3:1
<=59	69.9	23.7	95.8	0.3:1
<=61	74.2	22.7	97.3	0.3:1
<=63	78.7	21.6	98.3	0.3:1
<=66	85.1	20.3	99.9	0.3:1
<=69	89.9	19.2	100.0	0.2:1
<=75	95.7	18.1	100.0	0.2:1
<=100	100.0	17.3	100.0	0.2:1

Scorecard applied to the validation sample.

Tables for
$3.20/day 2011 PPP Poverty Line

Table 3 ($3.20/day 2011 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	94.7
19–25	89.5
26–29	85.3
30–32	78.8
33–35	72.8
36–38	67.5
39–41	58.6
42–43	55.6
44–45	52.3
46–48	48.5
49–51	40.6
52–54	31.8
55–57	26.0
58–59	23.9
60–61	16.4
62–63	15.0
64–66	12.0
67–69	8.9
70–75	2.7
76–100	1.0

Table 5 ($3.20/day 2011 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–1.0	1.3	1.6	2.0
19–25	–1.8	1.8	2.2	2.9
26–29	+8.3	3.3	4.1	5.4
30–32	+1.8	3.2	3.7	5.3
33–35	–0.1	3.0	3.6	4.8
36–38	+3.4	2.9	3.5	4.6
39–41	+1.5	3.3	3.9	5.4
42–43	+3.8	3.8	4.4	6.1
44–45	–15.5	9.4	9.7	10.3
46–48	+7.5	3.0	3.5	4.6
49–51	+9.0	3.0	3.7	4.7
52–54	–2.0	3.0	3.5	4.5
55–57	+2.5	2.3	2.8	3.6
58–59	–1.0	3.5	4.2	5.5
60–61	+0.9	2.4	3.0	4.1
62–63	–5.9	4.4	4.8	5.5
64–66	–2.4	2.3	2.5	3.1
67–69	+4.3	1.3	1.5	2.0
70–75	+1.5	0.5	0.7	0.8
76–100	–0.8	0.8	1.0	1.3

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($3.20/day 2011 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+2.1	67.9	74.4	88.7
4	+0.8	36.2	42.1	54.7
8	+1.0	25.5	31.0	42.5
16	+1.4	19.5	22.7	29.9
32	+1.4	14.2	16.4	20.4
64	+1.4	9.7	11.7	15.1
128	+1.3	6.9	8.3	10.9
256	+1.2	4.9	6.2	7.5
512	+1.2	3.5	4.2	5.3
1,024	+1.2	2.4	2.8	3.8
2,048	+1.2	1.7	2.0	2.7
4,096	+1.2	1.3	1.5	1.9
8,192	+1.2	0.8	1.1	1.3
16,384	+1.2	0.6	0.7	1.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($3.20/day 2011 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.2	38.2	0.2	57.4	61.6	–79.8
<=25	8.7	33.7	0.7	56.9	65.7	–57.4
<=29	12.1	30.3	1.5	56.1	68.2	–39.4
<=32	15.2	27.2	2.4	55.2	70.4	–22.7
<=35	18.7	23.7	3.6	54.0	72.7	–3.4
<=38	22.3	20.1	5.4	52.2	74.5	+18.1
<=41	25.5	16.9	7.7	49.9	75.5	+38.6
<=43	27.7	14.7	9.3	48.3	76.0	+52.7
<=45	30.0	12.3	10.6	47.0	77.1	+66.7
<=48	33.0	9.4	14.3	43.3	76.2	+66.2
<=51	35.1	7.3	18.3	39.3	74.4	+56.9
<=54	37.1	5.3	22.8	34.8	71.9	+46.3
<=57	38.7	3.7	27.5	30.1	68.8	+35.2
<=59	39.5	2.9	30.4	27.2	66.7	+28.3
<=61	40.2	2.2	34.0	23.6	63.9	+19.9
<=63	41.0	1.4	37.7	19.9	60.9	+11.0
<=66	41.9	0.5	43.2	14.4	56.3	–1.9
<=69	42.2	0.2	47.6	10.0	52.2	–12.4
<=75	42.3	0.1	53.3	4.3	46.6	–25.8
<=100	42.4	0.0	57.6	0.0	42.4	–35.9

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($3.20/day 2011 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	95.4	9.9	20.9:1
<=25	9.4	93.0	20.5	13.3:1
<=29	13.6	88.8	28.5	7.9:1
<=32	17.6	86.4	35.8	6.3:1
<=35	22.3	83.8	44.0	5.2:1
<=38	27.7	80.5	52.7	4.1:1
<=41	33.2	76.9	60.2	3.3:1
<=43	37.0	74.8	65.3	3.0:1
<=45	40.6	74.0	70.9	2.8:1
<=48	47.3	69.7	77.8	2.3:1
<=51	53.4	65.8	82.7	1.9:1
<=54	59.9	61.9	87.4	1.6:1
<=57	66.2	58.5	91.2	1.4:1
<=59	69.9	56.5	93.1	1.3:1
<=61	74.2	54.2	94.9	1.2:1
<=63	78.7	52.1	96.7	1.1:1
<=66	85.1	49.3	98.9	1.0:1
<=69	89.9	47.0	99.6	0.9:1
<=75	95.7	44.2	99.8	0.8:1
<=100	100.0	42.4	100.0	0.7:1

Scorecard applied to the validation sample.

Tables for
$5.50/day 2011 PPP Poverty Line

Table 3 ($5.50/day 2011 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	99.5
19–25	98.6
26–29	97.6
30–32	96.7
33–35	96.2
36–38	94.3
39–41	91.1
42–43	89.4
44–45	87.5
46–48	85.5
49–51	77.3
52–54	72.5
55–57	66.6
58–59	62.8
60–61	53.9
62–63	51.0
64–66	42.6
67–69	39.1
70–75	23.3
76–100	6.5

Table 5 ($5.50/day 2011 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–0.4	0.2	0.2	0.2
19–25	+0.3	1.0	1.1	1.5
26–29	–0.9	0.8	0.8	1.0
30–32	+2.2	1.8	2.1	2.9
33–35	–1.6	1.2	1.3	1.4
36–38	–0.1	1.4	1.6	2.1
39–41	+1.2	2.3	2.8	3.5
42–43	+0.5	2.5	3.0	4.3
44–45	–7.1	4.4	4.5	4.9
46–48	+4.5	2.4	2.8	3.7
49–51	–5.1	3.6	3.7	4.0
52–54	–2.8	2.6	3.0	3.9
55–57	+6.8	2.9	3.4	4.3
58–59	+6.2	3.8	4.5	5.8
60–61	+13.8	3.3	4.0	5.2
62–63	+6.0	3.4	4.2	5.3
64–66	–5.2	4.2	4.4	5.1
67–69	+13.7	2.8	3.4	4.3
70–75	+0.1	2.9	3.5	4.8
76–100	+0.6	1.6	1.8	2.4

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($5.50/day 2011 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+2.0	64.9	73.2	85.5
4	+0.1	35.6	41.5	52.9
8	+1.4	26.2	31.7	40.3
16	+1.6	18.8	22.9	30.8
32	+1.5	13.5	15.9	21.4
64	+1.7	9.4	11.5	14.8
128	+1.6	6.5	7.9	10.6
256	+1.6	4.7	5.7	7.2
512	+1.6	3.3	3.9	4.9
1,024	+1.6	2.3	2.8	3.7
2,048	+1.6	1.6	1.8	2.4
4,096	+1.6	1.2	1.4	1.9
8,192	+1.6	0.8	1.0	1.3
16,384	+1.6	0.6	0.7	1.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($5.50/day 2011 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.4	66.0	0.0	29.6	34.0	–87.5
<=25	9.3	61.1	0.1	29.5	38.8	–73.5
<=29	13.4	57.0	0.2	29.4	42.9	–61.6
<=32	17.2	53.2	0.3	29.3	46.5	–50.5
<=35	21.8	48.6	0.5	29.1	50.9	–37.4
<=38	26.9	43.5	0.8	28.8	55.7	–22.4
<=41	32.0	38.4	1.2	28.4	60.4	–7.4
<=43	35.5	34.9	1.6	28.0	63.5	+3.0
<=45	38.9	31.5	1.7	27.9	66.7	+12.9
<=48	44.5	25.9	2.8	26.8	71.2	+30.4
<=51	49.4	21.0	4.0	25.7	75.1	+46.0
<=54	54.2	16.2	5.6	24.0	78.2	+62.1
<=57	58.2	12.2	8.0	21.6	79.8	+76.6
<=59	60.4	10.0	9.5	20.1	80.4	+85.0
<=61	62.4	8.0	11.8	17.8	80.1	+83.2
<=63	64.4	6.0	14.4	15.2	79.6	+79.6
<=66	67.3	3.1	17.8	11.8	79.1	+74.7
<=69	68.9	1.5	20.9	8.7	77.6	+70.2
<=75	70.1	0.3	25.6	4.0	74.1	+63.7
<=100	70.4	0.0	29.6	0.0	70.4	+57.9

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($5.50/day 2011 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	99.7	6.2	365.0:1
<=25	9.4	99.2	13.2	130.6:1
<=29	13.6	98.8	19.1	82.9:1
<=32	17.6	98.0	24.5	49.7:1
<=35	22.3	97.9	31.0	46.4:1
<=38	27.7	97.1	38.2	33.3:1
<=41	33.2	96.3	45.4	26.1:1
<=43	37.0	95.8	50.4	22.8:1
<=45	40.6	95.7	55.2	22.4:1
<=48	47.3	94.0	63.2	15.7:1
<=51	53.4	92.6	70.2	12.5:1
<=54	59.9	90.6	77.0	9.6:1
<=57	66.2	87.9	82.6	7.3:1
<=59	69.9	86.4	85.7	6.3:1
<=61	74.2	84.1	88.6	5.3:1
<=63	78.7	81.7	91.4	4.5:1
<=66	85.1	79.1	95.6	3.8:1
<=69	89.9	76.7	97.9	3.3:1
<=75	95.7	73.3	99.6	2.7:1
<=100	100.0	70.4	100.0	2.4:1

Scorecard applied to the validation sample.

Tables for
$21.70/day 2011 PPP Poverty Line

Table 3 ($21.70/day 2011 PPP line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	100.0
19–25	100.0
26–29	100.0
30–32	100.0
33–35	100.0
36–38	100.0
39–41	100.0
42–43	100.0
44–45	99.9
46–48	99.8
49–51	99.5
52–54	99.5
55–57	99.5
58–59	98.9
60–61	98.3
62–63	98.2
64–66	98.2
67–69	98.1
70–75	95.7
76–100	90.7

Table 5 ($21.70/day 2011 PPP line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	0.0	0.0	0.0	0.0
19–25	0.0	0.0	0.0	0.0
26–29	0.0	0.0	0.0	0.0
30–32	0.0	0.0	0.0	0.0
33–35	0.0	0.0	0.0	0.0
36–38	0.0	0.0	0.0	0.0
39–41	0.0	0.0	0.0	0.0
42–43	0.0	0.0	0.0	0.0
44–45	–0.1	0.1	0.1	0.1
46–48	+0.4	0.4	0.4	0.6
49–51	–0.4	0.2	0.2	0.2
52–54	–0.1	0.3	0.3	0.4
55–57	–0.4	0.2	0.2	0.2
58–59	–1.1	0.5	0.5	0.5
60–61	–1.7	0.8	0.8	0.8
62–63	+0.5	1.1	1.3	1.8
64–66	+0.3	0.7	0.8	1.1
67–69	+1.1	1.1	1.4	1.9
70–75	+1.4	1.7	2.0	2.4
76–100	+2.7	2.3	2.8	3.6

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 ($21.70/day 2011 PPP line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	–0.2	2.1	4.6	51.3
4	–0.2	1.7	11.5	22.0
8	+0.1	6.3	10.0	14.8
16	+0.1	5.0	7.2	9.4
32	+0.1	3.7	4.4	6.6
64	+0.2	2.7	3.2	4.0
128	+0.2	2.0	2.3	3.0
256	+0.2	1.4	1.6	2.1
512	+0.2	1.0	1.2	1.7
1,024	+0.2	0.7	0.9	1.2
2,048	+0.2	0.5	0.6	0.8
4,096	+0.2	0.4	0.4	0.6
8,192	+0.2	0.3	0.3	0.4
16,384	+0.2	0.2	0.2	0.3

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 ($21.70/day 2011 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.4	94.3	0.0	1.3	5.7	–91.1
<=25	9.4	89.4	0.0	1.3	10.6	–81.0
<=29	13.6	85.1	0.0	1.3	14.9	–72.4
<=32	17.6	81.1	0.0	1.3	18.9	–64.4
<=35	22.3	76.5	0.0	1.3	23.5	–54.9
<=38	27.7	71.0	0.0	1.3	29.0	–43.8
<=41	33.2	65.5	0.0	1.3	34.5	–32.7
<=43	37.0	61.7	0.0	1.3	38.3	–25.0
<=45	40.6	58.1	0.0	1.3	41.9	–17.7
<=48	47.3	51.5	0.0	1.2	48.5	–4.2
<=51	53.3	45.4	0.0	1.2	54.5	+8.0
<=54	59.8	39.0	0.1	1.2	61.0	+21.2
<=57	66.1	32.7	0.1	1.2	67.3	+33.9
<=59	69.8	28.9	0.1	1.2	71.0	+41.5
<=61	74.1	24.6	0.1	1.2	75.3	+50.2
<=63	78.6	20.2	0.2	1.1	79.7	+59.3
<=66	84.8	13.9	0.3	0.9	85.7	+72.1
<=69	89.4	9.3	0.5	0.8	90.2	+81.5
<=75	94.9	3.8	0.7	0.5	95.5	+93.0
<=100	98.7	0.0	1.3	0.0	98.7	+98.7

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 ($21.70/day 2011 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	100.0	4.4	Only poor targeted
<=25	9.4	100.0	9.5	Only poor targeted
<=29	13.6	100.0	13.8	Only poor targeted
<=32	17.6	100.0	17.8	Only poor targeted
<=35	22.3	100.0	22.6	Only poor targeted
<=38	27.7	100.0	28.1	Only poor targeted
<=41	33.2	100.0	33.6	Only poor targeted
<=43	37.0	100.0	37.5	Only poor targeted
<=45	40.6	100.0	41.1	Only poor targeted
<=48	47.3	99.9	47.9	1,364.8:1
<=51	53.4	99.9	54.0	1,110.0:1
<=54	59.9	99.9	60.5	816.6:1
<=57	66.2	99.9	66.9	784.3:1
<=59	69.9	99.9	70.7	828.5:1
<=61	74.2	99.9	75.1	879.7:1
<=63	78.7	99.8	79.6	480.6:1
<=66	85.1	99.6	85.9	260.8:1
<=69	89.9	99.5	90.5	192.1:1
<=75	95.7	99.2	96.1	130.6:1
<=100	100.0	98.7	100.0	78.0:1

Scorecard applied to the validation sample.

Tables for
the Line Marking the Poorest Half of People
Below 100% of the National Poverty Line

Table 3 (Line marking the poorest half of people below 100% of the national line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	62.9
19–25	47.7
26–29	38.8
30–32	30.8
33–35	25.1
36–38	19.7
39–41	18.6
42–43	16.5
44–45	12.1
46–48	10.3
49–51	8.0
52–54	6.7
55–57	6.3
58–59	3.3
60–61	3.0
62–63	3.0
64–66	2.2
67–69	1.2
70–75	0.3
76–100	0.2

Table 5 (Line marking the poorest half of people below 100% of the national line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	+7.1	3.9	4.5	5.5
19–25	+5.2	3.2	3.9	5.0
26–29	–8.2	6.0	6.3	6.9
30–32	–6.8	5.2	5.6	6.3
33–35	–5.9	4.5	4.7	5.4
36–38	+1.1	2.4	2.9	3.9
39–41	+6.9	1.9	2.3	2.9
42–43	+4.3	2.4	2.8	3.7
44–45	+1.7	2.0	2.4	3.3
46–48	+3.8	1.2	1.4	1.8
49–51	–0.8	1.6	1.9	2.5
52–54	–1.0	1.7	2.1	2.7
55–57	+3.2	0.8	0.9	1.2
58–59	+2.3	0.6	0.7	1.0
60–61	–0.5	1.1	1.3	1.8
62–63	–0.7	1.3	1.5	2.2
64–66	–1.7	1.4	1.5	1.7
67–69	+1.1	0.1	0.1	0.1
70–75	+0.3	0.0	0.0	0.0
76–100	+0.2	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (Line marking the poorest half of people below 100% of the national line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+0.7	59.5	68.7	78.3
4	–0.2	26.4	31.7	44.9
8	–0.2	18.8	23.3	30.6
16	+0.2	13.9	16.2	21.5
32	+0.3	9.5	11.3	15.0
64	+0.4	6.9	8.3	10.1
128	+0.6	4.8	5.9	7.5
256	+0.6	3.4	3.8	5.0
512	+0.6	2.4	2.8	3.9
1,024	+0.6	1.7	2.0	2.7
2,048	+0.6	1.3	1.5	1.9
4,096	+0.6	0.9	1.0	1.4
8,192	+0.6	0.6	0.7	0.9
16,384	+0.6	0.4	0.5	0.7

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (Line marking the poorest half of people below 100% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	2.7	12.3	1.7	83.3	86.0	–52.7
<=25	4.9	10.0	4.4	80.6	85.5	–4.5
<=29	6.7	8.2	6.9	78.1	84.9	+35.8
<=32	8.2	6.8	9.4	75.6	83.8	+37.3
<=35	9.7	5.3	12.6	72.4	82.1	+15.9
<=38	10.7	4.2	17.0	68.0	78.8	–13.4
<=41	11.5	3.5	21.7	63.3	74.8	–44.9
<=43	12.0	3.0	25.0	60.0	72.0	–67.0
<=45	12.5	2.5	28.1	56.9	69.3	–87.7
<=48	13.0	1.9	34.3	50.8	63.8	–128.6
<=51	13.6	1.4	39.7	45.3	58.9	–165.0
<=54	14.1	0.9	45.8	39.2	53.3	–205.5
<=57	14.3	0.7	51.8	33.2	47.5	–245.7
<=59	14.4	0.6	55.5	29.5	43.9	–270.2
<=61	14.6	0.4	59.6	25.4	39.9	–297.9
<=63	14.7	0.3	64.0	21.0	35.7	–327.2
<=66	15.0	0.0	70.1	14.9	29.8	–368.0
<=69	15.0	0.0	74.9	10.1	25.1	–399.5
<=75	15.0	0.0	80.7	4.3	19.3	–438.2
<=100	15.0	0.0	85.0	0.0	15.0	–467.2

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (Line marking the poorest half of people below 100% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	61.4	18.0	1.6:1
<=25	9.4	52.8	33.0	1.1:1
<=29	13.6	49.6	45.0	1.0:1
<=32	17.6	46.5	54.6	0.9:1
<=35	22.3	43.4	64.5	0.8:1
<=38	27.7	38.7	71.7	0.6:1
<=41	33.2	34.6	76.8	0.5:1
<=43	37.0	32.4	80.0	0.5:1
<=45	40.6	30.7	83.2	0.4:1
<=48	47.3	27.6	87.0	0.4:1
<=51	53.3	25.6	91.0	0.3:1
<=54	59.8	23.5	93.8	0.3:1
<=57	66.1	21.7	95.6	0.3:1
<=59	69.9	20.6	96.0	0.3:1
<=61	74.2	19.6	97.1	0.2:1
<=63	78.7	18.7	98.1	0.2:1
<=66	85.1	17.6	99.9	0.2:1
<=69	89.9	16.7	100.0	0.2:1
<=75	95.7	15.7	100.0	0.2:1
<=100	100.0	15.0	100.0	0.2:1

Scorecard applied to the validation sample.

Tables for
the First-Decile (10^{th}-Percentile) Poverty Line

Table 3 (First-decile (10th-percentile) line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	35.2
19–25	20.4
26–29	15.7
30–32	11.5
33–35	9.4
36–38	6.9
39–41	6.0
42–43	5.2
44–45	3.2
46–48	2.6
49–51	2.3
52–54	2.3
55–57	1.7
58–59	1.2
60–61	0.9
62–63	0.9
64–66	0.7
67–69	0.1
70–75	0.0
76–100	0.0

Table 5 (First-decile (10th-percentile) line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	+1.6	3.4	4.1	5.2
19–25	–1.6	2.8	3.2	4.3
26–29	–3.7	3.4	3.7	4.9
30–32	–5.7	4.3	4.6	5.2
33–35	–1.4	1.9	2.4	3.0
36–38	–2.7	2.3	2.6	3.1
39–41	+4.2	0.6	0.7	1.0
42–43	–0.5	1.7	2.0	2.5
44–45	+0.7	1.0	1.2	1.6
46–48	+0.9	0.5	0.7	0.9
49–51	–0.8	0.9	1.1	1.5
52–54	–1.3	1.4	1.6	2.1
55–57	+0.9	0.4	0.5	0.7
58–59	+0.5	0.5	0.6	0.8
60–61	–0.2	0.6	0.7	0.9
62–63	+0.7	0.2	0.2	0.2
64–66	+0.2	0.4	0.5	0.6
67–69	+0.1	0.0	0.0	0.0
70–75	0.0	0.0	0.0	0.0
76–100	0.0	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (First-decile (10th-percentile) line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	–0.5	42.6	62.9	66.5
4	–0.9	20.0	24.7	34.0
8	–0.8	13.6	16.5	27.0
16	–0.3	9.2	11.5	16.0
32	–0.4	6.6	7.9	10.6
64	–0.4	4.8	5.7	7.3
128	–0.3	3.5	4.3	5.6
256	–0.3	2.4	2.9	3.7
512	–0.3	1.8	2.1	2.6
1,024	–0.3	1.3	1.5	1.9
2,048	–0.3	0.9	1.0	1.4
4,096	–0.3	0.6	0.8	1.0
8,192	–0.3	0.4	0.5	0.7
16,384	–0.3	0.3	0.4	0.5

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (First-decile (10th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	1.6	4.7	2.8	90.9	92.4	–5.3
<=25	2.7	3.6	6.7	87.0	89.7	–6.7
<=29	3.4	2.9	10.2	83.5	86.9	–62.4
<=32	4.0	2.3	13.5	80.2	84.2	–115.7
<=35	4.5	1.7	17.7	76.0	80.5	–182.1
<=38	5.0	1.3	22.7	71.0	76.0	–262.1
<=41	5.1	1.1	28.1	65.7	70.8	–346.9
<=43	5.4	0.9	31.6	62.1	67.4	–404.0
<=45	5.5	0.8	35.1	58.6	64.1	–459.0
<=48	5.7	0.6	41.6	52.1	57.8	–562.8
<=51	5.9	0.4	47.4	46.3	52.2	–655.3
<=54	6.1	0.2	53.8	39.9	46.0	–756.6
<=57	6.1	0.1	60.0	33.7	39.9	–855.6
<=59	6.2	0.1	63.7	30.0	36.2	–914.4
<=61	6.2	0.0	67.9	25.8	32.0	–982.0
<=63	6.2	0.0	72.5	21.2	27.5	–1,054.3
<=66	6.3	0.0	78.8	14.9	21.2	–1,155.6
<=69	6.3	0.0	83.6	10.1	16.4	–1,230.9
<=75	6.3	0.0	89.4	4.3	10.6	–1,323.3
<=100	6.3	0.0	93.7	0.0	6.3	–1,392.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (First-decile (10th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	35.3	24.7	0.5:1
<=25	9.4	28.4	42.4	0.4:1
<=29	13.6	25.0	54.0	0.3:1
<=32	17.6	22.9	64.1	0.3:1
<=35	22.3	20.4	72.3	0.3:1
<=38	27.7	18.0	79.3	0.2:1
<=41	33.2	15.5	81.9	0.2:1
<=43	37.0	14.5	85.5	0.2:1
<=45	40.6	13.5	87.6	0.2:1
<=48	47.3	12.0	90.3	0.1:1
<=51	53.3	11.1	94.1	0.1:1
<=54	59.8	10.1	96.4	0.1:1
<=57	66.1	9.3	97.8	0.1:1
<=59	69.9	8.8	98.3	0.1:1
<=61	74.2	8.4	99.3	0.1:1
<=63	78.7	7.9	99.5	0.1:1
<=66	85.1	7.4	100.0	0.1:1
<=69	89.9	7.0	100.0	0.1:1
<=75	95.7	6.6	100.0	0.1:1
<=100	100.0	6.3	100.0	0.1:1

Scorecard applied to the validation sample.

Tables for
the First-Quintile (20th-Percentile) Poverty Line

Table 3 (First-quintile (20th-percentile) line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	55.8
19–25	42.0
26–29	33.8
30–32	26.8
33–35	23.2
36–38	15.8
39–41	14.8
42–43	14.2
44–45	10.8
46–48	7.2
49–51	6.1
52–54	5.5
55–57	4.7
58–59	2.3
60–61	2.3
62–63	2.3
64–66	1.9
67–69	1.1
70–75	0.3
76–100	0.2

Table 5 (First-quintile (20th-percentile) line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	+2.7	3.7	4.5	5.4
19–25	+4.7	3.1	3.7	4.9
26–29	–8.4	6.1	6.4	7.2
30–32	–5.2	4.3	4.6	5.3
33–35	–4.3	3.6	3.9	4.7
36–38	+1.0	2.2	2.7	3.6
39–41	+7.8	1.5	1.8	2.4
42–43	+5.4	2.0	2.3	3.0
44–45	+1.3	2.0	2.4	3.2
46–48	+1.8	1.1	1.2	1.6
49–51	–1.6	1.6	1.8	2.6
52–54	–1.1	1.7	1.9	2.5
55–57	+2.2	0.7	0.8	1.1
58–59	+1.3	0.6	0.7	1.0
60–61	–0.7	1.1	1.3	1.7
62–63	–1.0	1.3	1.5	2.1
64–66	–0.1	0.7	0.8	1.1
67–69	+1.0	0.1	0.1	0.1
70–75	+0.3	0.0	0.0	0.0
76–100	+0.2	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (First-quintile (20th-percentile) line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+0.6	54.4	65.6	75.5
4	0.0	25.3	30.2	41.8
8	–0.2	17.5	20.9	29.9
16	+0.2	12.7	15.2	18.5
32	+0.2	8.8	10.7	14.3
64	+0.2	6.4	7.6	9.8
128	+0.4	4.4	5.5	7.3
256	+0.4	3.1	3.6	4.9
512	+0.4	2.3	2.7	3.5
1,024	+0.4	1.6	1.8	2.6
2,048	+0.4	1.1	1.4	1.7
4,096	+0.4	0.8	1.0	1.3
8,192	+0.4	0.6	0.7	0.9
16,384	+0.4	0.4	0.5	0.6

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (First-quintile (20th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	2.5	10.2	1.9	85.4	88.0	–45.5
<=25	4.5	8.2	4.9	82.5	87.0	+9.3
<=29	6.1	6.6	7.5	79.8	85.9	+40.8
<=32	7.3	5.4	10.3	77.0	84.3	+18.9
<=35	8.6	4.1	13.7	73.6	82.2	–7.9
<=38	9.4	3.3	18.4	68.9	78.3	–44.7
<=41	9.9	2.8	23.4	63.9	73.8	–84.0
<=43	10.2	2.4	26.8	60.5	70.8	–111.0
<=45	10.7	2.0	29.9	57.4	68.0	–136.0
<=48	11.1	1.6	36.2	51.1	62.3	–185.0
<=51	11.6	1.1	41.7	45.6	57.2	–228.6
<=54	12.0	0.7	47.9	39.4	51.4	–277.2
<=57	12.2	0.5	54.0	33.4	45.6	–325.1
<=59	12.3	0.4	57.6	29.7	41.9	–354.0
<=61	12.4	0.3	61.8	25.5	37.9	–386.8
<=63	12.5	0.2	66.2	21.1	33.6	–421.7
<=66	12.7	0.0	72.4	14.9	27.5	–470.8
<=69	12.7	0.0	77.2	10.1	22.8	–507.9
<=75	12.7	0.0	83.0	4.3	17.0	–553.6
<=100	12.7	0.0	87.3	0.0	12.7	–587.9

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (First-quintile (20th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	57.6	19.9	1.4:1
<=25	9.4	48.2	35.5	0.9:1
<=29	13.6	44.8	48.0	0.8:1
<=32	17.6	41.5	57.5	0.7:1
<=35	22.3	38.5	67.5	0.6:1
<=38	27.7	33.8	73.8	0.5:1
<=41	33.2	29.7	77.7	0.4:1
<=43	37.0	27.7	80.7	0.4:1
<=45	40.6	26.3	84.0	0.4:1
<=48	47.3	23.5	87.7	0.3:1
<=51	53.4	21.8	91.7	0.3:1
<=54	59.9	20.0	94.4	0.3:1
<=57	66.2	18.4	96.2	0.2:1
<=59	69.9	17.5	96.6	0.2:1
<=61	74.2	16.7	97.7	0.2:1
<=63	78.7	15.9	98.6	0.2:1
<=66	85.1	14.9	99.9	0.2:1
<=69	89.9	14.1	100.0	0.2:1
<=75	95.7	13.3	100.0	0.2:1
<=100	100.0	12.7	100.0	0.1:1

Scorecard applied to the validation sample.

Tables for
the Second-Quintile (40th-Percentile) Poverty Line

Table 3 (Second-quintile (40th-percentile) line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	82.7
19–25	72.4
26–29	64.0
30–32	54.0
33–35	48.9
36–38	45.3
39–41	36.0
42–43	34.3
44–45	31.2
46–48	22.0
49–51	20.9
52–54	15.8
55–57	12.7
58–59	11.6
60–61	9.4
62–63	8.0
64–66	5.3
67–69	4.1
70–75	1.6
76–100	0.5

Table 5 (Second-quintile (40th-percentile) line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–6.4	4.2	4.4	4.7
19–25	–3.6	3.0	3.3	4.2
26–29	+1.7	3.7	4.5	5.7
30–32	–1.5	3.8	4.5	5.9
33–35	–8.9	6.2	6.5	6.9
36–38	+2.7	3.1	3.8	5.0
39–41	+9.0	2.8	3.4	4.4
42–43	+4.8	3.4	4.0	5.1
44–45	+2.4	3.5	4.0	5.1
46–48	–1.4	2.5	3.0	3.9
49–51	–0.2	2.8	3.5	4.5
52–54	+1.1	2.2	2.5	3.4
55–57	+4.2	1.4	1.8	2.4
58–59	+4.9	1.7	2.0	2.7
60–61	+1.7	1.8	2.1	2.6
62–63	–7.1	4.9	5.2	5.9
64–66	–1.2	1.5	1.8	2.2
67–69	+2.6	0.6	0.8	1.0
70–75	+1.5	0.1	0.1	0.1
76–100	+0.5	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (Second-quintile (40th-percentile) line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+0.9	63.4	74.1	82.2
4	+0.2	30.2	35.9	52.3
8	+0.3	23.2	27.7	35.9
16	+0.6	16.7	20.3	28.6
32	+0.6	12.0	14.1	19.0
64	+0.5	8.7	10.8	14.0
128	+0.5	6.2	7.6	9.6
256	+0.5	4.5	5.3	7.2
512	+0.5	3.2	3.7	5.0
1,024	+0.5	2.2	2.7	3.3
2,048	+0.5	1.6	1.9	2.7
4,096	+0.5	1.1	1.3	1.7
8,192	+0.5	0.8	0.9	1.3
16,384	+0.5	0.5	0.7	0.8

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (Second-quintile (40th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	3.8	23.7	0.6	71.9	75.8	–70.1
<=25	7.5	20.0	1.9	70.6	78.1	–38.7
<=29	10.1	17.4	3.5	69.0	79.1	–13.9
<=32	12.4	15.1	5.1	67.4	79.8	+9.2
<=35	15.1	12.4	7.1	65.4	80.5	+36.0
<=38	17.4	10.1	10.3	62.2	79.6	+62.4
<=41	19.1	8.3	14.1	58.4	77.6	+48.8
<=43	20.4	7.1	16.7	55.8	76.2	+39.4
<=45	21.5	6.0	19.1	53.4	74.9	+30.4
<=48	23.1	4.4	24.2	48.3	71.4	+11.9
<=51	24.3	3.2	29.1	43.4	67.7	–5.9
<=54	25.2	2.3	34.7	37.8	63.0	–26.2
<=57	25.8	1.7	40.4	32.2	57.9	–46.8
<=59	26.1	1.4	43.8	28.7	54.8	–59.3
<=61	26.5	1.0	47.7	24.8	51.2	–73.6
<=63	27.0	0.5	51.8	20.7	47.7	–88.3
<=66	27.4	0.1	57.8	14.8	42.1	–110.1
<=69	27.5	0.0	62.4	10.1	37.6	–126.9
<=75	27.5	0.0	68.2	4.3	31.8	–148.0
<=100	27.5	0.0	72.5	0.0	27.5	–163.8

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (Second-quintile (40th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	87.2	13.9	6.8:1
<=25	9.4	79.9	27.2	4.0:1
<=29	13.6	74.0	36.6	2.9:1
<=32	17.6	70.7	45.2	2.4:1
<=35	22.3	67.9	55.0	2.1:1
<=38	27.7	62.7	63.3	1.7:1
<=41	33.2	57.6	69.7	1.4:1
<=43	37.0	55.0	74.1	1.2:1
<=45	40.6	52.9	78.2	1.1:1
<=48	47.3	48.8	83.9	1.0:1
<=51	53.4	45.5	88.2	0.8:1
<=54	59.9	42.1	91.6	0.7:1
<=57	66.2	39.0	93.8	0.6:1
<=59	69.9	37.3	94.9	0.6:1
<=61	74.2	35.7	96.2	0.6:1
<=63	78.7	34.3	98.1	0.5:1
<=66	85.1	32.2	99.6	0.5:1
<=69	89.9	30.6	100.0	0.4:1
<=75	95.7	28.7	100.0	0.4:1
<=100	100.0	27.5	100.0	0.4:1

Scorecard applied to the validation sample.

Tables for the Median (50^{th}-Percentile) Poverty Line

Table 3 (Median (50th-percentile) line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	91.5
19–25	82.2
26–29	77.6
30–32	71.9
33–35	64.1
36–38	60.6
39–41	49.4
42–43	46.5
44–45	42.9
46–48	37.7
49–51	30.1
52–54	22.9
55–57	17.1
58–59	15.9
60–61	12.1
62–63	11.2
64–66	7.9
67–69	6.2
70–75	1.6
76–100	0.5

Table 5 (Median (50th-percentile) line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–2.2	1.9	2.0	2.6
19–25	–4.9	3.4	3.7	3.9
26–29	+6.1	3.5	4.1	5.2
30–32	+11.1	3.8	4.6	6.0
33–35	–4.8	4.0	4.3	4.9
36–38	+4.0	3.0	3.5	4.8
39–41	–0.4	3.4	4.1	5.2
42–43	+6.4	3.6	4.3	5.5
44–45	–4.8	4.3	4.6	5.8
46–48	+6.1	2.8	3.3	4.2
49–51	+3.6	2.9	3.4	4.6
52–54	–4.2	3.6	3.9	4.6
55–57	–1.3	2.0	2.6	3.3
58–59	+3.3	2.3	2.8	3.8
60–61	–0.6	2.3	2.8	3.8
62–63	–5.2	4.0	4.3	4.9
64–66	–0.8	1.6	2.0	2.4
67–69	+2.0	1.2	1.5	2.0
70–75	+1.3	0.2	0.2	0.3
76–100	+0.5	0.0	0.0	0.0

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (Median (50th-percentile) line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.1	69.7	75.4	87.1
4	+0.2	34.5	42.1	55.4
8	+0.2	25.1	30.8	40.4
16	+0.7	18.8	22.3	28.7
32	+0.8	13.1	16.1	21.0
64	+0.8	9.3	11.6	15.0
128	+0.8	6.8	8.0	10.2
256	+0.7	5.0	5.7	7.2
512	+0.8	3.3	4.0	5.5
1,024	+0.7	2.4	2.8	3.7
2,048	+0.8	1.7	2.0	2.7
4,096	+0.8	1.2	1.5	1.9
8,192	+0.8	0.8	1.0	1.3
16,384	+0.8	0.6	0.7	0.9

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (Median (50th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.1	31.6	0.3	64.0	68.1	–76.2
<=25	8.4	27.4	1.0	63.2	71.6	–50.4
<=29	11.4	24.3	2.2	62.1	73.5	–30.0
<=32	14.1	21.6	3.5	60.8	74.9	–11.4
<=35	17.3	18.5	5.0	59.3	76.6	+10.7
<=38	20.5	15.3	7.3	57.0	77.4	+34.8
<=41	23.1	12.6	10.1	54.2	77.3	+57.7
<=43	24.9	10.9	12.2	52.1	77.0	+66.0
<=45	26.6	9.1	14.0	50.3	76.9	+60.9
<=48	28.8	6.9	18.5	45.8	74.6	+48.3
<=51	30.5	5.3	22.9	41.4	71.8	+36.0
<=54	32.0	3.8	27.9	36.4	68.4	+22.0
<=57	33.2	2.5	32.9	31.3	64.5	+7.9
<=59	33.7	2.0	36.2	28.1	61.8	–1.2
<=61	34.3	1.5	39.9	24.3	58.6	–11.7
<=63	34.9	0.9	43.9	20.4	55.3	–22.7
<=66	35.5	0.3	49.6	14.6	50.1	–38.9
<=69	35.7	0.0	54.1	10.1	45.8	–51.5
<=75	35.7	0.0	59.9	4.3	40.1	–67.6
<=100	35.7	0.0	64.3	0.0	35.7	–79.7

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (Median (50th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	93.4	11.5	14.1:1
<=25	9.4	89.3	23.4	8.3:1
<=29	13.6	83.9	32.0	5.2:1
<=32	17.6	80.2	39.4	4.0:1
<=35	22.3	77.7	48.4	3.5:1
<=38	27.7	73.8	57.2	2.8:1
<=41	33.2	69.7	64.8	2.3:1
<=43	37.0	67.2	69.6	2.0:1
<=45	40.6	65.6	74.5	1.9:1
<=48	47.3	60.9	80.6	1.6:1
<=51	53.4	57.1	85.2	1.3:1
<=54	59.9	53.4	89.5	1.1:1
<=57	66.2	50.2	92.9	1.0:1
<=59	69.9	48.2	94.3	0.9:1
<=61	74.2	46.2	95.9	0.9:1
<=63	78.7	44.3	97.6	0.8:1
<=66	85.1	41.7	99.3	0.7:1
<=69	89.9	39.7	99.9	0.7:1
<=75	95.7	37.4	100.0	0.6:1
<=100	100.0	35.7	100.0	0.6:1

Scorecard applied to the validation sample.

Tables for
the Third-Quintile (60th-Percentile) Poverty Line

Table 3 (Third-quintile (60th-percentile) line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	94.9
19–25	90.5
26–29	86.8
30–32	82.7
33–35	76.7
36–38	71.0
39–41	61.4
42–43	58.9
44–45	56.2
46–48	51.7
49–51	46.2
52–54	36.7
55–57	28.5
58–59	25.8
60–61	19.0
62–63	16.8
64–66	13.5
67–69	11.3
70–75	3.8
76–100	1.0

Table 5 (Third-quintile (60th-percentile) line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	–1.4	1.4	1.6	2.1
19–25	–2.6	2.1	2.3	2.6
26–29	+5.7	3.4	4.0	4.9
30–32	+4.6	3.2	3.8	5.1
33–35	+2.6	3.0	3.6	5.0
36–38	+4.9	2.9	3.4	4.6
39–41	+1.0	3.3	3.8	4.8
42–43	+2.5	3.7	4.3	5.9
44–45	–13.7	8.5	8.9	9.3
46–48	+3.4	2.8	3.3	4.5
49–51	+3.7	3.0	3.7	4.8
52–54	–1.7	3.1	3.7	4.6
55–57	+3.6	2.4	2.8	3.7
58–59	–0.8	3.5	4.3	5.4
60–61	+2.4	2.5	3.0	4.2
62–63	–4.4	3.8	4.1	4.8
64–66	–2.2	2.2	2.5	3.3
67–69	+6.3	1.3	1.6	2.1
70–75	+2.2	0.6	0.7	1.0
76–100	–1.0	1.0	1.1	1.4

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (Third-quintile (60th-percentile) line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.7	66.8	77.2	87.6
4	+0.4	35.8	41.6	54.9
8	+0.7	25.1	29.5	42.2
16	+1.2	18.7	22.1	28.5
32	+1.2	14.1	16.8	21.5
64	+1.2	9.9	12.0	15.4
128	+1.2	7.0	8.6	11.3
256	+1.1	5.0	6.1	8.1
512	+1.1	3.4	4.0	5.6
1,024	+1.1	2.4	2.9	3.9
2,048	+1.1	1.7	2.0	2.7
4,096	+1.1	1.3	1.4	1.9
8,192	+1.1	0.9	1.0	1.3
16,384	+1.1	0.6	0.7	0.9

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (Third-quintile (60th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.2	41.0	0.1	54.6	58.9	–80.9
<=25	8.8	36.4	0.5	54.3	63.1	–59.8
<=29	12.4	32.8	1.2	53.6	66.0	–42.5
<=32	15.6	29.6	1.9	52.8	68.4	–26.7
<=35	19.2	26.0	3.1	51.7	70.9	–8.4
<=38	23.0	22.3	4.7	50.0	73.0	+12.0
<=41	26.4	18.8	6.8	48.0	74.3	+31.8
<=43	28.7	16.5	8.3	46.5	75.2	+45.3
<=45	31.2	14.1	9.4	45.4	76.5	+58.7
<=48	34.5	10.7	12.8	42.0	76.5	+71.8
<=51	37.2	8.1	16.2	38.6	75.7	+64.2
<=54	39.4	5.8	20.5	34.3	73.7	+54.8
<=57	41.1	4.1	25.0	29.8	70.9	+44.7
<=59	42.0	3.2	27.8	26.9	68.9	+38.4
<=61	42.8	2.4	31.4	23.4	66.2	+30.7
<=63	43.6	1.6	35.1	19.7	63.3	+22.4
<=66	44.7	0.6	40.5	14.3	59.0	+10.5
<=69	45.0	0.2	44.9	9.9	54.9	+0.8
<=75	45.1	0.1	50.5	4.3	49.4	–11.7
<=100	45.2	0.0	54.8	0.0	45.2	–21.1

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (Third-quintile (60th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	96.6	9.4	28.6:1
<=25	9.3	94.7	19.5	17.9:1
<=29	13.6	91.5	27.5	10.7:1
<=32	17.6	88.9	34.5	8.0:1
<=35	22.2	86.2	42.4	6.3:1
<=38	27.7	82.9	50.8	4.8:1
<=41	33.2	79.5	58.3	3.9:1
<=43	37.0	77.6	63.5	3.5:1
<=45	40.6	76.8	68.9	3.3:1
<=48	47.3	73.0	76.3	2.7:1
<=51	53.3	69.7	82.2	2.3:1
<=54	59.8	65.8	87.1	1.9:1
<=57	66.1	62.2	90.9	1.6:1
<=59	69.9	60.1	92.9	1.5:1
<=61	74.2	57.7	94.7	1.4:1
<=63	78.7	55.4	96.5	1.2:1
<=66	85.1	52.5	98.7	1.1:1
<=69	89.9	50.1	99.5	1.0:1
<=75	95.7	47.2	99.8	0.9:1
<=100	100.0	45.2	100.0	0.8:1

Scorecard applied to the validation sample.

Tables for
the Fourth-Quintile (80th-Percentile) Poverty Line

Table 3 (Fourth-quintile (80th-percentile) line): Scores and their corresponding estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–18	99.4
19–25	98.1
26–29	96.9
30–32	95.8
33–35	94.5
36–38	92.1
39–41	87.9
42–43	85.7
44–45	83.7
46–48	82.1
49–51	72.3
52–54	67.6
55–57	61.6
58–59	56.4
60–61	47.1
62–63	42.4
64–66	36.5
67–69	34.2
70–75	20.7
76–100	5.5

Table 5 (Fourth-quintile (80th-percentile) line): Errors in a household's poverty likelihood (average of differences between estimated and observed values) by score range, with confidence intervals

	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–18	+0.9	0.8	1.0	1.3
19–25	+0.7	1.2	1.4	2.0
26–29	–1.7	1.1	1.2	1.3
30–32	+1.2	1.8	2.1	2.9
33–35	+0.3	1.8	2.1	2.8
36–38	–0.8	1.5	1.8	2.4
39–41	+1.6	2.4	2.8	3.9
42–43	–2.0	2.5	3.0	4.1
44–45	–6.4	4.3	4.5	4.8
46–48	+3.7	2.4	2.9	3.6
49–51	–8.3	5.2	5.4	5.7
52–54	–3.8	3.1	3.4	4.4
55–57	+9.8	3.0	3.6	4.7
58–59	+1.3	3.8	4.5	5.9
60–61	+8.7	3.3	4.0	5.0
62–63	+2.6	3.5	4.1	5.4
64–66	–6.1	4.6	4.9	5.5
67–69	+12.4	2.6	3.1	4.4
70–75	+5.4	2.3	2.7	3.5
76–100	+2.0	1.0	1.2	1.6

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 6 (Fourth-quintile (80th-percentile) line): Errors in households' poverty rates at a point in time (average of differences between estimated and observed values), with confidence intervals

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.6	64.9	73.6	86.9
4	–0.1	37.3	42.5	57.4
8	+1.1	26.4	31.5	39.9
16	+1.3	18.5	22.9	31.1
32	+1.4	13.5	16.2	21.9
64	+1.3	9.6	11.5	15.1
128	+1.2	6.6	7.9	10.4
256	+1.2	4.8	5.7	7.3
512	+1.2	3.3	3.9	5.2
1,024	+1.2	2.3	2.8	3.5
2,048	+1.2	1.6	1.9	2.4
4,096	+1.2	1.1	1.3	1.8
8,192	+1.2	0.8	1.0	1.3
16,384	+1.2	0.6	0.7	0.9

Scorecard applied to 1,000 bootstraps from the validation sample.

Table 9 (Fourth-quintile (80th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC

Targeting cut-off	Inclusion: Poor correctly targeted	Undercoverage: Poor mistakenly not targeted	Leakage: Non-poor mistakenly targeted	Exclusion: Non-poor correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=18	4.3	62.5	0.1	33.1	37.4	–87.0
<=25	9.2	57.7	0.2	33.0	42.2	–72.2
<=29	13.4	53.5	0.2	32.9	46.2	–59.7
<=32	17.2	49.7	0.4	32.7	49.8	–48.1
<=35	21.6	45.3	0.7	32.5	54.1	–34.4
<=38	26.6	40.2	1.1	32.0	58.7	–18.7
<=41	31.5	35.4	1.7	31.4	62.9	–3.2
<=43	34.9	32.0	2.1	31.0	65.9	+7.6
<=45	38.2	28.7	2.4	30.7	68.9	+17.8
<=48	43.5	23.4	3.8	29.3	72.9	+35.8
<=51	48.3	18.6	5.1	28.1	76.3	+52.0
<=54	52.8	14.1	7.1	26.0	78.8	+68.4
<=57	56.2	10.7	10.0	23.1	79.3	+82.9
<=59	58.3	8.6	11.6	21.5	79.8	+82.6
<=61	60.1	6.7	14.0	19.1	79.2	+79.0
<=63	61.9	5.0	16.8	16.3	78.2	+74.9
<=66	64.5	2.4	20.7	12.5	76.9	+69.1
<=69	65.8	1.1	24.1	9.1	74.8	+64.0
<=75	66.6	0.2	29.0	4.1	70.8	+56.6
<=100	66.9	0.0	33.1	0.0	66.9	+50.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100. Scorecard applied to the validation sample.

Table 10 (Fourth-quintile (80th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households successfully targeted per non-poor household mistakenly targeted

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=18	4.4	98.5	6.5	65.8:1
<=25	9.4	98.3	13.8	58.5:1
<=29	13.6	98.2	20.0	53.8:1
<=32	17.6	97.5	25.6	39.6:1
<=35	22.3	97.0	32.3	32.6:1
<=38	27.7	96.1	39.8	24.5:1
<=41	33.2	94.8	47.1	18.3:1
<=43	37.0	94.3	52.2	16.6:1
<=45	40.6	94.0	57.1	15.7:1
<=48	47.3	92.0	65.1	11.5:1
<=51	53.4	90.5	72.2	9.5:1
<=54	59.9	88.2	78.9	7.4:1
<=57	66.2	84.9	84.0	5.6:1
<=59	69.9	83.4	87.1	5.0:1
<=61	74.2	81.1	89.9	4.3:1
<=63	78.7	78.6	92.6	3.7:1
<=66	85.1	75.7	96.4	3.1:1
<=69	89.9	73.2	98.4	2.7:1
<=75	95.7	69.7	99.7	2.3:1
<=100	100.0	66.9	100.0	2.0:1

Scorecard applied to the validation sample.