Simple Poverty Scorecard® Poverty-Assessment Tool Burkina Faso

Mark Schreiner

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Abstract

The Simple Poverty Scorecard®-brand poverty-assessment tool uses 11 low-cost indicators from Burkina Faso's 2014 Permanent Multi-Sector Survey to estimate the likelihood that a household has consumption below a given poverty line. Field workers can collect responses in about ten minutes. Accuracy is reported for a range of poverty lines. The scorecard is a practical way for pro-poor programs in Burkina Faso to measure poverty rates, to track changes in poverty rates over time, and to segment clients for differentiated treatment.

Version note

This paper uses 2014 data, replacing Schreiner (2011a), which uses 2003 data. The new 2014 scorecard should be used from now on. Four of the poverty lines supported for the old 2003 scorecard are also supported for the new 2014 scorecard, so existing users can measure change over time for those lines with a baseline from the old 2003 scorecard and a follow-up from the new 2014 scorecard.

Acknowledgements

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Simple Poverty Scorecard® Poverty-Assessment Tool

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

Indicator	Response	Points	Score
1. How many members does the household have?	A. Ten or more	0	
	B. Nine	9	
	C. Eight	12	
	D. Seven	15	
	E. Six	17	
	F. Five	22	
	G. Four	26	
	H. Three	36	
	I. One, or two	43	
2. Does the male head/spouse know how to read and write in any language?	A. No male head/spouse	0	
	B. No	4	
	C. Yes	8	
3. Does the (oldest) female head/spouse know how to read and write in any language?	A. No female head/spouse	0	
	B. No	1	
	C. Yes	4	
4. What type of floor does the residence's main building have?	A. Dirt, or other	0	
	B. Cement screed, sand, tile, or carpet	5	
5. What type of walls does the residence's main building have?	A. Adobe (mud bricks), or other	0	
	B. Smoothed adobe, stone, straw, cement/concrete, or baked bricks	4	
6. What is the main source of drinking water?	A. Well (protected or unprotected), or other	0	
	B. Borehole	3	
	C. Public standpipe, or dam/river/stream/lake	6	
	D. Protected well with a pump system, or tap (private or shared, inside or outside of the residence or its yard)	10	
7. Does the household have any televisions in good working order?	A. No	0	
	B. Yes	2	
8. How many mattresses in good working order does the household have?	A. None	0	
	B. One	3	
	C. Two or more	7	
9. How many cell phones in good working order does the household have?	A. None	0	
	B. One	5	
	C. Two or more	7	
10. Does the household have any motorcycles in good working order?	A. No	0	
	B. Yes	9	
11. Does the household have any stoves (gas or electric), refrigerators, or freezers in good working order?	A. No	0	
	B. Yes	100	

Score:

Back-page Worksheet: Household Membership

In the scorecard header, write the interview's unique identifier (if known), the interview date, and the sampling weight of the participant (if known). Then record the name and the unique identification number of the participant (who may differ from the respondent), of yourself as the field agent, and of the service point the participant uses.

Read to the respondent: *Please tell me the first names (or nicknames) of the members of your household. A* household *is a socio-economic unit of one or more people—regardless blood or marital relationship—who normally live and eat together in the same residence or compound, who pool their resources, and who cooperate to satisify their basic needs (food and non-food), and who recognize the authority of a single head. Include only people who have been with the household for at least six of the past 12 months, or who currently live with the household and who expect to stay for a total of at least six months. Start with the head of the household and his/her spouse(s).*

Write down the name (or nickname) of each member. Also record whether a given member is the male head/spouse (if he exists) or the (oldest) female head/spouse (if she exists).

Count the number of household members, and write it in the scorecard header by "Number of household members:". Then mark the response to the first scorecard indicator.

Always keep in mind the full definitions of *household* and *household member* in the "Guidelines for the Interpretation of Scorecard Indicators".

First name or nickname	Is \<name\> the head or the (oldest) spouse of the head?		
1.	No	Yes, male	Yes, (oldest) female
2.	No	Yes, male	Yes, (oldest) female
3.	No	Yes, male	Yes, (oldest) female
4.	No	Yes, male	Yes, (oldest) female
5.	No	Yes, male	Yes, (oldest) female
6.	No	Yes, male	Yes, (oldest) female
7.	No	Yes, male	Yes, (oldest) female
8.	No	Yes, male	Yes, (oldest) female
9.	No	Yes, male	Yes, (oldest) female
10.	No	Yes, male	Yes, (oldest) female
11.	No	Yes, male	Yes, (oldest) female
12.	No	Yes, male	Yes, (oldest) female
13.	No	Yes, male	Yes, (oldest) female
14.	No	Yes, male	Yes, (oldest) female
Number of HH members:	—		

Look-up table to convert scores to poverty likelihoods: National poverty lines
(2014 definition)

Score	Poverty likelihood (%)			
	National lines			
	Food	100%	150%	200%
0–4	49.2	84.4	96.3	100.0
5–9	49.2	84.4	96.3	100.0
10–14	35.7	80.2	94.7	100.0
15–19	27.4	72.2	93.6	97.8
20–24	21.1	64.6	92.8	97.7
25–29	14.6	61.3	89.0	95.7
30–34	6.6	44.8	81.8	93.8
35–39	3.7	33.2	74.4	90.1
40–44	3.0	21.7	63.4	83.2
45–49	1.0	12.5	49.3	75.1
50–54	0.7	6.3	34.1	66.0
55–59	0.3	5.5	27.7	56.3
60–64	0.1	1.6	13.1	41.0
65–69	0.1	0.4	4.3	18.2
70–74	0.1	0.4	4.3	14.1
75–79	0.1	0.4	4.3	14.1
80–84	0.1	0.4	4.3	14.1
85–89	0.1	0.4	4.3	14.1
90–94	0.1	0.4	4.3	14.1
95–200	0.1	0.4	4.3	14.1

Look-up table to convert scores to poverty likelihoods: International 2005 and 2011 PPP lines (2014 definition)

	Poverty likelihood (%)						
	Intl. 2005 PPP lines					Intl. 2011 PPP lines	
Score	**$1.25**	**$2.00**	**$2.50**	**$5.00**	**$8.44**	**$1.90**	**$3.10**
0–4	93.9	100.0	100.0	100.0	100.0	94.5	100.0
5–9	93.9	100.0	100.0	100.0	100.0	94.5	100.0
10–14	90.2	100.0	100.0	100.0	100.0	91.8	100.0
15–19	87.8	98.1	99.7	100.0	100.0	88.3	98.8
20–24	85.0	98.0	99.2	100.0	100.0	85.4	98.3
25–29	80.4	96.4	99.0	100.0	100.0	82.6	97.1
30–34	69.5	94.2	98.0	100.0	100.0	70.5	95.1
35–39	59.4	90.7	97.2	100.0	100.0	60.5	92.5
40–44	48.6	84.5	93.5	99.9	100.0	49.7	86.3
45–49	31.9	77.6	89.5	99.9	100.0	33.6	80.5
50–54	19.1	68.5	85.3	99.2	100.0	20.8	72.2
55–59	14.9	58.0	75.3	98.8	100.0	15.3	61.3
60–64	7.2	41.1	60.4	95.6	98.8	7.3	45.8
65–69	1.9	18.7	36.6	84.9	93.6	2.0	22.6
70–74	1.9	14.8	27.1	75.4	89.1	2.0	16.3
75–79	1.9	14.3	27.1	72.7	89.1	2.0	15.4
80–84	1.9	14.3	27.1	68.0	88.1	2.0	15.4
85–89	1.9	14.3	27.1	67.8	86.0	2.0	15.4
90–94	1.9	14.3	27.1	67.8	86.0	2.0	15.4
95–200	1.9	14.3	27.1	67.8	86.0	2.0	15.4

Look-up table to convert scores to poverty likelihoods: Relative and percentile-based poverty lines (2014 definition)

Score	Poorest half of people below 100% Natl. line	Percentile-based lines				
		20th	40th	50th	60th	80th
0–4	66.3	65.7	84.4	90.1	94.5	99.5
5–9	66.3	65.7	84.4	90.1	94.5	99.5
10–14	56.8	56.4	80.2	85.7	91.8	99.4
15–19	44.9	44.9	72.2	82.9	89.2	97.4
20–24	35.7	35.7	64.6	77.0	86.3	97.3
25–29	30.7	30.7	61.1	71.0	83.8	94.8
30–34	17.5	17.5	44.5	58.2	71.1	91.3
35–39	9.3	9.3	33.1	46.9	61.9	88.6
40–44	7.2	7.2	21.7	36.7	50.5	81.5
45–49	3.0	3.0	12.5	22.6	35.5	71.7
50–54	1.2	1.2	6.3	13.6	21.3	61.5
55–59	0.6	0.6	5.5	10.7	15.5	47.8
60–64	0.2	0.2	1.6	4.5	7.3	34.5
65–69	0.2	0.2	0.4	0.9	2.0	16.3
70–74	0.2	0.2	0.4	0.9	2.0	12.6
75–79	0.2	0.2	0.4	0.9	2.0	12.6
80–84	0.2	0.2	0.4	0.9	2.0	12.6
85–89	0.2	0.2	0.4	0.9	2.0	12.6
90–94	0.2	0.2	0.4	0.9	2.0	12.6
95–200	0.2	0.2	0.4	0.9	2.0	12.6

Poverty likelihood (%)

Look-up table to convert scores to poverty likelihoods: National lines and International 2005 PPP lines (2003 definition)

	Poverty likelihood (%)			
	National lines		Intl. 2005 PPP lines	
Score	100%	150%	$1.25	$2.50
0–4	86.6	96.4	93.9	100.0
5–9	86.6	96.4	93.9	100.0
10–14	82.9	94.8	91.3	100.0
15–19	75.2	93.0	88.5	99.5
20–24	67.7	92.5	85.2	98.8
25–29	63.7	88.9	82.8	98.7
30–34	48.1	83.1	70.9	97.8
35–39	34.8	74.3	60.9	96.5
40–44	24.5	64.3	50.7	93.4
45–49	14.1	48.6	33.1	89.2
50–54	9.3	33.3	21.1	86.7
55–59	6.7	25.8	15.2	75.3
60–64	1.5	12.4	6.7	58.8
65–69	0.3	4.7	1.5	36.0
70–74	0.3	3.3	1.5	25.5
75–79	0.3	3.3	1.5	22.5
80–84	0.3	3.3	1.5	20.8
85–89	0.3	3.3	1.5	20.8
90–94	0.3	3.3	1.5	20.8
95–200	0.3	3.3	1.5	20.8

Note on estimating changes in poverty rates over time using both the old 2003 scorecard and the new 2014 scorecard

The new scorecard here uses data from Burkina Faso's 2014 Permanent Multi-Sector Survey (*Enquête Multisectorielle Continue*, EMC). It replaces the scorecard in Schreiner (2011a) that uses data from 2003.[1] The new 2014 scorecard should be used from now on.

Between 2003 and 2014, Burkina Faso's *Institute National de la Statistique et de la Démographie* (INSD) changed both the way it measures consumption as well as the way it defines poverty lines. Therefore, estimated poverty rates based on the old 2003 definition of *poverty* supported by the old 2003 scorecard in Schreiner (2011a) are not comparable with estimates based on the new 2014 definition of *poverty* featured for the new 2014 scorecard here.

Nevertheless, pro-poor programs in Burkina Faso that already use the old 2003 scorecard can switch to the new 2014 scorecard and still estimate hybrid changes in poverty rates over time with existing baseline estimates from the old 2003 scorecard and follow-up estimates from the new 2014 scorecard. This is possible because the new 2014 scorecard supports not only 17 poverty lines based on the new 2014 definition of *poverty* but also four poverty lines based on the old 2003 definition of *poverty*. Given a 2003-

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[1] The 2003 data is from Burkina Faso's Household Living Standards Survey (*Enquête Burkinabé sur les Conditions de Vie des Ménages*, EBCVM).

definition poverty line that is supported for both the old and new scorecards, valid estimates of change can be found as the difference between estimated poverty rates from a baseline with the old 2003 scorecard and a follow-up with the new 2014 scorecard.

The appendix describes the process—with a worked-out example of the calculations—of computing hybrid estimates looking backwards as well as computing non-hybrid estimates going forward. The appendix also illustrates the process (and assumptions required) to splice together hybrid and non-hybrid estimates of change.

It is valid to splice a hybrid estimate of change based on the old 2003 definition of *poverty* (baseline from the old 2003 scorecard and follow-up from the new 2014 scorecard) together with non-hybrid estimates of change based on the new 2014 definition of *poverty* (both baseline and follow-up from the new 2014 scorecard) as long as poverty rates change at about the same rate under both the old 2003 and new 2014 definitions. This is the "parallel lines" assumption.

In Burkina Faso, the available evidence says that the "parallel lines" assumption does not hold well. In particular, the percentage-point change from 2003 to 2014 is –4.4 percentage points for the person-level 2003-definition national poverty line versus –8.5 percentage points for the 2014-definition national line. This is a source of error for spliced hybrid/non-hybrid estimates of change. At the same time, this spliced hybrid/non-hybrid approach is the only way to combine estimates of change across the old and new definitions of *poverty*. Of course, being the only alternative does not

necessarily make it attractive or useful. Users of spliced estimates of changes should "be careful" and "use caution". Taking these often-hollow caveats seriously means either eschewing spliced estimates altogether or explicitly considering how the failure of the "parallel lines" assumption might affect accuracy. For example, users might be willing to reject a null hypothesis of "no change" based smaller changes when estimated by spliced estimates than they would with otherwise-equivalent non-hybrid estimates of change. That is, the point at which a spliced estimate is considered to be "large enough" to count as non-zero is lower than it would be if the "parallel lines" assumption held better. Unfortunately, there is no global, objective benchmark for how large is "large enough".

In sum, both first-time and legacy users should use the new 2014 scorecard from now on. Looking forward, this establishes the best baseline. Looking backward, legacy users of Burkina Faso's old 2003 scorecard can still use existing estimates when measuring change, although they should avoid making spliced (hybrid/non-hybrid) estimates of change.

Simple Poverty Scorecard® Poverty-Assessment Tool
Burkina Faso

1. Introduction

Pro-poor programs in Burkina Faso can use the Simple Poverty Scorecard poverty-assessment tool 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 track changes in a population's poverty rate over time, and to segment participants for differentiated treatment.

The new 2014 scorecard here uses data from Burkina Faso's 2014 Permanent Multi-Sectoral Survey (*Enquête Multisectorielle Continue*, EMC). It replaces the old 2003 scorecard in Schreiner (2011a) that uses data from Burkina Faso's Household Living Standards Survey (*Enquête Burkinabé sur les Conditions de Vie des Ménages*, EBCVM). Only the new 2014 scorecard should be used from now on, as it is more accurate. Four poverty lines that are supported for the old 2003 scorecard are also supported for the new 2014 scorecard, so legacy users of the old 2003 scorecard can measure change over time for those lines with a baseline from the old 2003 scorecard and a follow-up from the new 2014 scorecard.

The direct approach to poverty measurement via consumption surveys is difficult and costly. The 2014 EMC (conducted by Burkina Faso's *Institut National de la Statistique et de la Démographie*, INSD) is a case in point. Enumerators for the EMC visited each household in each of three quarters, asking hundreds of questions in each visit.[2]

In comparison, the indirect approach of the scorecard is quick and low-cost. It uses 11 verifiable indicators drawn from the 2014 EMC (such as "What type of floor does the residence's main building have?" and "Does the household have any televisions in good working order?") to get a score that is correlated with poverty status as measured by the exhaustive EMC survey.

The scorecard differs from "proxy-means tests" (Coady, Grosh, and Hoddinott, 2004) in that it is transparent, it is freely available,[3] and it is tailored to the capabilities and purposes not of national governments but rather of local, pro-poor organizations. The feasible poverty-measurement options for local organizations are typically blunt

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[2] The questionnaire for the first visit runs 86 pages and has 34 questions about the residence, up to 32 questions for each household member, up to 24 questions for each member older than 15, up to five questions for each of 22 consumer durables, up to 8 questions for each of 59 food items, and up to three questions for each of 138 non-food consumption items. Except for the questions about the residence and consumer durables, these questions are repeated in the second and third sets of visits. The second visit also asks up to 47 questions for each household member who works, up to 35 questions for each business, and up to 36 questions for each source of income. The third visit also asks up to 72 questions for each agricultural plot, up to 9 questions for each of 18 types of agricultural inputs, up to seven questions for each of 22 types of agricultural implements, and up to 31 questions for each type of crop.

[3] The Simple Poverty Scorecard tool is not, however, in the public domain. Copyright is held by Microfinance Risk Management, L.L.C. and by the sponsor.

(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

measures 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 measure the share of a program's participants who

are below a given poverty line (for example, Burkina Faso's national line). USAID

microenterprise partners in Burkina Faso can use scoring with the $1.90/day 2011 PPP

poverty line to report how many of their participants are "very poor".[4] Scoring can also

be used to measure net movement across a poverty line over time. In all these

applications, the scorecard provides a consumption-based, objective tool with known

accuracy. While consumption surveys are costly even for governments, some local 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 statistical approach here aims to be understood by non-specialists. After all,

if 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 simplicity 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

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[4] USAID defines a household as *very poor* if its daily per-capita consumption is less
than the highest of the 2014-definition $1.90/day 2011 PPP line (XOF475, Table 1) or
the 2014-definition line (XOF325) that marks the poorest half of people below 100% of
the national line.

by local, pro-poor organizations. This is not because they 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", simple, 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 simple and commonplace in statistical practice and in the for-profit field of credit-risk scoring, they have rarely been applied to poverty-assessment tools.

The scorecard is based on data from the 2014 EMC by Burkina Faso's INSD. Indicators are selected to be:

- Inexpensive to collect, easy to answer quickly, and simple to verify
- Strongly correlated with poverty
- Liable to change over time as poverty status changes
- Applicable in all regions in Burkina Faso

All points in the scorecard are non-negative integers, and total scores range from 0 (most likely below a poverty line) to 200 (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 poverty likelihoods among a representative sample of households from the population.

Third, the scorecard can estimate the annual rate of change in the poverty rate. With two independent samples from the same population, this is the difference in the average poverty likelihood in the baseline sample versus the average 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 is the sum of the changes in each household's 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 measures 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 Burkina Faso's 2014-definition national poverty line applied to data from the 2014 EMC. Scores from this one scorecard are calibrated with this same data to poverty

likelihoods for 21 poverty lines. In particular, it is calibrated to four of the 2003-definition lines supported by the old 2003 scorecard (Schreiner, 2011a). Thus, legacy users can switch to the new 2014 scorecard here and measure change over time with one of these four lines by combining existing 2003-definition estimates from the old 2003 scorecard with 2003-definition estimates from the new 2014 scorecard.

The new 2014 scorecard is constructed using data from half of the households in the 2014 EMC. Data from that same half of households is also used to calibrate scores to poverty likelihoods for 21 poverty lines. Data from the other half 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 scoring-based estimators (a household's poverty likelihood, a population's poverty rate at a point in time, and a population's annual rate of change in its poverty rate) are *unbiased*. That is, they match the observed value on average 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 is constructed from a single sample and so misses the mark to some unknown extent when applied (as in this paper) to a validation sample. Furthermore, it makes errors when applied (in

practice) to a different population or when applied before or after 2014 (because the relationships between indicators and poverty change over time).[5]

Thus, while the indirect scoring 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 scoring 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.

On average across 1,000 bootstraps of $n = 16,384$ from the 2014 validation sample, the average error (difference between the scorecard's estimate of a poverty rate versus the observed rate in the 2014 EMC) at a point in time for 100% of the 2014-definition national poverty line is +0.9 percentage points. Across all 21 poverty lines, the average absolute error is about 1.0 percentage points, and the maximum average absolute error is 3.0 percentage points. These estimation errors are due to sampling variation, not bias; the average difference would be zero if the whole 2014 EMC were to be repeatedly re-fielded and 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 less. For $n = 1,024$, the 90-percent intervals are ±2.2 percentage points or less.

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[5] Important cases include nationally representative samples at a later point in time or sub-national populations that are not nationally representative (Diamond *et al.*, 2015 and 2014; Tarozzi and Deaton, 2007).

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 changes in poverty rates over time. Section 8 covers targeting. Section 9 places the scorecard here in the context of related exercises for Burkina Faso. The last section is a summary.

The Appendix (found after the "References") explains how—and walks through example calculations—to compute hybrid estimates of changes in poverty rates over time with 2003-definition poverty lines and a baseline estimate from the old 2003 scorecard and a follow-up estimate from the new 2014 scorecard. It also shows to how compute non-hybrid estimates of change with 2014-definition poverty lines with both baseline and follow-up estimates from the new 2014 scorecard. Finally, it shows how to compute spliced estimates of change—while simultaneously warning against actually doing it—that combine hybrid and non-hybrid estimates of change.

The "Guidelines for the Interpretation of Scorecard Indicators" (found after the Appendix) tells how to ask questions—and how to interpret responses—so as to mimic practice in Burkina Faso's 2014 EMC as closely as possible. These "Guidelines" (and the "Back-page Worksheet") are integral parts of the Simple Poverty Scorecard tool.

2. Data and poverty lines

This section presents the data used to construct and validate the scorecard. It also documents the 21 poverty lines to which scores are calibrated.

2.1 Data

Indicators and points for the new 2014 scorecard are selected (*constructed*) based on data from a random half of the 10,411 households interviewed in all three visits in the 2014 EMC, Burkina Faso's most-recent national consumption survey.

The data from the half of households from the 2014 EMC 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 half of households in the 2014 EMC 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.

Field work for the 2014 EMC ran from 17 January 2014 to 24 November 2014. Consumption is in units of XOF per person per day in average prices in Ouagadougou during the EMC 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 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[6] 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 poverty status (non-poor) or its estimated poverty likelihood. The "$1 + 1$" in the

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

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 households that benefit from its services as *participants*. In the example here, the person-level rate is the household-size-weighted[7] average of poverty statuses (or estimated poverty likelihoods) for households with participants, or

$$\frac{3 \cdot 1 + 4 \cdot 0}{3 + 4} = \frac{3}{7} = 0.43 = 43 \text{ percent.}$$ 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 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 is now

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

the participant-weighted average[8] of the poverty statuses (or estimated poverty

likelihoods) of households with participants, or $\frac{1 \cdot 1 + 2 \cdot 0}{1 + 2} = \frac{1}{3} = 0.33 = 33$ 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.

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

household, household member, or participant—and explain why that unit is relevant.

Table 1 reports poverty lines and poverty rates for households and people in the

2014 EMC for Burkina Faso as a whole, for the construction/calibration sample, and

for the 2014 validation sample. For all of Burkina Faso and for each of its 13

administrative regions, Table 2 reports poverty lines and poverty rates for households

and people by urban/rural/all.

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[8] Given simple random sampling at the household level, a household's participant-level
weight is the number of participants in that household.

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 Tables 1 and 2 because these are the rates reported by the government of Burkina Faso. 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 Definitions of *poverty*, and national 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.

The new 2014 scorecard supports four poverty lines under the old 2003 definition of *poverty* and 17 lines under the new 2014 definition.

2.3.1 2003-definition national poverty line

The old 2003 definition of *poverty* uses a single visit to a household to measure consumption in the previous 15 days (INSD, 2003). The 2003-definition national poverty line is a minimum standard for food consumption plus a minimum standard for non-food consumption. The food standard is the observed cost—in the 1994/5 Priorities Survey (*Enquête Prioritaire I*)—of a four-item basket (millet, corn, sorghum, and rice) with 2,283 Calories, updated for changes in prices from 1994/5 to 2003. The non-food standard is the average non-food consumption observed for households whose observed food consumption is close to the caloric benchmark.[9] The 2003-definition national (food-plus-non-food) poverty line is XOF226 per person per day in average prices in Ouagadougou during the 2003 EBCVM fieldwork. The observed all-Burkina Faso poverty rates are 37.5 percent for households and 46.4 percent for people (Schreiner, 2011a; INSD, 2003, p. 11). The 2003-definition national line is not adjusted for cost-of-living differences across regions.

For use with the 2014 EMC, the 2003-definition national line is set equal to the average person-weighted all-Burkina Faso 2014-definition national line in 2014 (see below). That is, the adjustment factor for changes in prices from 2003 to 2014 is taken as the ratio of the 2014-definition national line in 2014 to the 2014-definition national

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[9] This is an assumption, as the derivation of the non-food standard under the old 2003 definition of *poverty* is not documented.

line in 2003 (XOF367.066 ÷ XOF226.499 = 1.6206).[10] The 2003-definition national line

in 2014 of XOF367.066 corresponds with observed poverty rates of 31.5 percent for

households and 42.0 percent for people (Table 1, "National and international 2005

poverty lines (2003 definition)", p. 131). The change in the estimated poverty rate for

people by this line from 2003 to 2014 is 42.0 – 46.4 = –4.4 percentage points.

150% of the 2003-definition national line in 2003 or in 2014 is a multiple of the

2003-definition national line in the corresponding year.

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[10] The adjustment factor is not taken as the ratio of the 2014 Consumer Price Index to
the 2003 CPI because Burkina Faso's CPI covers only some urban areas and completely
omits rural areas. In addition, the CPI factor from 2003 to 2014 (134.449 ÷ 103.089 =
1.3042) is about half of the factor implied by the 2014-definition national poverty lines.
The 2014-definition national lines are more reasonable deflators because they are based
on nationally representative data, because they embody the deflators used by INSD for
measuring poverty, and because using the CPI deflators imply unreasonably large
decreases in poverty. For example, the World Bank's PovcalNet uses the CPI when
deriving its $1.90/day 2011 PPP lines, and its estimated decreases in poverty from 2003
to 2014 seem too large (see below).

2.3.2 2014-definition national poverty line

Like the old 2003 definition of *poverty*, the new 2014 definition uses the cost-of-basic-needs method (Ravallion, 1998) and minimum standards for food and non-food consumption. For the food standard, both definitions use a single food basket for all of Burkina Faso with 2,283 Calories. For 2014, the average person-weighted all-Burkina Faso 2014-definition food line is XOF244 per person per day, with observed poverty rates of 7.2 percent for households and 11.1 percent for people (Table 1).

The new 2014 definition's non-food standard is derived with a food-share Engle-curve regression (INSD, 2015; Ravallion, 1998).[11] The 2014-definition (food-plus-non-food) national line in 2014 is XOF367, with observed poverty rates of 29.7 percent for households and 40.1 percent for people (Table 1).[12]

150% and 200% of the 2014-definition national line in 2014 are multiples of 100% of the 2014-definition national line.

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[11] This derivation may also have been used to define the non-food standard under the 2003 definition of *poverty*, although its use is not documented.

[12] This person-level poverty rate of 40.1 percent for the 2014-definition national line in 2014 matches INSD (2015, p. 13), providing some confidence that this paper uses the same data as INSD did in its official calculations.

Compared with the old 2003 definition of *poverty*, the new 2014 definition differs in that it (INSD, 2015):

- Collects consumption in three visits (rather than one)
- Uses a food basket with 30 items (rather than four) that account for 80 percent of food expenditure
- Derives 26 poverty lines (rather than a single, all-Bukina Faso line) to account for cost-of-living differences across urban and rural areas in each of Burkina Faso's 13 regions

INSD (2015, p. 22) says that these differences imply a "sharp break" between the two definitions of *poverty*; 2003-definition estimates are not comparable with 2014-definition estimates. To enable comparisons across the 2003 EBCVM, the 2009/10 EICVM[13], and the 2014 EMC, INSD (2015) derives 2014-definition national lines for all three surveys.[14] The 2014-definition national line in 2003 is XOF226.499[15], and the observed person-level poverty rate is 48.6 percent (INSD, 2015, p. 19), implying a change from 2003 to 2014 by this line of 40.1 – 48.6 percent = –8.5 percentage points. For its part, the 2014-definition national line in 2009/10 is XOF358.178 (Zida and Kambou, 2014, p. 20), and the observed person-level poverty rate is 46.7 percent (INSD, 2015, p. 13).

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[13] The 2009/10 Integrated Household Living Standards Survey (*l'Enquête Intégral sur les Conditions de Vie des Ménages*) was fielded from July 2009 to August 2010.

[14] Like this paper, INSD (2015) ignores differences in how consumption was collected across the old 2003 definition of *poverty* in the 2003 EBCVM and the new 2014 definition in the 2009/10 EICVM and the 2014 EMC.

[15] This average value of 26 regional lines under the new 2014 definition in 2003 is the same as the single, all-Burkina Faso line under the old 2003 definition in 2003.

The observed change in the head-count poverty rate between 2003 and 2014 for the 2014-definition national line (–8.5 percentage points) is about twice that of the 2003-definition national line (–4.4 percentage points). Thus, the "parallel-lines" assumption does not hold. Legacy users of the old 2003 scorecard should therefore avoid splicing hybrid/non-hybrid estimates of change in which the hybrid estimate uses a 2003-definition poverty line with both a baseline from the old 2003 scorecard and a follow-up from the new 2014 scorecard and where the non-hybrid estimate uses a 2014-definition poverty line with both a baseline and follow-up from the new 2014 scorecard. Because the observed rate of change from 2003 to 2014 differs greatly between the two definitions of *poverty*, splicing a 2003-definition estimate of change with a 2014-definition estimate of change produces estimates with large, systematic errors.

2.4   Supported poverty lines

Because pro-poor organizations in Burkina Faso may want to use different or

various poverty lines, this paper calibrates scores from its single new 2014 scorecard to

poverty likelihoods for 21 lines:

- 2014-definition lines:
    — Food
    — 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
    — $8.44/day 2005 PPP
    — $1.90/day 2011 PPP
    — $3.10/day 2011 PPP
    — Line marking the poorest half of people below 100% of the 2014-
        definition national line
    — First-quintile (20th-percentile) line
    — Second-quintile (40th-percentile) line
    — Median (50th-percentile) line
    — Third-quintile (60th-percentile) line
    — Fourth-quintile (80th-percentile) line
- 2003-definition lines:
    — 100% of national
    — 150% of national
    — $1.25/day 2005 PPP
    — $2.50/day 2005 PPP

2.4.1 International 2005 and 2011 PPP lines

International 2005 and 2011 PPP lines are derived from:

- PPP exchange rates for Burkina Faso for "individual consumption expenditure by households":
  — 2005:[16] XOF242.420 per $1.00
  — 2011:[17] XOF222.242 per $1.00
- Consumer Price Index (CPI):[18]
  — Average during 2003 EBCVM fieldwork: 103.089
  — Calendar-year 2005 average: 108.311
  — Calendar-year 2011 average: 128.843
  — Average during 2014 EMC fieldwork: 134.449
- 2014-definition national lines *in Ouagadougou* (not on average for all-Burkina Faso) in prices in Ouagadougou per person per day:
  — Average during fieldwork for 2003 EBCVM: XOF226.499
  — Average during fieldwork for 2009/10 EICVM:[19]   XOF358.178
  — Calendar-year 2011 average:[20]   XOF374.211
  — Average during fieldwork for 2014 EMC: XOF420.630

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[16] World Bank, 2008.

[17] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&CO=BFA_3` `&PPP0=222.242&PL0=1.90&Y0=2014&NumOfCountries=1`, retrieved 12 January 2017.

[18] The CPI series (base = 100 in January 2003) splices data from monthly reports at `insd.bf/n/index.php/publications?id=45` (retrieved 12 January 2016).

[19] Zida and Kambou (2014, p. 20). In 2009/10, 26 regional lines (urban and rural in each of the 13 regions) were applied, but the regional deflators are not published.

[20] For the 2009/10 EICVM, only the 2014-definition Ouagadougou regional line is published, so the average person-weighted all-Burkina Faso line during the EICVM fieldwork (July 2009 to August 2010) is unknown. Also unknown is the 2014-definition national line that would hypothetically apply in calendar-year 2011. For the purposes here, it is assumed that the all-Burkina Faso average line in 2009/10 is the same as the Ouagadougou line. A monthly series of interpolated lines are then created such that the average during the 2009/10 EICVM fieldwork is XOF358.178 (the published Ouagadougou line) and their month-to-month percentage changes follow the month-to-month CPI changes. In the same way, a series of interpolated lines are created such that the average during the 2014 EMC fieldwork is XOF420.630 (the published Ouagadougou line) and their month-to-month percentage changes follow the month-to-month CPI changes. Finally, extrapolated lines are created for all months between between these two "book-end" sets of interpolated lines that are scaled such that they begin with the August interpolated line from the 2009/10 "book-end" set of interpolated lines, they end with the January interpolated line that starts the 2014 "book-end" set of interpolated lines, and their month-to-month percentage changes follow the month-to-month CPI changes. The average of the extrapolated lines for calendar-year 2011 (XOF 374.211) is an estimate of what the Ouagadougou 2014-definition national line would have been.

- 2014-definition regional price deflators from INSD for the 2014 EMC:[21]

Region	Urban	Rural
Hauts Bassins	0.8752267	0.7917880
Boucle du Mouhoun	0.8359532	0.8202607
Sahel	1.0202144	0.8947478
Est	0.9026873	0.8207222
Sud-ouest	0.8854540	0.9375021
Centre-nord	0.9157988	0.8902907
Centre-ouest	0.8291351	0.7926855
Plateau central	0.9081597	0.8683855
Nord	0.9672127	0.8723898
Centre-est	0.8286450	0.8491700
Centre	0.9999903	0.9214587
Cascades	0.9080046	0.8409534
Centre-sud	1.0315457	0.8963884
All-Burkina Faso person-weighted average:[22]		0.8726563

2.4.1.1.   2003-definition $1.25/day 2005 PPP line

The (single, all-Burkina Faso) 2003-definition $1.25/day 2005 PPP line in prices in Ouagadougou during fieldwork for the 2003 EBCVM is XOF288.415 (Schreiner, 2011a). The corresponding poverty rates are 50.6 percent (households) and 60.3 percent (people).

The 2003-definition $1.25/day line could be updated for changes in prices from 2003 to 2014 based on changes in the CPI or based on changes in the 2014-definition national poverty lines. For the first option, the ratio of the 2014 CPI to the 2003 CPI is

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[21] 2014-definition deflators for 2003 and for 2009/10 are not published.

[22] The person-weighted averages of the regional 2014-definition deflators for 2003 and 2009/10 are not known because the regional deflators are not published.

134.449 ÷ 103.089 = 1.3042. This would give a 2003-definition $1.25/day 2005 PPP line

of XOF376. By chance, this is very close to the 2003-definition national line for 2014

(XOF367) for which the person-level poverty rate is 42.0 percent (Table 1). Thus, CPI

deflation would imply a change in the 2003-definition $1.25/day 2005 PPP poverty rate

between 2003 and 2014 of 42.0 – 60.3 = –18.3 percentage points. Such a large decrease

is not credible. As a benchmark, the change for the 2014-definition national line from

2003 to 2014 (whose average person-weighted all-Burkina Faso value in 2014 is

XOF367) is about –8.5 percentage points. Thus, CPI deflation is not reasonable for the

2003-definition $1.25/day 2005 PPP line from 2003 to 2014.

The second deflation option is the ratio of the all-Burkina Faso person-weighted

average 2014-definition national line for 2014 (XOF420.630 x 0.8726563 = XOF367.066

per day) divided by the 2003 line (XOF226.499).[23] The change in prices implied by the

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[23] For 2014, finding a single, all-Burkina Faso 2014-definition national line requires
averaging across 26 regional lines. Such averaging would also be appropriate for the
2014-definition national line for 2003, but it is not possible because deflators for 2014-
definition national lines in 2003 are not published. The 2014-definition regional price
adjustments for 2003 do matter, but not a lot; the person-level poverty rate for the
single, all-Burkina Faso 2003-definition national line in 2003 is 46.4 percent (INSD,
2003, p. 11), versus 48.6 percent with the new 2014 definition and its 26 regional lines
(INSD 2015, p. 19). Without an alternative, the (unknown) average deflated 2014-
definition regional lines in 2003 are assumed to be the same as the 2014-definition
national line for Ouagadougou in 2003.

It might seem reasonable—or at least consistent—to analogously take the 2014
Ouagadougou line (XOF420.630) as the single, all-Burkina Faso 2014-definition
national line for the purposes of deflation. By chance, this is the same as the 2014-
definition second-quintile (40th-percentile) line with a person-level poverty rate of 40.0
percent. The change in poverty by the 2003-definition $1.25/day line between 2003 and
2014 would then be 40.0 – 60.3 = –20.3 percentage points. But such a large decrease is

ratio (1.6206) is about twice as large as the change implied by the CPI ratio of 1.3042.

This paper deflates the 2003-definition \$1.25/day 2005 PPP line from 2003 to 2014

using the factor based on the 2014-definition national lines. The resulting line is

XOF288.415 x 1.6206 = XOF467.405, corresponding with a household-level poverty rate

of 47.2 percent and a person-level poverty rate of 59.2 percent (Table 1). The implied

change for the person-level poverty rate from 2003 to 2014 of 59.2 – 60.3 = –1.1

percentage points. This is more reasonable than the changes from other possible

deflators, given that the change for the 2003-definition national line is 42.0 – 46.4 = –

4.4 percentage points.

The 2003-definition \$2.50/day 2005 PPP line for 2003 is a multiple of the 2003-

definition \$1.25/day 2005 PPP line.

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not reasonable, given that—for example—the decrease for the 2014-definition national
line in the same period is –8.5 percentage points.

For comparison, the World Bank's PovcalNet reports a person-level poverty rate for its \$1.25/day 2005 PPP line in 2003 of 48.9 percent.[24] This is much lower than the 60.3 percent for the 2003-definition \$1.25/day line in 2003 in Schreiner (2011a). The estimate in Schreiner (2011a) is to be preferred (Schreiner, 2014b) because PovcalNet does not report:

- Its \$1.25/day 2005 PPP line in XOF
- The time/place of its price units
- Whether/how it adjusts for regional differences in prices
- How it deflates 2005 PPP factors over time

Three other factors may also affect the difference between PovcalNet and Schreiner (2011a). First, PovcalNet may mistakenly report a household-level rate (or an unweighted rate) instead of a person-level rate; its 48.9 percent for 2003 is close to the 50.6 percent household-level rate in Schreiner (2011a). Second, PovcalNet's estimates are based on a 20-quantile approximation of the distribution of consumption as opposed to direct use of the microdata. Third, PovcalNet may use a different measure of consumption than that computed by INSD for the 2003 EBCVM.

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[24] `iresearch.worldbank.org/PovcalNetPPP2005/Detail.aspx?Format=Detail &C0=BFA_3&PPP0=242.42&PL0=1.25&Y0=2003&NumOfCountries=1`, retrieved 12 January 2017. PovcalNet does not report the value in XOF its \$1.25/day 2005 PPP line for 2003, nor does it report lines or rates for \$1.25/day in 2014.

2.4.1.2.   2014-definition $1.25/day 2005 PPP line

The 2014-definition $1.25/day 2005 PPP line is the 2003-definition $1.25/day line, updated for changes in prices from 2003 to 2014. For the reasons discussed earlier, the deflation factor (1.6206) is based on the 2014-definition national lines. Thus, the 2014-definition $1.25/day line is XOF288.415 x 1.6206 = XOF467.405,[25] with poverty rates of 46.0 percent for households and 58.1 percent for people (Table 1).

The $2.00, $2.50, $5.00, and $8.44 2014-definition 2005 PPP lines in 2014 are multiples of the 2014-definition $1.25/day 2005 PPP line in 2014. The $8.44/day line is the 75th percentile of per-capita income (not consumption) worldwide as measured by Hammond *et al.* (2007).

PovcalNet does not report a $1.25/day 2005 PPP line for 2014.

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[25] This person-weighted average across the 26 regional 2014-definition $1.25/day lines in 2014 is the same as the single, all-Burkina Faso 2003-definition $1.25/day line in 2014. The lines differ in that one is regionally deflated.

2.4.1.3. 2014-definition $1.90/day 2011 PPP line

For an urban or rural area in a given region of Burkina Faso, the 2014-definition $1.90/day 2011 PPP line in 2014[26] in prices in Ouagadougou during fieldwork for the 2014 EMC is

$$\frac{\$1.90 \cdot \left(\frac{2011\text{ PPP factor}}{\$1.00}\right)\left(\frac{\text{Deflator}_{2014}}{\text{Deflator}_{2011}}\right) \cdot 2014\text{ - definition regional price deflator}}{\text{Average 2014 - definition regional price deflator}}.$$

Again, temporal price deflation here uses the changes in the 2014-definition national poverty lines, not the changes in the CPI.

For the example of the rural area of the region of Hauts Bassins, the 2014-definition regional deflator is 0.7917880. The 2014-definition $1.90/day 2011 PPP line in prices in Ouagadougou during the 2014 EMC fieldwork in rural Hauts Bassins is

$$\frac{\$1.90 \cdot \left(\frac{\text{XOF222.242}}{\$1.00}\right)\left(\frac{\text{XOF420.630}}{\text{XOF374.211}}\right) \cdot 0.7917880}{0.8726563} = \text{XOF430.654 (Table 2)}.$$

The all-Burkina Faso $1.90/day 2011 PPP line is the person-weighted average of the 26 regional $1.90/day lines. In 2014, this is XOF475 per person per day, with a household-level poverty rate of 47.2 percent and a person-level poverty rate of 59.3 percent (Table 1).

For context, PovcalNet reports a $1.90/day 2011 PPP line for the 2014 EMC of XOF439.647, with a person-level poverty rate of 43.7 percent.[27] Compared with the

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[26] There is no need to derive a 2014-definition $1.90/day 2011 PPP line for 2003.

figures here for 2014, PovcalNet has a lower line and a lower rate. PovcalNet's lower

line is due to deflating with the CPI factor from calendar-year 2011 to the months of

the ECM fieldwork (134.449 ÷ 128.843 = 1.0435) rather than the factor based on the

2014-definition national poverty lines (XOF420.630 ÷ XOF374.211 = 1.1240).

PovcalNet may also uses a single, all-Burkina Faso $1.90/day line—rather than 26

regional lines as here—but that should push PovcalNet's rate up, not down.

In general, PovcalNet's documentation does not permit tracking down the

sources of all differences. As discussed earlier, the figures in this paper are to be

preferred, if only because their derivation is better documented.

For 2003, PovcalNet reports a $1.90/day 2011 PPP line of XOF337.010 and a

person-level poverty rate of 57.3 percent.[28] PovcalNet's estimate of change in the person-

level poverty rate for the $1.90/day line from 2003 to 2014 is then 43.7 − 57.3 = −13.6

percentage points. This seems large vis-à-vis the change for the 2014-definition national

lines of −8.5 percentage points.

The 2014-definition $3.10/day 2011 PPP line is a multiple of the 2014-definition

$1.90/day line.

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[27] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&CO=BFA_3 &PPP0=222.242&PL0=1.90&Y0=2014&NumOfCountries=1`, retrieved 12 January 2017.
[28] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&CO=BFA_3& PPP0=222.242&PL0=1.90&Y0=2003&NumOfCountries=1`, retrieved 12 January 2017. PovcalNet's 2003 rate (like its 2014 rate) seems too low. For example, 150% of the 2003-definition national line is XOF340 (almost the same as PovcalNet's $1.90/day 2011 PPP line for 2003 of XOF337), yet Schreiner (2011a) has a person-level poverty rate of 68.8 percent versus PovcalNet's 57.3 percent. Like PovcalNet's $1.25/day figures, its $1.90/day figures might mistakenly be for households instead of people.

2.4.2 2014-definition line marking the poorest half of people below 100% of the 2014-definition national line

The 2014-definition line that marks the poorest half of people below 100% of the 2014-definition national line is defined as the median (50th percentile) of the aggregate household per-capita consumption of people (not households) below 100% of the 2014-definition national line (U.S. Congress, 2004). Unlike all the previous (non-relative) lines, this relative line (and the percentile-based lines below) is derived by:

- Putting all regional price adjustments in the measure of consumption rather than in the poverty line
- Deriving a single line for all of Burkina Faso
- Taking all price adjustments out of consumption and putting them back in the regional lines[29]

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[29] This corrects how the scorecard derived this line prior to 2016 (in particular, in Schreiner 2011a). Formerly, price adjustments were left in the poverty line and compared with nominal consumption to find a line in each poverty-line region that marked the poorest half of people below 100% of the national line in that particular poverty-line region. Both approaches produce a person-level poverty rate that is half that of 100% of the national line, but the set of people who are identified as *poor* differs. Unlike the former approach, the current approach correctly identifies as *poor* the poorest half of all people in the country whose price-adjusted consumption is below the single, all-country national line. This implies that the correction in Schreiner (2014b) of the derivation used for this line by IRIS Center for its Poverty-Assessment Tool is itself wrong, and IRIS Center's approach (the one now used here) is correct. (IRIS Center still incorrectly derives this line based on households instead of people).

Microenterprise programs in Burkina Faso who use the scorecard to report the

number of their participants who are "very poor" to USAID should use the 2014-

definition $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 2014-definition poverty lines in 2014:

- The 2014-definition line that marks the poorest half of people below 100% of the 2014-definition national line (XOF325, with a person-level poverty rate of 20.0 percent, Table 1)
- The 2014-definition $1.90/day 2011 PPP line (XOF475, with a person-level poverty rate of 59.3 percent)

2.4.3 Percentile-based lines

The scorecard also supports percentile-based poverty lines for Burkina Faso. This facilitates a number of types of analyses. For example, the second-quintile (40th-percentile) line might be used to help track Burkina Faso'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, could 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 from the Demographic and Health Surveys (Rutstein and Johnson, 2004) to compare some estimate of wealth with health outcomes.

Of course, analysts could always do (and can still do) relative-wealth analyses with scores from the scorecard. But support for relative consumption lines now allows a more straightforward use of a single tool (the scorecard) 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 only serve to analyze relative wealth. Furthermore, the scorecard—unlike wealth indexes based on Principal Component Analysis or similar approaches—uses a straightforward, well-understood standard whose definition is external to the scorecard itself (consumption related to a poverty line defined in monetary terms).

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*.

2.5 "Parallel-lines" assumption

If the "parallel-lines" assumption holds, then users can confidently splice together two estimates of change over time in which the baseline estimate of change is a hybrid (using 2003-definition poverty lines with a baseline from the old 2003 scorecard and a follow-up from the new 2014 scorecard) and in which the follow-up estimate of change is a non-hybrid (using 2014-definition poverty lines and both a baseline and a follow-up from the new 2014 scorecard).

The "parallel lines" assumption is that *changes* in poverty rates over time are the same regardless of the definition of *poverty*, even though the *levels* of the estimates at a point in time may differ for each definition of *poverty*. When the "parallel lines" assumption holds, then changes in poverty rates under one definition of *poverty* can be added together ("spliced") with changes in poverty rates under a second definition of *poverty*.

For Burkina Faso, the "parallel lines" assumption can be checked. In particular, the 2014-definition national line gives a person-level poverty rate of 48.6 percent in the 2003 EBCVM and of 40.1 percent in the 2014 EMC, a change of $40.1 - 48.6 = -8.5$ percentage points (INSD, 2015, p. 13, 19).

For the 2003-definition national line, the person-level poverty rate is 46.4 percent in the in the 2003 EBCVM (Schreiner, 2011a, and INSD, 2003, p. 11) and of 42.0 percent in the 2014 EMC (Table 1), a change of $42.0 - 46.4 = -4.4$ percentage points.

Thus, the "parallel-lines" assumption does not hold; the change from 2003 to 2014 with 2014-definition national lines (to be used from now on with the new 2014 scorecard) is about twice as great as the change with the 2003-definition national lines (used by legacy users to salvage 2003-definition estimates from the old 2003 scorecard after they switch to the new 2014 scorecard).

In sum, users of the scorecard in Burkina Faso are strongly advised not splice hybrid with non-hybrid estimates of change. If users forge ahead and splice anyway, then they should explicitly account for the fact that the evidence suggests that estimated annual rates of change under the 2003 definition are about half as large they are under the 2014 definition.

3.   Scorecard construction

For Burkina Faso, about 75 candidate indicators are initially prepared in the areas of:

- Household composition (such as the number of members)
- Education (such as whether the (oldest) female head/spouse knows how to read and write in any language)
- Housing (such as the type of floor of the residence's main building)
- Ownership of durable assets (such as televisions or motorcycles)
- Agriculture (such as the ownership of plows)

Table 3 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.[30]

One possible application of the scorecard is to measure *changes* in poverty through time. Thus, when selecting indicators—and holding other considerations constant—preference is given to more sensitive indicators. For example, the number of mattresses owned 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 2014-definition national poverty line and Logit regression on the construction sub-sample. Indicator selection uses 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).

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[30] The uncertainty coefficient is not used when selecting scorecard indicators. It is just a way to order the candidate indicators listed in Table 3.

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 poverty, variety among 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 11 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 200 (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[31] 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 simple, common-sense, and acceptable to users.

The single scorecard here applies to all of Burkina Faso. Tests for 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) suggest that segmenting poverty-assessment tools by urban/rural does not improve targeting accuracy much. In general, segmentation may improve the accuracy of estimates of poverty rates (Diamond *et al.*, 2015 and 2014; Tarozzi and Deaton, 2007), but it may also increase the risk of overfitting (Haslett, 2012).

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[31] 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.

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 (Schreiner, 2005b). When scoring 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 scoring 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 attention to the results if, in their view, scoring does not imply a lot of additional work and if the whole process generally seems to them to make sense.

To this end, Burkina Faso's scorecard fits on one page. The construction process, indicators, and points are simple and transparent. Additional work is minimized; non-specialists can compute scores by hand in the field because the scorecard has:

- Only 11 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 the scorecard in Burkina Faso would:

- Record the interview identifier, interview date, country code ("BFA"), scorecard code ("002") and the sampling weight assigned by the organization's survey design to the household of the participant (if known)
- Record the names and identifiers of the participant (who may not be the same as the respondent), of the field agent, and of the relevant organizational service point
- Complete the "Back-page Worksheet" with each household member's first name or nickname, noting which member is the male head/spouse (if he exists) and which member is the (oldest) female head/spouse (if she exists)
- Based on what has already been recorded on the "Back-page Worksheet", record household size (the number of household members) in the scorecard header next to "Number of household members:"
- Based on what has already been recorded on the "Back-page Worksheet", mark the response to the first scorecard indicator ("How many members does the household have?") based on the number of household members
- Read the rest of the scorecard indicators to the respondent one-by-one
- Draw circles around the relevant responses and their points, and write each point value in the far right-hand column
- Add up the points to get a total score
- 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. 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).[32] IRIS Center (2007a) and Toohig (2008) are useful nuts-and-bolts guides for budgeting, training field workers and supervisors, logistics, sampling, interviewing, piloting, recording data, and controlling quality.

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[32] If a program does not want field workers and 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 measuring poverty, it is still absolutely difficult. Training and explicit definitions of terms and concepts in the scorecard are essential, and field workers should scrupulously study and follow the "Guidelines for the Interpretation of Scorecard Indicators" found after the Appendix in this paper, as these "Guidelines"— along with the "Back-page Worksheet"—are integral parts of the Simple Poverty Scorecard tool.[33]

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. At the same time, 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 "underreporting [of asset ownership] is widespread but not overwhelming, except for a few goods . . . [and] overreporting 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 who use scoring for targeting in Burkina Faso.

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[33] 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 Burkina Faso's INSD did in the 2014 EMC.

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

- Who will do the interviews
- How responses and scores will be recorded
- Which participants will be interviewed
- How many participants will be interviewed
- How frequently participants will be interviewed
- Whether scoring will be applied at more than one point in time
- Whether the same 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 goal should be to make sure that the sample is representative of a well-defined population and that the scorecard will inform an issue that matters to the organization.

The non-specialists who apply the scorecard with participants in the field can be:

- Employees of the organization
- Third parties

Responses, scores, and poverty likelihoods can be recorded 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

Given a population of participants relevant for a particular business question, the participants to be scored 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 to be scored can be derived from sample-size formulas (presented later) to achieve a desired confidence level and a desired confidence interval. To have a 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 program.

The frequency of application can be:

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

When a scorecard is applied more than once in order to measure changes in poverty rates, 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 Simple Poverty Scorecard tool for Bangladesh (Schreiner, 2013a) with a sample of about 25,000. Their design is that all loan officers in a random sample of branches will score all participants each time they visit a homestead (about once a year) as part of their standard due diligence prior to loan disbursement. They 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 Burkina Faso, scores range from 0 (most likely below a poverty line) to 200 (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 simple look-up tables. For the example of 100% of the 2014-definition national line, scores of 30–34 have a poverty likelihood of 44.8 percent, and scores of 35–39 have a poverty likelihood of 33.2 percent (Table 4).

The poverty likelihood associated with a score varies by poverty line. For example, scores of 30–34 are associated with a poverty likelihood of 44.8 percent for 100% of the 2014-definition national line but 70.5 percent for the 2014-definition $1.90/day 2011 PPP line.[34]

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[34] From Table 4 on, many tables have 21 versions, one for each of the 21 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 2014-definition national line.

5.1 Calibrating scores with poverty likelihoods

A given score is associated ("calibrated") with a poverty likelihood by defining the poverty likelihood 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 2014-definition national line (Table 5), there are 12,740 (normalized) households in the calibration sub-sample with a score of 30–34. Of these, 5,706 (normalized) are below the poverty line. The estimated poverty likelihood associated with a score of 30–34 is then 44.8 percent, because 5,706 ÷ 12,740 = 44.8 percent.

To illustrate with 100% of the 2014-definition national line and a score of 35–39, there are 10,408 (normalized) households in the calibration sub-sample, of whom 3,451 (normalized) are below the line (Table 5). The poverty likelihood for this score range is then 3,451 ÷ 10,408 = 33.2 percent.

The same method is used to calibrate scores with estimated poverty likelihoods for all 21 poverty lines.[35]

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[35] To ensure that poverty likelihoods never increase as scores increase, likelihoods across series of adjacent scores are sometimes 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 quantitative 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 Burkina Faso scorecard are transformed coefficients from a Logit regression, (untransformed) scores are not converted to poverty likelihoods via the Logit formula of $2.718281828^{\text{score}} \times (1 + 2.718281828^{\text{score}})^{-1}$. This is because the Logit formula is esoteric and difficult to compute by hand. Non-specialists find it 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 households who are representative of the same population 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 true value. Given the assumptions above, the scorecard also produces unbiased estimates of poverty rates at a point in time and unbiased estimates of changes in poverty rates between two points in time.[36]

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 Burkina Faso's population. Thus, scorecard estimates will generally have errors when applied after November 2014 (the last month of fieldwork for the 2014 EMC) or when applied with sub-groups that are not nationally representative.

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[36] 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 Burkina Faso as a whole? To find

out, the scorecard is applied to 1,000 bootstrap samples of size $n = 16,384$ with the

2014 validation sample. Bootstrapping means to:

- Score each household in a validation sample
- Draw a bootstrap sample *with replacement* from the validation sample
- 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 4) and the poverty likelihood observed 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 two-sided 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 6 shows the errors, that is, the

average differences between estimated versus observed poverty likelihoods. It also shows

confidence intervals for the differences.

For 100% of the 2014-definition national line, the average poverty likelihood

across bootstrap samples for scores of 30–34 in the 2014 validation sample is too high

by 1.7 percentage points. For scores of 35–39, the estimate is too high by 3.6 percentage

points.[37]

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[37] 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 30–34 is ±2.0 percentage points (Table 6). 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 –0.3 and +3.7 percentage points (because +1.7 – 2.0 = –0.3, and +1.7 + 2.0 = +3.7). In 950 of 1,000 bootstraps (95 percent), the difference is +1.7 ± 2.5 percentage points, and in 990 of 1,000 bootstraps (99 percent), the difference is +1.7 ± 3.1 percentage points.

A few of the absolute errors between estimated and observed poverty likelihoods in Table 6 for 100% of the 2014-definition national line are large. There are differences because the 2014 validation sample is a single sample that—thanks to sampling variation—differs in distribution from the construction/calibration sub-samples and from Burkina Faso's population. For targeting, however, what matters is less the difference in all score ranges and more the difference in the score ranges just above and just below the targeting cut-off. This mitigates the effects of bias and sampling variation on targeting (Friedman, 1997). Section 8 below looks at targeting accuracy in detail.

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

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

samples in 2014, although it holds less well for samples from sub-national populations or in other time periods.

Another possible source of differences 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 EMC fieldwork in November 2014. That is, the scorecard may fit the construction/calibration data from 2014 so closely that it captures not only some real patterns but also some random patterns that, due to sampling variation, show up only in the 2014 EMC construction/calibration data but not in the overall population of Burkina Faso. 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 regions. 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 2018 and that they have scores of 20, 30, and 40, corresponding to poverty likelihoods of 64.6, 44.8, and 21.7 percent (100% of the 2014-definition national line, Table 4). The population's estimated poverty rate is the households' average poverty likelihood of (64.6 + 44.8 + 21.7) ÷ 3 = 43.7 percent.

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 a poverty likelihood of 44.8 percent. This differs from the 43.7 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 safest rule to follow is: If you are not completely sure what to do, then use poverty likelihoods, not scores.

Scores from the new 2014 scorecard are calibrated with data from the 2014 EMC for all 21 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 is the specific look-up table used to convert scores to poverty likelihoods.

After switching from the old 2003 scorecard to the new 2014 scorecard, legacy users can salvage existing poverty-rate estimates for measuring change over time with supported 2003-definition poverty lines with a baseline from the old 2003 scorecard and a follow-up from the new 2014 scorecard.

6.1   Accuracy of estimated poverty rates at a point in time

For the new 2014 scorecard applied to 1,000 bootstraps of $n = 16,384$ from the 2014 validation sample and 100% of the 2014-definition national poverty line, the average error (difference between the estimate and observed value in the 2014 EMC) for a poverty rate at a point in time is +0.9 percentage points (Table 8, summarizing Table 7 across all poverty lines). Across all 21 poverty lines in the 2014 validation sample, the maximum average absolute error is 3.0 percentage points, and the average absolute error is about 1.0 percentage points. At least part of these differences is due to sampling variation in the division of the 2014 EMC into sub-samples.

When estimating poverty rates at a point in time for a given poverty line, the average error reported in Table 8 should be subtracted from the average poverty

likelihood to give a corrected estimate. For the example of the new 2014 scorecard and 100% of the 2014-definition national line in the 2014 validation sample, the error is +0.9 percentage points, so the corrected estimate in the three-household example above is $43.7 - (+0.9) = 42.8$ 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 better for all poverty lines (Table 8). 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 new 2014 scorecard and 100% of the 2014-definition national line is 43.7 percent. Then estimates in 90 percent of such samples would be expected to fall in the range of $43.7 - (+0.9) - 0.5 = 42.3$ percent to $43.7 - (+0.9) + 0.5 = 43.3$ percent, with the most likely observed value being the corrected estimate in the middle of this range, that is, $43.7 - (+0.9) = 42.8$ percent. This is because the original (uncorrected) estimate is 43.7 percent, the average error is +0.9 percentage points, and the 90-percent confidence interval for 100% of the 2014-definition national line in the 2014 validation sample with this sample size is ± 0.5 percentage points (Table 8).

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 measurement via poverty-assessment tools. 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, $\sqrt{\dfrac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \phi$,

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

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

N is the population size, and

n is the sample size.

For example, Burkina Faso's 2014 EMC gives a direct-measurement estimate of the household-level poverty rate for 100% of the 2014-definition national line in the 2014 validation sample of $\hat{p}$ = 29.7 percent (Table 1).[38] If this estimate came from a sample of n = 16,384 households from a population N of 2,424,006 (the number of households in Burkina Faso in 2014 according to the EMC sampling weights), then the finite population correction ϕ is $\sqrt{\dfrac{2{,}424{,}006 - 16{,}384}{2{,}424{,}006 - 1}}$ = 0.9966, which close to ϕ = 1. If the desired confidence level is 90-percent (z = 1.64), then the confidence interval $\pm c$ is

$$\pm z \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}} = \pm 1.64 \cdot \sqrt{\frac{0.297 \cdot (1 - 0.297)}{16{,}384}} \cdot \sqrt{\frac{2{,}424{,}006 - 16{,}384}{4{,}816{,}160 - 1}} = \pm 0.583$$

percentage points. (If ϕ were taken as 1, then the interval is ± 0.585 percentage points.)

Unlike the 2014 EMC, however, the scorecard does not measure poverty directly, so this formula is not applicable. To derive a formula for the new 2014 scorecard, consider Table 7, which reports empirical confidence intervals $\pm c$ for the errors for the scorecard applied to 1,000 bootstrap samples of various sizes from the 2014 validation sample. For example, with n = 16,384 and 100% of the 2014-definition national line in the 2014 validation sample, the 90-percent confidence interval is ± 0.484 percentage points.[39]

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[38] The analysis here ignores that poverty-rate estimates from the EMC are themselves based on samples and so have their own sampling distribution.

[39] Due to rounding, Table 7 displays 0.5, not 0.484.

Thus, the 90-percent confidence interval with $n = 16,384$ is ± 0.484 percentage points for the new 2014 scorecard and ± 0.583 percentage points for direct measurement. The ratio of the two intervals is $0.484 \div 0.583 = 0.83$.

Now consider the same exercise, but with $n = 8,192$. The confidence interval under direct measurement and 100% of the 2014-definition national line in the 2014 validation sample is $\pm 1.64 \cdot \sqrt{\dfrac{0.297 \cdot (1 - 0.297)}{8,192}} \cdot \sqrt{\dfrac{2,424,006 - 8,192}{2,424,006 - 1}} = \pm 0.827$ percentage points. The empirical confidence interval with the new 2014 scorecard (Table 7) is ± 0.702 percentage points. Thus for $n = 8,192$, the ratio of the two intervals is $0.702 \div 0.827 = 0.85$.

This ratio of 0.85 for $n = 8,192$ is close to the ratio of 0.83 for $n = 16,384$. Across all sample sizes of 256 or more in Table 7, these ratios are generally close to each other, and the average of these ratios in the 2014 validation sample turns out to be 0.85, implying that confidence intervals for indirect estimates of poverty rates via Burkina Faso's new 2014 scorecard and 100% of the 2014-definition national line are—for a given sample size—about 15-percent narrower than confidence intervals for direct estimates via the 2014 EMC. This 0.85 appears in Table 8 as the "α factor for precision" because if $\alpha = 0.85$, then the formula for confidence intervals c for the new 2014 scorecard is $\pm c = \pm z \cdot \alpha \cdot \sigma$. That is, the formula for the standard error σ for point-in-time estimates of poverty rates via scoring is $\alpha \cdot \sqrt{\dfrac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\dfrac{N - n}{N - 1}}$.

In general, α can be more 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 18 of the 21 poverty lines in Table 8, and it is never higher than 1.49.

The formula relating confidence intervals with standard errors for the scorecard

can be rearranged to give a formula for determining sample size before measurement. If

$\widetilde{p}$ is the expected poverty rate before measurement, 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 2,424,006 (the number

of households in Burkina Faso in 2014), suppose $c = 0.04039$, $z = 1.64$ (90-percent

confidence), and the relevant poverty line is 100% of the 2014-definition national line so

that the most sensible expected poverty rate $\widetilde{p}$ is Burkina Faso's overall poverty rate

for that line in 2014 (29.7 percent at the household level, Table 1). The α factor is 0.85

(Table 8). Then the sample-size formula gives

$$n = 2{,}424{,}006 \cdot \left(\frac{1.64^2 \cdot 0.85^2 \cdot 0.297 \cdot (1 - 0.297)}{1.64^2 \cdot 0.85^2 \cdot 0.297 \cdot (1 - 0.297) + 0.04039^2 \cdot (2{,}424{,}006 - 1)} \right) = 249 \text{, which}$$

is close to the sample size of 256 observed for these parameters in Table 7 for 100% of

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the 2014-definition national line. Taking the finite population correction factor ϕ as one

(1) gives the same result, as $n = \left(\dfrac{0.85 \cdot 1.64}{0.04039}\right)^2 \cdot 0.297 \cdot (1 - 0.297) = 249.$[40]

Of course, the α factors in Table 8 are specific to Burkina Faso, 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-measurement tool following the approach in this paper.

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[40] 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 Burkina Faso should report using the 2014-definition \$1.90/day 2011 PPP line. Given the α factor of 0.81 for this line (Table 8), an expected before-measurement household-level poverty rate of 47.2 percent (the all-Burkina Faso rate for this line in 2014, Table 1), and a confidence level of 90 percent ($z = 1.64$), then $n = 300$ implies a confidence interval of $\pm\, 1.64 \cdot 0.81 \cdot \sqrt{\dfrac{0.472 \cdot (1 - 0.472)}{300}}$ $= \pm 3.8$ percentage points.

In practice after the end of fieldwork for the EMC in November 2014, a program would select a poverty line (say, 100% of the 2014-definition 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 $\tilde{p}$ (perhaps based on a previous measurement such as the household-level poverty rate for 100% of the 2014-definition national line for Burkina Faso of 29.7 percent in the 2014 EMC in Table 1), look up α (here, 0.85 in Table 8), assume that the scorecard will still work in the future and for sub-groups that are not nationally representative,[41] and then compute the required sample size. In this illustration,

$$n = 10{,}000 \cdot \left(\frac{1.64^2 \cdot 0.85^2 \cdot 0.297 \cdot (1 - 0.297)}{1.64^2 \cdot 0.85^2 \cdot 0.297 \cdot (1 - 0.297) + 0.02^2 \cdot (10{,}000 - 1)} \right) = 921.$$

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[41] This paper reports accuracy for the scorecard applied to its validation sample, but it does not test accuracy for later years or for sub-populations that are not nationally representative. Performance after November 2014 will resemble that in the 2014 EMC 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.

When measuring change, the same definition of *poverty* must be used at both baseline and follow-up, but it is not necessary to use same scorecard at both points. In the case of Burkina Faso, the baseline estimate can come from the old 2003 scorecard and the follow-up estimate can come from the new 2014 scorecard. This holds for the four 2003-definition poverty lines that are supported for both scorecards.

The accuracy of estimates of change are not tested here because many indicators in the 2003 EBCVM differ in their wording or response options vis-à-vis the indicators available in the 2014 EMC. Such a test requires that all the indicators in a scorecard be identical in both surveys. Thus, this paper cannot test the accuracy of estimates of change over time for Burkina Faso, and it can only suggest approximate formulas for standard errors. Nonetheless, the relevant concepts are presented here because, in practice, local pro-poor organizations in Burkina Faso can apply the scorecard to collect their own data and measure change through time.

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

Scoring can estimate change. Of course, poverty could get better or worse, and scoring 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 knowing what would have happened to participants if they had not been participants. Knowing this 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 information must come from beyond the scorecard.

7.2 Estimating changes in poverty rates over time

Consider the illustration begun in the previous section. On 1 January 2018, an organization samples three households who score 20, 30, and 40 and so have poverty likelihoods of 64.6, 44.8, and 21.7 percent (100% of the 2014-definition national line, Table 4). Correcting for the known average error for this line in the 2014 validation sample of +0.9 percentage points (Table 8), the corrected baseline estimated poverty rate is the households' average poverty likelihood of $[(64.6 + 44.8 + 21.7) \div 3] - (+0.9)$ $= 42.8$ 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 2021, 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 61.3, 33.2, and 12.5 percent, 100% of the 2014-definition national line, Table 4). Adjusting for the known average error, the average poverty likelihood at follow-up is [(61.3 + 33.2 + 12.5) ÷ 3] – (+0.9) = 34.8 percent, an improvement of 42.8 – 34.8 = 8.0 percentage points.[42] Supposing that exactly three years passed between the average baseline interview and the average follow-up interview, the estimated annual rate of decrease in poverty is 8.0 ÷ 3 = 2.7 percentage points per year. About one in 13 participants in this hypothetical example cross the poverty line between 2018 and 2021.[43] Among those who start below the line, about one in six (8.0 ÷ 42.8 = 18.7 percent) on net end up above the line.[44]

Alternatively, suppose that the same three original households who were scored at baseline are scored again on 1 January 2021. Given scores of 25, 35, and 45, their follow-up poverty likelihoods are 61.3, 33.2, and 12.5 percent. The average across households of the difference in each given household's baseline poverty likelihood and its

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[42] Of course, such a huge reduction in poverty in three years is highly unlikely, but this is just an example to show how the scorecard can be used to estimate change.

[43] This is a net figure; some start above the line and end below it, and vice versa.

[44] The scorecard does not reveal the reasons for this change.

follow-up poverty likelihood is $[(64.6 - 61.3) + (44.8 - 33.2) + (21.7 - 12.5)] \div 3 = 8.0$ percentage points.[45] Assuming in this example that there are exactly three years between each household's interviews, the estimated annual decrease in poverty is (again) $8.0 \div 3 = 2.7$ percentage points per year.

Given the assumptions of the scorecard, both approaches to estimating change through time are unbiased. In general, 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).

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[45] In this case, the error for this line in Table 8 should *not* be subtracted off.

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 scorecard'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,[46] and α is the average (across a range of bootstrapped sample sizes) of the ratio of the observed confidence interval from a scorecard and the theoretical confidence interval under direct measurement.

As before, the formula for standard errors can be rearranged to give a formula for sample sizes before indirect measurement via a scorecard, where $\tilde{p}$ is based on previous measurements and is assumed equal at both baseline and follow-up:

$n = 2 \cdot N \cdot \left(\dfrac{z^2 \cdot \alpha^2 \cdot \tilde{p} \cdot (1 - \tilde{p})}{z^2 \cdot \alpha^2 \cdot \tilde{p} \cdot (1 - \tilde{p}) + c^2 \cdot (N - 1)} \right)$. If ϕ can be taken as one, then the

formula becomes $n = 2 \cdot \left(\dfrac{\alpha \cdot z}{c} \right)^2 \cdot \tilde{p} \cdot (1 - \tilde{p})$.

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[46] 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.

With the available data for Burkina Faso, it is not possible to estimate values of α here. Nevertheless, this α has been measured for 16 countries (Schreiner, 2016a, 2016b, 2016c, 2016d, 2015a, 2015b, 2015c, 2015d, 2013a, 2013b, 2012c, 2010, 2009a, 2009b, 2009c; and Chen and Schreiner, 2009). The simple average of α across countries—after averaging α across poverty lines and survey years within each country—is 1.06. This rough figure is as reasonable as any to use for Burkina Faso.

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 2014-definition national line, $\alpha = 1.06$, $\hat{p} = 0.297$ (the household-level poverty rate in 2014 for 100% of the 2014-definition 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 $n = 2 \cdot \left(\dfrac{1.06 \cdot 1.64}{0.02} \right)^2 \cdot 0.297 \cdot (1 - 0.297) \cdot 1 = 3{,}155$, and the follow-up sample size is also 3,155.

7.4 Precision for estimated 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:[47]

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

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 Burkina Faso, it is not possible to estimate values of α here.

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

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

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[47] 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, 2009d)—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 new 2014 scorecard is applied twice (once after November 2014 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, 2009d), 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 2014-definition national line, the sample will first be scored in 2018 and then again in 2021 ($y = 3$), 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 poverty rate p_{2014} is taken as 29.7 percent (Table 1), and α is assumed to be 1.30. Then the baseline sample size is

$$n = 2 \cdot \left(\frac{1.30 \cdot 1.64}{0.02} \right)^2 \cdot \left[-0.02 + 0.016 \cdot 3 + 0.47 \cdot 0.297 \cdot \left(1 - 0.297\right) \right] \cdot 1 = 2{,}867.$$ The same group of 2,867 households is scored at follow-up as well.

8.   Targeting

When a program uses scoring 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* (scoring 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 who score at or below a given cut-off should be labeled as *targeted*,[48] 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). With scoring, the terms *poor* and *non-poor* have specific definitions. Using these same terms for targeting status is incorrect and misleading.

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[48] 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 scoring 29 or less, 30 to 69, or 70 or more*; and *Households who qualify for reduced fees, or do not.*

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

Table 9 depicts these four possible targeting outcomes. Targeting accuracy varies by the cut-off score; a higher cut-off has better inclusion (but worse leakage), while a lower cut-off has better exclusion (but 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 10 shows the distribution of households by targeting outcome for Burkina Faso. For an example cut-off of 34 or less, outcomes for 100% of the 2014-definition national line in the 2014 validation sample are:

- Inclusion: 22.4 percent are below the line and correctly targeted
- Undercoverage: 7.3 percent are below the line and mistakenly not targeted
- Leakage: 16.3 percent are above the line and mistakenly targeted
- Exclusion: 54.0 percent are above the line and correctly not targeted

Increasing the cut-off to 39 or less improves inclusion and undercoverage but

worsens leakage and exclusion:

- Inclusion: 25.6 percent are below the line and correctly targeted
- Undercoverage: 4.1 percent are below the line and mistakenly not targeted
- Leakage: 23.6 percent are above the line and mistakenly targeted
- Exclusion: 46.7 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 10 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 scoring—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 10 shows the hit rate for all cut-offs for the new 2014 scorecard. For 100% of the 2014-definition national line in the 2014 validation sample, total net benefit— under the hit rate—is greatest (77.6) for a cut-off of 29 or less, with about three in four households in Burkina Faso correctly classified.

The hit rate weighs successful inclusion of households below the 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).[49]

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[49] Table 10 also reports BPAC, the Balanced Poverty Accuracy Criteria adopted by USAID for certifying poverty-assessment tools. IRIS Center (2005) made BPAC to consider accuracy in terms of the error of 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 any useful information beyond that provided by the more-standard 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 11 ("% targeted HHs who are poor") shows, for the new 2014 scorecard applied to the 2014 validation sample, the expected poverty rate among households who score at or below a given cut-off. For the example of 100% of the 2014-definition national line, targeting households in the 2014 validation sample who score 34 or less would target 38.8 percent of all households (second column) and would be associated with a poverty rate among those targeted of 57.9 percent (third column).

Table 11 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 2014-definition national line with the 2014 validation sample and a cut-off of 34 or less, 75.5 percent of all poor households are covered.

The final targeting measure in Table 11 is the number of successfully targeted poor households for each non-poor household mistakenly targeted (right-most column). For 100% of the 2014-definition national line with the 2014 validation sample and a cut-off of 34 or less, covering 1.4 poor households means leaking to 1 non-poor household.

9. Context of poverty-measurement tools in Burkina Faso

This section discusses two existing poverty-measurement tools for Burkina Faso in terms of their goals, methods, definitions of *poverty*, data, indicators, errors, precision, and cost. In general, the advantages of the scorecard are its:

- Using data from the most-recent nationally representative consumption survey
- Having fewer and lower-cost indicators
- Using a consumption-based definition of *poverty* that is widely understood and that is used by the government of Burkina Faso
- Reporting errors and precision for estimates of poverty rates at a point in time from out-of-sample tests, including formulas for standard errors
- Reporting targeting accuracy, and having targeting accuracy that is likely similar to that of alternative approaches
- Being feasible for pro-poor programs in Burkina Faso, due to its low cost and transparency

9.1   Gwatkin *et al.*

Gwatkin *et al.* (2007) construct a poverty-assessment tool for Burkina Faso with an approach that they use in 56 countries with Demographic and Health Surveys (Rutstein and Johnson, 2004). They use Principal Component Analysis to make an asset index from low-cost indicators available for the 9,097 households in Burkina Faso's 2003 DHS.[50] The PCA index is like the scorecard here except that, because the DHS does not collect data on consumption, the index is based on a different (asset-based) definition of *poverty*, its accuracy vis-à-vis consumption-based poverty is unknown, and it can only be assumed to be a proxy for long-term wealth/economic status.[51] Well-known examples of the PCA asset-index approach include Stifel and Christiaensen (2007), Zeller *et al.* (2006), Sahn and Stifel (2003 and 2000), Henry *et al.* (2003), and Filmer and Pritchett (2001).

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[50] All DHS data for Burkina Faso since 1993 include each household's asset-index score (`dhsprogram.com/topics/wealth-index/Wealth-Index-Construction.cfm`, retrieved 8 January 2017).

[51] Nevertheless, the indicators are similar and the "flat maximum" is important, so carefully built PCA indexes and consumption-based poverty-assessment tools may pick up the same underlying construct (perhaps "permanent income", see Bollen, Glanville, and Stecklov, 2007), and they may rank households much the same. Comparisons of rankings of households by PCA indexes, directly-measured consumption, and consumption-based poverty-assessment tools include Filmer and Scott (2012), Howe *et al.* (2009), Lindelow (2006), Sahn and Stifel (2003 and 2000), Wagstaff and Watanabe (2003), and Montgomery *et al.* (2000).

The 14 indicators in Gwatkin *et al.* are similar to those in the scorecard in terms

of their low cost and verifiability:

- Characteristics of the residence:
    — Presence of electricity
    — Type of floor
    — Type of cooking fuel
    — Source of drinking water
    — Type of toilet arrangement
- Ownership of consumer durables:
    — Radios
    — Televisions
    — Refrigerators
    — Telephones
    — Bicycles
    — Motorcycles or scooters
    — Cars or trucks
- Presence of a domestic worker not related to the head
- Whether any household members work agricultural land

Gwatkin *et al.* suggest three possible uses for their index:

- Segmenting households by the quintile of their index to see how health varies with socio-economic status
- Monitoring (via exit surveys) how well local health-service posts reach the poor
- Measuring local coverage of health services via small-scale surveys

The first goal is segmentation, and the last two goals deal with performance

monitoring, so the asset index would be used much like the scorecard here. In

particular, the scorecard's support for relative (percentile-based) poverty lines allows

the segmentation of households by quintile to see how health (or other things) vary with

consumption. Of course, it is also possible to segment households by quintiles based on

scores from the scorecard to see how health (or other things) vary with wealth.

The Gwatkin *et al.* index is more costly and difficult-to-use than the scorecard. The index has 14 indicators (versus 11), and while the scorecard requires adding up 11 integers (some of them usually zeroes), Gwatkin *et al.*'s index requires adding up 33 numbers, each with five decimal places and about half with negative signs.

A strength of asset indexes is that, because they do not require consumption data, they can be constructed from data from a wide array of "light" surveys such as censuses, Demographic and Health Surveys, Welfare Monitoring Surveys, and Core Welfare Indicator Questionnaires. In comparison, the scorecard is linked directly to a consumption-based poverty line. Thus, while both approaches can rank households, only the scorecard can estimate consumption-based poverty status. Like an asset index, the scorecard can be applied to data from a "light" survey that does not collect consumption as long as the "light" survey collects indicators that match those in the scorecard (Schreiner, 2011b).

In essence, Gwatkin *et al.*—like all asset indexes—define *poverty* in terms of the indicators and points in the index itself. Thus, the index is not a proxy standing in for something else (such as consumption). Rather, it is a direct measure of an asset-based (non-consumption-based) definition of *poverty*. There is nothing wrong—and a lot right—about defining *poverty* in this way, but it is not as common as a consumption-based definition. It also means that results are not comparable across different asset indexes because the definition of *poverty* varies with a given index's indicators and

points. And estimates of change over time from an asset index can only address the direction of change, not the magnitude.

In general, the asset-based approach defines people as *poor* if their assets (physical, human, financial, or social) fall below a threshold. Arguments for an asset-based view of development include Carter and Barrett (2006), Schreiner and Sherraden (2006), Sahn and Stifel (2003), and Sherraden (1991). The main advantages of the asset-based view are that:

- Asset ownership is easier to measure accurately than consumption
- Access to resources in the long term—and thus capacity to produce income and to consume—depends on the control of assets
- Assets get at specific capabilities more directly, the difference between, say, "Can you afford adequate sanitation on your income?" versus "Does the toilet drain to a septic tank?"

While the asset view and the income/consumption view are distinct, they are also tightly linked. After all, income and consumption are flows of resources received/consumed from the use of stocks of assets. Both views are low-dimensional simplifications—due to practical limits on definitions and measurement—of a higher-dimensional and more complete conception of the production of human well-being.

9.2 Zida and Kambou

Zida and Kambou (2014) seek to improve the geographic targeting of pro-poor policies in Burkina Faso. To do so, they construct a "poverty map" (Elbers, Lanjouw, and Lanjouw, 2003) of estimated poverty rates for each of Burkina Faso's 13 regions, 45 provinces, and 351 communes. The results are displayed in tables and in "poverty maps" that roughly show, at a glance, how poverty rates vary across small areas.[52]

Zida and Kambou build a single[53], all-Burkina Faso poverty-assessment tool using least-squares regression on the logarithm of per-capita consumption for households in the 2009/10 EICVM. The tool uses only indicators found in both the EICVM and in the 2006 General Census of Population and Housing (*Récensement Général de la Population et de l'Habitation*).

Once built, the tool is applied to estimate consumption for each household in the 2006 census. The poverty map's estimate of the poverty rate in a given region, province, or commune is the share of people in households whose estimated consumption is less than 100% of the 2014-definition national poverty line. The poverty-map estimates have

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[52] Bigman *et al.* (2000) is an older poverty map for Burkina Faso.

[53] In building a single, all-country poverty-assessment tool, Zida and Kambou are unlike almost all other poverty maps. But the choice makes sense, as it reduces overfitting (Haslett, 2012). It also follows Mahadevan, Yoshida, and Praslova (2013, pp. 6–7) who say that "the latest recommendation from poverty-map experts in the World Bank Research Department is not to use multiple [tools] to predict household consumption." Multiple tools can be "problematic since the number of observations for each area becomes small and, as a result, the regression coefficients become less stable."

smaller standard errors than direct estimates based solely on EICVM data,[54] and pro-

poor policies can be targeted to the small areas with the highest estimated poverty

rates.

Poverty mapping in Zida and Kambou and the scorecard in this paper are

similar in that they both:

- Build poverty-measurement tools with data that is representative of a population (the EICVM survey strata for poverty mapping, and all-Burkina Faso for the scorecard) and then apply the tools to other data on sub-groups that are not, in general, representative of the same population
- Build a single scorecard that applies to all of Burkina Faso
- Use simple, verifiable indicators that are quick and inexpensive to collect
- Estimate poverty rates for populations
- Provide unbiased estimates when their assumptions hold
- Seek to be useful in practice and so aim to be understood by non-specialists

Strengths of poverty mapping include that it:

- Has formally established theoretical properties
- Can be applied straightforwardly to measures of well-being (such as the poverty gap) beyond head-count poverty rates
- Accounts for uncertainty in the estimation of a given tool's points when estimating the standard errors of its estimates
- Requires data on fewer households for construction
- Uses only indicators that are in a census
- Reports standard errors (and complex formula for standard errors)

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[54] As highlighted by Tarozzi and Deaton (2007), the standard error is only one aspect of the accuracy of a poverty-assessment tool. Zida and Kambou report confidence intervals or standard errors for its poverty-rate estimates, but—except at the level of regions— only in graphs. They also do not report sample sizes, so the precision of their tool cannot be compared with a benchmark nor with the new 2014 scorecard here. True poverty rates for Burkina Faso's provinces and communes are unknown (which is why a poverty map is useful in the first place), so the map's errors (differences between estimated and observed values) are also unknown.

Strengths of the scorecard include that it:

- Is simpler in terms of both construction and application
- Tests accuracy out-of-sample
- Associates poverty likelihoods with scores non-parametrically
- Reduces overfitting by selecting indicators with statistical and non-statistical criteria
- Surfaces estimates of poverty likelihoods for individual households
- Reports errors and standard errors (and straightforward formulas for standard errors)

In terms of goals, the two approaches differ in that poverty mapping seeks to help governments to target pro-poor policies to poor regions, while the scorecard seeks to help local, pro-poor programs to manage their social performance. These different goals lead directly to their differences in cost, complexity, and transparency.

In terms of their technical approachs, poverty mapping estimates consumption, while the scorecard estimates poverty likelihoods. Poverty maps—unlike the scorecard—report standard errors that account for survey design and for uncertainty in the estimates of a tool's point values.

In terms of targeting, the developers of poverty mapping say that the poverty-assessment tools that undergird poverty maps are too inaccurate for targeting individual households (Elbers, Lanjouw, and Lanjouw, 2003; Demombynes *et al.*, 2004). In contrast, Schreiner (2015e) supports targeting as a legitimate, potentially useful application of the scorecard. In Elbers *et al.* (2007), the developers of poverty mapping seem to take a small step away from their original opposition to targeting individual households with poverty-assessment tools.

Starting with 61 candidate indicators,[55] Zida and Kambou select 31 that are

verifiable, inexpensive to collect, and correlated with consumption:

- Number of household members:
    — Of any age (and its logarithm)
    — Ages 5 or younger
    — Ages 6 to 9
    — Ages 10 to 14
    — Ages 15 to 24
- Characteristics of the head of the household:
    — Age (and its square)
    — Marital status
    — Level of education
    — Sector of employment
- Employment: Number of household members who work
- Characteristics of the residence:
    — Type of residence
    — Tenancy status
    — Number of rooms
    — Type of floor
    — Type of wall
    — Type of roof
    — Type of cooking fuel
    — Type of lighting
    — Source of drinking water
    — Type of drainage for household waste water
    — Type of toilet arrangement
    — Method of disposal of garbage
- Ownership of consumer durables:
    — Radio
    — Television
    — Refrigerator
    — Cell phone
    — Land-line phone
    — Personal computer
    — Bicycle
    — Motorcycle
    — Car

Zida and Kambou's poverty map includes eight of the 11 indicators in the

new 2014 scorecard.

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[55] Unlike most poverty maps, Zida and Kambou do not use community-level indicators.

10.   Conclusion

Pro-poor programs in Burkina Faso can use the scorecard 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 change in the poverty rate of a population over time

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

The new 2014 scorecard is constructed with data from half of the households in Burkina Faso's 2014 EMC. Those households' scores are then calibrated to poverty likelihoods for 21 poverty lines. The accuracy (errors and precision) of the new 2014 scorecard is tested out-of-sample on data that is not used in scorecard construction for targeting and for household's poverty likelihoods at a point in time.

Legacy users of Burkina Faso's old 2003 scorecard can switch to the new 2014 scorecard without having to start over from scratch when measuring changes in poverty rates over time for the four 2003-definition poverty lines that are supported for both scorecards. Such hybrid estimates of change based on the old 2003 definition of *poverty* should not be spliced together with non-hybrid estimates of change based on the new 2014 definition of *poverty* because the annual rate of change is very different under the two definitions.

When the scorecard is applied to the 21 poverty lines in the 2014 validation sample, the maximum absolute error for point-in-time estimates of poverty rates is 3.0 percentage points, and the average absolute error is about 1.0 percentage points. Corrected estimates may be had 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 better. With $n = 1{,}024$, the 90-percent confidence intervals are ± 2.2 percentage points or better.

If a program 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 transparency and ease-of-use. After all, accuracy is irrelevant if an organization's managers feel so daunted by a scorecard's complexity or its cost that they do not even try to use it.

For this reason, the scorecard uses 11 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 200 (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 managers to understand and to trust scoring and by allowing non-specialists to add up scores quickly in the field.

In summary, the scorecard is a low-cost way for pro-poor programs in Burkina Faso 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.

Bigman, David; Dercon, Stefan; Guillaume, Dominique; and Michel Lambotte. (2000) "Community Targeting for Poverty Reduction in Burkina Faso", *World Bank Economic Review*, Vol. 14, No. 1, pp. 167–193.

Bollen, Kenneth A.; Glanville, Jennifer L.; and Guy Stecklov. (2007) "Socio-Economic Status, Permanent Income, and Fertility: A Latent-Variable Approach", *Population Studies*, Vol. 61, No. 1, pp. 15–34.

Caire, Dean. (2004) "Building Credit Scorecards for Small-Business Lending in Developing Markets", `microfinance.com/English/Papers/Scoring_SMEs_Hybrid.pdf`, retrieved 11 January 2017.

————; and Mark Schreiner. (2012) "Cross-Tab Weighting for Credit Scorecards in Developing Markets", `business-school.ed.ac.uk/crc/conferences/conference-archive?a=46055`, retrieved 11 January 2017.

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

Carter, Michael R.; and Christopher B. Barrett. (2006) "The Economics of Poverty Traps and Persistent Poverty: An Asset-Based Approach", *Journal of Development Studies,* Vol. 42, No. 2, pp. 178–199.

Chen, Shiyuan; and Mark Schreiner. (2009) "Simple Poverty Scorecard Poverty-Assessment Tool: Vietnam", `SimplePovertyScorecard.com/VNM_2006_ENG.pdf`, retrieved 11 January 2017.

Coady, David; Grosh, Margaret; and John Hoddinott. (2004) *Targeting of Transfers in Developing Countries*, `hdl.handle.net/10986/14902`, retrieved 11 January 2017.

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.

Demombynes, Gabriel; Elbers, Chris; Lanjouw, Jenny; Lanjouw, Peter; Mistiaen, Johan; and Berk Özler. (2004) "Producing an Improved Geographic Profile of Poverty: Methodology and Evidence from Three Developing Countries", pp. 154–176 in Anthony Shorrocks and Rolph van der Hoeven (eds.) *Growth, Inequality, and Poverty.*

Diamond, Alexis; Gill, Michael; Rebolledo Dellepiane, Miguel Angel; Skoufias, Emmanuel; Vinha, Katja; and Yiqing Xu. (2015) "Estimating Poverty Rates in Target Populations: An Assessment of the Simple Poverty Scorecard and Alternative Approaches", World Bank Policy Research Working Paper No. 7793, `hdl.handle.net/10986/25038`, retrieved 11 January 2017.

_____; Rebolledo Dellepiane, Miguel Angel; Skoufias, Emmanuel; Vinha, Katja; Xu, Yiqing; and Nobuo Yoshida. (2014) "An Evaluation of the Simple Poverty Scorecard for Estimating Poverty Rates".

Elbers, Chris; Lanjouw, Jean O.; and Peter Lanjouw. (2003) "Micro-Level Estimation of Poverty and Inequality", *Econometrica*, Vol. 71, No. 1, pp. 355–364.

Elbers, Chris; Fujii, Tomoki; Lanjouw, Peter; Özler, Berk; and Wesley Yin. (2007) "Poverty Alleviation through Geographic Targeting: How Much Does Disaggregation Help?", *Journal of Development Economics*, Vol. 83, pp. 198–213.

Filmer, Deon; and Lant Pritchett. (2001) "Estimating Wealth Effects without Expenditure Data—or Tears: An Application to Educational Enrollments in States of India", *Demography*, Vol. 38, No. 1, pp. 115–132.

_____; and Kinnon Scott. (2012) "Assessing Asset Indices", *Demography*, Vol. 49, pp. 359–392.

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 11 January 2017.

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 Living Standards Measurement Survey Working Paper No. 118, `go.worldbank.org/W9OWN57PD0`, retrieved 11 January 2017.

Gwatkin, Davidson R.; Rutstein, Shea; Johnson, Kiersten; Suliman, Eldaw; Wagstaff, Adam; and Agbessi Amouzou. (2007) "Socio-Economic Differences in Health, Nutrition, and Population: Burkina Faso", World Bank Country Reports on HNP and Poverty, `go.worldbank.org/T6LCN5A340`, retrieved 11 January 2017.

Hammond, Allen L.; Kramer, William J.; Katz, Robert S.; Tran, Julia T.; and Courtland Walker. (2007) *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid*, `wri.org/publication/next-4-billion`, retrieved 11 January 2016.

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.

Henry, Carla; Sharma, Manohar; Lapenu, Cecile; and Manfred Zeller. (2003) "Microfinance Poverty Assessment Tool", Consultative Group to Assist the Poorest Technical Tool No. 5, `cgap.org/publications/microfinance-poverty-assessment-tool`, retrieved 11 January 2017.

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.

Howe, Laura D.; Hargreaves, James R.; Gabrysch, Sabine; and Sharon R.A. Huttly. (2009) "Is the Wealth Index a Proxy for Consumption Expenditure? A Systematic Review", *Journal of Epidemiology and Community Health*, Vol. 63, pp. 871–880.

Institut National de la Statistique et de la Démographie. (2015) "Rapport Enquête Multisectorielle Continue (EMC) 2014: Profil de Pauvreté et d'Inégalités", `insd.bf/n/contenu/enquetes_recensements/Enq_EMC/Profil_de_pauvrete_et_d_inegalite_en_2014.pdf`, retrieved 11 January 2017.

_____. (2003) "Burkina Faso: La Pauvreté en 2003",
`insd.bf/fr/IMG/pdf/Profil_Pauvrete_2003.pdf`, retrieved 18 March 2011.

IRIS Center. (2007a) "Manual for the Implementation of USAID Poverty Assessment
Tools", `povertytools.org/training_documents/Manuals/`
`USAID_PAT_Manual_Eng.pdf`, retrieved 11 January 2017.

_____. (2007b) "Introduction to Sampling for the Implementation of PATs",
`povertytools.org/training_documents/Sampling/Introduction_Sampling.p`
`pt`, retrieved 11 January 2017.

_____. (2005) "Notes on Assessment and Improvement of Tool Accuracy",
`povertytools.org/other_documents/AssessingImproving_Accuracy.pdf`,
retrieved 11 January 2017.

Johnson, Glenn. (2007) "Lesson 3: Two-Way Tables—Dependent Samples",
`onlinecourses.science.psu.edu/stat504/node/96`, retrieved 11 January 2017.

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

Lindelow, Magnus. (2006) "Sometimes More Equal Than Others: How Health
Inequalities Depend on the Choice of Welfare Indicator", *Health Economics*, Vol.
15, pp. 263–279.

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.

Mahadevan, Meera; Yoshida, Nobuo; and Larisa Praslova. (2013) "Poverty Mapping in
the Kyrgyz Republic: Methodology and Key Findings", World Bank Report No.
76690, `documents.worldbank.org/curated/en/2013/04/17584758/kyrgyz-`
`republic-poverty-mapping-methodology-key-findings`, retrieved 11 January
2017.

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/sites/mfc.org.pl/`
`files/spotlight4.PDF`, retrieved 11 January 2017.

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

Montgomery, Mark; Gragnolati, Michele; Burke, Kathleen A.; and Edmundo Paredes. (2000) "Measuring Living Standards with Proxy Variables", *Demography*, Vol. 37, No. 2, pp. 155–174.

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 11 January 2017.

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.

Ravallion, Martin. (1998) "Poverty Lines in Theory and Practice", World Bank Living Standards Measurement Survey Working Paper No. 133, `go.worldbank.org/8P3IBJPQS1`, retrieved 11 January 2017.

Rutstein, Shea Oscar; and Kiersten Johnson. (2004) "The DHS Wealth Index", DHS Comparative Reports No. 6, `measuredhs.com/pubs/pdf/CR6/CR6.pdf`, retrieved 11 January 2017.

Sahn, David E.; and David C. Stifel. (2003) "Exploring Alternative Measures of Welfare in the Absence of Expenditure Data", *Review of Income and Wealth*, Series 49, No. 4, pp. 463–489.

_____. (2000) "Poverty Comparisons over Time and across Countries in Africa", *World Development*, Vol. 28, No. 12, pp. 2123–2155.

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 11 January 2017.

Schreiner, Mark. (2016a) "Simple Poverty Scorecard Poverty-Assessment Tool: India", `SimplePovertyScorecard.com/IND_2011_ENG.pdf`, retrieved 11 January 2017.

_____. (2016b) "Simple Poverty Scorecard Poverty-Assessment Tool: Guatemala", `SimplePovertyScorecard.com/GTM_2014_ENG.pdf`, retrieved 11 January 2017.

_____. (2016c) "Simple Poverty Scorecard Poverty-Assessment Tool: Sri Lanka", `SimplePovertyScorecard.com/LKA_2012_ENG.pdf`, retrieved 11 January 2017.

_____. (2016d) "Simple Poverty Scorecard Poverty-Assessment Tool: Cameroon", `SimplePovertyScorecard.com/CMR_2014_ENG.pdf`, retrieved 11 January 2017.

_____. (2015a) "Simple Poverty Scorecard Poverty-Assessment Tool: Ghana", `SimplePovertyScorecard.com/GHA_2012_ENG.pdf`, retrieved 11 January 2017.

_____. (2015b) "Simple Poverty Scorecard Poverty-Assessment Tool: Bolivia", `SimplePovertyScorecard.com/BOL_2013_ENG.pdf`, retrieved 11 January 2017.

_____. (2015c) "Simple Poverty Scorecard Poverty-Assessment Tool: Malawi", `SimplePovertyScorecard.com/MWI_2010_ENG.pdf`, retrieved 11 January 2017.

_____. (2015d) "Simple Poverty Scorecard Poverty-Assessment Tool: Cambodia", `SimplePovertyScorecard.com/KHM_2011_ENG.pdf`, retrieved 11 January 2017.

_____. (2015e) "Simple Poverty Scorecard Poverty-Assessment Tool: Ecuador", `SimplePovertyScorecard.com/ECU_2013_ENG.pdf`, retrieved 11 January 2017.

_____. (2014a) "The Process of Poverty-Scoring Analysis", `SimplePovertyScorecard.com/Process_Poverty_Scoring_Analysis.pdf`, retrieved 11 January 2017.

_____. (2014b) "How Do the Simple Poverty Scorecard Poverty-Assessment Tool and the PAT Differ?", `microfinance.com/English/Papers/Scorecard_versus_PAT.pdf`, retrieved 11 January 2017.

_____. (2013a) "Simple Poverty Scorecard Poverty-Assessment Tool: Bangladesh", `SimplePovertyScorecard.com/BGD_2010_ENG.pdf`, retrieved 11 January 2017.

_____. (2013d) "Simple Poverty Scorecard Poverty-Assessment Tool: Nicaragua", `SimplePovertyScorecard.com/NIC_2009_ENG.pdf`, retrieved 11 January 2017.

_____. (2012a) "An Expert-Based Poverty Scorecard for Rural China", `microfinance.com/English/Papers/Scoring_Poverty_China_EN.pdf`, retrieved 11 January 2017.

_____. (2012b) "Simple Poverty Scorecard Poverty-Assessment Tool: Colombia", `SimplePovertyScorecard.com/COL_2009_ENG.pdf`, retrieved 11 January 2017.

_____. (2012c) "Simple Poverty Scorecard Poverty-Assessment Tool: Peru", `SimplePovertyScorecard.com/PER_2010_ENG.pdf`, retrieved 11 January 2017.

_____. (2011a) "Simple Poverty Scorecard Poverty-Assessment Tool: Burkina Faso", `SimplePovertyScorecard.com/BFA_2003_ENG.pdf`, retrieved 11 January 2017.

_____. (2011b) "Estimating Expenditure-Based Poverty in Demographic and Health Surveys".

_____. (2010) "Simple Poverty Scorecard Poverty-Assessment Tool: Honduras", `SimplePovertyScorecard.com/HND_2007_ENG.pdf`, retrieved 11 January 2017.

_____. (2009a) "Simple Poverty Scorecard Poverty-Assessment Tool: Philippines", `SimplePovertyScorecard.com/PHL_2004_ENG.pdf`, retrieved 11 January 2017.

_____. (2009b) "Simple Poverty Scorecard Poverty-Assessment Tool: Pakistan", `SimplePovertyScorecard.com/PAK_2005_ENG.pdf`, retrieved 11 January 2017.

_____. (2009c) "Simple Poverty Scorecard Poverty-Assessment Tool: Mexico", `SimplePovertyScorecard.com/MEX_2008_ENG.pdf`, retrieved 11 January 2017.

_____. (2009d) "Simple Poverty Scorecard Poverty-Assessment Tool: Peru", `SimplePovertyScorecard.com/PER_2007_ENG.pdf`, retrieved 11 January 2017.

_____. (2008) "Simple Poverty Scorecard Poverty-Assessment Tool: Peru", `SimplePovertyScorecard.com/PER_2003_ENG.pdf`, retrieved 11 January 2017.

_____. (2006) "Is One Simple Poverty Scorecard Poverty-Assessment Tool Enough for India?", `microfinance.com/English/Papers/Scoring_Poverty_India_Segments.pdf`, retrieved 11 January 2017.

_____. (2005a) "Herramienta Índice de Calificación de la Pobreza™: México", `SimplePovertyScorecard.com/MEX_2002_SPA.pdf`, retrieved 11 January 2017.

_____. (2005b) "IRIS Questions on the Simple Poverty Scorecard Poverty-Assessment Tool", `microfinance.com/English/Papers/Scoring_Poverty_Response_to_IRIS.pdf`, retrieved 11 January 2017.

_____. (2002) *Scoring: The Next Breakthrough in Microfinance?* CGAP Occasional Paper No. 7, `microfinance.com/English/Papers/ Scoring_Breakthrough_CGAP.pdf`, retrieved 11 January 2017.

_____; 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.

_____; and Michael Sherraden. (2006) *Can the Poor Save? Saving and Asset Accumulation in Individual Development Accounts.*

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 11 January 2017.

Sherraden, Michael. (1991) *Assets and the Poor: A New American Welfare Policy.*

Stifel, David; and Luc Christiaensen. (2007) "Tracking Poverty over Time in the Absence of Comparable Consumption Data", *World Bank Economic Review*, Vol. 21, No. 2, pp. 317–341.

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. (2007) "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 11 January 2017.

United States Congress. (2004) "Microenterprise Results and Accountability Act of 2004 (HR 3818 RDS)", November 20, `smith4nj.com/laws/108-484.pdf`, retrieved 11 January 2017.

Wagstaff, Adam; and Naoko Watanabe. (2003) "What Difference Does the Choice of SES Make in Health-Inequality Measurement?", *Health Economics*, Vol. 12, No. 10, pp. 885–890.

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", May 8, `worldbank.org/en/news/feature/2013/05/08/shared-prosperity-goal-for-changing-world`, retrieved 11 January 2017.

_____. (2012) *Targeting Poor and Vulnerable Households in Indonesia*, `documents.worldbank.org/curated/en/2012/01/15879773/targeting-poor-vulnerable-households-indonesia`, retrieved 11 January 2017.

_____. (2008) "International Comparison Project: Tables of Results", `siteresources.worldbank.org/ICPINT/Resources/icp-final-tables.pdf`, retrieved 11 January 2017.

Zeller, Manfred. (2004) "Review of Poverty Assessment Tools", `pdf.usaid.gov/pdf_docs/PNADH120.pdf`, retrieved 11 January 2017.

_____; Sharma, Manohar; Henry, Carla; and Cécile Lapenu. (2006) "An Operational Method for Assessing the Poverty-Outreach Performance of Development Policies and Projects: Results of Case Studies in Africa, Asia, and Latin America", *World Development*, Vol. 34, No. 3, pp. 446–464.

Zida, Yemdaogo; and Sansan Honkounne Kambou. (2014) "Cartographie de la Pauvreté et des Inégalites au Burkina Faso", `bf.undp.org/content/burkina_faso/fr/home/library/poverty/cartopauv.html`, retrieved 11 January 2017.

Calculating Hybrid, Non-Hybrid, and Spliced Estimates of Change in Poverty Rates through Time

This appendix gives a step-by-step process with which existing legacy users of the old 2003 scorecard can calculate hybrid, non-hybrid, and spliced estimates of changes in poverty rates through time. The process allows legacy users to salvage past estimates based on the old 2003 scorecard, and it also allows all users from now on to make on-going estimates of change based on current and future applications of the new 2014 scorecard.

In general, the process involves applying a scorecard at three points in time:

- *Past*: Only old 2003 scorecard, with only 2003-definition poverty lines
- *Now*: Only new 2014 scorecard, at least with 2014-definition lines and potentially also with 2003-definition lines
- *Future*: Only new 2014 scorecard, with only 2014-definition lines

The steps are:

1. Select a 2003-definition poverty line from among the four supported in this paper (100% or 150% of the 2003-definition national line, or the 2003-definition $1.25/day or $2.50/day 2005 PPP line)

2. Estimate a baseline poverty rate for the given 2003-definition line based on data already collected in the past with the old 2003 scorecard:

   a. Retrieve (from a paper file, spreadsheet, or database) the poverty likelihoods for the given 2003-definition line for each household in the representative sample of a given population to whom the old 2003 scorecard has already been applied in the past. This likelihood is based on the look-up table for the given 2003-definition line in Schreiner, 2011a (not the look-up tables in this paper)

   b. Average the households' poverty likelihoods to estimate their baseline poverty rate for the given 2003-definition line, subtracting off the known error based on Figure 9 in Schreiner (2011a)

3. Estimate a follow-up poverty rate for the given 2003-definition line based on data collected now with the new 2014 scorecard:

   a. Apply the new 2014 scorecard to a representative sample of the same population to which the old 2003 scorecard was originally applied in (2a)[56]

   b. Add up the score for each household from the new 2014 scorecard

   c. Convert each household's score to a poverty likelihood using the look-up tables for the given 2003-definition line in this paper (not the look-up tables in Schreiner, 2011a). In this paper, the 2003-definition lines are explicitly labeled as "2003-definition"

   d. Average the households' poverty likelihoods to estimate their follow-up poverty rate for the given 2003-definition line, subtracting off the known error based on Table 8 in this paper

4. Find hybrid estimates of change for the given 2003-definition line:

   a. The estimated hybrid change is the estimated follow-up poverty rate (3d) minus the estimated baseline poverty rate (2b). If estimated poverty decreased through time, then the estimate will be a negative number

   b. The estimated hybrid change relative to the share of participants who were under the given 2003-definition line at baseline is the estimated hybrid change (4a) divided by the estimated baseline poverty rate (2b)

   c. The estimated net number of participants who crossed from below the given 2003-definition poverty line to above it since baseline is the negative of the change (4a) expressed as a proportion,[57] multiplied by the number of participants in the population at baseline

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[56] The sample must be representative of the same population as that to which the old 2003 scorecard was originally applied. One way to satisfy this condition is to apply the new 2014 scorecard with the same households as the old 2003 scorecard. The other way is to apply the new 2014 scorecard to a new sample that is representative of the same population as that to which the old 2003 scorecard was originally applied.

[57] For example, 0.123 is the proportion that is equivalent to 12.3 percentage points.

To be ready to estimate on-going changes in poverty rates over time using the 2014-definition poverty lines, all users (legacy and new) from now on should:

5. Select a 2014-definition poverty line from among the 11 non-relative lines supported in this paper (2014-definition food line; 100%, 150%, or 200% of the 2014-definition national line; 2014-definition $1.25/day, $2.00/day, $2.50/day, $5.00/day, or $8.44/day 2005 PPP lines; or 2014-definition $1.90/day or $3.10/day 2011 PPP lines)[58]

6. Estimate a baseline poverty rate for the given 2014-definition line based on data collected now with the new 2014 scorecard:

    a. In addition to a sample of households to which the new 2014 scorecard was applied in (3a), apply the new 2014 scorecard to samples of households that are representative of any additional populations of interest

    b. Add up (or retrieve from 3b) the score for each household to which the new 2014 scorecard has been applied

    c. Convert each household's score to a poverty likelihood using the look-up tables for the given 2014-definition line in this paper (not the look-up tables in Schreiner, 2011a, none of which pertain to 2014-definition lines)

    d. For the sample of households to which the new 2014 scorecard was applied in 3a (and separately for any samples of households that are representative of any additional populations of interest in 6a), average the households' poverty likelihoods to estimate their baseline poverty rate for the given 2014-definition line, subtracting off the known error based on Table 8 in this paper

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[58] The 2014-definition line that marks the poorest half of people below 100% of the 2014-definition national line is omitted because it is a relative line whose real value changes over time. For such relative lines, estimates of changes in poverty over time are not meaningful. The other five relative lines—based on the 20th, 40th, 50th/median, 60th, and 80th percentiles—are omitted for the same reason.

From this point on, all estimates of change are based solely on 2014-definition lines:

7. Select a 2014-definition poverty line for which a baseline poverty rate has been estimated in 6d

8. Estimate a follow-up poverty rate for the given 2014-definition line based on the new 2014 scorecard some time in the future:

   a. Apply the new 2014 scorecard to a representative sample of the same population to which the new 2014 scorecard was originally applied (3a, as well as any additional populations represented in 6a)

   b. Add up the score for each household to which the new 2014 scorecard has just been applied (8a)

   c. Convert each household's score to a poverty likelihood using the look-up tables for the given 2014-definition line in this paper (not the look-up tables in Schreiner, 2011a, none of which pertain to 2014-definition lines)

   d. For the sample(s) representing a given population (8a), average the households' poverty likelihoods to get an estimate of their follow-up poverty rate for the given 2014-definition line, subtracting off the known error based on Table 8 in this paper

9. Find the (non-hybrid) estimates of change for the given 2014-definition line:

   a. The estimated change is the estimated follow-up poverty rate (8d) minus the estimated baseline poverty rate (6d). If estimated poverty decreased through time, then the estimate will be a negative number

   b. The estimated change relative to the share of participants who were under the given 2014-definition line at baseline is the change (9a) divided by the estimated baseline poverty rate (6d)

   c. The estimated net number of participants who crossed from below the 2014-definition poverty line to above it since baseline is the negative of the estimated change (9a) expressed as a proportion, multiplied by the number of participants at baseline

10. Assuming that the "parallel lines" assumption holds,[59] find the "grand" estimates of change that splice together hybrid and non-hybrid estimates:

a. The "grand" spliced estimate of change is the hybrid estimate of change (4a) for the given 2003-definition line plus the non-hybrid estimate of change for the given 2014-definition line (9a)

b. The "grand" spliced estimate of change relative to the share of participants who were below the given 2003-definition line in the past baseline is the "grand" estimate of change (10a) divided by the share of participants who were below the given 2003-definition line in the past baseline (2b). (There is no "grand" spliced estimate of relative change for the given 2014-definition line because there is no estimate of the poverty rate by the given 2014-definition line in the past baseline)

c. The "grand" spliced estimate of the net number of participants who crossed from below the given 2003-definition line to above it (or from below the given 2014-definition line to above it) since the past baseline is the negative of the "grand" estimate of change 10a expressed as a proportion, multiplied by the number of participants in the past baseline

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[59] As discussed in the main text, the "parallel lines" assumption does not hold for Burkina Faso between 2003 and 2014. Users are strongly warned against "grand" estimates of change that splice together hybrid and non-hybrid estimates.

The following hypothetical example illustrates the steps for Burkina Faso:

1. *Select a 2003-definition poverty line from among those supported in this paper:*

   Select 100% of the 2003-definition national line.

2. *Estimate a baseline poverty rate for the given 2003-definition line based on data already collected in the past with the old 2003 scorecard:*

   a. *Retrieve (from a paper file, spreadsheet, or database) the scores and the poverty likelihoods for the given 2003-definition line for each household in the representative sample of a given population to whom the old 2003 scorecard has already been applied. This likelihood is based on the look-up table for the given 2003-definition line in Schreiner, 2011a (not the look-up tables in this paper)*

      In this hypothetical example, the scores and likelihoods for the three[60] households in the sample are:

Score	Poverty likelihood (100% of the 2003-definition national line)
15	57.2
20	43.7
25	34.6

      The poverty likelihoods for 100% of the 2003-definition national line come from p. 66 of Schreiner (2011a).[61]

   b. *Average the households' poverty likelihoods to get an estimate of their baseline poverty rate for the given 2003-definition line, subtracting off the known error*

      $[(57.2 + 43.7 + 34.6) \div 3] - (-0.3) = 45.5$ percent.

   The known error of –0.3 percentage points for 100% of the 2003-definition national line comes from Table 9, p. 73 of Schreiner (2011a).

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[60] Three households is an unrealistically small sample, but it is used in this hypothetical illustration to keep the arithmetic managable.

[61] This is "Figure 4 (National line): Estimated poverty likelihoods associated with scores", `simplepovertyscorecard.com/BFA_2003_ENG.pdf`, retrieved 11 January 2017.

3. *Estimate a follow-up poverty rate for a given 2003-definition line based on data collected now with the new 2014 scorecard:*

    a. *Apply the new 2014 scorecard to a representative sample of the same population to which the old 2003 scorecard was originally applied in (2a)*

        Draw a new sample of three households.

    b. *Add up the score for each household from the new 2014 scorecard*

        In this hypothetical example, the scores are 32, 37, and 39.

    c. *Convert each household's score to a poverty likelihood using the look-up tables for the given 2003-definition line in this paper (not the look-up tables in Schreiner, 2011a)*

        Look up poverty likelihoods for 100% of the 2003-definition national line on p. 303 in this paper.

Score	Poverty likelihood (100% of the 2003-definition national line)
32	48.1
37	34.8
39	34.8

    d. *Average the households' poverty likelihoods to get an estimate of their follow-up poverty rate for the given 2003-definition line, subtracting off the known error*

        [(48.1 + 34.8 + 34.8) ÷ 3] − (+0.9) = 33.3 percent.

        Error for 100% of the 2003-definition national line for 2014 data is +0.9 percentage points (Figure 8 on p. 203 in this paper).

4. *Find hybrid estimates of change for the given 2003-definition line:*

    a. *The estimated change is the estimated follow-up poverty rate (3d) minus the estimated baseline poverty rate (2b). If estimated poverty decreased through time, then the estimate will be a negative number*

        38.3 percent – 45.5 percent = –7.2 percentage points.

    b. *The estimated change relative to the share of participants who were under the given 2003-definition line at baseline is the estimated change (4a) divided by the estimated baseline poverty rate (2b)*

        –7.2 percentage points ÷ 45.5 percentage points = –15.8 percent.

    c. *The estimated net number of participants who crossed from below the given 2003-definition poverty line to above it since baseline is the negative of the change (4a) expressed as a proportion, multiplied by the number of participants at baseline*

        Assuming for the sake of this hypothetical illustration
        that there were 10,000 participants in the baseline population,
        –(–0.072) x 10,000 participants = 720 participants.

To be ready to estimate on-going changes in poverty rates over time using the 2014-definition lines, all users (legacy and new) from now on should:

5. *Select a 2014-definition poverty line from among those supported in this paper*

    Select 100% of the 2014-definition national line.

6. *Estimate a baseline poverty rate for the given 2014-definition line based on data collected now with the new 2014 scorecard*:

   a. *In addition to samples of households that are representative of the same population as that to which the new 2014 scorecard was applied in (3a), apply the new 2014 scorecard to samples of households that are representative of any additional populations of interest*

      In this example, no samples are drawn from additional populations. Thus the three households in (3a) are the only three households here.

   b. *Add up (or retrieve from 3b) the score for each household to which the new 2014 scorecard has been applied*

      The scores for the three households in 3b are 32, 37, and 39.

   c. *Convert each household's score to a poverty likelihood using the look-up tables for the given 2014-definition line in this paper (not the look-up tables in Schreiner, 2011a, none of which pertain to 2014-definition lines)*

      Look up the poverty likelihoods
      for 100% of the 2014-definition national line
      in Figure 4 on p. 195 in this paper.

Score	Poverty likelihood (100% of the 2014-definition national line)
32	44.8
37	33.2
39	33.2

   d. *Average the households' poverty likelihoods to get an estimate of their baseline poverty rate for the given 2014-definition line, subtracting off the known error*

      $[(44.8 + 33.2 + 33.2) \div 3] - (+0.9) = 36.2$ percent.

      The known error of +0.9 percentage points
      is from Figure 8 on p. 199 of this paper.

From this point on, all estimates of change are based solely on 2014-definition lines:

7. *Select a 2014-definition poverty line for which a baseline poverty rate has been estimated in 6d*

> For compatibility with the above,
> select 100% of the 2014-definition national line.

8. *Estimate a follow-up poverty rate for the given 2014-definition line based on the new 2014 scorecard some time in the future*:

   a. *Apply the new 2014 scorecard to a representative sample(s) of the same population(s) to which the new 2014 scorecard was originally applied (3a, as well as any additional populations represented in 6a)*

   > Draw a new sample of three households from the same population as 3a.
   > In this illustration, no additional samples are drawn.

   b. *Add up the score for each household to which the new 2014 scorecard has just been applied*

   > In this hypothetical example, the scores are 36, 39, and 41.

   c. *Convert each household's score to a poverty likelihood using the look-up tables for the given 2014-definition line in this paper (not the look-up tables in Schreiner, 2011a, none of which pertain to 2014-definition lines)*

   > Look up the poverty likelihoods
   > for 100% of the 2014-definition national line
   > in Figure 4 on p. 195 in this paper.

Score	Poverty likelihood (100% of 2014-definition national line)
36	33.2
39	33.2
41	21.7

   d. *For the sample representing a given population, average the households' poverty likelihoods to get an estimate of their follow-up poverty rate for the given 2014-definition line, subtracting off known error*

   > $[(33.2 + 33.2 + 21.7) \div 3] - (+0.9) = 28.5$ percent.

   > The known error of +0.9 percentage points
   > is for 100% of the 2014-definition national poverty line
   > from Figure 8 on p. 199 of this paper.

9. *Find non-hybrid estimates of change for the given 2014-definition line*:

    a. *The estimated change is the estimated follow-up poverty rate (8d) minus the estimated baseline poverty rate (6d). If estimated poverty decreased through time, then the estimate will be a negative number*

        28.5 percent – 36.2 percent = –7.7 percentage points.

    b. *The estimated change relative to the share of participants who were under the given 2014-definition line at baseline is the estimated change (9a) divided by the estimated baseline poverty rate (6d)*

        –7.7 percentage points ÷ 36.2 percentage points = –21.2 percent.

    c. *The estimated net number of participants who crossed from below the given 2014-definition poverty line to above it since baseline is the negative of the change (9a) expressed as a proportion, multiplied by the number of participants at baseline*

        Assuming for the sake of this hypothetical illustration
        that there were 10,000 participants in the baseline population,
        –(–0.077) x 10,000 participants = 770 participants.

10. *Assuming that the "parallel lines" assumption holds,*[62] *find the "grand" spliced estimates of change that combine the hybrid and non-hybrid estimates*:

   a. *The "grand" spliced estimate of change is the hybrid estimate of change for the given 2003-definition line (4a) plus the non-hybrid estimate of change for the given 2014-definition line (9a)*

   –7.2 percentage points + (–7.7 percentage points) = –14.9 percentage points.

   b. *The "grand" spliced estimate of change relative to the share of participants who were below the given 2003-definition line in the past baseline is the "grand" estimate of change 10a divided by the share of participants who were below the given 2003-definition line in the past baseline (2b). (There is no "grand" spliced estimate of relative change for the given 2014-definition line because there is no estimate of the poverty rate by the given 2014-definition line in the past baseline)*

   –14.9 ÷ 45.5 = –32.7 percent.

   c. *The "grand" spliced estimate of the net number of participants who crossed from below the given 2003-definition line to above it (or from below the given 2014-definition line to above it) since the past baseline is the negative of the "grand" spliced estimate of change 10a expressed as a proportion, multiplied by the number of participants in the past baseline*

   Assuming for the sake of this hypothetical illustration
   that there were 10,000 participants in the baseline population,
   –(–0.149) x 10,000 = 1,490.

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[62] As discussed in the main text, the "parallel lines" assumption does not hold for Burkina Faso between 2003 and 2014. Users are strongly warned against using "grand" estimates of change that splice together hybrid and non-hybrid estimates.

This page summarizes the process in the hypothetical illustration for Burkina Faso above. It focuses on estimates of changes in poverty rates.

Selected poverty line: 100% of national line (2003-definition and 2014-definition)

Scores and poverty likelihoods of sampled households for the two selected lines

Past		"Now"			Future	
Score	Pov. like. (2003-def., 2003 card) (%)	Score	Pov. like. (2003-def., 2014 card) (%)	Pov. like. (2014-def., 2014 card) (%)	Score	Pov. like. (2014-def., 2014 card) (%)
15	57.2	32	48.1	44.8	36	33.2
20	43.7	37	34.8	33.2	39	33.2
25	34.6	39	34.8	33.2	41	21.7
Known error	–0.3	—	+0.9	+0.9	—	+0.9
Est. pov. rate (%)	45.5	—	38.3	36.2	—	28.5

Estimated change between:

Past and now (hybrid):	38.3 – 45.5	= –7.2 percentage points
Now and future (non-hybrid):	28.5 – 36.2	= –7.7 percentage points
Past and future ("grand" spliced):	–7.2 + (–7.7)	= –14.9 percentage points
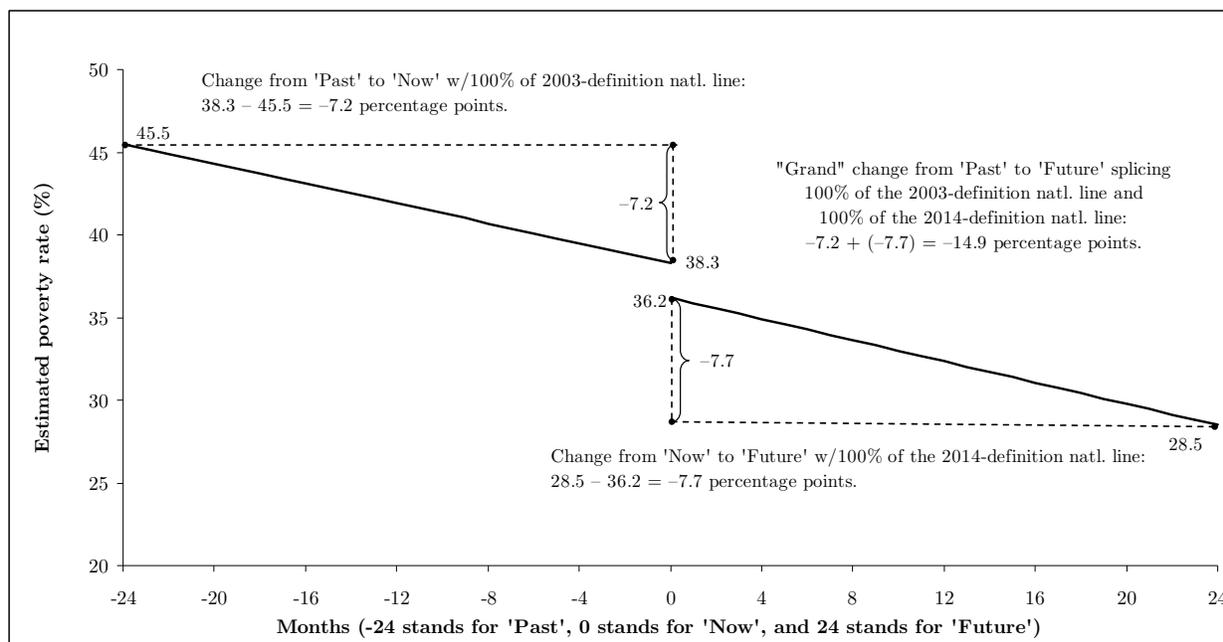
Guidelines for the Interpretation of Scorecard Indicators

The excerpts quoted below come from:

Institut National de la Statistique et de la Démographie. (2013) "Enquête
Multisectorielle Continue (EMC) 2014–2013: Manuel de L'Enquêteur (Passage
1)", [the *Manual*], `go.worldbank.org/ZPCXVSESZ0`, retrieved 11 January 2017.

<u>Interview Procedure</u>

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
compile as part of the "Back-page Worksheet".

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

Ask all of the other scorecard questions directly of the respondent.

General Interviewing Advice

Study these "Guidelines" carefully, and carry them with you while you work.

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

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

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. Does the male head/spouse know how to read and write in any language?	A. No male head/spouse	0	
	B. No	4	**4**
	C. Yes	8	

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 Burkina Faso's *Institut National de la Statistique et de la Démographie* in the 2014 EMC. That is, an organization using the scorecard should not promulgate any definitions or rules (other than those in these "Guidelines") to be used by all its field agents. Anything not explicitly addressed in these "Guidelines" 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 these "Guidelines" 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 these "Guidelines".

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 not be accurate and thus that verification might improve data quality. 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 not be accurate.

In general, the application of the scorecard should mimic as closely as possible the application of the 2014 EMC by Burkina Faso's *Institut National de la Statistique et de la Démographie*. For example, poverty-scoring interviews should take place in respondents' homesteads because the 2014 EMC took place in respondents' homesteads.

Questionnaire Translation

These "Guidelines"—and this document in general—currently exist in only in English, French, Mõore, and Yula; there is not yet an official, standard translation of the scorecard, "Back-page Worksheet", "Guidelines", and tables to other local languages spoken by many people in Burkina Faso such as Dioula. Please check `SimplePovertyScorecard.com` to see if other translations have been done since this writing.

If there is no official, standard translation to a given local language, users should contact the author 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 official version of the 2014 EMC *Questionnaire*. The *Enumerator Manual* for the 2014 EMC was written in French, so these "Guidelines" must be translated from the *Manual*'s original French, not from these English "Guidelines" here nor the translation of the "Guidelines" to Mõore.

Who should be the respondent?

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

According to p. 6 of the *Manual*, "The respondent should be a responsible adult who is a member of the household. If a responsible adult is not available, then make an appointment to return on a day and at a time when such an adult will be home. *The respondent must be at least 15-years-old.*"

According to p. 12 of the *Manual*, "Given that the head of the household is the main decision-maker, he/she usually has the best knowledge of what goes on in the household, and thus he/she is usually the most appropriate respondent. Sometimes, however, the head of the household does not have the knowledge required to answer a given question accurately. In such cases, another household member who knows more about the information related to the question may help the head of the household to respond."

According to p. 14 of the *Manual*, the *head of the household* is "the person acknowledged as the head by the other members of the household."

According to p. 12 of the *Manual*, the *head of the household* is "the main decision-maker for the household, and his/her authority is acknowledged by the other members of the household. The head of the household is not necessarily the same as the main bread-winner."

Enumerator responsabilities

If a situation arises for which these "Guidelines" are silent, incomplete, or contradictory, then you should rely solely on your own judgment. In particular, your organization should not promulgate any rules nor teach any practices to you or your fellow enumerators concerning how to ask questions and interpret responses for the scorecard other than those included in these "Guidelines".

How to establish a healthy rapport with the respondent

According to pp. 3–4 of the *Manual*, you should "establish a good rapport with the respondent. The respondent's first impression of you make will determine his/her willingness to cooperate.

    Introduction: "Introduce yourself by clearly stating your name, showing your badge as an employee of [your organization], and asking politely to speak with the head of the household.

    First impression: "When you first approach a household to be interviewed, be careful to:

- Choose your words so as to put your interlocutor at ease
- Start with a cheerful greeting and a smile, using simple terms to explain the purpose of your visit, as too much technical jargon may make your interlocutor uncomfortable
- Dress professionally, both to show respect for the household as well as to represent [your organization] in a way that it can be proud of

    "Good day Sir/Madame. My name is <your name>.
    I work with <your organization>.
    We doing a survey of some of our participants' households.
    Your household has been selected at random,
    and we would like to ask you some questions about [your household]."

    Confidentiality: "Tell the respondent that all responses will be kept strictly confidential, will not be divulged to unauthorized persons, and will be used only for the survey's purposes. In the same way, assure the respondent that the completed questionnaires will be kept secure. Ask any sensitive questions with discretion, [out of ear-shot of people who are not household members].

Neutrality: "Being polite, some respondents tend to give responses that they suppose are what you would like to hear. Therefore, be completely neutral for the whole interview. Do nothing that might lead the respondent to feel that he/she has given a 'good' or 'bad' response, whether by your tone of voice, the look on your face, or your body language. Do not give the impression that you approve or disapprove of anything that the respondent says. Avoid comparing responses across households or across respondents within a household. Finally, do not make any comments about responses you receive.

Read the questions as written, in the order given, in an even tone of voice: "In all interviews and with all respondents, read the questions as written and in the order given, keeping a uniform, neutral tone of voice. If a respondent does not understand a question, then read it again, slowly and clearly.

Be tactful: "If the respondent loses interest, contradicts previous responses, or flat-out refuses to answer any more questions, then you should tactfully try to revive his/her interest.

Turn your phone off: "When interviewing, turn your phone off or set it to 'Vibrate'. If you take a phone call during an interview, then the respondent may feel disrespected, harming the quality of information given.

Do not rush the interview: "Ask questions slowly, and allow the respondent time to reflect and to be sure that he/she understands what is being asked. If the respondent does not have enough time to think, then he/she may just say 'I do not know', or he/she could give frivolous responses. Do not hurry the respondent or call off the interview in frustration, even if the respondent answers slowly."

Guidelines for specific scorecard indicators

1. How many members does the household have?
   - A. Ten or more
   - B. Nine
   - C. Eight
   - D. Seven
   - E. Six
   - F. Five
   - G. Four
   - H. Three
   - I. One, or two

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

According to pp. 9–11 of the *Manual*, a *household* is "a socio-economic unit of one or more people—regardless blood or marital relationship—who [normally] live in the same residence or compound, who pool their resources, and who cooperate to satisfy their basic needs (food and non-food), and who recognize the authority of a single head.

"Even if the respondent understands the concept [of *household*], there are a few questions that you should ask to make sure that all household members—and only household members—are identified. This is particularly important when the compound or the building is complex or when it houses more than one household. Several specific cases are addressed below.

- A person who lives alone in a residence and who alone provides for his/her own basic needs (food, shelter, clothing, and so on) is to be counted as a one-person household. If a person does not provide for his/her basic needs by him/herself, then he/she is to be counted as a member of the household that helps to provide for his/her basic needs. To determine whether someone who lives alone is a one-person household, ask probing questions such as 'Where do you usually eat meals?' and 'Do you pay for your shelter?'
- If multiple women—all of whom have the same husband—live together in the same residence and eat their meals together, then they are all to be counted as members of a single household. On the other hand, if these women do not eat their meals together, then they are to be counted as distinct households, even if they all live in the same residence. A polygamous man is counted as a member of the household in which he spent the night before the day of the interview

- Domestic servants (maids, hired boys, and so on) are not counted as members of their employer's household if they eat in the employer's residence but sleep elsewhere. On the other hand, a domestic servant who both eats and sleeps in the employer's residence is to be counted as a member of the employer's household

"Three criteria determine whether a given person is a member of a given household. The person must:

- Normally live with the household and eat meals with the household
- Acknowledge the authority of a single head, who is the head of the household
- Have normally lived and eaten with the household for at least six of the past 12 months. If a person has been absent from the household for more than six of the past 12 months, then he/she is not to be counted as a member of that household. (The head of the household is an exception; he/she is always counted as a member of the household for which he/she serves as head, even if he/she has been absent for more than six of the past 12 months.) If a person has normally lived and eaten with the household for less than six months but whose stay has a total expected duration is six months or more, then that person is to be counted as a member of the household. Examples of such people are:
  — Newborns are to be counted as members of the household even if they are less than 6-months-old
  — Newly-weds who are new arrivals to the household are to be counted as members of that household even if they have been with their new household for less than six months
  — Students who live and eat with different households when school is in session versus when school is out of session are to be counted as members of the household in which they normally live and eat when school is in session

"A wife of a member of the household who has gone to be with her family of origin to give birth is to be considered as a member of her husband's household, even if her absence lasts more than six months."

According to p. 12 of the *Manual*, the *head of the household* is "the main decision-maker for the household, and his/her authority is acknowledged by the other members of the household. The head of the household is not necessarily the same as the main bread-winner."

According to p. 14 of the *Manual*, the *head of the household* is "the person acknowledged as the head by the other members of the household."

According to p. 13 of the *Manual*, when listing the household members [on the "back-page Worksheet"], the first person listed "should be the head of the household. If the respondent is not the head of the household, then you should still list the head of the household (not the respondent) first. Even if the head of the household is absent from the household at the time of the interview, the head should still be the first person listed."

The (oldest) spouse of the head of the household (if he/she exists) should be the second person listed.

According to p. 13 of the *Manual*, "List the members of the household carefully to ensure that all household members—and only household members—are recorded. In the case of polygamous households or households with multiple mothers, list each given mother's children just after that mother is listed. To avoid inadvertently omitting a member of the household, pay close attention to three types of members that are sometimes forgotten:

- Members of the household who are temporarily absent
- Domestic servants and lodgers . . . [if] they are not members of another household
- Infants [who are members of the household]"

Finally, keep in mind that a given person must be a member of one household (even if it is not the interviewed household), and that a given person cannot be a member of more than one household. This is especially relevant in polygamous marriages in which one or more wives—based on the criteria above—have separate households. In such cases, the husband is a member of one (and only one) of the households. A wife in a household in which the husband is not a member is counted as the head of that household.

To sum up, three rules determine whether a given person is a member of a given household:

First, a given person must satisfy all of six criteria to be a member of a household:

- Normally live in the same residence or compound as the household, and
- Normally eat meals with the household, and
- Pool his/her resources with those of the members of the household, and
- Cooperate with the members of the household to meet their basic needs, and
- Acknowledge the authority of the head of the household, and
- Fulfill the previous five criteria for:
    — Six or more of the past 12 months, or
    — Less than six of the past 12 months, but currently live with the household and expect to stay for a total of six or more months

Second, the head of a given household is always counted as a member of that household, regardless of whether he/she satisfies any of the six requirements of the first rule.

Third, specific rules apply for:

- A wife whose husband is polygamous
- A polygamous husband who has wives in distinct households
- Women who have gone away to give birth with their family of origin
- Domestic servants and lodgers
- Students whose household of residence depends on whether school is in session

2. Does the male head/spouse know how to read and write in any language?
    A. No male head/spouse
    B. No
    C. Yes

According to p. 16 of the *Manual*, "This question concerns all languages: French, local languages native to Burkina Faso, and foreign languages not native to Burkina Faso."

Remember that you already know the name of the the male head/spouse (and whether he exists) from the notes you took for your own use while compiling the "Back-page Worksheet". Thus, if there is a male head/spouse, do not mechanically ask, "Does the male head/spouse know how to read and write in any language?". Instead, use the actual name of the male head/spouse, for example: "Does Pierre know how to read and write in any language?" If there is no male head/spouse, then do not read the question but instead 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 the interviewed household

According to p. 12 of the *Manual*, the *head of the household* is "the main decision-maker for the household, and his/her authority is acknowledged by the other members of the household. The head of the household is not necessarily the same as the main bread-winner."

According to p. 14 of the *Manual*, the *head of the household* is "the person who the other members of the household acknowledge as head."

3. Does the (oldest) female head/spouse know how to read and write in any language?
    A. No female head/spouse
    B. No
    C. Yes

According to p. 16 of the *Manual*, "This question concerns all languages: French, local languages native to Burkina Faso, and foreign languages not native to Burkina Faso."

Remember that you already know the name of the the (oldest) female head/spouse (and whether she exists) from the notes you took for your own use while compiling the "Back-page Worksheet". Thus, if there is a female head/spouse, do not mechanically ask, "Does the (oldest) female head/spouse know how to read and write in any language?". Instead, use the actual name of the female head/spouse, for example: "Does Marie know how to read and write in any language?" If there is no female head/spouse, then do not read the question but instead mark "A. No female head/spouse" and go 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 (oldest) 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 the interviewed household

According to p. 12 of the *Manual*, the *head of the household* is "the main decision-maker for the household, and his/her authority is acknowledged by the other members of the household. The head of the household is not necessarily the same as the main bread-winner."

According to p. 14 of the *Manual*, the *head of the household* is "the person who the other members of the household acknowledge as head."

4. What type of floor does the residence's main building have?
    A. Dirt, or other
    B. Cement screed, sand, tile, or carpet

According to p. 32 of the *Manual*, the *main building* is defined as "that residential building in which the largest number of household members live (for households whose members live in more than one building). This is usually the building where the head of the household lives.

   "Do not confuse *carpets* with *mats*."

5. What type of walls does the residence's main building have?
    A. Adobe (mud bricks), or other
    B. Smoothed adobe, stone, straw, cement/concrete, or baked bricks

According to p. 32 of the *Manual*, "If the walls are constructed of more than one type of material, then record the code that corresponds with the main material.

"*Smoothed adobe* refers to walls constructed of adobe that have been plastered with a thin coat of cement."

According to p. 32 of the *Manual*, the *main building* is defined as "that residential building in which the largest number of household members live (for households whose members live in more than one building). This is usually the building where the head of the household lives."

6. What is the main source of drinking water?
   A. Well (protected or unprotected), or other
   B. Borehole
   C. Public standpipe, or dam/river/stream/lake
   D. Protected well with a pump system, or tap (private or shared, inside or outside of the residence or its yard)

According to p. 31 of the *Manual*, "You must insist that the respondent identify the main source, given that households may use more than one source. Record only the main source. Do not consider more than one source."

7. Does the household have any televisions in good working order?
   A. No
   B. Yes

According to p. 39 of the *Manual*, this question refers to whether the household possesses a working television for its personal (non-business) use.

"For example, if the household has a television that is used to entertain customers in a restaurant that is run by the household, then that television does not count for the purposes of this question.

"Likewise, a television which the household has given to a third party does not count as being possessed by the household for the purposes of this question."

8. How many mattresses in good working order does the household have?
    A. None
    B. One
    C. Two or more

According to p. 39 of the *Manual*, this question refers to whether the household possesses working mattresses for its personal (non-business) use.

"For example, if the household has some mattreses that are used in a small hotel that is run by the household, then those mattresses do not count for the purposes of this question.

"Likewise, a mattress which the household has given to a third party does not count as being possessed by the household for the purposes of this question."

9. How many cell phones in good working order does the household have?
    A. None
    B. One
    C. Two or more

According to p. 39 of the *Manual*, this question refers to whether the household possesses working cell phones for its personal (non-business) use.

"For example, if the household has some cell phones that are used in a small kiosk run by the household that sells phone calls by the minute to passers-by, then those cell phones do not count for the purposes of this question.

"Likewise, a cell phone which the household has given to a third party does not count as being possessed by the household for the purposes of this question."

10. Does the household have any motorcycles in good working order?
    A. No
    B. Yes

According to p. 39 of the *Manual*, this question refers to whether the household possesses a working motorcycle for its personal (non-business) use.

"For example, if the household has a motorcycle that is used as a taxi, then that motorcycle does not count for the purposes of this question.

"Likewise, a motorcycle which the household has given to a third party does not count as being possessed by the household for the purposes of this question."

11. Does the household have any stoves (gas or electric), refrigerators, or freezers in good working order?
    A. No
    B. Yes

You should mark "B. Yes" if the household has *any* of the three items. You should mark "A. No" only if the household has *none* of the three items.

According to p. 39 of the *Manual*, this question refers to whether the household possesses a working stove (gas or electric), refrigerator, or freezer for its personal (non-business) use.

"For example, if the household has a refrigerator that is used in a restaurant that is run by the household, then that refrigerator does not count for the purposes of this question.

"Likewise, a refrigerator which the household has given to a third party does not count as being possessed by the household for the purposes of this question."

Table 1: National poverty lines (2014 definition), poverty rates, and sample sizes for all of Burkina Faso and for the construction and validation samples, by households and people in 2014

An	Seuil ou Taux	Ménage ou Individu	n	Seuils de pauvreté et taux de pauvreté (%)			
					Seuils Nationaux		
				Alimentaire	100%	150%	200%
Tout Burkina Faso							
	Seuil	Individu		244	367	551	734
2014	Taux	Ménage	10.411	7,2	29,7	56,3	71,2
	Taux	Individu		11,1	40,1	68,4	81,9
Echantillon de construction et étallonage:							
(Sélection des indicateurs, génération des notes, et conversion des scores en probabilités)							
	Taux	Ménage	5.272	7,1	29,6	56,3	71,1
Echantillon de validation:							
(Test d'efficacité)							
2014	Taux	Ménage	5.139	7,3	29,7	56,3	71,3

Source: EMC 2014

Les seuils de pauvreté sont XOF par jour par tête au prix moyen dans Ouagadougou de 17jan2014 à 24nov2014.

Table 1: International 2005 and 2011 PPP poverty lines (2014 definition), poverty rates, and sample sizes for all of Burkina Faso and for the construction and validation samples, by households and people in 2014

Year	Line or Rate	HHs or People	n	Intl. 2005 PPP lines					Intl. 2011 PPP lines	
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
All of Burkina Faso										
	Line	People		467	748	935	1,870	3,156	475	774
2014	Rate	HHs	10,411	46.0	71.9	80.1	93.9	97.5	47.2	73.5
	Rate	People		58.1	82.5	88.8	97.8	99.4	59.3	83.8
Construction and calibration:										
(Selecting indicators and points, and associating scores with poverty likelihoods)										
	Rate	HHs	5,272	46.1	72.0	80.5	94.0	97.5	47.0	73.7
Validation:										
(Measuring accuracy)										
2014	Rate	HHs	5,139	45.9	71.8	79.7	93.9	97.6	47.3	73.4

Source: 2014 EMC

Poverty lines are XOF per day per person in average prices in Ouagadougou from 17jan2014 to 24nov2014.

Table 1: Relative and percentile-based poverty lines (2014 definition), poverty rates, and sample sizes for all of Burkina Faso and for the construction and validation samples, by households and people in 2014

An	Seuil ou Taux	Ménage ou Individu	n	Moitié la plus pauvre en dessous du 100% natl.	20ème	40ème	50ème	60ème	80ème
				Seuils de pauvreté et taux de pauvreté (%)					
					Seuils définis comme des percentiles				
Tout Burkina Faso									
	Seuil	Individu		325	325	420	476	549	800
2014	Taux	Ménage	10.411	13,7	13,6	29,6	38,6	47,8	69,0
	Taux	Individu		20,0	20,0	40,0	50,0	60,0	80,0
Echantillon de construction et étallonage:									
(Sélection des indicateurs, génération des notes, et conversion des scores en probabilités)									
	Taux	Ménage	5.272	13,7	13,7	29,6	38,6	47,8	68,9
Echantillon de validation:									
(Test d'efficacité)									
2014	Taux	Ménage	5.139	13,6	13,6	29,6	38,7	47,8	69,1

Source: EMC 2014

Les seuils de pauvreté sont XOF par jour par tête au prix moyen dans Ouagadougou de 17jan2014 à 24nov2014.

Table 1: National and international 2005 PPP poverty lines (2003 definition), poverty rates, and sample sizes for all of Burkina Faso and for the construction and validation samples, by households and people in 2014

An	Seuil ou Taux	Ménage ou Individu	n	Seuils de pauvreté et taux de pauvreté (%)			
				Seuils Nationaux		Seuils Intl. 2005 PPA	
				100%	150%	$1,25	$2,50
Tout Burkina Faso							
	Seuil	Individu		367	551	467	935
2014	Taux	Ménage	10.411	31,5	56,2	47,2	79,0
	Taux	Individu		42,0	68,2	59,2	87,8
Echantillon de construction et étallonage:							
(Sélection des indicateurs, génération des notes, et conversion des scores en probabilités)							
	Taux	Ménage	5.272	31,6	56,1	47,1	79,3
Echantillon de validation:							
(Test d'efficacité)							
2014	Taux	Ménage	5.139	31,4	56,4	47,3	78,8

Source: EMC 2014

Les seuils de pauvreté sont XOF par jour par tête au prix moyen dans Ouagadougou de 17jan2014 à 24nov2014.

Table 2 (All of Burkina Faso): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | |
| | | | | National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		264	397	595	794
		Rate (HHs)	4,003	1.8	9.0	24.8	38.4
		Rate (people)		2.8	13.7	35.3	52.3
Rural	2014	Line		238	359	538	717
		Rate (HHs)	6,408	9.2	37.5	68.1	83.5
		Rate (people)		13.5	47.5	77.7	90.1
All	2014	Line		244	367	551	734
		Rate (HHs)	10,411	7.2	29.7	56.3	71.2
		Rate (people)		11.1	40.1	68.4	81.9

Source and definitions: See Table 1 and text.

Table 2 (All of Burkina Faso): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Intl. 2005 PPP lines					Intl. 2011 PPP lines	
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		505	809	1,011	2,021	3,412	513	837
		Rate (HHs)	4,003	17.6	39.0	50.1	80.8	91.9	18.1	40.9
		Rate (people)		25.9	53.1	64.8	91.3	97.5	26.6	55.4
Rural	2014	Line		457	731	914	1,827	3,084	464	757
		Rate (HHs)	6,408	56.7	84.2	91.4	98.8	99.6	58.1	85.8
		Rate (people)		67.1	90.7	95.5	99.7	99.9	68.5	91.8
All	2014	Line		467	748	935	1,870	3,156	475	774
		Rate (HHs)	10,411	46.0	71.9	80.1	93.9	97.5	47.2	73.5
		Rate (people)		58.1	82.5	88.8	97.8	99.4	59.3	83.8

Source and definitions: See Table 1 and text.

Table 2 (All of Burkina Faso): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2014	Line		351	351	454	515	593	865
		Rate (HHs)	4,003	3.5	3.5	9.0	13.5	18.5	36.4
		Rate (people)		5.5	5.5	13.7	19.7	27.1	49.7
Rural	2014	Line		317	317	410	466	536	781
		Rate (HHs)	6,408	17.5	17.5	37.3	48.1	58.8	81.3
		Rate (people)		24.1	24.1	47.3	58.5	69.2	88.5
All	2014	Line		325	325	420	476	549	800
		Rate (HHs)	10,411	13.7	13.6	29.6	38.6	47.8	69.0
		Rate (people)		20.0	20.0	40.0	50.0	60.0	80.0

Source and definitions: See Table 1 and text.

Table 2 (All of Burkina Faso): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	National lines 100%	National lines 150%	Intl. 2005 PPP lines $1.25	Intl. 2005 PPP lines $2.50
				Poverty lines and poverty rates (%)			
Urban	2014	Line		367	551	467	935
		Rate (HHs)	4,003	8.4	21.7	15.8	46.0
		Rate (people)		12.8	31.2	23.4	60.4
Rural	2014	Line		367	551	467	935
		Rate (HHs)	6,408	40.2	69.2	59.0	91.5
		Rate (people)		50.1	78.6	69.3	95.5
All	2014	Line		367	551	467	935
		Rate (HHs)	10,411	31.5	56.2	47.2	79.0
		Rate (people)		42.0	68.2	59.2	87.8

Source and definitions: See Table 1 and text.

Table 2 (Hauts Bassins): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | |
| | | | | National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		245	368	552	736
		Rate (HHs)	461	2,2	11,9	27,7	41,7
		Rate (people)		3,7	18,9	43,4	59,5
Rural	2014	Line		221	333	500	666
		Rate (HHs)	522	6,4	33,8	66,9	83,5
		Rate (people)		9,1	44,2	76,7	90,6
All	2014	Line		230	347	520	693
		Rate (HHs)	983	4,6	24,2	49,8	65,3
		Rate (people)		7,0	34,4	63,8	78,6

Source and definitions: See Table 1 and text.

Table 2 (Hauts Bassins): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		469	750	938	1.875	3.165	476	777
		Rate (HHs)	461	21,3	43,0	54,8	83,7	93,0	21,6	45,6
		Rate (people)		35,1	61,1	72,2	95,0	98,6	35,4	63,9
Rural	2014	Line		424	679	848	1.696	2.863	431	703
		Rate (HHs)	522	53,0	85,0	90,0	97,9	99,4	54,9	85,8
		Rate (people)		62,4	91,7	95,0	99,4	99,9	64,1	92,3
All	2014	Line		441	706	883	1.766	2.980	448	731
		Rate (HHs)	983	39,2	66,7	74,6	91,7	96,6	40,3	68,3
		Rate (people)		51,8	79,9	86,2	97,7	99,4	53,0	81,3

Source and definitions: See Table 1 and text.

Table 2 (Hauts Bassins): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2014	Line		326	326	421	478	550	802
		Rate (HHs)	461	3,8	3,8	11,9	15,6	22,6	40,2
		Rate (people)		6,5	6,5	18,9	24,3	36,4	58,1
Rural	2014	Line		295	295	381	432	498	726
		Rate (HHs)	522	14,1	14,1	33,7	43,6	56,0	80,9
		Rate (people)		19,9	19,9	44,1	53,5	64,8	88,9
All	2014	Line		307	307	397	450	518	755
		Rate (HHs)	983	9,6	9,6	24,2	31,4	41,4	63,1
		Rate (people)		14,7	14,7	34,4	42,2	53,8	77,0

Note: Header spanning "Poverty lines and poverty rates (%)".

Source and definitions: See Table 1 and text.

Table 2 (Hauts Bassins): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | |
| | | | | National lines | | Intl. 2005 PPP lines | |
				100%	150%	$1.25	$2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	461	11,9	27,7	21,1	54,5
		Rate (people)		18,9	43,1	34,7	72,0
Rural	2014	Line		367	551	467	935
		Rate (HHs)	522	40,8	73,5	61,8	93,5
		Rate (people)		51,3	81,9	71,7	97,3
All	2014	Line		367	551	467	935
		Rate (HHs)	983	28,2	53,5	44,1	76,5
		Rate (people)		38,7	66,9	57,4	87,5

Source and definitions: See Table 1 and text.

Table 2 (Boucle du Mouhoun): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		234	352	527	703
		Rate (HHs)	281	3,1	19,2	38,5	62,4
		Rate (people)		4,4	24,6	48,2	74,6
Rural	2014	Line		229	345	518	690
		Rate (HHs)	593	14,5	52,6	80,5	92,5
		Rate (people)		21,6	62,4	87,9	96,0
All	2014	Line		230	345	518	691
		Rate (HHs)	874	13,4	49,4	76,5	89,7
		Rate (people)		20,4	59,7	85,1	94,5

Source and definitions: See Table 1 and text.

Table 2 (Boucle du Mouhoun): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	*n*	Intl. 2005 PPP lines $1.25	$2.00	$2.50	$5.00	$8.44	Intl. 2011 PPP lines $1.90	$3.10
Urban	2014	Line		448	716	895	1.791	3.023	455	742
		Rate (HHs)	281	31,8	62,8	74,0	92,9	98,3	32,4	64,4
		Rate (people)		39,1	74,9	84,5	97,2	99,5	40,8	76,2
Rural	2014	Line		439	703	879	1.757	2.966	446	728
		Rate (HHs)	593	71,1	93,5	97,7	99,6	100,0	72,7	94,1
		Rate (people)		78,1	96,7	99,2	99,9	100,0	79,6	97,0
All	2014	Line		440	704	880	1.760	2.970	447	729
		Rate (HHs)	874	67,4	90,6	95,5	99,0	99,8	68,9	91,3
		Rate (people)		75,3	95,2	98,2	99,7	100,0	76,8	95,6

Poverty lines and poverty rates (%)

Source and definitions: See Table 1 and text.

Table 2 (Boucle du Mouhoun): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poorest half of people below 100% Natl. line | Percentile-based lines | | | | |
					20th	40th	50th	60th	80th
Urban	2014	Line		311	311	402	456	526	766
		Rate (HHs)	281	7,5	7,5	19,2	25,0	32,7	58,5
		Rate (people)		9,4	9,4	24,6	31,6	41,3	71,1
Rural	2014	Line		305	305	395	448	516	752
		Rate (HHs)	593	25,1	25,0	52,4	63,6	73,9	90,8
		Rate (people)		33,2	33,1	62,0	71,6	81,5	95,4
All	2014	Line		306	306	395	448	516	753
		Rate (HHs)	874	23,5	23,3	49,3	60,0	70,0	87,8
		Rate (people)		31,5	31,4	59,3	68,8	78,7	93,7

Header spanning note: Poverty lines and poverty rates (%)

Source and definitions: See Table 1 and text.

Table 2 (Boucle du Mouhoun): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)			
				National lines		Intl. 2005 PPP lines	
				100%	150%	$1.25	$2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	281	20,5	40,5	33,2	75,0
		Rate (people)		26,3	51,2	41,9	85,4
Rural	2014	Line		367	551	467	935
		Rate (HHs)	593	58,8	83,1	77,4	97,9
		Rate (people)		67,6	89,7	85,3	99,3
All	2014	Line		367	551	467	935
		Rate (HHs)	874	55,2	79,0	73,2	95,7
		Rate (people)		64,7	87,0	82,2	98,3

Source and definitions: See Table 1 and text.

Table 2 (Sahel): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%) National lines			
				Food	100%	150%	200%
Urban	2014	Line		285	429	644	858
		Rate (HHs)	234	3,5	19,7	43,1	60,5
		Rate (people)		5,3	31,8	60,3	77,5
Rural	2014	Line		250	376	565	753
		Rate (HHs)	537	2,6	15,7	48,6	73,9
		Rate (people)		3,9	20,1	57,9	81,0
All	2014	Line		251	378	568	757
		Rate (HHs)	771	2,6	15,9	48,4	73,4
		Rate (people)		4,0	20,6	58,0	80,9

Source and definitions: See Table 1 and text.

Table 2 (Sahel): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		546	874	1.093	2.186	3.690	555	905
		Rate (HHs)	234	35,8	61,1	66,8	90,1	95,6	35,8	62,2
		Rate (people)		51,7	78,1	83,4	97,7	99,3	51,7	78,7
Rural	2014	Line		479	767	958	1.917	3.236	487	794
		Rate (HHs)	537	35,0	74,5	88,5	99,7	100,0	36,2	76,3
		Rate (people)		43,7	81,4	93,0	99,9	100,0	45,1	83,0
All	2014	Line		482	771	964	1.927	3.253	489	798
		Rate (HHs)	771	35,0	73,9	87,6	99,3	99,8	36,2	75,7
		Rate (people)		44,0	81,2	92,6	99,8	100,0	45,3	82,9

Source and definitions: See Table 1 and text.

Table 2 (Sahel): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poorest half of people below 100% Natl. line	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2014	Line		380	380	491	557	641	935
		Rate (HHs)	234	6,2	6,2	19,7	27,4	36,4	57,9
		Rate (people)		11,1	11,1	31,8	41,1	52,5	75,9
Rural	2014	Line		333	333	431	488	563	820
		Rate (HHs)	537	5,0	4,9	15,5	24,0	37,3	70,3
		Rate (people)		6,8	6,8	20,0	30,9	46,3	77,4
All	2014	Line		335	335	433	491	566	824
		Rate (HHs)	771	5,0	5,0	15,7	24,1	37,3	69,8
		Rate (people)		7,0	7,0	20,4	31,3	46,5	77,3

Source and definitions: See Table 1 and text.

Table 2 (Sahel): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | |
| | | | | National lines | | Intl. 2005 PPP lines | |
				100%	150%	$1.25	$2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	234	11,9	35,8	24,3	63,7
		Rate (people)		20,0	51,7	37,0	80,9
Rural	2014	Line		367	551	467	935
		Rate (HHs)	537	15,1	46,6	32,6	86,6
		Rate (people)		19,3	56,0	41,0	91,2
All	2014	Line		367	551	467	935
		Rate (HHs)	771	14,9	46,2	32,2	85,7
		Rate (people)		19,3	55,8	40,8	90,8

Source and definitions: See Table 1 and text.

Table 2 (Est): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Food	100%	150%	200%
				Poverty lines and poverty rates (%)			
				National lines			
Urban	2014	Line		252	380	570	759
		Rate (HHs)	245	4,2	21,1	41,3	58,3
		Rate (people)		6,0	30,5	53,6	71,5
Rural	2014	Line		229	345	518	690
		Rate (HHs)	540	9,2	41,4	77,8	91,0
		Rate (people)		12,9	51,1	84,3	94,6
All	2014	Line		231	347	520	694
		Rate (HHs)	785	8,9	40,1	75,4	88,8
		Rate (people)		12,6	50,1	82,8	93,4

Source and definitions: See Table 1 and text.

Table 2 (Est): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		483	774	967	1.934	3.265	491	801
		Rate (HHs)	245	32,5	58,3	69,3	88,4	94,2	33,1	59,7
		Rate (people)		44,3	71,5	81,0	94,7	98,9	45,1	72,7
Rural	2014	Line		440	703	879	1.758	2.968	446	728
		Rate (HHs)	540	64,4	91,3	96,4	99,8	100,0	66,5	92,7
		Rate (people)		72,0	94,9	97,9	99,8	100,0	74,2	95,8
All	2014	Line		442	707	883	1.767	2.983	449	732
		Rate (HHs)	785	62,3	89,1	94,6	99,1	99,6	64,2	90,5
		Rate (people)		70,7	93,7	97,1	99,6	99,9	72,7	94,6

Source and definitions: See Table 1 and text.

Table 2 (Est): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poorest half of people below 100% Natl. line	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2014	Line		336	336	434	493	568	827
		Rate (HHs)	245	9,5	9,5	21,1	26,5	34,2	56,4
		Rate (people)		12,8	12,8	30,5	37,8	46,3	69,3
Rural	2014	Line		306	305	395	448	516	752
		Rate (HHs)	540	19,0	18,9	41,0	54,4	66,7	88,8
		Rate (people)		26,2	26,1	50,6	63,5	74,4	93,2
All	2014	Line		307	307	397	450	519	756
		Rate (HHs)	785	18,3	18,3	39,7	52,5	64,6	86,7
		Rate (people)		25,5	25,4	49,6	62,2	73,0	92,1

Source and definitions: See Table 1 and text.

Table 2 (Est): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	National lines 100%	National lines 150%	Intl. 2005 PPP lines $1.25	Intl. 2005 PPP lines $2.50
				Poverty lines and poverty rates (%)			
Urban	2014	Line		367	551	467	935
		Rate (HHs)	245	20,5	39,0	30,7	67,9
		Rate (people)		28,8	51,3	43,0	80,2
Rural	2014	Line		367	551	467	935
		Rate (HHs)	540	47,9	81,0	70,1	97,1
		Rate (people)		57,7	87,3	77,3	98,3
All	2014	Line		367	551	467	935
		Rate (HHs)	785	46,1	78,2	67,5	95,1
		Rate (people)		56,3	85,5	75,6	97,5

Source and definitions: See Table 1 and text.

Table 2 (Sud-ouest): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		248	372	559	745
		Rate (HHs)	246	1,5	14,4	28,9	39,3
		Rate (people)		2,0	19,2	39,0	52,3
Rural	2014	Line		262	394	592	789
		Rate (HHs)	444	10,2	39,5	65,2	79,4
		Rate (people)		10,9	44,1	71,5	85,5
All	2014	Line		261	392	588	784
		Rate (HHs)	690	9,1	36,6	60,9	74,6
		Rate (people)		10,0	41,5	68,1	82,0

Source and definitions: See Table 1 and text.

Table 2 (Sud-ouest): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Intl. 2005 PPP lines					Intl. 2011 PPP lines	
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		474	759	949	1.897	3.202	482	786
		Rate (HHs)	246	25,6	39,7	50,7	80,1	90,7	25,9	41,2
		Rate (people)		34,2	52,8	63,8	91,1	97,4	34,3	54,9
Rural	2014	Line		502	803	1.004	2.009	3.390	510	832
		Rate (HHs)	444	55,4	79,6	88,6	98,2	99,3	55,7	81,9
		Rate (people)		62,1	86,0	93,1	99,5	99,8	62,4	87,8
All	2014	Line		499	799	998	1.997	3.371	507	827
		Rate (HHs)	690	51,9	74,9	84,1	96,1	98,3	52,2	77,1
		Rate (people)		59,1	82,5	90,1	98,6	99,6	59,4	84,3

Source and definitions: See Table 1 and text.

Table 2 (Sud-ouest): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poorest half of people below 100% Natl. line | Percentile-based lines | | | | |
					20th	40th	50th	60th	80th
Urban	2014	Line		330	329	426	483	557	811
		Rate (HHs)	246	5,3	5,3	14,4	18,2	26,3	36,0
		Rate (people)		7,0	7,0	19,2	23,2	35,6	49,1
Rural	2014	Line		349	349	451	512	589	859
		Rate (HHs)	444	20,8	20,8	39,3	49,3	56,4	76,9
		Rate (people)		22,3	22,3	43,5	53,8	62,9	83,3
All	2014	Line		347	347	449	509	586	854
		Rate (HHs)	690	18,9	18,9	36,4	45,6	52,8	72,0
		Rate (people)		20,7	20,7	41,0	50,6	60,0	79,8

Note: The column group "Poverty lines and poverty rates (%)" spans the "Poorest half of people below 100% Natl. line" column and the Percentile-based lines columns.

Source and definitions: See Table 1 and text.

Table 2 (Sud-ouest): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)			
				National lines		Intl. 2005 PPP lines	
				100%	150%	$1.25	$2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	246	13,4	28,9	23,7	50,4
		Rate (people)		18,0	39,0	32,2	63,7
Rural	2014	Line		367	551	467	935
		Rate (HHs)	444	35,2	59,0	51,6	85,1
		Rate (people)		39,2	66,1	56,3	89,8
All	2014	Line		367	551	467	935
		Rate (HHs)	690	32,6	55,5	48,3	81,0
		Rate (people)		37,0	63,2	53,7	87,1

Source and definitions: See Table 1 and text.

Table 2 (Centre-nord): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		256	385	578	770
		Rate (HHs)	260	2,0	7,7	26,7	45,7
		Rate (people)		3,5	11,7	35,9	57,1
Rural	2014	Line		249	374	562	749
		Rate (HHs)	530	7,5	37,8	68,7	83,4
		Rate (people)		12,3	49,1	80,5	91,0
All	2014	Line		249	375	563	750
		Rate (HHs)	790	7,0	35,4	65,5	80,5
		Rate (people)		11,8	47,0	78,0	89,1

Source and definitions: See Table 1 and text.

Table 2 (Centre-nord): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		491	785	981	1.962	3.312	498	813
		Rate (HHs)	260	16,0	47,5	59,6	87,4	94,5	17,3	48,8
		Rate (people)		23,5	59,1	71,7	95,3	98,6	24,6	60,7
Rural	2014	Line		477	763	954	1.907	3.220	484	790
		Rate (HHs)	530	58,4	84,4	91,0	99,1	99,7	59,9	85,5
		Rate (people)		72,2	91,8	95,9	99,7	99,9	73,6	92,8
All	2014	Line		478	764	955	1.910	3.225	485	791
		Rate (HHs)	790	55,1	81,6	88,5	98,2	99,3	56,6	82,7
		Rate (people)		69,5	90,0	94,5	99,4	99,9	70,9	91,1

Source and definitions: See Table 1 and text.

Table 2 (Centre-nord): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%) Poorest half of people below 100% Natl. line	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2014	Line		341	341	441	500	576	839
		Rate (HHs)	260	2,9	2,9	7,7	10,7	17,6	41,7
		Rate (people)		5,3	5,3	11,7	15,6	24,8	53,3
Rural	2014	Line		331	331	428	486	560	816
		Rate (HHs)	530	16,2	15,9	37,8	49,0	60,4	82,0
		Rate (people)		22,7	22,4	49,1	62,4	74,1	90,2
All	2014	Line		332	332	429	487	561	817
		Rate (HHs)	790	15,1	14,9	35,4	46,0	57,1	78,9
		Rate (people)		21,8	21,5	47,0	59,8	71,4	88,2

Source and definitions: See Table 1 and text.

Table 2 (Centre-nord): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	National lines 100%	National lines 150%	Intl. 2005 PPP lines $1.25	Intl. 2005 PPP lines $2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	260	6,4	23,0	14,3	57,4
		Rate (people)		10,2	30,3	21,6	69,0
Rural	2014	Line		367	551	467	935
		Rate (HHs)	530	36,9	67,6	56,2	90,6
		Rate (people)		48,0	79,7	70,4	95,6
All	2014	Line		367	551	467	935
		Rate (HHs)	790	34,6	64,1	53,0	88,0
		Rate (people)		45,9	77,0	67,7	94,1

Source and definitions: See Table 1 and text.

Table 2 (Centre-ouest): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | *n* | Poverty lines and poverty rates (%) | | | |
| | | | | National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		232	349	523	698
		Rate (HHs)	297	4,1	20,2	43,0	57,7
		Rate (people)		6,5	28,5	53,7	70,1
Rural	2014	Line		222	333	500	667
		Rate (HHs)	513	8,0	43,5	77,0	90,0
		Rate (people)		12,3	54,2	86,7	95,8
All	2014	Line		223	335	502	670
		Rate (HHs)	810	7,5	40,4	72,5	85,8
		Rate (people)		11,7	51,6	83,4	93,2

Source and definitions: See Table 1 and text.

Table 2 (Centre-ouest): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		444	711	888	1.776	2.999	451	736
		Rate (HHs)	297	32,4	59,0	70,4	89,1	93,4	33,0	60,2
		Rate (people)		42,5	71,2	82,9	96,7	98,4	43,3	72,8
Rural	2014	Line		425	679	849	1.698	2.867	431	703
		Rate (HHs)	513	66,2	90,7	95,5	98,9	99,6	68,2	91,5
		Rate (people)		78,4	96,0	98,4	99,9	99,9	79,5	96,5
All	2014	Line		427	682	853	1.706	2.880	433	707
		Rate (HHs)	810	61,8	86,5	92,2	97,6	98,8	63,5	87,4
		Rate (people)		74,7	93,5	96,8	99,5	99,8	75,9	94,1

Source and definitions: See Table 1 and text.

Table 2 (Centre-ouest): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poorest half of people below 100% Natl. line	20th	40th	50th	60th	80th
						Percentile-based lines			
Urban	2014	Line		309	309	399	453	521	760
		Rate (HHs)	297	7,7	7,7	20,2	27,5	33,4	55,8
		Rate (people)		11,7	11,7	28,5	36,8	43,8	68,3
Rural	2014	Line		295	295	381	433	498	726
		Rate (HHs)	513	18,0	18,0	43,5	56,7	68,6	88,3
		Rate (people)		25,8	25,8	54,2	69,3	79,8	94,7
All	2014	Line		296	296	383	435	501	730
		Rate (HHs)	810	16,6	16,6	40,4	52,8	63,9	84,0
		Rate (people)		24,4	24,4	51,6	66,0	76,2	92,0

Source and definitions: See Table 1 and text.

Table 2 (Centre-ouest): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	National lines 100%	National lines 150%	Intl. 2005 PPP lines $1.25	Intl. 2005 PPP lines $2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	297	24,4	48,0	36,0	72,0
		Rate (people)		33,8	60,1	46,4	84,2
Rural	2014	Line		367	551	467	935
		Rate (HHs)	513	54,4	82,4	72,9	96,4
		Rate (people)		66,1	90,7	83,7	98,7
All	2014	Line		367	551	467	935
		Rate (HHs)	810	50,5	77,9	68,0	93,1
		Rate (people)		62,8	87,6	80,0	97,3

Source and definitions: See Table 1 and text.

Table 2 (Plateau Central): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Food	100%	150%	200%
				Poverty lines and poverty rates (%)			
				National lines			
Urban	2014	Line		254	382	573	764
		Rate (HHs)	229	3,4	25,5	50,6	72,6
		Rate (people)		6,2	35,9	61,1	81,2
Rural	2014	Line		243	365	548	731
		Rate (HHs)	461	9,1	38,1	75,6	90,5
		Rate (people)		13,0	45,8	82,9	95,2
All	2014	Line		243	366	549	732
		Rate (HHs)	690	8,7	37,2	74,0	89,3
		Rate (people)		12,6	45,2	81,7	94,4

Source and definitions: See Table 1 and text.

Table 2 (Plateau Central): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		486	778	973	1.946	3.284	494	806
		Rate (HHs)	229	39,1	74,0	81,9	94,8	98,5	40,8	75,8
		Rate (people)		47,8	83,2	89,4	97,6	99,7	50,1	85,1
Rural	2014	Line		465	744	930	1.860	3.140	472	771
		Rate (HHs)	461	63,6	91,0	95,2	98,8	99,6	64,6	92,2
		Rate (people)		72,1	95,8	98,2	99,6	99,9	73,5	96,6
All	2014	Line		466	746	933	1.865	3.148	474	773
		Rate (HHs)	690	62,0	89,9	94,3	98,5	99,5	63,0	91,1
		Rate (people)		70,8	95,1	97,7	99,5	99,9	72,2	96,0

Source and definitions: See Table 1 and text.

Table 2 (Plateau Central): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2014	Line		338	338	437	496	571	832
		Rate (HHs)	229	11,0	11,0	25,5	33,9	41,4	71,4
		Rate (people)		17,2	17,2	35,9	42,9	51,0	80,3
Rural	2014	Line		323	323	418	474	546	796
		Rate (HHs)	461	18,2	18,2	37,6	51,0	65,3	88,9
		Rate (people)		24,1	24,1	45,4	58,9	74,4	93,8
All	2014	Line		324	324	419	475	547	798
		Rate (HHs)	690	17,7	17,7	36,8	49,9	63,7	87,7
		Rate (people)		23,7	23,7	44,8	58,1	73,1	93,1

Source and definitions: See Table 1 and text.

Table 2 (Plateau Central): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	National lines 100%	National lines 150%	Intl. 2005 PPP lines $1.25	Intl. 2005 PPP lines $2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	229	22,6	48,3	37,5	80,5
		Rate (people)		31,0	58,8	46,6	88,1
Rural	2014	Line		367	551	467	935
		Rate (HHs)	461	39,6	76,1	64,0	95,2
		Rate (people)		47,2	83,3	72,8	98,2
All	2014	Line		367	551	467	935
		Rate (HHs)	690	38,5	74,3	62,2	94,2
		Rate (people)		46,3	82,0	71,3	97,6

Source and definitions: See Table 1 and text.

Table 2 (Nord): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		270	407	610	814
		Rate (HHs)	300	6,9	27,9	58,8	72,4
		Rate (people)		10,0	39,7	73,8	84,8
Rural	2014	Line		244	367	550	734
		Rate (HHs)	533	22,3	64,0	87,1	94,0
		Rate (people)		26,9	73,8	93,1	97,6
All	2014	Line		247	371	556	742
		Rate (HHs)	833	20,3	59,2	83,3	91,1
		Rate (people)		25,2	70,4	91,2	96,4

Source and definitions: See Table 1 and text.

Table 2 (Nord): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		518	829	1.036	2.072	3.498	526	858
		Rate (HHs)	300	44,7	73,2	82,0	95,5	97,8	45,7	74,6
		Rate (people)		58,8	85,3	91,9	98,7	99,6	59,5	86,1
Rural	2014	Line		467	748	935	1.869	3.155	474	774
		Rate (HHs)	533	80,1	94,6	96,6	98,9	99,3	81,6	94,8
		Rate (people)		87,4	98,1	99,2	99,9	99,9	89,4	98,3
All	2014	Line		472	756	945	1.889	3.189	480	782
		Rate (HHs)	833	75,5	91,8	94,7	98,4	99,1	76,9	92,2
		Rate (people)		84,6	96,8	98,5	99,8	99,9	86,4	97,1

Source and definitions: See Table 1 and text.

Table 2 (Nord): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2014	Line		360	360	465	528	608	886
		Rate (HHs)	300	14,7	14,7	27,9	36,0	46,0	69,6
		Rate (people)		22,9	22,9	39,7	49,8	59,8	82,9
Rural	2014	Line		325	325	420	476	549	799
		Rate (HHs)	533	36,8	36,8	64,0	73,7	81,6	93,6
		Rate (people)		44,4	44,4	73,8	81,8	89,4	97,1
All	2014	Line		328	328	424	481	554	808
		Rate (HHs)	833	33,9	33,9	59,2	68,7	76,9	90,4
		Rate (people)		42,3	42,3	70,4	78,7	86,5	95,7

The header "Poverty lines and poverty rates (%)" spans the percentile-based columns.

Source and definitions: See Table 1 and text.

Table 2 (Nord): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)			
				National lines		Intl. 2005 PPP lines	
				100%	150%	$1.25	$2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	300	23,4	50,1	37,5	79,2
		Rate (people)		34,4	63,2	50,9	89,8
Rural	2014	Line		367	551	467	935
		Rate (HHs)	533	64,0	87,1	80,1	96,6
		Rate (people)		73,8	93,1	87,4	99,2
All	2014	Line		367	551	467	935
		Rate (HHs)	833	58,6	82,2	74,5	94,3
		Rate (people)		69,9	90,1	83,8	98,3

Source and definitions: See Table 1 and text.

Table 2 (Centre-est): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Food	100%	150%	200%
				Poverty lines and poverty rates (%)			
				National lines			
Urban	2014	Line		232	349	523	697
		Rate (HHs)	339	5,7	20,5	45,1	64,7
		Rate (people)		7,4	26,3	54,9	74,2
Rural	2014	Line		237	357	536	714
		Rate (HHs)	513	9,9	28,1	57,3	74,8
		Rate (people)		15,1	37,9	66,8	82,7
All	2014	Line		236	356	534	712
		Rate (HHs)	852	9,2	26,9	55,2	73,1
		Rate (people)		13,9	36,1	64,9	81,3

Source and definitions: See Table 1 and text.

Table 2 (Centre-est): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		444	710	888	1.775	2.997	451	735
		Rate (HHs)	339	34,5	65,4	76,4	95,7	98,6	35,4	66,5
		Rate (people)		42,7	75,3	84,2	98,8	99,8	43,5	76,1
Rural	2014	Line		455	728	910	1.819	3.071	462	754
		Rate (HHs)	513	43,8	75,4	85,7	98,2	99,4	45,3	78,2
		Rate (people)		53,2	83,1	91,1	99,4	99,9	54,7	84,9
All	2014	Line		453	725	906	1.812	3.059	460	751
		Rate (HHs)	852	42,3	73,7	84,1	97,8	99,3	43,6	76,2
		Rate (people)		51,5	81,8	89,9	99,3	99,8	52,9	83,5

Source and definitions: See Table 1 and text.

Table 2 (Centre-est): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	*n*	Poorest half of people below 100% Natl. line	20th	40th	50th	60th	80th
					Percentile-based lines				
Urban	2014	Line		308	308	399	452	521	759
		Rate (HHs)	339	10,4	10,4	20,5	28,3	36,2	62,4
		Rate (people)		12,7	12,7	26,3	35,7	44,5	71,6
Rural	2014	Line		316	316	409	464	534	778
		Rate (HHs)	513	15,6	15,6	28,1	38,1	46,4	71,5
		Rate (people)		22,4	22,4	37,9	48,4	55,9	79,2
All	2014	Line		315	315	407	462	532	775
		Rate (HHs)	852	14,7	14,7	26,9	36,4	44,7	69,9
		Rate (people)		20,9	20,9	36,1	46,3	54,0	78,0

Source and definitions: See Table 1 and text.

Table 2 (Centre-est): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | |
| | | | | National lines | | Intl. 2005 PPP lines | |
				100%	150%	$1.25	$2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	339	22,7	49,7	37,4	78,5
		Rate (people)		29,3	60,6	45,5	85,9
Rural	2014	Line		367	551	467	935
		Rate (HHs)	513	30,8	59,4	46,6	87,3
		Rate (people)		40,7	68,9	56,0	92,7
All	2014	Line		367	551	467	935
		Rate (HHs)	852	29,4	57,8	45,0	85,8
		Rate (people)		38,9	67,5	54,3	91,6

Source and definitions: See Table 1 and text.

Table 2 (Centre): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) National lines | | | |
				Food	100%	150%	200%
Urban	2014	Line		280	421	631	841
		Rate (HHs)	596	0,7	2,9	15,2	26,8
		Rate (people)		0,9	4,4	21,8	38,5
Rural	2014	Line		258	388	581	775
		Rate (HHs)	363	4,4	22,8	43,0	61,4
		Rate (people)		6,3	31,5	54,5	69,9
All	2014	Line		275	414	621	828
		Rate (HHs)	959	1,3	6,5	20,2	33,1
		Rate (people)		1,9	9,6	28,1	44,6

Source and definitions: See Table 1 and text.

Table 2 (Centre): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Intl. 2005 PPP lines					Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$8.44**	**$1.90**	**$3.10**
Urban	2014	Line		536	857	1.071	2.142	3.616	544	887
		Rate (HHs)	596	9,1	27,1	37,9	74,6	89,5	9,6	28,9
		Rate (people)		13,0	39,0	51,7	86,7	96,2	13,9	41,6
Rural	2014	Line		494	790	987	1.974	3.332	501	818
		Rate (HHs)	363	34,5	62,1	75,3	94,7	98,3	34,8	64,7
		Rate (people)		44,9	70,4	81,7	97,4	99,7	45,3	73,1
All	2014	Line		527	844	1.055	2.110	3.562	536	874
		Rate (HHs)	959	13,7	33,4	44,7	78,3	91,1	14,2	35,4
		Rate (people)		19,1	45,1	57,5	88,8	96,9	20,0	47,7

Source and definitions: See Table 1 and text.

Table 2 (Centre): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	*n*	Poorest half of people below 100% Natl. line	20th	40th	50th	60th	80th
					Percentile-based lines				
Urban	2014	Line		372	372	481	546	629	916
		Rate (HHs)	596	1,1	1,1	2,9	6,8	9,7	24,9
		Rate (people)		1,5	1,5	4,4	9,5	14,1	35,3
Rural	2014	Line		343	343	443	503	579	844
		Rate (HHs)	363	9,3	9,3	22,8	28,3	35,1	57,4
		Rate (people)		12,9	12,9	31,5	37,5	45,6	66,9
All	2014	Line		367	366	474	538	619	902
		Rate (HHs)	959	2,6	2,6	6,5	10,7	14,4	30,9
		Rate (people)		3,7	3,7	9,6	14,9	20,2	41,4

The columns 20th–80th fall under the heading "Poverty lines and poverty rates (%)"

Source and definitions: See Table 1 and text.

Table 2 (Centre): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	National lines 100%	National lines 150%	Intl. 2005 PPP lines $1.25	Intl. 2005 PPP lines $2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	596	2,2	9,9	6,5	30,6
		Rate (people)		3,3	14,3	9,3	43,7
Rural	2014	Line		367	551	467	935
		Rate (HHs)	363	17,8	39,0	32,2	71,3
		Rate (people)		24,4	50,4	42,3	78,7
All	2014	Line		367	551	467	935
		Rate (HHs)	959	5,0	15,2	11,2	38,0
		Rate (people)		7,4	21,3	15,6	50,4

Source and definitions: See Table 1 and text.

Table 2 (Cascades): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Food	100%	150%	200%
				Poverty lines and poverty rates (%) National lines			
Urban	2014	Line		254	382	573	764
		Rate (HHs)	270	0,0	4,6	21,3	39,0
		Rate (people)		0,0	7,7	32,4	54,4
Rural	2014	Line		235	354	531	707
		Rate (HHs)	409	3,4	22,6	51,1	72,5
		Rate (people)		4,0	26,7	57,9	80,2
All	2014	Line		239	360	540	720
		Rate (HHs)	679	2,6	18,2	43,8	64,3
		Rate (people)		3,2	22,6	52,4	74,6

Source and definitions: See Table 1 and text.

Table 2 (Cascades): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | | | | |
| | | | | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		486	778	973	1.945	3.284	494	806
		Rate (HHs)	270	14,1	40,1	54,2	83,4	92,8	14,1	42,2
		Rate (people)		22,1	55,7	71,5	93,4	98,0	22,1	57,9
Rural	2014	Line		450	721	901	1.802	3.041	457	746
		Rate (HHs)	409	38,6	72,9	84,6	99,4	100,0	39,8	77,1
		Rate (people)		46,3	80,4	90,5	99,8	100,0	47,4	84,0
All	2014	Line		458	733	916	1.833	3.093	465	759
		Rate (HHs)	679	32,6	64,8	77,1	95,5	98,2	33,5	68,5
		Rate (people)		41,1	75,1	86,4	98,4	99,6	42,0	78,4

Source and definitions: See Table 1 and text.

Table 2 (Cascades): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)						
				Poorest half of people below 100% Natl. line	Percentile-based lines					
					20th	40th	50th	60th	80th	
Urban	2014	Line		338	338	437	496	571	832	
		Rate (HHs)	270	0,7	0,7	4,6	7,5	14,1	37,6	
		Rate (people)		1,0	1,0	7,7	12,3	22,1	52,5	
Rural	2014	Line		313	313	405	459	529	771	
		Rate (HHs)	409	7,1	7,1	22,6	29,8	41,7	69,3	
		Rate (people)		8,6	8,6	26,7	35,7	48,7	77,3	
All	2014	Line		318	318	412	467	538	784	
		Rate (HHs)	679	5,5	5,5	18,2	24,3	34,9	61,5	
		Rate (people)		6,9	6,9	22,6	30,7	42,9	72,0	

Source and definitions: See Table 1 and text.

Table 2 (Cascades): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	National lines 100%	National lines 150%	Intl. 2005 PPP lines $1.25	Intl. 2005 PPP lines $2.50
				Poverty lines and poverty rates (%)			
Urban	2014	Line		367	551	467	935
		Rate (HHs)	270	3,9	19,3	12,3	51,7
		Rate (people)		6,5	30,2	19,4	68,9
Rural	2014	Line		367	551	467	935
		Rate (HHs)	409	24,5	54,0	43,1	86,3
		Rate (people)		29,3	60,8	49,9	91,8
All	2014	Line		367	551	467	935
		Rate (HHs)	679	19,4	45,5	35,5	77,8
		Rate (people)		24,4	54,2	43,3	86,9

Source and definitions: See Table 1 and text.

Table 2 (Centre-sud): National poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)			
					National lines		
				Food	100%	150%	200%
Urban	2014	Line		288	434	651	868
		Rate (HHs)	245	5,2	28,1	57,1	68,4
		Rate (people)		7,2	35,9	64,6	76,6
Rural	2014	Line		251	377	566	754
		Rate (HHs)	450	7,3	31,1	65,2	82,1
		Rate (people)		10,8	40,6	73,9	88,1
All	2014	Line		254	383	574	765
		Rate (HHs)	695	7,1	30,8	64,4	80,7
		Rate (people)		10,5	40,1	73,0	87,0

Source and definitions: See Table 1 and text.

Table 2 (Centre-sud): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)						
				Intl. 2005 PPP lines					Intl. 2011 PPP lines	
				$1.25	$2.00	$2.50	$5.00	$8.44	$1.90	$3.10
Urban	2014	Line		553	884	1.105	2.210	3.731	561	915
		Rate (HHs)	245	44,5	69,6	79,2	94,8	99,1	45,2	71,4
		Rate (people)		54,5	77,5	86,5	97,3	99,9	54,9	79,2
Rural	2014	Line		480	768	960	1.920	3.242	488	795
		Rate (HHs)	450	52,6	83,1	91,0	99,4	100,0	52,9	84,7
		Rate (people)		62,2	88,9	93,8	99,9	100,0	62,4	90,2
All	2014	Line		487	779	974	1.948	3.289	495	807
		Rate (HHs)	695	51,8	81,7	89,8	98,9	99,9	52,1	83,3
		Rate (people)		61,4	87,8	93,1	99,6	100,0	61,7	89,1

Source and definitions: See Table 1 and text.

Table 2 (Centre-sud): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people by urban/rural/all in 2014

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2014	Line		384	384	496	563	649	945
		Rate (HHs)	245	9,7	9,7	28,1	37,9	46,8	67,0
		Rate (people)		13,7	13,7	35,9	47,7	56,8	75,2
Rural	2014	Line		334	334	431	489	564	821
		Rate (HHs)	450	14,7	14,7	30,9	43,4	53,4	80,1
		Rate (people)		21,0	21,0	40,4	54,1	62,8	86,7
All	2014	Line		339	338	438	496	572	833
		Rate (HHs)	695	14,2	14,2	30,6	42,8	52,8	78,7
		Rate (people)		20,3	20,3	40,0	53,5	62,2	85,6

Source and definitions: See Table 1 and text.

Table 2 (Centre-sud): National and international 2005 PPP poverty lines (2003 definition) and poverty rates for households and people by urban/rural/all in 2014

| Region | Year | Line/rate | n | Poverty lines and poverty rates (%) | | | |
| | | | | National lines | | Intl. 2005 PPP lines | |
				100%	150%	$1.25	$2.50
Urban	2014	Line		367	551	467	935
		Rate (HHs)	245	15,1	44,5	31,8	72,2
		Rate (people)		20,2	54,5	40,0	79,9
Rural	2014	Line		367	551	467	935
		Rate (HHs)	450	29,0	61,6	49,9	89,8
		Rate (people)		37,6	70,6	60,3	93,2
All	2014	Line		367	551	467	935
		Rate (HHs)	695	27,5	59,8	48,0	88,0
		Rate (people)		35,9	69,0	58,3	92,0

Source and definitions: See Table 1 and text.

Table 3: Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
1,264	How many household members are 14-years-old or younger? (Seven or more; Six; Five; Four; Three; Two; One; None)
1,244	How many household members are 15-years-old or younger? (Seven or more; Six; Five; Four; Three; Two; One; None)
1,242	How many household members are 13-years-old or younger? (Seven or more; Six; Five; Four; Three; Two; One; None)
1,233	How many household members are 17-years-old or younger? (Eight or more; Seven; Six; Five; Four; Three; Two; One; None)
1,222	How many household members are 16-years-old or younger? (Seven or more; Six ; Five; Four; Three; Two; One; None)
1,213	How many household members are 18-years-old or younger? (Eight or more; Seven; Six; Five; Four; Three; Two; One; None)
1,200	How many household members are 12-years-old or younger? (Seven or more; Six ; Five; Four; Three; Two; One; None)
1,145	How many household members are 11-years-old or younger? (Six or more; Five; Four; Three; Two; One; None)
1,016	How many members does the household have? (Ten or more; Nine; Eight; Seven; Six; Five; Four; Three; One, or two)
768	How many household members are 11-years-old or younger? (Four or more; Three; Two; One; None)
656	Are all household members ages 7 to 11 attending formal school during the academic year? (No; Yes; No household members ages 7 to 11)
645	Are all household members ages 7 to 13 attending formal school during the academic year? (No; Yes; No household members ages 7 to 13)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
642	Are all household members ages 7 to 12 attending formal school during the academic year? (No; Yes; No household members ages 7 to 12)
640	Are all household members ages 7 to 14 attending formal school during the academic year? (No; Yes; No household members ages 7 to 14)
595	Are all household members ages 7 to 15 attending formal school during the academic year? (No; Yes; No household members ages 7 to 15)
581	Are all household members ages 7 to 16 attending formal school during the academic year? (No; Yes; No household members ages 7 to 16)
548	Are all household members ages 7 to 17 attending formal school during the academic year? (No; Yes; No household members ages 7 to 17)
521	If the household is agricultural, then how many draft animals does it have? (Agricultural, but no draft animals; Agricultural, with one draft animal; Agricultural, with two draft animals; Agricultural, with three or more draft animals; Not agricultural)
517	If the household is agricultural, then does it have any plows or animal drawn-drawn plows? (Agricultural, with plow and with animal-drawn plow; Agricultural, without plow and with animal-drawn plow; Agricultural, with plow and without animal-drawn plow; Agricultural, without plow and without animal-drawn plow; Not agricultural)
502	If the household is agricultural, then does it have any animal-drawn plows? (Agricultural, with animal-drawn plow; Agricultural, but no animal-drawn plow; Not agricultural)
494	If the household is agricultural, then does it have any plows? (Agricultural, with plow; Agricultural, but no plow; Not agricultural)
493	If the household is agricultural, then does it have any sprayers? (Agricultural, but no sprayer; Agricultural, with sprayer; Not agricultural)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
488	If the household is agricultural, then does it have any carts? (Agricultural, with cart; Agricultural, but no cart; Not agricultural)
483	Is the household agricultural? (Yes; No)
480	Are all household members ages 7 to 18 attending formal school during the academic year? (No; Yes; No household members ages 7 to 18)
383	What is the main source of drinking water? (Well (protected or unprotected), or other; Borehole; Public standpipe, or dam/river/stream/lake; Protected well with a pump system, or tap (private or shared, inside or outside of the residence or its yard))
354	What is the main type of lighting? (Flashlight, firewood, candle, fuel oil/kerosene/paraffin, LPG, or other; Battery-powered lamp; Solar energy; Electric grid, or generator)
344	What type of floor does the residence's main building have? (Dirt, or other; Cement screed, sand, tile, or carpet)
314	What is the marital status of the male head/spouse? (Polygamously married; Monogamously married, or widower; No male head/spouse; Cohabiting; Single, never-married, or divorced/separated)
308	Is the residence of the household in a platted zone? (No; Yes)
297	How many mattresses in good working order does the household have? (None; One; Two or more)
261	What is the household's main method for disposing of garbage? (Burning; Throw on the ground or the street wherever it is convenient, or other; Incineration, or public dumpster; Municipal collection)
251	What is the marital status of the female head/spouse? (Polygamously married; Widow; Monogamously married; Cohabiting, single/never-married, or divorced/separated; No female head/spouse)
240	What is the highest level of formal education that the male head/spouse has studied? (None; No male head/spouse; Primary, or pre-school; First cycle of secondary, second cycle of general secondary, second cycle of technical/professional secondary, or post-secondary)
238	How many rooms does the residence have? (One, or none; Two; Three; Four; Five; Six or more)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
237	Does the household have any bicycles, motorcycles, or automobiles? (Only bicycles; None; Motorcycles (regardless of bicycles), without automobiles; Automobiles (regardless of bicycles or automobiles))
236	What type of walls does the residence's main building have? (Adobe (mud bricks), or other; Smoothed adobe, stone, straw, cement/concrete, or baked bricks)
223	Does the male head/spouse know how to read and write in any language? (No male head/spouse; No; Yes)
205	How many bicycles in good working order do household members have? (Four or more; Three; Two; One; None)
204	What is the highest level of formal education that the female head/spouse has studied? (None; No female head/spouse; Primary, or pre-school; First cycle of secondary, second cycle of general secondary, second cycle of technical/professional secondary, or post-secondary)
202	What is the tenancy status of the household in its residence? (Owned, without title; Housed for free, nomad, temporary shelter, or other; Owned, with title; Renter, or housed by employer)
201	From here, how many minutes does it take to reach the nearest high school? (60 minutes or more; 45–59 minutes; 30–44 minutes; 15–29 minutes; 0–14 minutes)
182	Does the (oldest) female head/spouse know how to read and write in any language? (No female head/spouse; No; Yes)
180	From here, how many minutes does it take to reach the nearest police station? (60 minutes or more; 45–59 minutes; 30–44 minutes; 15–29 minutes; 0–14 minutes)
165	What is the main source of energy for cooking? (Wood, crop residue, manure, or other; Charcoal, electricity, kerosene/paraffin/fuel oil, or LPG)
158	Does the household have any improved wood-burning stoves in good working order? (No; Yes)
158	Does the household have any stoves (gas, electric) or improved wood-burning stoves in good working order? (None; Only improved wood-burning stove; Stove (gas or electric), regardless of improved wood-burning stove)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
155	What type of roof does the main building of the residence have? (Dirt, or other; Straw/thatch; Metal sheets, concrete slab, or tile)
151	Does the household have any buffets or complete sets of living-room furniture in good working order ? (No; Yes)
147	Does the household have any televisions, VCRs/DVDs, or satellite dishes in good working order? (No television (regardless of others); Only television; Television and satellite dish, without VCR/DVD; Television and VCR/DVD, without satellite dish; All three)
143	Does the household have any motorcycles in good working order? (No; Yes)
136	What is the household's main method of disposing of human excreta? (Street/courtyard/ditch/ground; Crude pit, or other; Septic tank, waterproof pit, composted (ECOSAN), or public sewer system)
132	How many beds in good working order do household members have? (None; One; Two or more)
132	Does the household have any televisions or radios in good working order? (None; Only radio; Only television; Both)
132	Does the household have any televisions in good working order? (No; Yes)
118	What is the main toilet arrangement used by the household? (None, or other; Traditional latrine without a concrete platform; Traditional latrine with a concrete platform; VIP latrine, ECOSAN latrine, *samplat* latrine, flush toilet with automatic/mechanical flush, or flush toilet with water from a bucket)
114	From here, how many minutes does it take to reach the nearest paved road? (60 minutes or more; 45–59 minutes; 30–44 minutes; 15–29 minutes; 0–14 minutes)
100	What is the religion of the female head/spouse? (Animist; Roman Catholic; Muslim; Protestant, other, or none; No female head/spouse)
83	From here, how many minutes does it take to reach the nearest public-transportation stop? (60 minutes or more; 45–59 minutes; 30–44 minutes; 15–29 minutes; 0–14 minutes)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
78	Does the household have any fans in good working order? (No; Yes)
68	From here, how many minutes does it take to reach the nearest grade school stop? (60 minutes or more; 45–59 minutes; 30–44 minutes; 15–29 minutes; 0–14 minutes)
66	Does the household have any VCRs/DVDs in good working order? (No; Yes)
61	What is the main building of the residence of the household? (Traditional house, or apartment in an apartment building; Simple free-standing house; Rooming house or common court, modern house, or other)
60	How many cell phones in good working order does the household have? (None; One; Two or more)
60	Does the household have any refrigerators or freezers in good working order? (No; Yes)
60	Does the household have any stoves (gas or electric) in good working order? (No; Yes)
52	What is the religion of the male head/spouse? (Animist; Muslim; No male head/spouse ; Roman Catholic; Protestant, other, or none)
35	From here, how many minutes does it take to reach the nearest source of drinking water? (60 minutes or more; 45–59 minutes; 30–44 minutes; 15–29 minutes; 0–14 minutes)
32	Does the household have any automobiles in good working order? (No; Yes)
23	Do any household members have a major handicap? (Yes; No)
19	Does the household have any satellite dishes in good working order? (No; Yes)
2	Does the household have any solar panels in good working order? (No; Yes)
0	Does the household have any radios in good working order? (No; Yes)
0	Does the residence have a furnished room for use as a kitchen? (No; Yes)

Source: 2014 EMC with 100% of the national poverty line (2014 definition)

Tables for
100% of the National Poverty Line
2014 Definition

(and Tables Pertaining
to All Poverty Lines)

Table 4 (100% of the national line (2014 definition)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	84.4
5–9	84.4
10–14	80.2
15–19	72.2
20–24	64.6
25–29	61.3
30–34	44.8
35–39	33.2
40–44	21.7
45–49	12.5
50–54	6.3
55–59	5.5
60–64	1.6
65–69	0.4
70–74	0.4
75–79	0.4
80–84	0.4
85–89	0.4
90–94	0.4
95–200	0.4

Table 5 (100% of the national line (2014 definition)): Derivation of estimated poverty likelihoods associated with scores

Score	Households in range and < poverty line		All households in range		Poverty likelihood (%)
0–4	15	÷	17	=	84.4
5–9	819	÷	970	=	84.4
10–14	1,757	÷	2,190	=	80.2
15–19	3,326	÷	4,607	=	72.2
20–24	5,288	÷	8,184	=	64.6
25–29	6,173	÷	10,063	=	61.3
30–34	5,706	÷	12,740	=	44.8
35–39	3,451	÷	10,408	=	33.2
40–44	2,052	÷	9,466	=	21.7
45–49	1,015	÷	8,145	=	12.5
50–54	402	÷	6,344	=	6.3
55–59	237	÷	4,280	=	5.5
60–64	48	÷	3,021	=	1.6
65–69	10	÷	2,467	=	0.4
70–74	6	÷	1,396	=	0.4
75–79	3	÷	680	=	0.4
80–84	3	÷	656	=	0.4
85–89	1	÷	337	=	0.4
90–94	0	÷	18	=	0.4
95–200	56	÷	14,010	=	0.4

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

Table 6 (100% of the national line (2014 definition)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

Score	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+14.9	6.3	7.2	10.8
10–14	−6.9	4.9	5.1	5.5
15–19	+5.3	3.7	4.5	5.8
20–24	−4.6	3.5	3.7	4.1
25–29	+6.7	2.2	2.7	3.5
30–34	+1.7	2.0	2.5	3.1
35–39	+3.6	2.0	2.4	2.8
40–44	0.0	1.9	2.2	2.7
45–49	+0.1	1.7	2.0	2.6
50–54	+1.9	1.0	1.2	1.5
55–59	+4.5	0.5	0.6	0.7
60–64	−9.8	6.6	6.9	7.6
65–69	+0.1	0.3	0.3	0.4
70–74	+0.4	0.0	0.0	0.0
75–79	+0.4	0.0	0.0	0.0
80–84	+0.4	0.0	0.0	0.0
85–89	+0.4	0.0	0.0	0.0
90–94	+0.4	0.0	0.0	0.0
95–200	0.0	0.2	0.2	0.3

Table 7 (100% of the national line (2014 definition)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n		Difference between estimate and true value		
		Confidence interval ($\pm$percentage points)		
	Diff.	90-percent	95-percent	99-percent
1	0.0	64.1	71.5	86.9
4	0.0	33.2	40.7	54.1
8	−0.3	23.1	28.4	38.0
16	+0.4	16.8	19.9	26.2
32	+0.6	11.4	13.4	17.3
64	+0.8	8.2	9.9	12.8
128	+0.9	5.7	6.8	8.7
256	+0.8	4.0	4.8	5.8
512	+0.9	2.8	3.5	4.5
1,024	+0.9	2.1	2.4	3.0
2,048	+1.0	1.4	1.8	2.1
4,096	+0.9	1.0	1.2	1.6
8,192	+0.9	0.7	0.8	1.1
16,384	+0.9	0.5	0.6	0.8

Table 8 (National lines (2014 definition)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time, precision, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample

| | Poverty lines | | | |
| | National lines | | | |
	Food	100%	150%	200%
Error (estimate minus observed value)	+0.3	+0.9	+0.7	+1.0
Precision of difference	0.3	0.5	0.5	0.5
Alpha factor for precision	0.96	0.85	0.83	0.90

Results pertain to the 2014 scorecard applied to the 2014 validation sample.

Differences between estimates and observed values are displayed in units of percentage points.

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

Differences 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 (International 2005 and 2011 PPP poverty lines (2014 definition)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time, precision, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample

| | Poverty lines | | | | | | |
| | Intl. 2005 PPP lines | | | | | Intl. 2011 PPP lines | |
	$1.25	**$2.00**	**$2.50**	**$5.00**	**$8.44**	**$1.90**	**$3.10**
Error (estimate minus observed value)	+0.8	+1.3	+3.0	+0.8	−0.2	+0.5	+1.5
Precision of difference	0.5	0.5	0.5	0.5	0.3	0.5	0.5
Alpha factor for precision	0.81	0.89	1.02	1.49	1.47	0.81	0.90

Results pertain to the 2014 scorecard applied to the 2014 validation sample.

Differences between estimates and observed values are displayed in units of percentage points.

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

Differences 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 (Relative and percentile-based poverty lines (2014 definition)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time, precision, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample

	Poverty lines					
	Poorest half of people below 100% Natl. line	Percentile-based lines				
		20th	40th	50th	60th	80th
Error (estimate minus observed value)	+1.1	+1.1	+1.0	+0.5	+0.6	+0.9
Precision of difference	0.4	0.4	0.5	0.5	0.5	0.6
Alpha factor for precision	0.89	0.89	0.85	0.85	0.80	0.92

Results pertain to the 2014 scorecard applied to the 2014 validation sample.

Differences between estimates and observed values are displayed in units of percentage points.

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

Differences 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 (National and international 2005 PPP lines (2003 definition)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time, precision, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample

| | Poverty lines | | | |
| | National lines | | Intl. 2005 PPP lines | |
	100%	150%	$1.25	$2.50
Error (estimate minus observed value)	+0.9	+0.6	+0.1	+2.7
Precision of difference	0.5	0.5	0.5	0.5
Alpha factor for precision	0.84	0.77	0.79	0.98

Results pertain to the 2014 scorecard applied to the 2014 validation sample.

Differences between estimates and observed values are displayed in units of percentage points.

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

Differences 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 9 (All poverty lines): Possible targeting outcomes

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

Table 10 (100% of the national line (2014 definition)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	29.7	0.0	70.3	70.3	−99.9
<=9	0.7	29.0	0.3	70.0	70.7	−94.4
<=14	2.5	27.2	0.6	69.6	72.2	−80.8
<=19	5.8	23.9	2.0	68.3	74.1	−54.2
<=24	11.2	18.5	4.8	65.5	76.7	−8.6
<=29	16.7	13.1	9.4	60.9	77.6	+43.7
<=34	22.4	7.3	16.3	54.0	76.4	+45.0
<=39	25.6	4.1	23.6	46.7	72.3	+20.7
<=44	27.8	2.0	30.9	39.4	67.2	−4.0
<=49	28.9	0.8	37.9	32.4	61.3	−27.6
<=54	29.3	0.4	43.8	26.5	55.8	−47.5
<=59	29.4	0.3	48.0	22.3	51.7	−61.6
<=64	29.6	0.1	50.9	19.4	49.0	−71.2
<=69	29.6	0.1	53.3	17.0	46.6	−79.4
<=74	29.6	0.1	54.7	15.6	45.2	−84.1
<=79	29.6	0.1	55.4	14.9	44.5	−86.4
<=84	29.6	0.1	56.0	14.3	43.8	−88.6
<=89	29.6	0.1	56.4	13.9	43.5	−89.7
<=94	29.6	0.1	56.4	13.9	43.5	−89.8
<=200	29.7	0.0	70.3	0.0	29.7	−136.6

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (100% of the national line (2014 definition)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	0.0	0.0	0.0:1
<=9	1.0	69.2	2.3	2.2:1
<=14	3.2	79.7	8.5	3.9:1
<=19	7.8	74.8	19.6	3.0:1
<=24	16.0	70.1	37.7	2.3:1
<=29	26.0	64.0	56.0	1.8:1
<=34	38.8	57.9	75.5	1.4:1
<=39	49.2	52.1	86.2	1.1:1
<=44	58.6	47.3	93.4	0.9:1
<=49	66.8	43.2	97.2	0.8:1
<=54	73.1	40.1	98.6	0.7:1
<=59	77.4	38.0	98.9	0.6:1
<=64	80.4	36.8	99.6	0.6:1
<=69	82.9	35.7	99.6	0.6:1
<=74	84.3	35.1	99.6	0.5:1
<=79	85.0	34.8	99.6	0.5:1
<=84	85.6	34.6	99.6	0.5:1
<=89	86.0	34.4	99.6	0.5:1
<=94	86.0	34.4	99.6	0.5:1
<=200	100.0	29.7	100.0	0.4:1

Tables for
the Food Poverty Line
2014 Definition

Table 4 (Food line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	49.2
5–9	49.2
10–14	35.7
15–19	27.4
20–24	21.1
25–29	14.6
30–34	6.6
35–39	3.7
40–44	3.0
45–49	1.0
50–54	0.7
55–59	0.3
60–64	0.1
65–69	0.1
70–74	0.1
75–79	0.1
80–84	0.1
85–89	0.1
90–94	0.1
95–200	0.1

Table 6 (Food line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

Score	Diff.	Difference between estimate and true value		
		Confidence interval ($\pm$percentage points)		
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	−1.8	6.6	8.1	10.9
10–14	−10.7	8.1	8.6	9.3
15–19	+2.3	2.9	3.4	4.3
20–24	+4.3	1.7	2.1	2.6
25–29	+2.6	1.6	1.9	2.4
30–34	−1.4	1.3	1.4	1.8
35–39	+0.1	0.8	0.9	1.3
40–44	+0.3	0.7	0.8	1.0
45–49	−0.6	0.6	0.7	1.0
50–54	+0.2	0.4	0.4	0.6
55–59	+0.3	0.0	0.0	0.0
60–64	+0.1	0.0	0.0	0.0
65–69	+0.1	0.0	0.0	0.0
70–74	+0.1	0.0	0.0	0.0
75–79	+0.1	0.0	0.0	0.0
80–84	+0.1	0.0	0.0	0.0
85–89	+0.1	0.0	0.0	0.0
90–94	+0.1	0.0	0.0	0.0
95–200	+0.1	0.0	0.0	0.0

Table 7 (Food line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	−0.9	46.8	56.4	64.5
4	+0.9	18.6	25.0	33.7
8	+0.5	13.8	16.8	24.5
16	+0.3	9.6	12.0	16.2
32	+0.3	7.2	8.7	12.0
64	+0.4	5.0	5.8	8.0
128	+0.3	3.6	4.4	5.8
256	+0.3	2.6	3.1	3.9
512	+0.3	1.7	2.2	2.8
1,024	+0.4	1.2	1.4	1.9
2,048	+0.4	0.9	1.0	1.4
4,096	+0.4	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

Table 10 (Food line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	7.3	0.0	92.7	92.7	−99.8
<=9	0.5	6.7	0.5	92.3	92.8	−79.5
<=14	1.3	5.9	1.8	90.9	92.2	−37.8
<=19	2.6	4.7	5.2	87.5	90.1	+28.0
<=24	4.2	3.0	11.7	81.0	85.2	−62.0
<=29	5.3	2.0	20.7	72.0	77.3	−186.1
<=34	6.3	0.9	32.4	60.3	66.7	−347.3
<=39	6.8	0.4	42.4	50.4	57.2	−484.4
<=44	7.1	0.2	51.6	41.2	48.3	−611.1
<=49	7.2	0.0	59.6	33.2	40.4	−721.6
<=54	7.3	0.0	65.9	26.9	34.1	−808.7
<=59	7.3	0.0	70.2	22.6	29.8	−867.7
<=64	7.3	0.0	73.2	19.6	26.8	−909.4
<=69	7.3	0.0	75.7	17.1	24.3	−943.4
<=74	7.3	0.0	77.0	15.7	23.0	−962.6
<=79	7.3	0.0	77.7	15.0	22.3	−972.0
<=84	7.3	0.0	78.4	14.4	21.6	−981.0
<=89	7.3	0.0	78.7	14.0	21.3	−985.7
<=94	7.3	0.0	78.7	14.0	21.3	−985.9
<=200	7.3	0.0	92.7	0.0	7.3	−1,179.2

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (Food line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	0.0	0.0	0.0:1
<=9	1.0	50.8	6.9	1.0:1
<=14	3.2	41.8	18.3	0.7:1
<=19	7.8	32.9	35.4	0.5:1
<=24	16.0	26.5	58.3	0.4:1
<=29	26.0	20.3	73.0	0.3:1
<=34	38.8	16.4	87.5	0.2:1
<=39	49.2	13.8	93.9	0.2:1
<=44	58.6	12.1	97.7	0.1:1
<=49	66.8	10.8	99.6	0.1:1
<=54	73.1	9.9	100.0	0.1:1
<=59	77.4	9.4	100.0	0.1:1
<=64	80.4	9.0	100.0	0.1:1
<=69	82.9	8.7	100.0	0.1:1
<=74	84.3	8.6	100.0	0.1:1
<=79	85.0	8.5	100.0	0.1:1
<=84	85.6	8.5	100.0	0.1:1
<=89	86.0	8.4	100.0	0.1:1
<=94	86.0	8.4	100.0	0.1:1
<=200	100.0	7.3	100.0	0.1:1

Tables for
150% of the National Poverty Line
2014 Definition

Table 4 (150% of the national line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	96.3
5–9	96.3
10–14	94.7
15–19	93.6
20–24	92.8
25–29	89.0
30–34	81.8
35–39	74.4
40–44	63.4
45–49	49.3
50–54	34.1
55–59	27.7
60–64	13.1
65–69	4.3
70–74	4.3
75–79	4.3
80–84	4.3
85–89	4.3
90–94	4.3
95–200	4.3

Table 6 (150% of the national line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.1	4.3	5.0	6.6
10–14	−3.6	2.2	2.3	2.5
15–19	−0.4	1.6	2.1	2.8
20–24	+3.8	1.6	1.9	2.4
25–29	+1.1	1.4	1.7	2.3
30–34	−0.1	1.4	1.7	2.5
35–39	+2.6	1.9	2.2	3.0
40–44	−0.2	2.3	2.6	3.7
45–49	−2.5	2.7	3.3	4.3
50–54	+6.0	2.6	3.1	4.2
55–59	+1.5	3.4	4.1	5.6
60–64	−4.4	4.0	4.4	5.3
65–69	+1.2	1.1	1.4	1.7
70–74	+2.8	1.1	1.3	1.5
75–79	+4.2	0.3	0.3	0.4
80–84	+4.3	0.0	0.0	0.0
85–89	+4.3	0.0	0.0	0.0
90–94	+4.3	0.0	0.0	0.0
95–200	−1.0	1.0	1.0	1.2

Table 7 (150% of the national line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and true value			
		Confidence interval ($\pm$percentage points)		
	Diff.	90-percent	95-percent	99-percent
1	−0.8	66.2	73.9	94.2
4	−0.7	31.3	40.2	54.1
8	−0.8	22.6	25.3	35.5
16	−0.1	16.0	19.0	25.2
32	+0.2	11.6	14.2	18.9
64	+0.7	8.3	9.6	12.3
128	+0.8	5.9	7.0	9.5
256	+0.7	4.2	5.1	6.4
512	+0.7	2.9	3.4	4.5
1,024	+0.7	2.1	2.5	3.4
2,048	+0.7	1.5	1.8	2.3
4,096	+0.7	1.0	1.2	1.6
8,192	+0.7	0.7	0.9	1.2
16,384	+0.7	0.5	0.6	0.8

Table 10 (150% of the national line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	56.3	0.0	43.7	43.7	−99.9
<=9	0.9	55.4	0.1	43.6	44.4	−96.7
<=14	3.0	53.3	0.2	43.5	46.5	−89.0
<=19	7.3	49.0	0.4	43.3	50.6	−73.1
<=24	14.6	41.7	1.3	42.4	57.0	−45.6
<=29	23.5	32.8	2.6	41.1	64.6	−12.1
<=34	33.8	22.5	5.0	38.7	72.5	+28.9
<=39	41.3	15.0	7.9	35.8	77.1	+60.7
<=44	47.4	8.9	11.3	32.4	79.8	+80.0
<=49	51.6	4.7	15.2	28.5	80.0	+72.9
<=54	53.7	2.6	19.4	24.3	78.0	+65.5
<=59	54.7	1.6	22.7	21.0	75.8	+59.7
<=64	55.2	1.1	25.2	18.5	73.7	+55.2
<=69	55.4	0.9	27.5	16.2	71.5	+51.1
<=74	55.4	0.9	28.9	14.8	70.2	+48.7
<=79	55.4	0.9	29.6	14.1	69.5	+47.5
<=84	55.4	0.9	30.2	13.5	68.9	+46.3
<=89	55.4	0.9	30.6	13.1	68.5	+45.7
<=94	55.4	0.9	30.6	13.1	68.5	+45.7
<=200	56.3	0.0	43.7	0.0	56.3	+22.4

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (150% of the national line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	87.4	1.5	6.9:1
<=14	3.2	94.3	5.3	16.6:1
<=19	7.8	94.3	13.0	16.6:1
<=24	16.0	91.7	26.0	11.1:1
<=29	26.0	90.2	41.7	9.2:1
<=34	38.8	87.2	60.1	6.8:1
<=39	49.2	83.9	73.3	5.2:1
<=44	58.6	80.8	84.1	4.2:1
<=49	66.8	77.2	91.6	3.4:1
<=54	73.1	73.5	95.4	2.8:1
<=59	77.4	70.7	97.2	2.4:1
<=64	80.4	68.7	98.1	2.2:1
<=69	82.9	66.8	98.3	2.0:1
<=74	84.3	65.7	98.4	1.9:1
<=79	85.0	65.2	98.4	1.9:1
<=84	85.6	64.7	98.4	1.8:1
<=89	86.0	64.4	98.4	1.8:1
<=94	86.0	64.4	98.4	1.8:1
<=200	100.0	56.3	100.0	1.3:1

Tables for
200% of the National Poverty Line
2014 Definition

Table 4 (200% of the national line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	97.8
20–24	97.7
25–29	95.7
30–34	93.8
35–39	90.1
40–44	83.2
45–49	75.1
50–54	66.0
55–59	56.3
60–64	41.0
65–69	18.2
70–74	14.1
75–79	14.1
80–84	14.1
85–89	14.1
90–94	14.1
95–200	14.1

Table 6 (200% of the national line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+4.7	2.6	3.0	4.1
10–14	0.0	0.0	0.0	0.0
15–19	−2.1	1.1	1.1	1.1
20–24	−0.2	0.6	0.7	0.9
25–29	+0.4	1.0	1.1	1.5
30–34	+0.1	0.8	1.1	1.4
35–39	−0.3	1.2	1.5	1.9
40–44	+1.2	2.0	2.3	2.9
45–49	−6.7	4.3	4.5	4.8
50–54	+15.4	3.2	4.0	5.4
55–59	+3.3	3.5	4.1	5.1
60–64	−3.6	4.3	5.2	6.7
65–69	−6.9	5.4	5.7	6.7
70–74	+11.7	1.3	1.5	2.0
75–79	−8.5	9.2	10.8	14.6
80–84	+14.1	0.0	0.0	0.0
85–89	+14.1	0.0	0.0	0.0
90–94	+14.1	0.0	0.0	0.0
95–200	+1.1	1.4	1.7	2.2

Table 7 (200% of the national line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value Confidence interval (±percentage points) 90-percent	95-percent	99-percent
1	–3.1	62.5	80.5	89.9
4	–0.9	32.0	41.5	52.3
8	–0.4	22.8	28.4	38.6
16	+0.3	17.1	21.1	26.9
32	+0.8	11.8	14.1	18.3
64	+0.9	8.0	9.6	12.2
128	+1.0	5.5	6.7	8.8
256	+1.0	4.0	4.8	6.2
512	+1.0	2.9	3.4	4.3
1,024	+1.0	2.0	2.4	3.1
2,048	+1.0	1.5	1.7	2.3
4,096	+1.0	1.0	1.3	1.7
8,192	+0.9	0.8	0.9	1.2
16,384	+1.0	0.5	0.6	0.8

Table 10 (200% of the national line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	71.2	0.0	28.7	28.8	−100.0
<=9	0.9	70.3	0.0	28.7	29.6	−97.3
<=14	3.1	68.1	0.0	28.7	31.8	−91.1
<=19	7.7	63.5	0.1	28.7	36.4	−78.2
<=24	15.7	55.6	0.3	28.5	44.2	−55.6
<=29	25.3	46.0	0.7	28.0	53.3	−28.0
<=34	37.2	34.0	1.6	27.2	64.4	+6.6
<=39	46.6	24.6	2.6	26.2	72.8	+34.4
<=44	54.7	16.6	4.0	24.7	79.4	+59.0
<=49	61.1	10.2	5.7	23.0	84.1	+79.4
<=54	64.9	6.4	8.2	20.5	85.4	+88.5
<=59	67.1	4.2	10.3	18.4	85.5	+85.5
<=64	68.3	2.9	12.1	16.6	84.9	+83.0
<=69	69.1	2.2	13.8	14.9	84.0	+80.6
<=74	69.1	2.1	15.2	13.6	82.7	+78.7
<=79	69.2	2.0	15.8	13.0	82.2	+77.9
<=84	69.2	2.0	16.4	12.3	81.5	+77.0
<=89	69.2	2.0	16.7	12.0	81.2	+76.5
<=94	69.2	2.0	16.8	12.0	81.2	+76.5
<=200	71.3	0.0	28.7	0.0	71.3	+59.7

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (200% of the national line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	95.1	1.3	19.5:1
<=14	3.2	98.5	4.4	65.0:1
<=19	7.8	99.3	10.8	139.0:1
<=24	16.0	98.3	22.0	57.7:1
<=29	26.0	97.2	35.5	35.2:1
<=34	38.8	96.0	52.2	24.0:1
<=39	49.2	94.8	65.4	18.2:1
<=44	58.6	93.2	76.7	13.7:1
<=49	66.8	91.5	85.7	10.7:1
<=54	73.1	88.8	91.1	7.9:1
<=59	77.4	86.7	94.2	6.5:1
<=64	80.4	84.9	95.9	5.6:1
<=69	82.9	83.3	96.9	5.0:1
<=74	84.3	82.0	97.0	4.6:1
<=79	85.0	81.5	97.1	4.4:1
<=84	85.6	80.8	97.1	4.2:1
<=89	86.0	80.5	97.1	4.1:1
<=94	86.0	80.5	97.1	4.1:1
<=200	100.0	71.3	100.0	2.5:1

Tables for
the $1.25/day 2005 PPP Poverty Line
2014 Definition

Table 4 ($1.25/day 2005 PPP line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	93.9
5–9	93.9
10–14	90.2
15–19	87.8
20–24	85.0
25–29	80.4
30–34	69.5
35–39	59.4
40–44	48.6
45–49	31.9
50–54	19.1
55–59	14.9
60–64	7.2
65–69	1.9
70–74	1.9
75–79	1.9
80–84	1.9
85–89	1.9
90–94	1.9
95–200	1.9

Table 6 ($1.25/day 2005 PPP line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.3	4.7	5.7	7.5
10–14	−2.6	2.4	2.8	3.8
15–19	+0.6	2.4	2.8	4.0
20–24	+0.2	1.8	2.1	2.6
25–29	+6.0	2.0	2.4	3.0
30–34	−1.8	1.8	2.1	2.8
35–39	+1.2	2.1	2.5	3.2
40–44	+4.3	2.3	2.7	3.6
45–49	−4.7	3.7	3.9	4.5
50–54	+5.7	1.8	2.1	2.7
55–59	+5.1	1.9	2.4	3.1
60–64	−6.8	5.1	5.5	6.0
65–69	−0.3	1.0	1.2	1.5
70–74	+1.8	0.2	0.2	0.3
75–79	+1.9	0.0	0.0	0.0
80–84	+1.9	0.0	0.0	0.0
85–89	+1.9	0.0	0.0	0.0
90–94	+1.9	0.0	0.0	0.0
95–200	−0.6	0.6	0.6	0.8

Table 7 ($1.25/day 2005 PPP line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	–0.1	68.8	80.7	92.2
4	–0.5	34.4	40.7	54.4
8	–0.5	23.7	28.4	38.6
16	+0.4	16.7	19.6	27.0
32	+0.6	11.6	13.8	19.8
64	+1.0	8.2	9.7	12.4
128	+1.0	5.8	6.9	9.3
256	+0.9	4.3	4.9	6.8
512	+0.9	2.9	3.5	4.4
1,024	+0.9	2.1	2.5	3.3
2,048	+0.9	1.5	1.8	2.3
4,096	+0.8	1.0	1.3	1.6
8,192	+0.8	0.7	0.9	1.1
16,384	+0.8	0.5	0.6	0.9

Table 10 ($1.25/day 2005 PPP line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	45.9	0.0	54.1	54.1	−99.9
<=9	0.8	45.1	0.2	53.9	54.7	−96.0
<=14	2.9	43.1	0.3	53.7	56.6	−86.9
<=19	6.9	39.0	0.9	53.2	60.1	−68.0
<=24	13.8	32.2	2.2	51.9	65.7	−35.2
<=29	21.3	24.7	4.8	49.3	70.6	+3.0
<=34	30.2	15.7	8.5	45.5	75.7	+50.2
<=39	36.3	9.7	12.9	41.1	77.4	+71.9
<=44	40.5	5.4	18.1	35.9	76.5	+60.5
<=49	43.4	2.6	23.4	30.7	74.0	+49.0
<=54	44.6	1.4	28.5	25.5	70.1	+37.9
<=59	45.1	0.9	32.4	21.7	66.8	+29.6
<=64	45.4	0.6	35.1	19.0	64.3	+23.6
<=69	45.4	0.5	37.5	16.6	62.0	+18.5
<=74	45.5	0.5	38.8	15.2	60.7	+15.4
<=79	45.5	0.5	39.5	14.5	60.0	+14.0
<=84	45.5	0.5	40.2	13.9	59.3	+12.5
<=89	45.5	0.5	40.5	13.5	59.0	+11.8
<=94	45.5	0.5	40.5	13.5	59.0	+11.8
<=200	45.9	0.0	54.1	0.0	45.9	−17.7

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($1.25/day 2005 PPP line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	84.0	1.8	5.3:1
<=14	3.2	89.9	6.2	8.9:1
<=19	7.8	88.8	15.0	7.9:1
<=24	16.0	86.3	30.0	6.3:1
<=29	26.0	81.7	46.3	4.5:1
<=34	38.8	78.0	65.8	3.5:1
<=39	49.2	73.7	78.9	2.8:1
<=44	58.6	69.1	88.2	2.2:1
<=49	66.8	64.9	94.4	1.9:1
<=54	73.1	61.0	97.1	1.6:1
<=59	77.4	58.2	98.1	1.4:1
<=64	80.4	56.4	98.7	1.3:1
<=69	82.9	54.8	98.9	1.2:1
<=74	84.3	53.9	98.9	1.2:1
<=79	85.0	53.5	98.9	1.1:1
<=84	85.6	53.1	98.9	1.1:1
<=89	86.0	52.9	98.9	1.1:1
<=94	86.0	52.9	98.9	1.1:1
<=200	100.0	45.9	100.0	0.8:1

Tables for
the $2.00/day 2005 PPP Poverty Line
2014 Definition

Table 4 ($2.00/day 2005 PPP line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	98.1
20–24	98.0
25–29	96.4
30–34	94.2
35–39	90.7
40–44	84.5
45–49	77.6
50–54	68.5
55–59	58.0
60–64	41.1
65–69	18.7
70–74	14.8
75–79	14.3
80–84	14.3
85–89	14.3
90–94	14.3
95–200	14.3

Table 6 ($2.00/day 2005 PPP line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+4.7	2.6	3.0	4.1
10–14	0.0	0.0	0.0	0.0
15–19	−1.8	0.9	0.9	0.9
20–24	0.0	0.6	0.7	0.9
25–29	+0.9	0.9	1.1	1.4
30–34	+0.3	0.8	1.1	1.4
35–39	+0.1	1.2	1.5	2.0
40–44	+2.0	2.0	2.3	2.9
45–49	−4.2	3.1	3.3	3.6
50–54	+17.0	3.3	4.1	5.6
55–59	+3.4	3.5	4.2	5.2
60–64	−4.7	4.4	5.2	6.6
65–69	−9.2	6.7	7.1	7.9
70–74	+12.4	1.3	1.5	2.0
75–79	−8.5	9.2	10.7	14.4
80–84	+14.3	0.0	0.0	0.0
85–89	+14.3	0.0	0.0	0.0
90–94	+14.3	0.0	0.0	0.0
95–200	+1.0	1.4	1.8	2.3

Table 7 ($2.00/day 2005 PPP line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	–2.7	63.7	81.6	89.9
4	–0.5	32.0	41.9	52.9
8	–0.1	22.8	28.4	39.4
16	+0.7	17.0	21.0	27.0
32	+1.2	12.0	14.2	18.3
64	+1.3	7.9	9.7	12.8
128	+1.3	5.4	6.5	9.0
256	+1.4	4.0	4.8	6.3
512	+1.4	2.9	3.4	4.5
1,024	+1.4	2.0	2.4	3.2
2,048	+1.4	1.5	1.7	2.3
4,096	+1.3	1.1	1.3	1.7
8,192	+1.3	0.8	0.9	1.2
16,384	+1.3	0.5	0.6	0.8

Table 10 ($2.00/day 2005 PPP line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	71.8	0.0	28.2	28.2	−100.0
<=9	0.9	70.9	0.0	28.1	29.1	−97.3
<=14	3.1	68.7	0.0	28.1	31.3	−91.2
<=19	7.7	64.1	0.1	28.1	35.9	−78.4
<=24	15.7	56.1	0.3	27.9	43.6	−55.9
<=29	25.3	46.5	0.7	27.5	52.8	−28.5
<=34	37.3	34.5	1.5	26.7	64.0	+5.9
<=39	46.7	25.1	2.5	25.7	72.5	+33.6
<=44	54.8	17.0	3.8	24.4	79.2	+58.0
<=49	61.3	10.5	5.5	22.7	83.9	+78.3
<=54	65.2	6.7	8.0	20.2	85.4	+88.9
<=59	67.4	4.4	10.0	18.2	85.6	+86.1
<=64	68.7	3.1	11.7	16.5	85.2	+83.7
<=69	69.5	2.3	13.4	14.8	84.3	+81.4
<=74	69.6	2.2	14.7	13.5	83.1	+79.5
<=79	69.7	2.1	15.3	12.9	82.6	+78.7
<=84	69.7	2.1	16.0	12.2	81.9	+77.8
<=89	69.7	2.1	16.3	11.9	81.6	+77.3
<=94	69.7	2.1	16.3	11.9	81.6	+77.3
<=200	71.8	0.0	28.2	0.0	71.8	+60.7

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($2.00/day 2005 PPP line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	95.1	1.3	19.5:1
<=14	3.2	98.5	4.4	65.0:1
<=19	7.8	99.3	10.8	139.0:1
<=24	16.0	98.3	21.9	57.7:1
<=29	26.0	97.3	35.3	36.3:1
<=34	38.8	96.1	51.9	24.9:1
<=39	49.2	95.0	65.1	19.0:1
<=44	58.6	93.5	76.3	14.3:1
<=49	66.8	91.7	85.3	11.1:1
<=54	73.1	89.1	90.7	8.2:1
<=59	77.4	87.1	93.9	6.8:1
<=64	80.4	85.4	95.7	5.9:1
<=69	82.9	83.8	96.8	5.2:1
<=74	84.3	82.5	96.9	4.7:1
<=79	85.0	82.0	97.0	4.6:1
<=84	85.6	81.4	97.0	4.4:1
<=89	86.0	81.0	97.0	4.3:1
<=94	86.0	81.0	97.0	4.3:1
<=200	100.0	71.8	100.0	2.5:1

Tables for
the $2.50/day 2005 PPP Poverty Line
2014 Definition

Table 4 ($2.50/day 2005 PPP line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	99.7
20–24	99.2
25–29	99.0
30–34	98.0
35–39	97.2
40–44	93.5
45–49	89.5
50–54	85.3
55–59	75.3
60–64	60.4
65–69	36.6
70–74	27.1
75–79	27.1
80–84	27.1
85–89	27.1
90–94	27.1
95–200	27.1

Table 6 ($2.50/day 2005 PPP line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

Score	Diff.	Difference between estimate and true value Confidence interval (±percentage points) 90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	−0.3	0.2	0.2	0.2
20–24	−0.3	0.3	0.3	0.4
25–29	+1.1	0.7	0.8	1.0
30–34	−0.1	0.5	0.6	0.8
35–39	+0.6	0.8	0.9	1.2
40–44	−0.1	1.2	1.5	2.0
45–49	−1.1	1.5	1.7	2.3
50–54	+13.9	3.4	4.0	5.8
55–59	+8.2	3.5	4.1	5.1
60–64	+0.6	4.1	4.9	6.3
65–69	−4.0	4.7	5.7	7.5
70–74	+16.5	3.1	3.5	4.5
75–79	−2.7	9.6	11.2	15.2
80–84	+26.8	0.3	0.4	0.4
85–89	+24.8	2.5	2.8	3.4
90–94	+27.1	0.0	0.0	0.0
95–200	+5.8	1.6	2.0	2.7

Table 7 ($2.50/day 2005 PPP line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

| Sample Size n | Diff. | Difference between estimate and true value | | |
| | | Confidence interval ($\pm$percentage points) | | |
		90-percent	95-percent	99-percent
1	+1.4	61.9	80.2	85.5
4	+2.2	31.8	37.5	57.1
8	+2.1	22.7	28.4	40.6
16	+2.5	15.9	20.0	28.1
32	+2.9	10.9	13.4	18.9
64	+2.8	7.8	9.2	13.5
128	+2.9	5.6	6.8	9.3
256	+3.0	4.2	5.1	7.0
512	+3.0	2.8	3.3	4.7
1,024	+3.0	2.0	2.4	3.1
2,048	+3.0	1.5	1.7	2.2
4,096	+3.0	1.0	1.2	1.6
8,192	+3.0	0.7	0.9	1.2
16,384	+3.0	0.5	0.6	0.8

Table 10 ($2.50/day 2005 PPP line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	79.7	0.0	20.3	20.3	−100.0
<=9	1.0	78.7	0.0	20.3	21.3	−97.5
<=14	3.2	76.5	0.0	20.3	23.5	−92.0
<=19	7.8	71.9	0.0	20.3	28.1	−80.5
<=24	15.9	63.8	0.1	20.2	36.1	−60.0
<=29	25.8	53.9	0.3	20.1	45.8	−35.0
<=34	38.3	41.4	0.5	19.8	58.1	−3.3
<=39	48.3	31.4	0.9	19.5	67.8	+22.4
<=44	57.3	22.4	1.4	19.0	76.2	+45.5
<=49	64.6	15.1	2.2	18.1	82.7	+64.9
<=54	69.7	9.9	3.4	16.9	86.7	+79.3
<=59	72.7	6.9	4.7	15.6	88.4	+88.5
<=64	74.5	5.2	5.9	14.4	88.9	+92.6
<=69	75.7	4.0	7.2	13.1	88.8	+90.9
<=74	75.9	3.8	8.4	11.9	87.9	+89.5
<=79	76.1	3.6	8.9	11.4	87.5	+88.8
<=84	76.1	3.6	9.6	10.8	86.8	+88.0
<=89	76.1	3.6	9.9	10.4	86.5	+87.6
<=94	76.1	3.6	9.9	10.4	86.5	+87.6
<=200	79.7	0.0	20.3	0.0	79.7	+74.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($2.50/day 2005 PPP line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	100.0	1.2	Only poor targeted
<=14	3.2	100.0	4.0	Only poor targeted
<=19	7.8	100.0	9.8	Only poor targeted
<=24	16.0	99.5	19.9	210.3:1
<=29	26.0	99.0	32.4	101.2:1
<=34	38.8	98.7	48.0	76.6:1
<=39	49.2	98.2	60.6	55.3:1
<=44	58.6	97.7	71.9	41.7:1
<=49	66.8	96.7	81.1	29.3:1
<=54	73.1	95.3	87.5	20.5:1
<=59	77.4	94.0	91.3	15.6:1
<=64	80.4	92.6	93.5	12.6:1
<=69	82.9	91.3	95.0	10.5:1
<=74	84.3	90.1	95.3	9.1:1
<=79	85.0	89.5	95.5	8.5:1
<=84	85.6	88.8	95.5	8.0:1
<=89	86.0	88.5	95.5	7.7:1
<=94	86.0	88.5	95.5	7.7:1
<=200	100.0	79.7	100.0	3.9:1

Tables for
the $5.00/day 2005 PPP Poverty Line
2014 Definition

Table 4 ($5.00/day 2005 PPP line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	100.0
20–24	100.0
25–29	100.0
30–34	100.0
35–39	100.0
40–44	99.9
45–49	99.9
50–54	99.2
55–59	98.8
60–64	95.6
65–69	84.9
70–74	75.4
75–79	72.7
80–84	68.0
85–89	67.8
90–94	67.8
95–200	67.8

Table 6 ($5.00/day 2005 PPP line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0
20–24	0.0	0.0	0.0	0.0
25–29	0.0	0.0	0.0	0.0
30–34	0.0	0.0	0.0	0.0
35–39	0.0	0.0	0.0	0.0
40–44	+0.2	0.2	0.2	0.3
45–49	−0.1	0.0	0.0	0.0
50–54	−0.4	0.3	0.4	0.5
55–59	+1.3	0.9	1.1	1.4
60–64	+2.5	2.3	2.7	3.7
65–69	+0.7	3.3	3.9	5.2
70–74	−16.2	9.5	9.8	10.4
75–79	+3.9	9.3	11.3	14.5
80–84	+56.7	3.8	4.6	6.2
85–89	+17.9	12.9	15.6	19.7
90–94	−2.9	50.0	50.0	50.0
95–200	+0.8	1.9	2.4	3.1

Table 7 ($5.00/day 2005 PPP line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	+0.2	50.0	50.0	63.9
4	−0.5	24.6	30.2	37.7
8	−0.3	16.8	21.4	28.7
16	+0.3	13.1	15.4	20.0
32	+0.6	9.3	10.5	13.8
64	+0.6	7.3	8.4	10.4
128	+0.7	5.3	6.3	7.7
256	+0.8	3.6	4.3	5.4
512	+0.9	2.5	3.0	3.7
1,024	+0.8	1.8	2.2	2.8
2,048	+0.8	1.3	1.5	2.0
4,096	+0.8	0.9	1.1	1.5
8,192	+0.8	0.7	0.8	1.0
16,384	+0.8	0.5	0.5	0.7

Table 10 ($5.00/day 2005 PPP line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	93.8	0.0	6.1	6.2	−100.0
<=9	1.0	92.9	0.0	6.1	7.1	−97.9
<=14	3.2	90.7	0.0	6.1	9.3	−93.2
<=19	7.8	86.1	0.0	6.1	13.9	−83.4
<=24	16.0	77.9	0.0	6.1	22.1	−66.0
<=29	26.0	67.8	0.0	6.1	32.2	−44.5
<=34	38.8	55.1	0.0	6.1	44.9	−17.4
<=39	49.2	44.7	0.0	6.1	55.3	+4.8
<=44	58.6	35.2	0.0	6.1	64.7	+24.9
<=49	66.8	27.1	0.0	6.1	72.9	+42.3
<=54	73.1	20.8	0.1	6.1	79.2	+55.8
<=59	77.2	16.6	0.2	6.0	83.2	+64.8
<=64	80.1	13.8	0.4	5.8	85.8	+71.0
<=69	82.1	11.7	0.8	5.4	87.5	+75.8
<=74	83.4	10.5	0.9	5.2	88.6	+78.6
<=79	83.9	10.0	1.1	5.0	88.9	+79.9
<=84	84.0	9.8	1.6	4.6	88.6	+80.8
<=89	84.2	9.7	1.8	4.4	88.6	+81.3
<=94	84.2	9.6	1.8	4.4	88.6	+81.3
<=200	93.9	0.0	6.1	0.0	93.9	+93.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($5.00/day 2005 PPP line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	100.0	1.1	Only poor targeted
<=14	3.2	100.0	3.4	Only poor targeted
<=19	7.8	100.0	8.3	Only poor targeted
<=24	16.0	100.0	17.0	Only poor targeted
<=29	26.0	100.0	27.7	Only poor targeted
<=34	38.8	100.0	41.3	Only poor targeted
<=39	49.2	100.0	52.4	Only poor targeted
<=44	58.6	100.0	62.5	2,448.4:1
<=49	66.8	100.0	71.1	2,788.5:1
<=54	73.1	99.9	77.9	1,400.5:1
<=59	77.4	99.8	82.3	410.6:1
<=64	80.4	99.5	85.3	212.9:1
<=69	82.9	99.1	87.5	106.8:1
<=74	84.3	98.9	88.8	89.9:1
<=79	85.0	98.7	89.4	75.2:1
<=84	85.6	98.1	89.6	53.0:1
<=89	86.0	97.9	89.7	47.5:1
<=94	86.0	97.9	89.7	47.3:1
<=200	100.0	93.9	100.0	15.3:1

Tables for
the $8.44/day 2005 PPP Poverty Line
2014 Definition

Table 4 ($8.44/day 2005 PPP line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	100.0
20–24	100.0
25–29	100.0
30–34	100.0
35–39	100.0
40–44	100.0
45–49	100.0
50–54	100.0
55–59	100.0
60–64	98.8
65–69	93.6
70–74	89.1
75–79	89.1
80–84	88.1
85–89	86.0
90–94	86.0
95–200	86.0

Table 6 ($8.44/day 2005 PPP line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

Score	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0
20–24	0.0	0.0	0.0	0.0
25–29	0.0	0.0	0.0	0.0
30–34	0.0	0.0	0.0	0.0
35–39	0.0	0.0	0.0	0.0
40–44	0.0	0.0	0.0	0.0
45–49	0.0	0.0	0.0	0.0
50–54	+0.4	0.3	0.4	0.5
55–59	+0.2	0.2	0.2	0.3
60–64	+0.7	1.1	1.3	1.8
65–69	−1.5	1.9	2.3	3.0
70–74	−6.6	4.3	4.5	4.7
75–79	+19.1	9.4	11.2	14.6
80–84	+16.6	8.5	9.9	12.8
85–89	+4.2	8.0	9.7	13.2
90–94	+15.3	50.0	50.0	50.0
95–200	−2.4	1.8	1.9	2.2

Table 7 ($8.44/day 2005 PPP line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	+0.1	7.0	50.0	51.3
4	−0.4	15.9	21.0	28.7
8	−0.4	11.6	14.4	20.1
16	−0.2	8.5	10.7	14.3
32	−0.3	5.9	7.2	9.4
64	−0.3	4.4	5.3	7.0
128	−0.3	3.1	3.7	4.8
256	−0.2	2.3	2.8	3.6
512	−0.2	1.6	1.9	2.6
1,024	−0.2	1.2	1.4	1.8
2,048	−0.2	0.8	0.9	1.3
4,096	−0.2	0.6	0.7	0.9
8,192	−0.2	0.4	0.5	0.6
16,384	−0.2	0.3	0.3	0.4

Table 10 ($8.44/day 2005 PPP line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	97.6	0.0	2.4	2.4	−100.0
<=9	1.0	96.6	0.0	2.4	3.4	−98.0
<=14	3.2	94.4	0.0	2.4	5.6	−93.5
<=19	7.8	89.8	0.0	2.4	10.2	−84.0
<=24	16.0	81.6	0.0	2.4	18.4	−67.3
<=29	26.0	71.6	0.0	2.4	28.4	−46.7
<=34	38.8	58.8	0.0	2.4	41.2	−20.6
<=39	49.2	48.4	0.0	2.4	51.6	+0.8
<=44	58.6	39.0	0.0	2.4	61.0	+20.2
<=49	66.8	30.8	0.0	2.4	69.2	+36.9
<=54	73.1	24.5	0.0	2.4	75.5	+49.8
<=59	77.4	20.2	0.1	2.3	79.7	+58.6
<=64	80.3	17.3	0.1	2.3	82.6	+64.7
<=69	82.7	14.9	0.2	2.2	84.8	+69.6
<=74	84.0	13.6	0.3	2.1	86.1	+72.4
<=79	84.5	13.1	0.5	1.9	86.4	+73.6
<=84	85.0	12.7	0.7	1.7	86.7	+74.8
<=89	85.2	12.4	0.8	1.6	86.8	+75.4
<=94	85.2	12.4	0.8	1.6	86.8	+75.4
<=200	97.6	0.0	2.4	0.0	97.6	+97.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($8.44/day 2005 PPP line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	100.0	1.0	Only poor targeted
<=14	3.2	100.0	3.3	Only poor targeted
<=19	7.8	100.0	8.0	Only poor targeted
<=24	16.0	100.0	16.4	Only poor targeted
<=29	26.0	100.0	26.7	Only poor targeted
<=34	38.8	100.0	39.7	Only poor targeted
<=39	49.2	100.0	50.4	Only poor targeted
<=44	58.6	100.0	60.1	Only poor targeted
<=49	66.8	100.0	68.4	Only poor targeted
<=54	73.1	100.0	74.9	2,588.7:1
<=59	77.4	99.9	79.3	1,504.8:1
<=64	80.4	99.9	82.3	707.6:1
<=69	82.9	99.7	84.7	365.0:1
<=74	84.3	99.6	86.0	269.2:1
<=79	85.0	99.4	86.6	180.5:1
<=84	85.6	99.2	87.0	124.7:1
<=89	86.0	99.1	87.3	107.8:1
<=94	86.0	99.1	87.3	106.8:1
<=200	100.0	97.6	100.0	40.7:1

Tables for
the $1.90/day 2011 PPP Poverty Line
2014 Definition

Table 4 ($1.90/day 2011 PPP line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	94.5
5–9	94.5
10–14	91.8
15–19	88.3
20–24	85.4
25–29	82.6
30–34	70.5
35–39	60.5
40–44	49.7
45–49	33.6
50–54	20.8
55–59	15.3
60–64	7.3
65–69	2.0
70–74	2.0
75–79	2.0
80–84	2.0
85–89	2.0
90–94	2.0
95–200	2.0

Table 6 ($1.90/day 2011 PPP line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| Score | Diff. | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.8	4.7	5.7	7.5
10–14	−1.1	2.3	2.8	3.8
15–19	−0.7	2.2	2.7	3.5
20–24	0.0	1.8	2.1	2.7
25–29	+7.0	2.0	2.3	3.1
30–34	−3.2	2.5	2.6	3.0
35–39	+0.4	2.1	2.5	3.2
40–44	+2.0	2.3	2.8	3.4
45–49	−4.4	3.5	3.8	4.4
50–54	+6.4	1.8	2.2	2.9
55–59	+3.3	2.2	2.7	3.6
60–64	−6.7	5.1	5.5	5.9
65–69	−0.2	1.0	1.2	1.5
70–74	+1.8	0.2	0.2	0.3
75–79	+2.0	0.0	0.0	0.0
80–84	+2.0	0.0	0.0	0.0
85–89	+2.0	0.0	0.0	0.0
90–94	+2.0	0.0	0.0	0.0
95–200	−0.6	0.6	0.6	0.8

Table 7 ($1.90/day 2011 PPP line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value		
		Confidence interval ($\pm$percentage points)		
		90-percent	95-percent	99-percent
1	−0.1	68.4	80.9	91.7
4	−1.1	33.9	40.4	52.8
8	−1.2	23.6	28.0	35.6
16	−0.1	16.4	19.0	27.1
32	+0.1	11.6	13.7	19.1
64	+0.5	8.4	9.7	12.3
128	+0.6	5.8	6.7	9.3
256	+0.5	4.1	5.0	6.6
512	+0.5	3.0	3.5	4.4
1,024	+0.5	2.1	2.4	3.4
2,048	+0.5	1.5	1.8	2.4
4,096	+0.5	1.0	1.2	1.7
8,192	+0.5	0.7	0.9	1.1
16,384	+0.5	0.5	0.6	0.8

Table 10 ($1.90/day 2011 PPP line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	47.3	0.0	52.7	52.7	−99.9
<=9	0.8	46.4	0.2	52.6	53.4	−96.2
<=14	2.9	44.4	0.3	52.4	55.3	−87.2
<=19	7.0	40.3	0.8	51.9	58.9	−68.8
<=24	13.9	33.4	2.0	50.7	64.6	−36.8
<=29	21.6	25.7	4.5	48.3	69.8	+0.7
<=34	30.8	16.5	8.0	44.7	75.5	+47.2
<=39	37.0	10.2	12.1	40.6	77.6	+74.3
<=44	41.6	5.7	17.1	35.7	77.3	+63.9
<=49	44.6	2.7	22.2	30.5	75.0	+53.0
<=54	45.9	1.4	27.3	25.4	71.3	+42.3
<=59	46.4	0.9	31.0	21.7	68.1	+34.4
<=64	46.7	0.6	33.7	19.0	65.7	+28.6
<=69	46.8	0.5	36.1	16.6	63.4	+23.6
<=74	46.8	0.5	37.5	15.2	62.0	+20.6
<=79	46.8	0.5	38.2	14.5	61.3	+19.2
<=84	46.8	0.5	38.8	13.9	60.7	+17.8
<=89	46.8	0.5	39.2	13.5	60.3	+17.1
<=94	46.8	0.5	39.2	13.5	60.3	+17.1
<=200	47.3	0.0	52.7	0.0	47.3	−11.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($1.90/day 2011 PPP line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	84.0	1.8	5.3:1
<=14	3.2	89.9	6.0	8.9:1
<=19	7.8	89.7	14.8	8.7:1
<=24	16.0	87.2	29.5	6.8:1
<=29	26.0	82.8	45.6	4.8:1
<=34	38.8	79.4	65.1	3.9:1
<=39	49.2	75.3	78.3	3.1:1
<=44	58.6	70.9	88.0	2.4:1
<=49	66.8	66.7	94.2	2.0:1
<=54	73.1	62.7	97.0	1.7:1
<=59	77.4	59.9	98.1	1.5:1
<=64	80.4	58.0	98.8	1.4:1
<=69	82.9	56.4	98.9	1.3:1
<=74	84.3	55.5	99.0	1.2:1
<=79	85.0	55.1	99.0	1.2:1
<=84	85.6	54.6	99.0	1.2:1
<=89	86.0	54.4	99.0	1.2:1
<=94	86.0	54.4	99.0	1.2:1
<=200	100.0	47.3	100.0	0.9:1

Tables for
the $3.10/day 2011 PPP Poverty Line
2014 Definition

Table 4 ($3.10/day 2011 PPP line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	98.8
20–24	98.3
25–29	97.1
30–34	95.1
35–39	92.5
40–44	86.3
45–49	80.5
50–54	72.2
55–59	61.3
60–64	45.8
65–69	22.6
70–74	16.3
75–79	15.4
80–84	15.4
85–89	15.4
90–94	15.4
95–200	15.4

Table 6 ($3.10/day 2011 PPP line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+4.7	2.6	3.0	4.1
10–14	0.0	0.0	0.0	0.0
15–19	−1.2	0.6	0.6	0.6
20–24	+0.2	0.6	0.7	0.9
25–29	+0.8	0.9	1.0	1.3
30–34	−0.6	0.8	0.9	1.2
35–39	−0.2	1.1	1.3	1.7
40–44	+1.7	1.9	2.2	2.9
45–49	−2.3	2.1	2.3	2.7
50–54	+14.0	3.3	4.0	5.7
55–59	+4.7	3.5	4.1	5.3
60–64	−1.7	4.4	5.2	6.6
65–69	−5.9	5.0	5.5	6.6
70–74	+13.8	1.3	1.5	2.1
75–79	−7.5	9.2	10.7	14.4
80–84	+15.4	0.0	0.0	0.0
85–89	+15.4	0.0	0.0	0.0
90–94	+15.4	0.0	0.0	0.0
95–200	+1.2	1.4	1.7	2.3

Table 7 ($3.10/day 2011 PPP line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

| Sample Size | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
n	Diff.	90-percent	95-percent	99-percent
1	−1.8	63.2	82.6	89.8
4	−0.1	31.2	41.6	54.2
8	+0.3	23.0	28.5	37.9
16	+1.0	16.2	20.6	27.4
32	+1.4	11.6	14.0	17.7
64	+1.5	8.1	9.2	12.4
128	+1.5	5.5	6.8	9.2
256	+1.5	3.9	4.7	6.6
512	+1.5	2.7	3.5	4.4
1,024	+1.5	2.0	2.4	3.2
2,048	+1.5	1.5	1.8	2.3
4,096	+1.5	1.0	1.2	1.7
8,192	+1.5	0.7	0.9	1.2
16,384	+1.5	0.5	0.6	0.8

Table 10 ($3.10/day 2011 PPP line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	73.4	0.0	26.6	26.6	−100.0
<=9	0.9	72.4	0.0	26.6	27.5	−97.4
<=14	3.1	70.2	0.0	26.6	29.7	−91.4
<=19	7.7	65.6	0.1	26.6	34.3	−78.9
<=24	15.7	57.7	0.3	26.4	42.1	−56.8
<=29	25.4	47.9	0.6	26.0	51.5	−29.9
<=34	37.6	35.8	1.2	25.4	63.0	+4.0
<=39	47.2	26.2	2.0	24.7	71.9	+31.4
<=44	55.5	17.9	3.1	23.5	79.0	+55.6
<=49	62.1	11.3	4.7	21.9	84.0	+75.6
<=54	66.3	7.1	6.8	19.8	86.1	+90.0
<=59	68.7	4.7	8.7	17.9	86.6	+88.1
<=64	70.0	3.3	10.4	16.2	86.3	+85.8
<=69	70.9	2.5	12.0	14.6	85.5	+83.6
<=74	71.0	2.4	13.3	13.3	84.3	+81.8
<=79	71.1	2.3	13.9	12.7	83.8	+81.0
<=84	71.1	2.3	14.6	12.1	83.1	+80.1
<=89	71.1	2.3	14.9	11.7	82.8	+79.7
<=94	71.1	2.3	14.9	11.7	82.8	+79.6
<=200	73.4	0.0	26.6	0.0	73.4	+63.7

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($3.10/day 2011 PPP line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	95.1	1.3	19.5:1
<=14	3.2	98.5	4.3	65.0:1
<=19	7.8	99.3	10.5	139.0:1
<=24	16.0	98.4	21.4	61.7:1
<=29	26.0	97.7	34.7	42.0:1
<=34	38.8	96.9	51.2	30.8:1
<=39	49.2	96.0	64.3	23.9:1
<=44	58.6	94.6	75.6	17.6:1
<=49	66.8	92.9	84.6	13.1:1
<=54	73.1	90.6	90.4	9.7:1
<=59	77.4	88.7	93.6	7.9:1
<=64	80.4	87.1	95.5	6.7:1
<=69	82.9	85.5	96.6	5.9:1
<=74	84.3	84.2	96.7	5.3:1
<=79	85.0	83.6	96.8	5.1:1
<=84	85.6	83.0	96.8	4.9:1
<=89	86.0	82.6	96.8	4.8:1
<=94	86.0	82.6	96.8	4.8:1
<=200	100.0	73.4	100.0	2.8:1

Tables for
the Poverty Line Marking the Poorest Half of People below 100% of the National Poverty Line
2014 Definition

Table 4 (Line marking poorest half below 100% of national line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	66.3
5–9	66.3
10–14	56.8
15–19	44.9
20–24	35.7
25–29	30.7
30–34	17.5
35–39	9.3
40–44	7.2
45–49	3.0
50–54	1.2
55–59	0.6
60–64	0.2
65–69	0.2
70–74	0.2
75–79	0.2
80–84	0.2
85–89	0.2
90–94	0.2
95–200	0.2

Table 6 (Line marking poorest half below 100% of national line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16{,}384$, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.6	6.7	8.2	11.0
10–14	−6.4	5.6	6.3	8.2
15–19	+6.1	3.2	3.9	4.9
20–24	+4.3	2.3	2.8	3.8
25–29	+5.1	2.0	2.4	3.0
30–34	+0.6	1.5	1.8	2.2
35–39	+0.6	1.2	1.4	1.8
40–44	−1.0	1.2	1.4	1.8
45–49	−0.4	0.9	1.0	1.3
50–54	+0.4	0.4	0.5	0.7
55–59	+0.6	0.1	0.1	0.1
60–64	+0.2	0.0	0.0	0.0
65–69	+0.2	0.0	0.0	0.0
70–74	+0.2	0.0	0.0	0.0
75–79	+0.2	0.0	0.0	0.0
80–84	+0.2	0.0	0.0	0.0
85–89	+0.2	0.0	0.0	0.0
90–94	+0.2	0.0	0.0	0.0
95–200	0.0	0.1	0.2	0.2

Table 7 (Line marking poorest half below 100% of national line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.8	52.5	63.7	74.8
4	+1.0	26.4	31.8	42.2
8	+0.7	18.6	22.7	30.5
16	+0.6	12.5	15.2	19.9
32	+0.8	8.9	10.8	15.0
64	+1.0	6.6	7.8	10.1
128	+1.1	4.6	5.4	7.1
256	+1.1	3.2	3.7	5.1
512	+1.1	2.1	2.5	3.6
1,024	+1.1	1.6	1.9	2.5
2,048	+1.1	1.1	1.3	1.7
4,096	+1.1	0.8	1.0	1.3
8,192	+1.1	0.6	0.7	0.9
16,384	+1.1	0.4	0.5	0.6

Table 10 (Line marking poorest half below 100% of national line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	13.6	0.0	86.3	86.3	−99.9
<=9	0.6	13.1	0.4	85.9	86.5	−88.6
<=14	1.8	11.8	1.3	85.0	86.8	−63.2
<=19	3.7	9.9	4.1	82.3	86.0	−15.6
<=24	6.8	6.9	9.2	77.1	83.9	+32.5
<=29	9.2	4.4	16.8	69.6	78.8	−23.0
<=34	11.5	2.2	27.3	59.1	70.5	−100.0
<=39	12.5	1.2	36.7	49.7	62.1	−169.0
<=44	13.2	0.4	45.4	41.0	54.2	−232.8
<=49	13.5	0.1	53.2	33.1	46.6	−290.4
<=54	13.6	0.1	59.5	26.8	40.4	−336.5
<=59	13.6	0.0	63.8	22.5	36.1	−367.8
<=64	13.6	0.0	66.8	19.5	33.1	−390.0
<=69	13.6	0.0	69.3	17.1	30.7	−408.1
<=74	13.6	0.0	70.7	15.7	29.3	−418.3
<=79	13.6	0.0	71.4	15.0	28.6	−423.3
<=84	13.6	0.0	72.0	14.3	27.9	−428.1
<=89	13.6	0.0	72.4	14.0	27.6	−430.6
<=94	13.6	0.0	72.4	14.0	27.6	−430.7
<=200	13.6	0.0	86.3	0.0	13.6	−533.2

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (Line marking poorest half below 100% of national line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	0.0	0.0	0.0:1
<=9	1.0	57.4	4.2	1.3:1
<=14	3.2	57.8	13.5	1.4:1
<=19	7.8	47.8	27.3	0.9:1
<=24	16.0	42.4	49.6	0.7:1
<=29	26.0	35.5	67.7	0.5:1
<=34	38.8	29.6	84.1	0.4:1
<=39	49.2	25.4	91.5	0.3:1
<=44	58.6	22.6	97.1	0.3:1
<=49	66.8	20.3	99.2	0.3:1
<=54	73.1	18.6	99.6	0.2:1
<=59	77.4	17.6	99.7	0.2:1
<=64	80.4	16.9	99.7	0.2:1
<=69	82.9	16.4	99.7	0.2:1
<=74	84.3	16.1	99.7	0.2:1
<=79	85.0	16.0	99.7	0.2:1
<=84	85.6	15.9	99.7	0.2:1
<=89	86.0	15.8	99.7	0.2:1
<=94	86.0	15.8	99.7	0.2:1
<=200	100.0	13.6	100.0	0.2:1

Tables for
the First-Quintile (20th-Percentile) Poverty Line
2014 Definition

Table 4 (First-quintile (20th-percentile) line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	65.7
5–9	65.7
10–14	56.4
15–19	44.9
20–24	35.7
25–29	30.7
30–34	17.5
35–39	9.3
40–44	7.2
45–49	3.0
50–54	1.2
55–59	0.6
60–64	0.2
65–69	0.2
70–74	0.2
75–79	0.2
80–84	0.2
85–89	0.2
90–94	0.2
95–200	0.2

Table 6 (First-quintile (20ᵗʰ-percentile) line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| Score | Diff. | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.1	6.7	8.2	11.0
10–14	−6.4	5.7	6.2	8.2
15–19	+6.1	3.2	3.9	4.9
20–24	+4.4	2.3	2.8	3.8
25–29	+5.2	2.0	2.4	3.0
30–34	+0.9	1.5	1.8	2.2
35–39	+0.6	1.2	1.4	1.8
40–44	−1.0	1.2	1.4	1.8
45–49	−0.4	0.9	1.0	1.3
50–54	+0.4	0.4	0.5	0.7
55–59	+0.6	0.1	0.1	0.1
60–64	+0.2	0.0	0.0	0.0
65–69	+0.2	0.0	0.0	0.0
70–74	+0.2	0.0	0.0	0.0
75–79	+0.2	0.0	0.0	0.0
80–84	+0.2	0.0	0.0	0.0
85–89	+0.2	0.0	0.0	0.0
90–94	+0.2	0.0	0.0	0.0
95–200	0.0	0.1	0.2	0.2

Table 7 (First-quintile (20ᵗʰ-percentile) line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

| Sample Size n | Difference between estimate and true value | | | |
| | | Confidence interval ($\pm$percentage points) | | |
	Diff.	90-percent	95-percent	99-percent
1	+0.8	52.5	63.7	74.6
4	+1.0	26.4	31.8	42.2
8	+0.7	18.6	22.5	30.5
16	+0.7	12.5	15.2	19.9
32	+0.8	8.9	10.8	15.0
64	+1.1	6.6	7.8	10.0
128	+1.1	4.6	5.4	7.1
256	+1.1	3.2	3.7	5.1
512	+1.1	2.2	2.5	3.6
1,024	+1.1	1.6	1.9	2.5
2,048	+1.1	1.1	1.3	1.7
4,096	+1.1	0.8	1.0	1.3
8,192	+1.1	0.6	0.7	0.9
16,384	+1.1	0.4	0.5	0.6

Table 10 (First-quintile (20th-percentile) line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	13.6	0.0	86.4	86.4	−99.9
<=9	0.6	13.0	0.4	86.0	86.6	−88.6
<=14	1.8	11.8	1.4	85.1	86.9	−63.2
<=19	3.7	9.9	4.1	82.3	86.0	−15.4
<=24	6.7	6.8	9.2	77.2	83.9	+32.0
<=29	9.2	4.4	16.8	69.6	78.8	−23.9
<=34	11.4	2.2	27.4	59.1	70.5	−101.5
<=39	12.4	1.2	36.8	49.7	62.1	−170.7
<=44	13.2	0.4	45.5	41.0	54.1	−234.9
<=49	13.5	0.1	53.3	33.1	46.6	−292.7
<=54	13.5	0.1	59.6	26.8	40.3	−339.0
<=59	13.5	0.0	63.9	22.5	36.1	−370.5
<=64	13.5	0.0	66.9	19.5	33.1	−392.7
<=69	13.5	0.0	69.4	17.1	30.6	−410.9
<=74	13.5	0.0	70.8	15.7	29.2	−421.2
<=79	13.5	0.0	71.4	15.0	28.5	−426.2
<=84	13.5	0.0	72.1	14.3	27.9	−431.0
<=89	13.5	0.0	72.4	14.0	27.5	−433.5
<=94	13.5	0.0	72.5	14.0	27.5	−433.6
<=200	13.6	0.0	86.4	0.0	13.6	−536.5

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (First-quintile (20ᵗʰ-percentile) line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	0.0	0.0	0.0:1
<=9	1.0	57.4	4.2	1.3:1
<=14	3.2	57.2	13.4	1.3:1
<=19	7.8	47.6	27.3	0.9:1
<=24	16.0	42.2	49.6	0.7:1
<=29	26.0	35.4	67.8	0.5:1
<=34	38.8	29.4	84.1	0.4:1
<=39	49.2	25.3	91.5	0.3:1
<=44	58.6	22.5	97.1	0.3:1
<=49	66.8	20.2	99.2	0.3:1
<=54	73.1	18.5	99.6	0.2:1
<=59	77.4	17.5	99.7	0.2:1
<=64	80.4	16.8	99.7	0.2:1
<=69	82.9	16.3	99.7	0.2:1
<=74	84.3	16.1	99.7	0.2:1
<=79	85.0	15.9	99.7	0.2:1
<=84	85.6	15.8	99.7	0.2:1
<=89	86.0	15.7	99.7	0.2:1
<=94	86.0	15.7	99.7	0.2:1
<=200	100.0	13.6	100.0	0.2:1

Tables for
the Second-Quintile (40th-Percentile) Poverty Line
2014 Definition

Table 4 (Second-quintile (40$^{\text{th}}$-percentile) line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	84.4
5–9	84.4
10–14	80.2
15–19	72.2
20–24	64.6
25–29	61.1
30–34	44.5
35–39	33.1
40–44	21.7
45–49	12.5
50–54	6.3
55–59	5.5
60–64	1.6
65–69	0.4
70–74	0.4
75–79	0.4
80–84	0.4
85–89	0.4
90–94	0.4
95–200	0.4

Table 6 (Second-quintile (40ᵗʰ-percentile) line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| Score | Diff. | Difference between estimate and true value | | |
| | | Confidence interval ($\pm$percentage points) | | |
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+16.9	6.4	7.4	11.0
10–14	−6.9	4.9	5.1	5.5
15–19	+5.3	3.7	4.5	5.8
20–24	−4.6	3.5	3.7	4.1
25–29	+6.4	2.2	2.7	3.5
30–34	+1.7	2.0	2.5	3.1
35–39	+4.1	1.9	2.3	2.9
40–44	0.0	1.9	2.2	2.7
45–49	+0.1	1.7	2.0	2.6
50–54	+1.9	1.0	1.2	1.5
55–59	+4.5	0.5	0.6	0.7
60–64	−9.8	6.6	6.9	7.6
65–69	+0.1	0.3	0.3	0.4
70–74	+0.4	0.0	0.0	0.0
75–79	+0.4	0.0	0.0	0.0
80–84	+0.4	0.0	0.0	0.0
85–89	+0.4	0.0	0.0	0.0
90–94	+0.4	0.0	0.0	0.0
95–200	0.0	0.2	0.2	0.3

Table 7 (Second-quintile (40th-percentile) line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.2	64.0	71.5	86.9
4	+0.1	32.9	40.7	54.1
8	−0.2	23.0	28.4	38.0
16	+0.4	16.6	19.9	26.2
32	+0.7	11.3	13.4	17.7
64	+0.9	8.2	9.9	12.7
128	+1.0	5.7	6.8	8.7
256	+0.9	4.0	4.9	5.9
512	+0.9	2.9	3.4	4.5
1,024	+1.0	2.0	2.4	3.0
2,048	+1.0	1.4	1.8	2.2
4,096	+1.0	1.0	1.2	1.6
8,192	+1.0	0.7	0.8	1.1
16,384	+1.0	0.5	0.6	0.8

Table 10 (Second-quintile (40th-percentile) line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	29.6	0.0	70.4	70.4	−99.9
<=9	0.7	28.9	0.3	70.1	70.8	−94.4
<=14	2.5	27.1	0.7	69.7	72.3	−80.8
<=19	5.8	23.8	2.0	68.4	74.2	−54.1
<=24	11.2	18.4	4.8	65.6	76.8	−8.3
<=29	16.6	13.0	9.4	61.0	77.6	+44.2
<=34	22.4	7.2	16.4	54.0	76.4	+44.6
<=39	25.5	4.1	23.7	46.7	72.2	+19.9
<=44	27.6	1.9	31.0	39.4	67.1	−4.8
<=49	28.8	0.8	38.0	32.4	61.1	−28.6
<=54	29.2	0.4	44.0	26.5	55.6	−48.6
<=59	29.3	0.3	48.1	22.3	51.5	−62.7
<=64	29.5	0.1	51.0	19.4	48.9	−72.3
<=69	29.5	0.1	53.4	17.0	46.5	−80.6
<=74	29.5	0.1	54.8	15.6	45.1	−85.3
<=79	29.5	0.1	55.5	14.9	44.4	−87.6
<=84	29.5	0.1	56.2	14.3	43.7	−89.8
<=89	29.5	0.1	56.5	13.9	43.4	−91.0
<=94	29.5	0.1	56.5	13.9	43.4	−91.0
<=200	29.6	0.0	70.4	0.0	29.6	−138.0

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (Second-quintile (40th-percentile) line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	0.0	0.0	0.0:1
<=9	1.0	67.0	2.2	2.0:1
<=14	3.2	79.0	8.5	3.8:1
<=19	7.8	74.5	19.6	2.9:1
<=24	16.0	69.9	37.8	2.3:1
<=29	26.0	63.9	56.2	1.8:1
<=34	38.8	57.7	75.6	1.4:1
<=39	49.2	51.8	86.2	1.1:1
<=44	58.6	47.1	93.4	0.9:1
<=49	66.8	43.0	97.2	0.8:1
<=54	73.1	39.9	98.6	0.7:1
<=59	77.4	37.8	98.9	0.6:1
<=64	80.4	36.6	99.6	0.6:1
<=69	82.9	35.5	99.6	0.6:1
<=74	84.3	35.0	99.6	0.5:1
<=79	85.0	34.7	99.6	0.5:1
<=84	85.6	34.4	99.6	0.5:1
<=89	86.0	34.3	99.6	0.5:1
<=94	86.0	34.3	99.6	0.5:1
<=200	100.0	29.6	100.0	0.4:1

Tables for
the Median (50th-Percentile) Poverty Line
2014 Definition

Table 4 (Median (50th-percentile) line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	90.1
5–9	90.1
10–14	85.7
15–19	82.9
20–24	77.0
25–29	71.0
30–34	58.2
35–39	46.9
40–44	36.7
45–49	22.6
50–54	13.6
55–59	10.7
60–64	4.5
65–69	0.9
70–74	0.9
75–79	0.9
80–84	0.9
85–89	0.9
90–94	0.9
95–200	0.9

Table 4 (Median (50th-percentile) line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	90.1
5–9	90.1
10–14	85.7
15–19	82.9
20–24	77.0
25–29	71.0
30–34	58.2
35–39	46.9
40–44	36.7
45–49	22.6
50–54	13.6
55–59	10.7
60–64	4.5
65–69	0.9
70–74	0.9
75–79	0.9
80–84	0.9
85–89	0.9
90–94	0.9
95–200	0.9

Table 6 (Median (50th-percentile) line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

		Difference between estimate and true value		
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+13.4	5.9	7.3	9.4
10–14	−5.9	4.1	4.3	4.7
15–19	+10.1	3.6	4.3	6.0
20–24	−1.0	2.0	2.4	3.0
25–29	+4.3	2.1	2.6	3.2
30–34	−2.2	2.1	2.5	3.2
35–39	+0.4	2.2	2.6	3.4
40–44	+1.6	2.1	2.6	3.5
45–49	−3.6	3.0	3.2	3.8
50–54	+4.8	1.4	1.7	2.4
55–59	+6.4	1.3	1.6	2.0
60–64	−8.7	6.1	6.4	7.0
65–69	−0.5	0.8	1.0	1.3
70–74	+0.9	0.0	0.0	0.0
75–79	+0.9	0.0	0.0	0.0
80–84	+0.9	0.0	0.0	0.0
85–89	+0.9	0.0	0.0	0.0
90–94	+0.9	0.0	0.0	0.0
95–200	−1.0	0.7	0.8	0.9

Table 7 (Median (50th-percentile) line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and true value			
		Confidence interval (±percentage points)		
	Diff.	90-percent	95-percent	99-percent
1	–0.1	67.1	77.2	87.6
4	–0.3	34.3	41.9	57.1
8	–0.4	24.0	29.5	38.7
16	0.0	17.4	21.1	29.3
32	+0.3	12.6	15.6	20.7
64	+0.6	8.5	10.1	13.3
128	+0.7	6.2	7.2	9.2
256	+0.6	4.3	5.2	7.2
512	+0.6	3.1	3.8	4.8
1,024	+0.6	2.2	2.6	3.6
2,048	+0.6	1.5	1.8	2.4
4,096	+0.5	1.0	1.3	1.7
8,192	+0.5	0.8	0.9	1.2
16,384	+0.5	0.5	0.6	0.9

Table 10 (Median (50th-percentile) line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	38.6	0.0	61.3	61.3	−99.9
<=9	0.8	37.9	0.2	61.1	61.9	−95.4
<=14	2.8	35.9	0.4	60.9	63.7	−84.6
<=19	6.4	32.2	1.4	60.0	66.4	−63.3
<=24	12.7	26.0	3.3	58.0	70.7	−25.9
<=29	19.3	19.4	6.8	54.6	73.8	+17.2
<=34	26.8	11.9	12.0	49.4	76.1	+69.0
<=39	31.6	7.0	17.5	43.8	75.4	+54.6
<=44	35.0	3.7	23.6	37.7	72.7	+38.8
<=49	37.0	1.7	29.8	31.5	68.5	+23.0
<=54	37.8	0.9	35.3	26.0	63.8	+8.6
<=59	38.0	0.6	39.4	22.0	60.0	−1.8
<=64	38.3	0.4	42.1	19.2	57.5	−9.0
<=69	38.3	0.3	44.5	16.8	55.1	−15.2
<=74	38.3	0.3	45.9	15.4	53.7	−18.8
<=79	38.3	0.3	46.6	14.7	53.1	−20.6
<=84	38.3	0.3	47.3	14.1	52.4	−22.3
<=89	38.3	0.3	47.6	13.7	52.1	−23.2
<=94	38.3	0.3	47.6	13.7	52.0	−23.2
<=200	38.7	0.0	61.3	0.0	38.7	−58.7

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (Median (50th-percentile) line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	79.5	2.0	3.9:1
<=14	3.2	87.0	7.2	6.7:1
<=19	7.8	82.3	16.6	4.7:1
<=24	16.0	79.3	32.8	3.8:1
<=29	26.0	74.0	49.8	2.8:1
<=34	38.8	69.1	69.3	2.2:1
<=39	49.2	64.3	81.8	1.8:1
<=44	58.6	59.6	90.5	1.5:1
<=49	66.8	55.4	95.7	1.2:1
<=54	73.1	51.7	97.8	1.1:1
<=59	77.4	49.1	98.4	1.0:1
<=64	80.4	47.6	99.1	0.9:1
<=69	82.9	46.3	99.2	0.9:1
<=74	84.3	45.5	99.2	0.8:1
<=79	85.0	45.1	99.2	0.8:1
<=84	85.6	44.8	99.2	0.8:1
<=89	86.0	44.6	99.2	0.8:1
<=94	86.0	44.6	99.2	0.8:1
<=200	100.0	38.7	100.0	0.6:1

Tables for
the Third-Quintile (60th-Percentile) Poverty Line
2014 Definition

Table 4 (Third-quintile (60th-percentile) line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	94.5
5–9	94.5
10–14	91.8
15–19	89.2
20–24	86.3
25–29	83.8
30–34	71.1
35–39	61.9
40–44	50.5
45–49	35.5
50–54	21.3
55–59	15.5
60–64	7.3
65–69	2.0
70–74	2.0
75–79	2.0
80–84	2.0
85–89	2.0
90–94	2.0
95–200	2.0

Table 6 (Third-quintile (60th-percentile) line (2014 def.)):
Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| Score | Diff. | Difference between estimate and true value | | |
| | | Confidence interval ($\pm$percentage points) | | |
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.8	4.7	5.7	7.5
10–14	−1.1	2.3	2.8	3.8
15–19	+0.3	2.2	2.7	3.5
20–24	+0.8	1.7	2.1	2.7
25–29	+7.8	2.0	2.3	3.0
30–34	−2.6	2.2	2.3	2.7
35–39	+0.7	2.1	2.5	3.2
40–44	0.0	2.3	2.8	3.7
45–49	−2.9	2.7	3.2	4.3
50–54	+6.6	1.8	2.2	2.9
55–59	+2.7	2.3	2.8	3.5
60–64	−7.0	5.3	5.7	6.1
65–69	−0.3	1.0	1.2	1.5
70–74	+1.8	0.2	0.2	0.3
75–79	+2.0	0.0	0.0	0.0
80–84	+2.0	0.0	0.0	0.0
85–89	+2.0	0.0	0.0	0.0
90–94	+2.0	0.0	0.0	0.0
95–200	−0.7	0.6	0.7	0.8

Table 7 (Third-quintile (60ᵗʰ-percentile) line (2014 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.1	67.8	81.3	92.2
4	−0.9	34.2	41.0	53.8
8	−1.0	23.6	28.3	35.4
16	+0.1	16.2	18.9	26.5
32	+0.2	11.7	13.6	18.5
64	+0.7	8.1	9.6	12.7
128	+0.8	5.8	6.7	9.7
256	+0.6	4.1	5.1	6.5
512	+0.7	3.0	3.6	4.3
1,024	+0.7	2.1	2.5	3.2
2,048	+0.6	1.5	1.8	2.4
4,096	+0.6	1.0	1.2	1.7
8,192	+0.6	0.7	0.8	1.2
16,384	+0.6	0.5	0.6	0.8

Table 10 (Third-quintile (60th-percentile) line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	47.8	0.0	52.2	52.2	−99.9
<=9	0.8	47.0	0.2	52.0	52.8	−96.2
<=14	2.9	45.0	0.3	51.8	54.7	−87.4
<=19	7.0	40.9	0.8	51.4	58.3	−69.1
<=24	13.9	33.9	2.0	50.1	64.1	−37.5
<=29	21.6	26.2	4.4	47.8	69.4	−0.4
<=34	30.9	17.0	7.9	44.3	75.2	+45.6
<=39	37.2	10.6	12.0	40.2	77.4	+75.0
<=44	42.0	5.8	16.7	35.5	77.5	+65.2
<=49	45.0	2.8	21.8	30.4	75.4	+54.5
<=54	46.3	1.5	26.8	25.4	71.7	+44.0
<=59	46.9	0.9	30.5	21.6	68.5	+36.2
<=64	47.2	0.6	33.2	18.9	66.2	+30.6
<=69	47.3	0.5	35.6	16.6	63.9	+25.6
<=74	47.3	0.5	37.0	15.2	62.5	+22.7
<=79	47.3	0.5	37.7	14.5	61.8	+21.3
<=84	47.3	0.5	38.3	13.8	61.2	+19.9
<=89	47.3	0.5	38.7	13.5	60.8	+19.2
<=94	47.3	0.5	38.7	13.5	60.8	+19.2
<=200	47.8	0.0	52.2	0.0	47.8	−9.0

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (Third-quintile (60th-percentile) line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	84.0	1.7	5.3:1
<=14	3.2	89.9	6.0	8.9:1
<=19	7.8	89.7	14.6	8.7:1
<=24	16.0	87.3	29.1	6.9:1
<=29	26.0	83.1	45.2	4.9:1
<=34	38.8	79.7	64.6	3.9:1
<=39	49.2	75.7	77.8	3.1:1
<=44	58.6	71.6	87.8	2.5:1
<=49	66.8	67.4	94.1	2.1:1
<=54	73.1	63.4	96.8	1.7:1
<=59	77.4	60.6	98.0	1.5:1
<=64	80.4	58.7	98.7	1.4:1
<=69	82.9	57.1	98.9	1.3:1
<=74	84.3	56.1	98.9	1.3:1
<=79	85.0	55.7	98.9	1.3:1
<=84	85.6	55.2	98.9	1.2:1
<=89	86.0	55.0	98.9	1.2:1
<=94	86.0	55.0	98.9	1.2:1
<=200	100.0	47.8	100.0	0.9:1

Tables for
the Fourth-Quintile (80th-Percentile) Poverty Line
2014 Definition

Table 4 (Fourth-quintile (80th-percentile) line (2014 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	99.5
5–9	99.5
10–14	99.4
15–19	97.4
20–24	97.3
25–29	94.8
30–34	91.3
35–39	88.6
40–44	81.5
45–49	71.7
50–54	61.5
55–59	47.8
60–64	34.5
65–69	16.3
70–74	12.6
75–79	12.6
80–84	12.6
85–89	12.6
90–94	12.6
95–200	12.6

Table 6 (Fourth-quintile (80th-percentile) line (2014 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

Score	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+8.5	3.8	4.5	6.1
10–14	−0.6	0.3	0.3	0.3
15–19	−2.2	1.2	1.2	1.3
20–24	+0.1	0.7	0.8	1.1
25–29	+0.8	1.1	1.3	1.7
30–34	−1.2	1.1	1.2	1.5
35–39	+1.7	1.6	1.8	2.4
40–44	+0.4	2.0	2.3	3.0
45–49	−1.8	2.3	2.7	3.5
50–54	+17.2	3.2	3.8	5.3
55–59	−3.7	3.7	4.1	5.4
60–64	−8.9	6.5	7.1	7.8
65–69	−0.4	3.0	3.6	4.7
70–74	+10.4	1.3	1.5	2.0
75–79	−9.9	9.6	10.8	14.6
80–84	+12.6	0.0	0.0	0.0
85–89	+12.6	0.0	0.0	0.0
90–94	+12.6	0.0	0.0	0.0
95–200	+0.1	1.4	1.8	2.3

Table 7 (Fourth-quintile (80ᵗʰ-percentile) line (2014 def.)):
Errors (average differences between estimated and
observed poverty rates) for samples of households at a
point in time by sample size, with confidence intervals,
for 1,000 bootstraps of various sample sizes, 2014
scorecard applied to the 2014 validation sample

Sample Size		Difference between estimate and true value		
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	–3.4	62.0	84.5	89.3
4	–0.9	31.9	41.1	54.5
8	–0.6	23.1	27.8	37.3
16	+0.1	17.3	21.8	28.3
32	+0.6	12.2	14.3	19.5
64	+0.8	7.9	9.7	12.7
128	+0.8	5.8	6.8	9.3
256	+0.9	4.2	4.9	6.4
512	+0.9	2.9	3.5	4.3
1,024	+0.9	2.1	2.5	3.2
2,048	+0.9	1.5	1.8	2.5
4,096	+0.9	1.1	1.3	1.8
8,192	+0.9	0.8	0.9	1.2
16,384	+0.9	0.6	0.7	0.8

Table 10 (Fourth-quintile (80th-percentile) line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	69.1	0.0	30.9	30.9	−99.9
<=9	0.9	68.2	0.1	30.8	31.7	−97.3
<=14	3.1	66.0	0.1	30.8	33.9	−90.9
<=19	7.7	61.4	0.1	30.8	38.4	−77.6
<=24	15.6	53.5	0.4	30.5	46.1	−54.4
<=29	25.1	44.0	0.9	29.9	55.0	−26.0
<=34	36.8	32.3	2.0	28.9	65.7	+9.3
<=39	45.9	23.2	3.3	27.6	73.5	+37.6
<=44	53.8	15.3	4.8	26.1	79.9	+62.7
<=49	59.8	9.3	7.0	23.9	83.6	+83.1
<=54	63.3	5.9	9.9	21.0	84.3	+85.7
<=59	65.3	3.8	12.1	18.8	84.1	+82.5
<=64	66.5	2.6	14.0	16.9	83.4	+79.8
<=69	67.1	2.1	15.8	15.0	82.1	+77.1
<=74	67.1	2.0	17.2	13.7	80.8	+75.1
<=79	67.2	1.9	17.8	13.1	80.3	+74.3
<=84	67.2	1.9	18.4	12.4	79.6	+73.3
<=89	67.2	1.9	18.8	12.1	79.3	+72.8
<=94	67.2	1.9	18.8	12.1	79.3	+72.8
<=200	69.1	0.0	30.9	0.0	69.1	+55.3

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (Fourth-quintile (80th-percentile) line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	91.8	1.3	11.2:1
<=14	3.2	97.5	4.5	38.4:1
<=19	7.8	98.5	11.1	67.6:1
<=24	16.0	97.5	22.5	38.7:1
<=29	26.0	96.4	36.3	26.4:1
<=34	38.8	94.9	53.2	18.6:1
<=39	49.2	93.3	66.4	13.9:1
<=44	58.6	91.8	77.9	11.1:1
<=49	66.8	89.5	86.5	8.5:1
<=54	73.1	86.5	91.5	6.4:1
<=59	77.4	84.4	94.5	5.4:1
<=64	80.4	82.7	96.2	4.8:1
<=69	82.9	80.9	97.0	4.2:1
<=74	84.3	79.6	97.1	3.9:1
<=79	85.0	79.1	97.2	3.8:1
<=84	85.6	78.5	97.2	3.6:1
<=89	86.0	78.2	97.2	3.6:1
<=94	86.0	78.1	97.2	3.6:1
<=200	100.0	69.1	100.0	2.2:1

Tables for
100% of the National Poverty Line
2003 Definition

Table 4 (100% of national line (2003 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	86.6
5–9	86.6
10–14	82.9
15–19	75.2
20–24	67.7
25–29	63.7
30–34	48.1
35–39	34.8
40–44	24.5
45–49	14.1
50–54	9.3
55–59	6.7
60–64	1.5
65–69	0.3
70–74	0.3
75–79	0.3
80–84	0.3
85–89	0.3
90–94	0.3
95–200	0.3

Table 6 (100% of national line (2003 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+14.9	6.2	7.3	9.5
10–14	−6.1	4.4	4.6	5.0
15–19	+7.8	3.6	4.6	5.8
20–24	−4.9	3.5	3.7	4.2
25–29	+3.8	2.2	2.5	3.2
30–34	+2.8	2.1	2.4	3.2
35–39	+1.3	2.0	2.5	3.2
40–44	−1.9	2.0	2.4	3.1
45–49	−1.0	1.8	2.1	2.7
50–54	+4.4	1.1	1.4	1.8
55–59	+5.7	0.5	0.6	0.7
60–64	−4.3	3.3	3.6	4.0
65–69	+0.1	0.3	0.3	0.4
70–74	+0.3	0.0	0.0	0.0
75–79	+0.3	0.0	0.0	0.0
80–84	+0.3	0.0	0.0	0.0
85–89	+0.3	0.0	0.0	0.0
90–94	+0.3	0.0	0.0	0.0
95–200	−0.1	0.2	0.2	0.3

Table 7 (100% of national line (2003 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	0.0	64.4	71.6	86.8
4	−0.3	33.9	41.0	53.9
8	−0.6	24.0	28.6	38.5
16	+0.1	16.1	19.0	26.5
32	+0.4	11.4	13.6	18.5
64	+0.7	8.3	9.8	12.0
128	+0.8	5.5	6.8	8.9
256	+0.8	4.0	4.7	6.1
512	+0.9	2.8	3.5	4.6
1,024	+0.9	2.0	2.4	3.2
2,048	+0.9	1.4	1.7	2.3
4,096	+0.9	1.0	1.2	1.5
8,192	+0.9	0.7	0.8	1.1
16,384	+0.9	0.5	0.6	0.8

Table 10 (100% of national line (2003 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	31.4	0.0	68.6	68.6	−99.9
<=9	0.7	30.7	0.3	68.3	69.0	−94.6
<=14	2.6	28.8	0.6	68.0	70.6	−81.6
<=19	5.9	25.5	1.9	66.7	72.6	−56.5
<=24	11.5	19.9	4.4	64.1	75.7	−12.5
<=29	17.4	14.0	8.6	59.9	77.3	+38.2
<=34	23.4	8.0	15.4	53.2	76.6	+51.2
<=39	26.9	4.5	22.3	46.3	73.2	+29.1
<=44	29.4	2.0	29.2	39.3	68.7	+7.0
<=49	30.7	0.8	36.1	32.5	63.1	−14.9
<=54	31.1	0.3	42.0	26.5	57.6	−33.7
<=59	31.2	0.2	46.2	22.3	53.5	−47.1
<=64	31.3	0.1	49.1	19.4	50.7	−56.3
<=69	31.3	0.1	51.6	17.0	48.3	−64.1
<=74	31.3	0.1	53.0	15.6	46.9	−68.6
<=79	31.3	0.1	53.7	14.9	46.2	−70.7
<=84	31.3	0.1	54.3	14.3	45.6	−72.8
<=89	31.3	0.1	54.7	13.9	45.2	−73.9
<=94	31.3	0.1	54.7	13.9	45.2	−74.0
<=200	31.4	0.0	68.6	0.0	31.4	−118.2

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (100% of national line (2003 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	0.0	0.0	0.0:1
<=9	1.0	71.6	2.2	2.5:1
<=14	3.2	81.9	8.3	4.5:1
<=19	7.8	75.7	18.7	3.1:1
<=24	16.0	72.3	36.7	2.6:1
<=29	26.0	66.8	55.4	2.0:1
<=34	38.8	60.4	74.5	1.5:1
<=39	49.2	54.7	85.6	1.2:1
<=44	58.6	50.1	93.6	1.0:1
<=49	66.8	45.9	97.6	0.8:1
<=54	73.1	42.5	99.0	0.7:1
<=59	77.4	40.3	99.2	0.7:1
<=64	80.4	38.9	99.6	0.6:1
<=69	82.9	37.8	99.6	0.6:1
<=74	84.3	37.1	99.6	0.6:1
<=79	85.0	36.8	99.6	0.6:1
<=84	85.6	36.6	99.6	0.6:1
<=89	86.0	36.4	99.6	0.6:1
<=94	86.0	36.4	99.6	0.6:1
<=200	100.0	31.4	100.0	0.5:1

Tables for
150% of the National Poverty Line
2003 Definition

Table 4 (150% of national line (2003 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	96.4
5–9	96.4
10–14	94.8
15–19	93.0
20–24	92.5
25–29	88.9
30–34	83.1
35–39	74.3
40–44	64.3
45–49	48.6
50–54	33.3
55–59	25.8
60–64	12.4
65–69	4.7
70–74	3.3
75–79	3.3
80–84	3.3
85–89	3.3
90–94	3.3
95–200	3.3

Table 6 (150% of national line (2003 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval ($\pm$percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.2	4.3	5.0	6.6
10–14	−3.4	2.2	2.3	2.4
15–19	−0.1	1.7	2.0	2.8
20–24	+1.6	1.4	1.7	2.2
25–29	+0.4	1.4	1.6	2.1
30–34	−0.6	1.4	1.7	2.2
35–39	+1.7	1.9	2.3	3.0
40–44	+1.6	2.3	2.9	3.6
45–49	−5.7	4.2	4.5	5.0
50–54	+7.4	2.5	2.9	3.6
55–59	+6.3	2.7	3.2	4.1
60–64	−7.2	5.4	5.7	6.6
65–69	+0.1	1.7	2.1	2.7
70–74	+1.8	1.1	1.3	1.5
75–79	+3.2	0.3	0.3	0.4
80–84	+3.3	0.0	0.0	0.0
85–89	+3.3	0.0	0.0	0.0
90–94	+3.3	0.0	0.0	0.0
95–200	+0.2	0.5	0.6	0.9

Table 7 (150% of national line (2003 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	−1.3	65.1	74.9	94.6
4	−0.8	30.7	38.6	52.6
8	−0.9	21.8	25.0	35.6
16	−0.2	14.7	18.4	25.7
32	+0.1	11.2	12.8	16.9
64	+0.6	7.5	9.0	12.0
128	+0.8	5.5	6.5	8.3
256	+0.7	3.9	4.8	6.1
512	+0.7	2.7	3.2	4.3
1,024	+0.7	2.0	2.4	3.0
2,048	+0.7	1.4	1.6	2.3
4,096	+0.7	1.0	1.2	1.5
8,192	+0.7	0.7	0.8	1.2
16,384	+0.6	0.5	0.6	0.7

Table 10 (150% of national line (2003 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	56.4	0.0	43.6	43.6	−99.9
<=9	0.9	55.5	0.1	43.5	44.4	−96.7
<=14	3.0	53.4	0.2	43.4	46.4	−89.0
<=19	7.3	49.1	0.5	43.1	50.4	−73.3
<=24	14.7	41.7	1.3	42.4	57.1	−45.6
<=29	23.5	32.9	2.5	41.1	64.6	−12.1
<=34	34.0	22.4	4.8	38.8	72.8	+29.1
<=39	41.5	14.8	7.6	36.0	77.5	+60.9
<=44	47.6	8.8	11.1	32.6	80.1	+80.4
<=49	51.9	4.5	14.9	28.7	80.6	+73.6
<=54	54.1	2.3	19.1	24.6	78.6	+66.2
<=59	55.0	1.4	22.4	21.2	76.2	+60.2
<=64	55.5	0.9	24.9	18.7	74.2	+55.8
<=69	55.7	0.7	27.2	16.4	72.0	+51.7
<=74	55.7	0.7	28.6	15.0	70.7	+49.3
<=79	55.7	0.7	29.3	14.3	70.0	+48.1
<=84	55.7	0.7	29.9	13.7	69.4	+46.9
<=89	55.7	0.7	30.3	13.4	69.1	+46.3
<=94	55.7	0.7	30.3	13.3	69.0	+46.3
<=200	56.4	0.0	43.6	0.0	56.4	+22.6

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 (150% of national line (2003 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	87.4	1.5	6.9:1
<=14	3.2	94.3	5.3	16.6:1
<=19	7.8	93.6	12.9	14.5:1
<=24	16.0	92.1	26.1	11.7:1
<=29	26.0	90.4	41.7	9.4:1
<=34	38.8	87.7	60.3	7.1:1
<=39	49.2	84.5	73.7	5.4:1
<=44	58.6	81.1	84.4	4.3:1
<=49	66.8	77.7	92.1	3.5:1
<=54	73.1	73.9	95.9	2.8:1
<=59	77.4	71.0	97.5	2.5:1
<=64	80.4	69.0	98.5	2.2:1
<=69	82.9	67.1	98.7	2.0:1
<=74	84.3	66.1	98.8	1.9:1
<=79	85.0	65.5	98.8	1.9:1
<=84	85.6	65.0	98.8	1.9:1
<=89	86.0	64.8	98.8	1.8:1
<=94	86.0	64.8	98.8	1.8:1
<=200	100.0	56.4	100.0	1.3:1

Tables for
The $1.25/day 2005 PPP Poverty Line
2003 Definition

Table 4 ($1.25/day 2005 PPP line (2003 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	93.9
5–9	93.9
10–14	91.3
15–19	88.5
20–24	85.2
25–29	82.8
30–34	70.9
35–39	60.9
40–44	50.7
45–49	33.1
50–54	21.1
55–59	15.2
60–64	6.7
65–69	1.5
70–74	1.5
75–79	1.5
80–84	1.5
85–89	1.5
90–94	1.5
95–200	1.5

Table 6 ($1.25/day 2005 PPP line (2003 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and true value | | |
| | | Confidence interval (±percentage points) | | |
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+9.3	4.7	5.7	7.5
10–14	−3.1	2.5	2.7	3.3
15–19	+0.6	2.3	2.7	3.8
20–24	−0.8	1.7	2.0	2.5
25–29	+3.6	1.7	2.1	2.6
30–34	−3.2	2.4	2.6	2.8
35–39	+0.7	2.1	2.5	3.2
40–44	+0.8	2.4	2.7	3.7
45–49	−2.6	2.7	3.2	4.0
50–54	+5.9	1.9	2.3	2.9
55–59	+3.6	2.0	2.4	3.2
60–64	−7.4	5.4	5.7	6.3
65–69	−0.7	1.0	1.2	1.5
70–74	+1.4	0.2	0.2	0.3
75–79	+1.4	0.3	0.3	0.4
80–84	+1.5	0.0	0.0	0.0
85–89	+1.5	0.0	0.0	0.0
90–94	+1.5	0.0	0.0	0.0
95–200	−0.8	0.6	0.7	0.8

Table 7 ($1.25/day 2005 PPP line (2003 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value Confidence interval (±percentage points) 90-percent	95-percent	99-percent
1	–0.1	68.9	80.8	91.9
4	–1.1	33.3	39.7	52.9
8	–1.3	23.3	28.6	36.2
16	–0.5	15.7	19.1	26.9
32	–0.3	11.4	13.7	18.4
64	+0.2	7.9	9.5	12.6
128	+0.3	5.8	6.9	9.3
256	+0.1	4.0	4.9	6.5
512	+0.2	2.8	3.3	4.6
1,024	+0.1	2.0	2.3	3.3
2,048	+0.1	1.5	1.7	2.2
4,096	+0.1	1.0	1.2	1.6
8,192	+0.1	0.7	0.8	1.1
16,384	+0.1	0.5	0.6	0.8

Table 10 ($1.25/day 2005 PPP line (2003 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	47.3	0.0	52.7	52.7	−99.9
<=9	0.8	46.5	0.2	52.5	53.4	−96.2
<=14	2.9	44.4	0.3	52.4	55.3	−87.2
<=19	6.9	40.4	0.8	51.8	58.8	−68.9
<=24	13.9	33.4	2.1	50.6	64.5	−36.9
<=29	21.7	25.6	4.3	48.4	70.1	+0.9
<=34	30.9	16.4	7.8	44.8	75.8	+47.3
<=39	37.1	10.2	12.1	40.6	77.8	+74.5
<=44	41.8	5.6	16.9	35.8	77.5	+64.3
<=49	44.6	2.7	22.2	30.5	75.1	+53.1
<=54	45.9	1.4	27.2	25.5	71.4	+42.5
<=59	46.5	0.8	30.9	21.7	68.2	+34.6
<=64	46.8	0.5	33.7	19.0	65.8	+28.9
<=69	46.9	0.5	36.0	16.6	63.5	+23.8
<=74	46.9	0.4	37.4	15.3	62.1	+20.9
<=79	46.9	0.4	38.1	14.6	61.5	+19.5
<=84	46.9	0.4	38.8	13.9	60.8	+18.1
<=89	46.9	0.4	39.1	13.6	60.5	+17.4
<=94	46.9	0.4	39.1	13.6	60.4	+17.3
<=200	47.3	0.0	52.7	0.0	47.3	−11.4

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($1.25/day 2005 PPP line (2003 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	84.0	1.8	5.3:1
<=14	3.2	90.5	6.1	9.5:1
<=19	7.8	89.1	14.7	8.2:1
<=24	16.0	87.0	29.4	6.7:1
<=29	26.0	83.4	45.9	5.0:1
<=34	38.8	79.8	65.4	3.9:1
<=39	49.2	75.5	78.5	3.1:1
<=44	58.6	71.2	88.2	2.5:1
<=49	66.8	66.8	94.2	2.0:1
<=54	73.1	62.8	97.0	1.7:1
<=59	77.4	60.0	98.2	1.5:1
<=64	80.4	58.2	98.9	1.4:1
<=69	82.9	56.5	99.0	1.3:1
<=74	84.3	55.6	99.1	1.3:1
<=79	85.0	55.2	99.1	1.2:1
<=84	85.6	54.7	99.1	1.2:1
<=89	86.0	54.5	99.1	1.2:1
<=94	86.0	54.5	99.1	1.2:1
<=200	100.0	47.3	100.0	0.9:1

Tables for
The $2.50/day 2005 PPP Poverty Line
2014 Definition

Table 4 ($2.50/day 2005 PPP line (2003 def.)): Scores and their associated estimates of poverty likelihoods

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	99.5
20–24	98.8
25–29	98.7
30–34	97.8
35–39	96.5
40–44	93.4
45–49	89.2
50–54	86.7
55–59	75.3
60–64	58.8
65–69	36.0
70–74	25.5
75–79	22.5
80–84	20.8
85–89	20.8
90–94	20.8
95–200	20.8

Table 6 ($2.50/day 2005 PPP line (2003 def.)): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2014 scorecard applied to the 2014 validation sample

Score	Diff.	Difference between estimate and true value Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	−0.5	0.2	0.2	0.2
20–24	−0.6	0.4	0.4	0.5
25–29	+0.5	0.6	0.7	1.0
30–34	−0.3	0.5	0.6	0.8
35–39	−0.8	0.7	0.8	1.0
40–44	+0.1	1.2	1.5	2.0
45–49	+1.2	1.7	2.0	2.5
50–54	+17.9	3.4	4.1	5.7
55–59	+9.1	3.4	4.1	5.4
60–64	+3.7	4.3	5.0	6.9
65–69	+1.0	4.4	5.3	7.2
70–74	+12.1	3.7	4.4	5.9
75–79	−0.8	9.3	10.7	14.2
80–84	+20.6	0.3	0.3	0.4
85–89	+18.6	2.5	2.8	3.4
90–94	+20.8	0.0	0.0	0.0
95–200	+2.6	1.5	1.8	2.5

Table 7 ($2.50/day 2005 PPP line (2003 def.)): Errors (average differences between estimated and observed poverty rates) for samples of households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Diff.	Difference between estimate and true value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	+0.1	55.7	82.9	88.5
4	+1.4	30.6	38.5	57.4
8	+1.8	22.9	29.0	39.5
16	+2.2	15.9	19.5	27.9
32	+2.6	11.2	13.6	17.6
64	+2.5	7.9	9.5	12.7
128	+2.6	5.6	6.4	8.8
256	+2.7	4.0	4.8	6.4
512	+2.7	2.7	3.2	4.8
1,024	+2.7	2.0	2.3	3.3
2,048	+2.7	1.5	1.7	2.2
4,096	+2.7	1.0	1.2	1.6
8,192	+2.7	0.7	0.9	1.1
16,384	+2.7	0.5	0.6	0.8

Table 10 ($2.50/day 2005 PPP line (2003 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	78.7	0.0	21.2	21.3	−100.0
<=9	1.0	77.8	0.0	21.2	22.2	−97.5
<=14	3.2	75.6	0.0	21.2	24.4	−91.9
<=19	7.8	71.0	0.0	21.2	29.0	−80.2
<=24	15.9	62.9	0.1	21.2	37.0	−59.6
<=29	25.8	53.0	0.2	21.0	46.8	−34.2
<=34	38.3	40.5	0.5	20.7	59.0	−2.2
<=39	48.3	30.4	0.8	20.4	68.7	+23.8
<=44	57.3	21.5	1.4	19.9	77.2	+47.2
<=49	64.4	14.4	2.4	18.8	83.2	+66.6
<=54	69.4	9.3	3.7	17.5	87.0	+81.0
<=59	72.4	6.4	5.0	16.2	88.6	+90.2
<=64	74.1	4.7	6.4	14.9	89.0	+91.9
<=69	75.2	3.6	7.7	13.5	88.7	+90.2
<=74	75.4	3.3	8.9	12.4	87.8	+88.8
<=79	75.5	3.2	9.4	11.8	87.3	+88.0
<=84	75.6	3.2	10.1	11.2	86.7	+87.2
<=89	75.6	3.2	10.4	10.8	86.4	+86.8
<=94	75.6	3.2	10.4	10.8	86.4	+86.8
<=200	78.8	0.0	21.2	0.0	78.8	+73.0

Inclusion, undercoverage, leakage, and exclusion normalized to sum to 100.

Table 11 ($2.50/day 2005 PPP line (2003 def.)): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

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
<=4	0.0	100.0	0.0	Only poor targeted
<=9	1.0	100.0	1.3	Only poor targeted
<=14	3.2	100.0	4.0	Only poor targeted
<=19	7.8	100.0	9.9	Only poor targeted
<=24	16.0	99.5	20.2	187.2:1
<=29	26.0	99.1	32.8	108.5:1
<=34	38.8	98.7	48.6	75.1:1
<=39	49.2	98.3	61.4	57.8:1
<=44	58.6	97.7	72.7	41.9:1
<=49	66.8	96.4	81.8	26.9:1
<=54	73.1	94.9	88.2	18.8:1
<=59	77.4	93.5	91.9	14.5:1
<=64	80.4	92.1	94.1	11.6:1
<=69	82.9	90.7	95.4	9.7:1
<=74	84.3	89.5	95.8	8.5:1
<=79	85.0	88.9	95.9	8.0:1
<=84	85.6	88.2	95.9	7.5:1
<=89	86.0	87.9	96.0	7.3:1
<=94	86.0	87.9	96.0	7.3:1
<=200	100.0	78.8	100.0	3.7:1