

# Simple Poverty Scorecard<sup>®</sup> Poverty-Assessment Tool Mozambique

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## Abstract

The Simple Poverty Scorecard<sup>®</sup>-brand poverty-assessment tool for Mozambique uses 10 low-cost indicators from the 2014/15 Household Budget 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 Mozambique to estimate poverty rates, to track changes in poverty rates over time, and to segment clients for differentiated treatment.

## Version note

This paper uses 2014/15 data, replacing Schreiner (2013a), which uses 2008/9 data. The new 2014 scorecard should be used from now on. Five of the poverty lines under the old 2008 definition of *poverty* that are supported for the old 2008 scorecard are also supported for the new 2014 scorecard. This allows existing users to estimate annual rates of change for those lines with a baseline from the old 2008 scorecard and a follow-up from the new 2014 scorecard. In addition, the new 2014 scorecard supports poverty lines under the new 2014 definition of *poverty* that Mozambique will use from now on.

## Acknowledgements

Data are from Mozambique's *Instituto Nacional de Estatística*. Thanks go to Channing Arndt, Arão Balate, Jana Bischler, Lars Lundgren, and Vincenzo Salvucci. Copyright © 2017 by Mark Schreiner, all rights reserved. "Simple Poverty Scorecard" is a Registered Trademark of Microfinance Risk Management, L.L.C.

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# Simple Poverty Scorecard<sup>®</sup> Poverty-Assessment Tool

Interview ID: _____	<u>Name</u>	<u>Identifier</u>
Interview date: _____	Participant: _____	_____
Country: <u>MOZ</u>	Field agent: _____	_____
Scorecard: <u>002</u>	Service point: _____	_____
Sampling wgt.: _____	Number of household members: _____	

Indicator	Response	Points Score
1. In what province does the household reside?	A. Gaza	0
	B. Nampula, Niassa, or Zambézia	2
	C. Inhambane	3
	D. Cabo Delgado	6
	E. Manica, or Maputo Província	12
	F. Sofala	13
	G. Maputo Cidade	16
	H. Tete	20
2. How many household members are 15-years-old or younger?	A. Five or more	0
	B. Four	9
	C. Three	15
	D. Two	22
	E. One	32
	F. None	36
3. Can the male head/spouse read and write?	A. No male head/spouse	0
	B. No	5
	C. Yes	8
4. What is the main construction material of the floor of the residence? ( <i>Enumerator: Observe on your own, and ask respondent only if not obvious</i> )	A. Dirt, rough planks, or other	0
	B. Adobe, cement, tile/marble, parquet, or sawed wood	3
5. What is the main source of energy for lighting in the residence of the household?	A. Firewood, candles, oil/paraffin/kerosene, LPG, or other	0
	B. Electricity, generator, solar panel, or battery (large or small)	4
6. Does the household have a table in good working order?	A. No	0
	B. Yes	3
7. How many beds and cots does the household have in good working order?	A. None, or one	0
	B. Two	5
	C. Three or more	10
8. Does the household have a television in good working order?	A. No	0
	B. Yes	7
9. Does the household have a charcoal or electric iron in good working order?	A. No	0
	B. Yes	5
10. Does the household have a cell phone in good working order?	A. No	0
	B. Yes	4

## Back-page Worksheet: Household Members and Ages

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 that the participant uses. Record the province of residence for the first scorecard indicator.

Read to the respondent: *Please tell me the first names and ages of all the members of your household, starting with the head and his/her (eldest) spouse/partner. A household is a single person or a group of people who normally reside together and eat together. A household includes all people who normally live and eat together, regardless of whether they are related by blood or marriage.*

Write down the name and age of each member, marking the male head/spouse (if he exists). You need to know someone’s precise age only if the true age may be close to 15. For each member, mark whether he or she is 15-years-old or younger.

Count the number of household members, and write it in the scorecard header by “Number of household members:”. Then count the number of members who are 15-years-old or younger, and mark the response to the second scorecard indicator.

Always keep in mind and apply the complete definitions of *household* and *normal resident* found in the “Guidelines for the Interpretation of Scorecard Indicators”.

Name	Age	Is <NAME> the head of the household or the spouse/partner of the head?	Is <NAME> 15-years-old or younger?	
1.		Male head Female head	No	Yes
2.		Male spouse/partner (Eldest) female spouse/partner Other	No	Yes
3.		Other	No	Yes
4.		Other	No	Yes
5.		Other	No	Yes
6.		Other	No	Yes
7.		Other	No	Yes
8.		Other	No	Yes
9.		Other	No	Yes
10.		Other	No	Yes
11.		Other	No	Yes
12.		Other	No	Yes
13.		Other	No	Yes
14.		Other	No	Yes
15.		Other	No	Yes
17.		Other	No	Yes
Number of household members:			Number of members ≤15:	

**Look-up table to convert scores to poverty likelihoods:  
2014-definition national poverty lines**

Score	Poverty likelihood (%)		
	National lines (2014 def.)		
	100%	150%	200%
0–7	96.0	100.0	100.0
8–17	81.4	95.8	99.2
18–26	74.0	91.5	97.3
27–31	62.4	87.9	95.3
32–34	56.9	82.5	91.6
35–37	54.5	80.4	90.8
38–40	46.8	73.2	87.2
41–42	43.5	72.3	85.5
43–44	42.0	71.7	84.1
45–46	38.5	65.1	82.2
47–48	32.4	62.0	81.3
49–51	24.3	52.1	71.0
52–54	23.4	48.5	68.9
55–56	21.9	48.2	65.2
57–59	20.9	43.9	64.5
60–64	15.8	36.7	54.8
65–66	8.5	29.9	48.9
67–72	6.6	24.9	42.9
73–76	5.4	15.3	30.3
77–83	2.2	9.2	20.6
84–100	0.4	2.9	9.5

**Look-up table to convert scores to poverty likelihoods:  
2014-definition international 2005 and 2011 PPP lines**

Score	Poverty likelihood (%)					
	Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
	\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
0–7	99.1	100.0	100.0	100.0	100.0	100.0
8–17	89.1	98.8	99.4	100.0	91.3	99.2
18–26	82.1	96.8	98.8	99.9	84.7	97.8
27–31	74.3	94.0	97.8	99.9	79.0	95.9
32–34	68.1	89.1	95.6	99.6	73.6	91.8
35–37	66.1	88.5	95.0	99.5	70.7	91.3
38–40	56.4	84.6	92.1	99.5	60.8	88.2
41–42	52.8	82.9	90.4	99.0	59.2	86.5
43–44	52.8	81.5	88.9	98.3	59.2	85.1
45–46	48.2	78.6	88.2	97.5	53.2	83.0
47–48	44.0	77.2	87.2	97.2	48.9	82.0
49–51	33.8	67.1	79.1	95.7	38.5	72.0
52–54	32.9	64.6	76.4	95.2	37.0	69.4
55–56	31.8	61.4	74.0	95.2	35.8	66.5
57–59	29.2	60.1	74.0	95.1	34.4	65.6
60–64	22.1	50.2	65.8	92.0	25.5	55.9
65–66	15.3	43.7	60.7	88.7	18.4	50.8
67–72	11.4	38.2	52.7	84.5	15.4	44.2
73–76	7.9	27.1	37.9	69.6	10.5	30.7
77–83	4.3	16.9	28.5	63.1	5.2	21.7
84–100	0.8	7.7	13.9	46.1	1.1	10.2

**Look-up table to convert scores to poverty likelihoods:  
2014-definition relative and percentile-based poverty lines**

Score	Poverty likelihood (%)					
	Poorest 1/2 < 100% Natl.	Percentile-based lines				
		20th	40th	50th	60th	80th
0-7	75.9	70.9	92.8	97.6	98.8	100.0
8-17	58.1	52.8	79.6	88.7	94.2	99.1
18-26	47.5	41.3	70.2	82.4	89.7	98.8
27-31	37.8	32.5	61.9	73.9	82.9	97.3
32-34	31.4	25.6	55.7	68.9	81.4	96.0
35-37	23.1	20.6	47.6	63.7	76.8	94.7
38-40	21.8	18.8	43.2	55.5	68.6	93.9
41-42	20.7	17.3	41.2	52.8	65.8	91.4
43-44	18.6	15.7	38.4	50.8	63.3	89.7
45-46	15.0	12.8	33.4	48.1	62.7	86.6
47-48	10.8	8.4	26.7	38.6	53.7	85.2
49-51	6.9	5.7	21.3	33.7	47.2	77.1
52-54	5.7	4.9	16.0	23.9	37.7	70.2
55-56	5.0	4.6	14.5	21.3	33.5	66.3
57-59	5.0	4.6	12.3	19.4	27.7	63.1
60-64	3.2	2.7	7.9	12.5	19.4	51.5
65-66	0.7	0.7	2.2	4.6	12.1	38.5
67-72	0.5	0.5	2.2	4.0	8.9	31.5
73-76	0.1	0.1	2.2	3.3	5.7	15.6
77-83	0.0	0.0	0.1	0.1	1.7	9.4
84-100	0.0	0.0	0.0	0.0	0.0	2.5

**Look-up table to convert scores to poverty likelihoods:  
2008-definition national lines and 2005 PPP poverty lines**

Score	Poverty likelihood (%)				
	National (2008 def.)			Intl. 2005 PPP (2008 def.)	
	100%	150%	200%	\$1.25	\$2.50
0-7	97.6	100.0	100.0	100.0	100.0
8-17	84.4	97.4	99.2	88.8	99.4
18-26	77.3	93.8	98.2	81.5	98.9
27-31	66.2	90.3	96.7	72.1	98.0
32-34	60.1	85.3	93.5	66.2	96.1
35-37	58.4	83.1	92.4	65.1	94.6
38-40	49.0	76.1	90.1	54.4	91.8
41-42	46.9	75.2	88.1	51.0	89.9
43-44	45.4	74.5	86.3	50.8	88.2
45-46	42.3	69.5	84.0	47.4	86.9
47-48	34.7	66.1	82.9	41.6	86.3
49-51	26.6	55.7	73.8	33.0	78.2
52-54	26.2	52.7	71.5	30.8	75.0
55-56	24.4	51.1	67.5	30.2	71.9
57-59	23.2	48.2	67.4	28.8	71.8
60-64	17.7	40.2	58.6	21.3	65.1
65-66	12.3	33.8	52.5	16.7	60.5
67-72	8.6	29.1	46.2	11.5	52.7
73-76	6.7	19.7	34.5	8.9	39.8
77-83	3.1	11.8	25.2	4.3	29.3
84-100	0.6	4.9	12.3	1.0	16.0

## **Note on estimates of annual rates of change in poverty rates using both the old 2008 scorecard and the new 2014 scorecard**

The new scorecard here uses data from Mozambique's 2014/15 Household Budget Survey (*Inquérito Sobre Orçamento Familiar*, IOF). It replaces the old scorecard in Schreiner (2013a) that uses data from the 2008/9 IOF. The new 2014 scorecard should be used from now on.

Between 2008/9 and 2014/15, the *Instituto Nacional de Estatística* (INE) redefined Mozambique's measure of consumption and its poverty lines. As a result, estimated poverty rates based on the old 2008 definition of *poverty* supported by the old 2008 scorecard in Schreiner (2013a) 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 Mozambique that already use the old 2008 scorecard can switch to the new 2014 scorecard and still find hybrid estimates of annual rates of change in poverty rates with existing baseline estimates from the old 2008 scorecard and follow-up estimates from the new 2014 scorecard. This is possible because the new 2014 scorecard supports not only 15 poverty lines based on the new 2014 definition of *poverty* but also five absolute poverty lines based on the old 2008 definition of *poverty*. Given a 2008-definition line that is supported for both the old and new scorecards, estimates of annual rates of change in poverty rates can be found with a baseline with the old 2008 scorecard and a follow-up with the new 2014 scorecard.



The Appendix has a worked-out, step-by-step example of how to calculate hybrid estimates of change looking from the past to the present. The Appendix also shows how to calculate non-hybrid estimates of change starting now and looking to the future. Finally, the Appendix shows how to splice together hybrid and non-hybrid estimates of change.

It is reasonable to splice a hybrid estimate of change based on the old 2008 definition of *poverty* (baseline from the old 2008 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 2008 and new 2014 definitions. This is the “parallel-lines” assumption.

In Mozambique, the “parallel-lines” assumption held well in the past.<sup>1</sup> In particular, the percentage-point change from 2008/9 to 2014/15 is  $-5.5$  at the person-level for 100% of the 2008-definition national poverty line versus  $-5.6$  for 100% of the 2014-definition national line (Ministério de Economia e Finanças, 2016, pp. 10 and 12). Looking back from the 2014/15 IOF to the 2002/3 Inquérito aos Agregados Familiares (IAF), the estimated percentage-point changes are  $-15.3$  (2008 definition) and  $-16.9$  (2014 definition). And for the 18 years between the 2014/15 IOF and the 1996/7 IAF,

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<sup>1</sup> Ministério da Economia e Finanças (2016, p. xv) says “The trend for the two definitions is almost identical.” (Translation by the author.)  
Em termos de tendências, os dois métodos fornecem resultados quase idênticos.

the percentage-point estimates are  $-20.2$  (2008 definition) and  $-23.6$  (2014 definition).

These differences are small, so the “parallel-lines” assumption held well in the past.

Of course, users of spliced estimates of changes should “be careful” and “use caution”, as the “parallel-lines” assumption may not hold as well in the future as it did in the past. Taking these often-hollow caveats seriously means either eschewing spliced estimates altogether or explicitly considering how the failure of the “parallel-lines” assumption—or the inherent inaccuracies in scorecard estimates—might affect estimates of change over time.

In sum, both first-time and legacy users should use the new 2014 scorecard and 2014-definition poverty lines from now on. Looking forward, this establishes the best baseline and follows Mozambique’s current definition of *poverty*. Looking backward, legacy users of Mozambique’s old 2008 scorecard can still use existing estimates when estimating change.

# Simple Poverty Scorecard<sup>®</sup> Poverty-Assessment Tool Mozambique

## 1. Introduction

This paper presents the Simple Poverty Scorecard<sup>®</sup>-brand poverty-assessment tool. Pro-poor programs in Mozambique can use the scorecard 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 the annual rate of change in a population's poverty rate, and to segment participants for differentiated treatment.

The new 2014 scorecard here uses data from the 2014/15 *Inquérito Sobre Orçamento Familiar* (IOF, Household Budget Survey) by Mozambique's *Instituto Nacional de Estatística* (INE). It replaces the old 2008 scorecard in Schreiner (2013a) that uses data from the 2008/9 IOF. The new 2014 scorecard is more accurate, so it should be used from now on. With the 2014/15 IOF, Mozambique updated both the measure of consumption as well as the poverty lines in its definition of *poverty*, so estimates of poverty rates based on 2008-definition lines are not comparable with estimates based on 2014-definition lines. Legacy users, however, can still salvage existing estimates from the old 2008 scorecard to find estimates of changes in poverty rates over time. This is possible because five poverty lines under the 2008-definition of *poverty* that are supported for the old 2008 scorecard are also supported for the new

2014 scorecard. Legacy users can estimate change over time for those five lines with a baseline from the old 2008 scorecard and a follow-up from the new 2014 scorecard. For now on, all users should also estimate poverty rates using the 2014-definition poverty lines that are supported for the new 2014 scorecard.

The direct approach to poverty assessment via consumption surveys is difficult and costly. A case in point is the 2014/15 IOF. According to INE (2015, p. 10), enumerators for the IOF spent a total of about three person-days with each interviewed household in the course of 11 visits (urban) or eight visits (rural). They asked about 450 questions, most of which had additional follow-up sub-questions, and/or were asked for each household member, and/or were asked for each of three weeks or for each of seven days.

In comparison, the indirect approach of the Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool is quick and low-cost. It uses 10 verifiable indicators drawn from the 2014/15 IOF (such as “What is the main construction material of the floor of the residence?” and “How many beds and cots does the household have in good working order?”) to get a score that is correlated with poverty status as measured by the exhaustive IOF survey.

The scorecard differs from “proxy-means tests” (Coady, Grosh, and Hoddinott, 2004) in that it is transparent, it is freely available,<sup>2</sup> and it is tailored to the capabilities and purposes not of national governments but rather of local pro-poor organizations. The feasible poverty-assessment options for such organizations are typically blunt (such as rules based on land ownership or housing quality) or subjective and relative (such as participatory wealth ranking facilitated by skilled field workers). Poverty estimates from these approaches may be costly, their accuracy is unknown, and they are not comparable across places, organizations, nor time.

The scorecard can be used to estimate the share of a program’s participants who are below a given poverty line (for example, Mozambique’s 2014-definition national line). USAID microenterprise partners in Mozambique can use the scorecard with the \$1.90/day 2011 PPP line to report how many of their participants are “very poor”.<sup>3</sup> The scorecard can also be used to estimate the annual rate of change in a poverty rate. For all these applications, the scorecard is a consumption-based, objective tool. While consumption surveys are costly even for governments, some local pro-poor organizations may be able to implement a low-cost poverty-assessment tool to help with monitoring poverty and (if desired) segmenting clients for differentiated treatment.

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<sup>2</sup> The Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool is not, however, in the public domain. Copyright is held by Mark Schreiner.

<sup>3</sup> USAID defines a household as *very poor* if its daily per-capita consumption is less than the highest of the \$1.90/day 2011 PPP line (MTN32.97, Table 1) or the line that marks the poorest half of people below 100% of the 2014-definition national line (MTN13.64).

The statistical approach here aims to be understood by non-specialists. After all, if program managers are to adopt the scorecard on their own and apply it to inform their decisions, then they must first trust that it works. Transparency and straightforwardness build trust. Getting “buy-in” matters; proxy-means tests and regressions on the “determinants of poverty” have been around for decades, but they are rarely used to inform decisions by local pro-poor organizations. This is not because these tools do not work, but because they are often presented (when they are presented at all) as tables of regression coefficients incomprehensible to non-specialists (with cryptic indicator names such as “LGHHSZ\_2” and with points with negative values and many decimal places). Thanks to the predictive-modeling phenomenon known as the “flat maximum”, straightforward, transparent approaches are usually about as accurate as complex, opaque ones (Schreiner, 2012a; Caire and Schreiner, 2012).

Beyond its low cost and transparency, the technical approach of the scorecard is innovative in how it associates scores with poverty likelihoods, in the extent of its accuracy tests, and in how it derives formulas for standard errors. Although the accuracy tests are straightforward and commonplace in statistical practice and in the for-profit field of credit-risk scoring, they have rarely been applied to poverty-assessment tools.

The scorecard is based on data from the 2014/15 IOF from Mozambique's INE.

Indicators are selected to be:

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

All points in the scorecard are non-negative integers, and total scores range from 0 (most likely below a poverty line) to 100 (least likely below a poverty line). Non-specialists can collect data and tally scores on paper in the field in about ten minutes.

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

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

Third, the scorecard can estimate the annual rate of change in a 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 of the annual rate of change in a poverty rate 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 100% of Mozambique's 2014-definition national poverty line applied to data from the 2014/15 IOF. Scores from this one scorecard are calibrated with this same data to poverty likelihoods for 20 poverty lines. In particular, it is calibrated to five of the 2008-definition lines supported by the old 2008 scorecard (Schreiner, 2013a). This allows legacy users to switch to the new 2014 scorecard here and estimate annual rates of change with one of these five lines by combining existing 2008-definition estimates from the old 2008 scorecard with 2008-definition estimates from the new 2014 scorecard.

The new 2014 scorecard is constructed using data from about half of the households in the 2014/15 IOF. Data from that same half of households is also used to calibrate scores to poverty likelihoods for the 20 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 scorecard-based estimators (the poverty likelihood of a household, the poverty rate of a population at a point in time, and the



annual rate of change in a poverty rate of a population) are *unbiased*. That is, their average matches the true value in repeated samples when constructed from (and applied to) a single, unchanging population in which the relationship between scorecard indicators and poverty is unchanging. Like all predictive models, the scorecard 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 after 2014/15 (because the relationships between indicators and poverty change over time).<sup>4</sup>

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

On average across 1,000 bootstraps of  $n = 16,384$  from the validation sample, the error (average difference across bootstrap samples between the scorecard's estimate of a poverty rate versus the observed rate in the 2014/15 IOF) at a point in time for 100% of the 2014-definition national poverty line is  $-0.8$  percentage points. The average across all 20 poverty lines of the average of the absolute values of the average error is

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<sup>4</sup> Important cases include nationally representative samples at a later point in time and sub-national populations that are not nationally representative (Schreiner, forthcoming; Diamond *et al.*, 2016; Tarozzi and Deaton, 2009).

about 2.2 percentage points, and the maximum of the absolute values of the average error is 6.9 percentage points.<sup>5</sup> These estimation errors are due to sampling variation, not bias; the average difference would be zero if the whole 2014/15 IOF were to be repeatedly re-fielded and re-divided into sub-samples before repeating the entire process of constructing and validating the resulting scorecards.

With  $n = 16,384$ , the 90-percent confidence intervals are  $\pm 0.8$  percentage points or smaller. For  $n = 1,024$ , the 90-percent intervals are  $\pm 3.1$  percentage points or smaller.

Section 2 below documents data and poverty lines. Sections 3 and 4 describe scorecard construction and offer guidelines for implementation. Sections 5 and 6 tell how to estimate households' poverty likelihoods and populations' poverty rates at a point in time. Section 7 discusses estimating the annual rate of change in a population's poverty rate. Section 8 covers targeting. Section 9 places the new scorecard here in the context of a related exercise for Mozambique. The last section is a summary.

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<sup>5</sup> Errors are about 10 times higher for the six relative and percentile-based lines. For the 14 absolute lines, the average of the absolute values of the average error is about 0.6 percentage points, and the maximum of the absolute values of the average error is 0.9.

The Appendix (found after the “References”) tells how—and walks through a step-by-step example—to calculate hybrid estimates of changes in poverty rates over time with 2008-definition poverty lines in which the baseline estimate is from the old 2008 scorecard and the follow-up estimate is from the new 2014 scorecard. The Appendix also shows to how compute non-hybrid estimates of change with 2014-definition poverty lines in which both baseline and follow-up estimates are from the new 2014 scorecard. Finally, the Appendix shows how to compute spliced estimates of change 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 Mozambique’s 2014/15 IOF as closely as possible. These “Guidelines” (and the “Back-page Worksheet”) are integral parts of the Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool.

## 2. Data and poverty lines

This section presents the data used to construct and validate the scorecard. It also documents Mozambique’s 2008 and 2014 definitions of *poverty*, as well as the 20 poverty lines to which scores are calibrated.

### 2.1 Data

Indicators and points for the scorecard are selected (*constructed*) based on data from a random half of the 33,152 quarterly observations on the 11,498 households in Mozambique’s most-recent national consumption survey, the 2014/15 IOF.

This survey had three rounds, running roughly from:

- August to October of 2014
- November to January of 2014/15
- Mid-May to mid-August of 2015

Of the 11,498 households who were interviewed in the first round, 10,353 were also in the second round, and 11,301 were also in the third round. This paper follows Ministério de Economia e Finanças (MEF, 2016) in treating each observation as independent. Most households have two or three observations in the overall sample, so a given household may contribute observations to both the construction/calibration sample and the validation sample. The scorecard’s indicators all come from first-round data.

The data from the roughly half of observations from the 2014/15 IOF 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 from the 2014/15 IOF 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.

Overall, field work for the 2014/15 IOF ran from 7 August 2014 to 15 August 2015. Consumption is in units of MTN per person per day in average prices for Mozambique as a whole on average during the third round of IOF fieldwork.

## **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<sup>6</sup> average of poverty statuses (or estimated poverty likelihoods) across households with participants. This is

$$\frac{1 \cdot 1 + 1 \cdot 0}{1 + 1} = \frac{1}{2} = 0.5 = 50 \text{ percent.}$$

In the “1 · 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 · 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 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<sup>7</sup> 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 · 1” term in the numerator, the “3” is the first household’s weight because it has three members, and the “1” represents its

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<sup>6</sup> 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).

<sup>7</sup> Given simple random sampling at the household level, a household’s person-level weight is the number of people in that household.

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 the participant-weighted average<sup>8</sup> 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.

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<sup>8</sup> Given simple random sampling at the household level, a household’s participant-level weight is the number of participants in that household.

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

Table 1 reports poverty lines and poverty rates for households and people in the 2014/15 IOF for Mozambique as a whole, for the construction/calibration sample, and for the validation sample. For all of Mozambique and for each of its 11 provinces, Table 2 reports poverty lines and poverty rates for households and people for four areas:

- Urban Maputo and Beira<sup>9</sup>
- Other urban
- Rural
- All

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 Mozambique. Furthermore, popular

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<sup>9</sup> *Urban Maputo* covers urban areas of Maputo province and all of Maputo Cidade. *Beira* is shorthand for “urban areas of the province of Sofala”. Areas in Sofala or Maputo province are urban or rural according to their classification in the 2007 Census.

For this indicator, *Beira* is shorthand for *urban areas of the province of Sofala*. Whether an area of Sofala province is considered to be *urban* (as opposed to *rural*) depends on its classification in the 2007 Census.



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 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 here supports five poverty lines under the old 2008 definition of *poverty* and 15 poverty lines under the new 2014 definition. This allows pro-poor organizations in Mozambique to use the line or lines that best fit their mission. The support for 2008-definition lines allows legacy users of the old 2008 scorecard (Schreiner, 2013a) to find hybrid estimates of annual rates of changes in poverty rates with a 2008-definition line, a baseline estimate from the old 2008 scorecard, and a follow-up estimate from the new 2014 scorecard.

The 20 lines supported for the new 2014 scorecard are:

- 2014 definition:
  - 100% of national
  - 150% of national
  - 200% of national
  - \$1.25/day 2005 PPP
  - \$2.00/day 2005 PPP
  - \$2.50/day 2005 PPP
  - \$5.00/day 2005 PPP
  - \$1.90/day 2011 PPP
  - \$3.10/day 2011 PPP
  - Line marking the poorest half of people below 100% of the national line
  - First-quintile (20<sup>th</sup>-percentile) line
  - Second-quintile (40<sup>th</sup>-percentile) line
  - Median (50<sup>th</sup>-percentile) line
  - Third-quintile (60<sup>th</sup>-percentile) line
  - Fourth-quintile (80<sup>th</sup>-percentile) line
- 2008 definition:
  - 100% of national
  - 150% of national
  - 200% of national
  - \$1.25/day 2005 PPP
  - \$2.50/day 2005 PPP

### **2.3.1 2008-definition national poverty line**

The 2008 definition of *consumption* is detailed in Ministério da Planificação e Desenvolvimento (MPD, 2010).

Mozambique’s 2008-definition national poverty line (usually called here “100% of the 2008-definition national poverty line) is defined separately for each of 13 poverty-line regions<sup>10</sup> using the cost-of-basic-needs approach (Ravallion, 1998). For a given region, the steps are (MPD, 2010):

- Total up each household’s nominal food and non-food per-capita consumption
- Find the average age- and sex-adjusted daily caloric requirement for people in a given poverty-line region (World Health Organization, 1985). On average for Mozambique in 2008/9, this is 2,144 Calories
- Using the 2008/9 IOF, find the food basket that supplies a given poverty-line region’s caloric requirement. The basket is made up of the lowest number of food items that together account for about 95 percent of the value of food consumption in the region. The share of each food item is proportional to the share observed to be consumed by “poor” households in the region. In the first iteration, “poor” households are assumed to be those in the bottom three quintiles of a region’s consumption
- Adjust food prices across the four quarters of the 2008/9 IOF field work to prices as of June to August 2009 using six regional price indexes.<sup>11</sup> Non-food prices are not temporally adjusted. No additional adjustments are made in iterations after the first
- Adjust the shares of items in the food baskets just enough to satisfy revealed-preference conditions (Arndt and Simler, 2010; Varian, 1982). This ensures that a given region’s basket costs less than any other region’s basket at the prices faced by the poor in the given region. This improves the consistency of the regional food lines
- The shares of items in the regional food baskets are also adjusted so that revealed-preference conditions hold between the 2008/9 IOF and the 2002/3 IAF
- The food poverty line in a poverty-line region is the cost of its food basket
- The previous five steps are repeated using the current group of “poor” households until the all-Mozambique person-level poverty rate stops changing (Pradhan *et al.*, 2001)

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<sup>10</sup> Poverty-line regions in the 2008 definition are the same as in the 2014 definition. They are usually urban or rural areas in one or two neighboring provinces.

<sup>11</sup> The six regions are Urban North, Rural North, Urban Central, Rural Central, Urban South, and Rural South.

The 2008-definition national (food-plus-non-food) line is then defined as the food line, plus a minimum standard of non-food consumption. This is taken as the weighted average<sup>12</sup> of non-food consumption in the 2008/9 IOF for households whose total consumption (not food consumption) is within 80 to 120 percent of the food line.

For Mozambique overall in 2014/15, the person-weighted average across the 13 regional 2008-definition national poverty lines is MTN28.18 per person per day (Table 1). This gives a household-level poverty rate of 42.8 percent and a person-level poverty rate of 49.1 percent.<sup>13</sup>

150% and 200% of the 2008-definition national line are multiples of 100% of the 2008-definition national line.

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<sup>12</sup> As total consumption moves away from the food line towards 80 or 120 percent of the food line, weights decrease linearly from one to zero.

<sup>13</sup> This person-level rate matches MEF (2016, p. 10).

### 2.3.2 2008-definition \$1.25/day 2005 PPP poverty line

2008-definition 2005 PPP lines are derived from:

- Average person-weighted value of the 2008-definition \$1.25/day 2005 PPP line in 2008/9:<sup>14</sup> MTN20.05
- Average person-weighted value of 100% of the 2008-definition national line:
  - 2008/9:<sup>15</sup> MTN18.41
  - 2014/15:<sup>16</sup> MTN28.18
- 2008-definition price deflators for Mozambique as a whole and for the 13 poverty-line regions. Averaged across rounds, these are:<sup>17</sup>
  - All-Mozambique person-weighted average deflator: 0.9951902
  - Niassa and Cabo Delgado (rural): 1.1342837
  - Niassa and Cabo Delgado (urban): 1.2961421
  - Nampula (rural): 0.7312665
  - Nampula (Urban): 1.0361090
  - Sofala and Zambézia (rural): 0.7383769
  - Sofala and Zambézia (urban): 0.9532885
  - Manica and Tete (rural): 0.8562010
  - Manica and Tete (urban): 1.1928925
  - Gaza and Inhambane (rural): 0.9779275
  - Gaza and Inhambane (urban): 1.1549410
  - Maputo Província (rural): 1.5332993
  - Maputo Província (urban): 1.6739030
  - Maputo Cidade: 1.6259220

For a given poverty-line region in Mozambique, the 2008-definition \$1.25/day 2005 PPP line in average prices for all of Mozambique during the third round of field work for the 2014/15 IOF is

$$\frac{08 \text{ def. } \$1.25/\text{day } 2005 \text{ PPP}_{2008/9} \cdot \left( \frac{100\% \text{ of } 08 \text{ def. natl. line}_{2014/15}}{100\% \text{ of } 08 \text{ def. natl. line}_{2008/9}} \right) \cdot 08 \text{ def. regional deflator}}{\text{All - Mozambique } 08 \text{ def. deflator}}$$

<sup>14</sup> Schreiner (2013a, p. 11)

<sup>15</sup> Schreiner (2013a, p. 10)

<sup>16</sup> Table 1

<sup>17</sup> The deflators here combine the 2008-definition regional and quarterly price indexes included by INE with the data for the 2014/15 IOF.

The price deflator used here with the 2008-definition \$1.25/day 2005 PPP line is not Mozambique’s Consumer Price Index (CPI). Instead, it is the change in 100% of the 2008-definition national line in average prices for Mozambique as a whole between June to August of 2009 and 15 May to 15 August of 2015. The change in this poverty line is a probably a better deflator because the CPI covers only Mozambique’s three largest cities while the national line is adjusted for price differences across 13 poverty-line regions that cover the whole country. In any case, the difference is small, as the ratio of the average CPI during the third round of the 2014/15 IOF to the average CPI from June to August of 2009 is  $115.5775 \div 77.7000 = 1.49$  while the ratio for 100% of the 2008-definition national poverty line is  $28.18 \div 18.41 = 1.53$ .

For the example of the poverty-line region of Maputo Cidade, the 2008-definition \$1.25/day 2005 PPP line is

$$\frac{\text{MTN}20.05 \cdot \left( \frac{\text{MTN}28.18}{\text{MTN}18.41} \right) \cdot 1.6259220}{0.9951902} = \text{MTN}50.14.$$

The all-Mozambique 2008-definition \$1.25/day 2005 PPP line is the person-weighted average of the 13 regional lines. This is MTN30.69 per person per day, with a household-level poverty rate of 47.7 percent and a person-level poverty rate of 54.3 percent (Table 1).<sup>18</sup>

The 2008-definition \$2.50/day 2005 PPP line is a multiple of the \$1.25/day line.

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<sup>18</sup> The World Bank’s PovcalNet does not report a \$1.25/day 2005 PPP line nor a \$1.25/day 2005 PPP poverty rate for Mozambique based on the 2014/15 IOF.

### 2.3.3 2014-definition national poverty line

The 2014 definition of *consumption* differs from the 2008 definition as detailed in MEF (2016, pp. 60–61).

Mozambique’s 2014-definition national poverty line (usually called here “100% of the 2014-definition national poverty line) mostly follows the derivation of the 2008-definition line. The 2014 definition differs (MEF, pp. 64–65) in that it:

- Has an average daily requirement of 2,150 Calories per person (versus 2,145)
- Has food baskets whose items represent 90 percent of the value of food consumption in the 2014/15 IOF (versus 95 percent in the 2008/9 IOF)
- Adjusts regional price indexes with each iteration (versus keeping them constant after the first iteration)
- Discards food items without data on prices or calories before assembling a region’s food basket (versus after assembling it)
- Omits goods and services received in-kind from the derivation of the price indexes between the 2014/15 IOF, 2008/9 IOF, 2002/3 IAF, and 1996/7 IAF (versus including them)
- Does not include the value of goods and services received in kind when the required data is missing (versus imputing it)
- Uses an improved adjustment for the prices of food items with few observations when enforcing revealed-preference conditions (versus a worse adjustment)

For Mozambique overall in 2014/15, the person-weighted average across the 13 regional 2014-definition national poverty lines is MTN26.35 per person per day (Table 1). This gives a household-level poverty rate of 40.1 percent and a person-level poverty rate of 46.1 percent.<sup>19</sup> For 100% of the national line, the 2014-definition rates are lower than the 2008-definition rates by  $42.8 - 40.1 = 2.7$  percentage points for households and by  $49.1 - 46.1 = 3.0$  percentage points for people.

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<sup>19</sup> This person-level rate matches that in MEF (2016, p. 12), giving some confidence that this paper uses the same data as MEF and that the paper’s calculations are correct.

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

### 2.3.4 2014-definition \$1.25/day 2005 PPP poverty line

2014-definition 2005 PPP lines are derived from:

- Average person-weighted value of 100% of the 2008-definition (not 2014-definition) national line:
  - 2008/9: MTN18.41
  - 2014/15: MTN28.18
- All-Mozambique and 2014-definition regional price deflators, averaged across rounds:<sup>20</sup>
  - All-Mozambique person-weighted average deflator: 0.9873984
  - Niassa and Cabo Delgado (rural): 1.0970273
  - Niassa and Cabo Delgado (urban): 1.2270613
  - Nampula (rural): 0.7299509
  - Nampula (Urban): 0.9715271
  - Sofala and Zambézia (rural): 0.7151187
  - Sofala and Zambézia (urban): 1.0222019
  - Manica and Tete (rural): 0.8908754
  - Manica and Tete (urban): 1.2875104
  - Gaza and Inhambane (rural): 1.0646829
  - Gaza and Inhambane (urban): 1.2144348
  - Maputo Província (rural): 1.4181928
  - Maputo Província (urban): 1.5480923
  - Maputo Cidade: 1.4966690

For a given poverty-line region in Mozambique, the 2014-definition \$1.25/day 2005 PPP line is derived like the 2008-definition \$1.25/day 2005 PPP line, except that it uses 2014-definition deflators instead of 2008-definition deflators:

$$\frac{\text{08 def. \$1.25/day 2005 PPP}_{2008/9} \cdot \left( \frac{100\% \text{ of 08 def. natl. line}_{2014/15}}{100\% \text{ of 08 def. natl. line}_{2008/9}} \right) \cdot 14 \text{ def. regional deflator}}{\text{All - Mozambique 14 def. deflator}}$$

<sup>20</sup> The deflators here combine the 2014-definition regional and quarterly price indexes provided by INE with the data for the 2014/15 IOF.



For the example of the poverty-line region of Maputo Cidade, the 2014-definition \$1.25/day 2005 PPP line is

$$\frac{\text{MTN}20.05 \cdot \left( \frac{\text{MTN}28.18}{\text{MTN}18.41} \right) \cdot 1.4966690}{0.9873984} = \text{MTN}46.52.$$

The all-Mozambique 2014-definition \$1.25/day 2005 PPP line is the person-weighted average of the 13 regional lines. This is MTN30.69 per person per day, with a household-level poverty rate of 48.8 percent and a person-level poverty rate of 55.4 percent (Table 1).<sup>21</sup>

The 2014-definition 2005 PPP lines for \$2.00, \$2.50, and \$5.00/day are multiples of the \$1.25/day line.

### 2.3.5 2014-definition \$1.90/day 2011 PPP poverty line

2014-definition 2011 PPP lines are derived from the 2014-definition deflators (see above) as well as:

- 2011 PPP exchange rate for Mozambique for “individual consumption expenditure by households”:<sup>22</sup> MTN15.5273
- Average all-Mozambique CPI during:
  - Calendar-year 2011: 103.4283
  - Third round of the IOF 2014/15:<sup>23</sup> 115.5775

<sup>21</sup> PovcalNet does not report \$1.25/day 2005 PPP lines or rates for the 2014/15 IOF.

<sup>22</sup> [iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=MOZ\\_3&PPP0=15.5273&PLO=1.90&Y0=2008&NumOfCountries=1](http://iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=MOZ_3&PPP0=15.5273&PLO=1.90&Y0=2008&NumOfCountries=1), retrieved 7 September 2017.

<sup>23</sup> The CPI series is from [www.mozdata.gov.mz/pxweb2007/temp/144IPC00020119304815.xls](http://www.mozdata.gov.mz/pxweb2007/temp/144IPC00020119304815.xls) (retrieved 22 May 2012); [www.ine.gov.mz/estatisticas/estatisticas-economicas/indice-de-preco-no-consumidor/quadros/nacional/ipcmocambique\\_quadros\\_dezembro13.xls/at\\_download/file](http://www.ine.gov.mz/estatisticas/estatisticas-economicas/indice-de-preco-no-consumidor/quadros/nacional/ipcmocambique_quadros_dezembro13.xls/at_download/file) (retrieved 1 September 2017); and [www.ine.gov.mz/estatisticas/estatisticas-economicas/indice-de-preco-no](http://www.ine.gov.mz/estatisticas/estatisticas-economicas/indice-de-preco-no)

For a given poverty-line region, the 2014-definition \$1.90/day 2011 PPP line is derived like the 2014-definition \$1.25/day 2005 PPP line, except that it adjusts for changes in prices between calendar-year 2011 and the third round of field work in the 2014/15 IOF using the change in the CPI (rather than the change in 100% of the 2008-definition national poverty line). The CPI is used because the 100% of the 2008-definition national line is not known for calendar-year 2011:

$$\frac{\$1.90 \cdot \text{2011 PPP factor} \cdot \left( \frac{\text{CPI}_{15\text{may to }15\text{aug}2015}}{\text{CPI}_{2011}} \right) \cdot \text{14 def. regional deflator}}{\text{All - Mozambique 14 def. deflator}}$$

For the example of the poverty-line region of Maputo Cidade, the 2014-definition \$1.90/day 2011 PPP line is

$$\frac{1.90 \cdot \text{MTN}15.5273 \cdot \left( \frac{115.5775}{103.4283} \right) \cdot 1.4966690}{0.9873984} = \text{MTN}49.97.$$

The all-Mozambique 2014-definition \$1.90/day 2011 PPP line is the person-weighted average of the 13 regional lines. This is MTN32.97 per person per day, with a household-level poverty rate of 52.9 percent and a person-level poverty rate of 59.7 percent (Table 1).<sup>24</sup>

The 2014-definition 2011 PPP line for \$3.10/day is a multiple of the \$1.90/day line.

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consumidor/quadros/nacional/ipcmocambique\_quadros\_janeiro16.xls/  
at\_download/file, retrieved 22 December 2016.

<sup>24</sup> PovcalNet does not report \$1.90/day 2011 PPP lines or rates for the 2014/15 IOF.

### **2.3.6 USAID “very poor” line**

Microenterprise programs in Mozambique 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 poverty lines (U.S. Congress, 2004):

- The line that marks the poorest half of people below 100% of the 2014-definition national line (MTN13.64, with a person-level poverty rate of 23.0 percent, Table 1)
- The 2014-definition \$1.90/day 2011 PPP line (MTN32.97, with a person-level poverty rate of 59.7 percent)

### **2.3.7 Percentile-based lines**

The scorecard also supports percentile-based poverty lines for Mozambique. This facilitates a number of types of analyses. For example, the second-quintile (40<sup>th</sup>-percentile) line might be used to help track Mozambique’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 allows a more straightforward use of a single tool to analyze any or all of:

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

Unlike the Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool, 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 tool 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*.

## 2.4 “Parallel-lines” assumption

If the “parallel-lines” assumption holds, then users can confidently splice together two estimates of the annual rate of change in a poverty rate in which the baseline estimate of change is a hybrid (using 2008-definition poverty lines with a baseline from the old 2008 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 with both a baseline and a follow-up from the new 2014 scorecard).

The “parallel-lines” assumption is that *changes* in poverty rates in a given time period are the same regardless of the definition of *poverty*, even though *levels* at a point in time may differ across definitions. 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*.

The “parallel lines” assumption can be checked for Mozambique, at least looking back into the past. MEF (2016, pp. 10 and 12) reports person-level poverty rates for 100% of the national poverty line under both the 2008 and 2014 definitions of *poverty* from the four most-recent national consumption surveys:

<b>Definition</b>	<b>1996/7 IAF</b>	<b>2002/3 IAF</b>	<b>2008/9 IOF</b>	<b>2014/15 IOF</b>
<u>Person-level poverty rate (%) from survey</u>				
2008	69.4	54.1	54.7	49.2
2014	69.7	52.8	51.7	46.1
<u>Survey-to-survey change (percentage points)</u>				
2008	—	-15.3	+0.6	-5.5
2014	—	-16.9	-1.1	-5.6
<u>Cumulative change since 1996/7 (percentage points)</u>				
2008	—	-15.3	-14.7	-20.2
2014	—	-16.9	-18.0	-23.6
<u>Cumulative annual rate of change since 1996/7 (percentage points/year)</u>				
2008	—	-1.9	-1.2	-1.1
2014	—	-2.1	-1.5	-1.3

Regardless of the time period, annual rates of change are similar for both the 2008 and 2014 definitions of *poverty*. For example, the annual rate of change from the 2008/9 IOF to the 2014/15 IOF is about -0.9 percentage points per year for both definitions ( $5.5 \div 6$  is about 0.9, as is  $5.6 \div 6$ ). For the 18 years between the 1996/7 IAF and the 2014/15 IOF, the annual rate of change is about -1.1 percentage points for the 2008 definition and about -1.3 percentage points for the 2014 definition. In the past in Mozambique, the “parallel-lines” assumption held well.

While there is no way to know how well the “parallel-lines assumption” will hold in the future, past experience suggests that it is a good bet. The similarity between the two definitions of *consumption* also encourages reasonable hope. Nevertheless, users are encouraged to “be careful” and “use caution” because the “parallel-lines” assumption may very well not hold as well in the future. This means either eschewing spliced estimates altogether or explicitly considering whether something has changed in Mozambique that can be expected to affect poverty estimates under one definition differently than under the other definition and so affect their comparability.

### 3. Scorecard construction

For Mozambique, about 80 candidate indicators are initially prepared in the areas of:

- Household composition (such as the number of members 15-years-old or younger)
- Education (such as whether the male head/spouse can read and write)
- Housing (such as the main construction material of floors)
- Ownership of durable assets (such as tables or televisions)
- Employment (such as the number of household members who work)
- Agriculture (such as the ownership of hoes or cattle)

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.<sup>25</sup>

One possible application of the scorecard is to estimate the annual rate of change in poverty through time. Thus, when selecting indicators—and holding other considerations constant—preference is given to more sensitive indicators. For example, the possession of a table or a bed/cot 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 is based on both judgment and statistics. The first step is to use Logit to build one scorecard for each candidate indicator. The power of each one-indicator scorecard to rank households by poverty status is measured as “c” (SAS Institute Inc., 2004).

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<sup>25</sup> 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 consumption, variety among types of indicators, applicability across regions, tendency to have a slow-changing relationship with poverty over time, relevance for distinguishing among households at the poorer end of the distribution of consumption, and verifiability.

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

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

This algorithm is similar to common  $R^2$ -based stepwise least-squares regression. It differs from naïve stepwise in that the selection of indicators considers both statistical<sup>26</sup> and non-statistical criteria. The use of non-statistical criteria can improve robustness through time and across non-nationally representative groups. It also helps ensure that indicators are straightforward, common-sense, and acceptable to users.

The single scorecard here applies to all of Mozambique. Segmenting poverty-assessment tools by urban/rural does not improve targeting accuracy much. This is documented for nine countries in Sub-Saharan Africa (Brown, Ravallion, and van de Walle, 2016)<sup>27</sup>, Indonesia (World Bank, 2012), Bangladesh (Sharif, 2009), India and Mexico (Schreiner, 2006 and 2005a), Sri Lanka (Narayan and Yoshida, 2005), and Jamaica (Grosh and Baker, 1995). In general, segmentation may improve the accuracy of estimates of poverty rates (Schreiner, forthcoming; Diamond *et al.*, 2016; Tarozzi and Deaton, 2009), but it may also increase the risk of overfitting (Haslett, 2012).

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<sup>26</sup> 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.

<sup>27</sup> The nine countries are Burkina Faso, Ethiopia, Ghana, Malawi, Mali, Niger, Nigeria, Tanzania, and Uganda. On average across these countries when targeting people in the lowest quintile or in the lowest two quintiles of scores and when 20 or 40 percent of people are poor, segmenting by urban/rural increased the number of poor people correctly targeted by about one per 200 or one per 400 poor people (Schreiner, 2017d).

## 4. Practical guidelines for scorecard use

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

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

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

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

The scorecard (and its “Back-page Worksheet”) is ready to be photocopied. A field worker using the Mozambique scorecard would:

- Record the interview identifier, interview date, country code (“MOZ”), scorecard code (“002”) and the sampling weight assigned to the household of the participant by the organization’s survey design (if known)
- Record the names and identifiers of the participant (who is not necessarily the same as the respondent), of the field agent (who is not necessarily the same as the enumerator), and of the organizational service point that is relevant for the participant
- Complete the “Back-page Worksheet” with each household member’s first name (or nickname) and age, noting who is the male head/spouse (if he exists) and whether each given household member is 15-years-old or younger
- Based on what is known about the province in which the household resides, record the response to the first scorecard indicator (“In what province does the household reside?”)
- 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 second scorecard indicator (“How many household members are 15-years-old or younger?”)
- Read the rest of the scorecard indicators (except the fourth indicator) to the respondent one-by-one. For the fourth indicator (“What is the main construction material of the floor of the residence?”), try to observe it on your own. Ask the question of the respondent only if the main material of the floor is not obvious
- Draw circles around the household’s 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).<sup>28</sup> 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. Schreiner (2014a) explains how to compute estimates and analyze them.

In particular, while collecting scorecard indicators is relatively easier than alternative ways of assessing poverty, it is still absolutely difficult. Training and explicit definitions of the terms and concepts in the scorecard are essential, and field workers should scrupulously study and follow the “Guidelines for the Interpretation of Scorecard Indicators” found after the References in this paper, as these “Guidelines”—along with

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<sup>28</sup> 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.

the “Back-page Worksheet”—are integral parts of the Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool.<sup>29</sup>

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 the scorecard for targeting in Mozambique.

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<sup>29</sup> 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 Mozambique’s INE did in the 2014/15 IOF.

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

- Who will do the interviews
- Where interviews will be done
- How responses and scores will be recorded
- Which participants will be interviewed
- How many participants will be interviewed
- How frequently participants will be interviewed
- Whether the scorecard 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 use of 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

There is only one correct, on-label way to do interviews: they should be done in-person, at the sampled household's residence, with an enumerator trained to follow the "Guidelines for the Interpretation of Scorecard Indicators". This is how Mozambique's INE did interviews in the 2014/15 IOF, and this provides the most-accurate and most-consistent data and thus the best poverty-rate estimates.

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

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

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

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



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

- Paper in the field, and then filed at a central office
- Paper in the field, and then keyed into a database or spreadsheet at a central office
- Portable electronic devices in the field, and then uploaded to a database<sup>30</sup>

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.

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<sup>30</sup> The author of this paper can support pro-poor organizations that want to set up a system to collect data with portable electronic devices in the field or to capture data in a database at the office once paper forms come in from the field. Support is also available for automating the calculation of estimates and for generating basic reports.

The frequency of application can be:

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

When a scorecard is applied more than once in order to estimate the annual rate of change 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<sup>®</sup> poverty-assessment tool (Schreiner, 2013b) 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. The loan officers record responses on paper in the field before sending the forms to a central office to be entered into a database and converted to poverty likelihoods.

## 5. Estimates of a household's poverty likelihood

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

To get absolute units, scores are converted to *poverty likelihoods*, that is, probabilities of being below a poverty line. This is done via easy-to-use look-up tables. For the example of 100% of the 2014-definition national line, scores of 38–40 have a poverty likelihood of 46.8 percent, and scores of 41–42 have a poverty likelihood of 43.5 percent (Table 4).

The poverty likelihood associated with a score varies by poverty line. For example, scores of 38–40 are associated with a poverty likelihood of 46.8 percent for 100% of the 2014-definition national line but of 60.8 percent for the 2014-definition \$1.90/day 2011 PPP line.<sup>31</sup>

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<sup>31</sup> From Table 4 on, many tables have 20 versions, one for each of the 20 supported poverty lines. To keep them straight, they are grouped by line. Single tables pertaining to all lines appear with the first group of tables for 100% of the 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 6,565 (normalized) households in the calibration sub-sample with a score of 38–40. Of these, 3,073 (normalized) are below the poverty line. The estimated poverty likelihood associated with a score of 38–40 is then 46.8 percent, because  $3,073 \div 6,565 = 46.8$  percent.

To illustrate with 100% of the 2014-definition national line and a score of 41–42, there are 5,179 (normalized) households in the calibration sub-sample, of whom 2,255 (normalized) are below the line (Table 5). The poverty likelihood for this score range is then  $2,255 \div 5,179 = 43.5$  percent.

The same method is used to calibrate scores with estimated poverty likelihoods for all 20 poverty lines.<sup>32</sup>

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<sup>32</sup> To ensure that poverty likelihoods never increase as scores increase, likelihoods across series of adjacent scores may be iteratively averaged before grouping scores into ranges. This preserves unbiasedness while keeping users from balking when sampling variation in score ranges with few households would otherwise lead to higher scores being linked with higher poverty likelihoods.

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

Although the points in the Mozambique 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 in the population. 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.<sup>33</sup>

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 Mozambique's population. Thus, scorecard estimates will generally have errors when applied after August 2015 (the last month of field work for the 2014/15 IOF) or when applied with sub-groups that are not nationally representative.

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<sup>33</sup> 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 Mozambique as a whole? To find out, the scorecard is applied to 1,000 bootstrap samples of size  $n = 16,384$  with the validation sample. Bootstrapping means to:

- Score each household in the 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 and on average across bootstrap samples in the validation sample, the estimated poverty likelihood for scores of 38–40 (46.8 percent, Table 4) is too high by 3.5 percentage points. For scores of 41–42, the estimate is too low by 2.3 percentage points.<sup>34</sup>

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<sup>34</sup> 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 38–40 is  $\pm 2.6$  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 +0.9 and +6.1 percentage points (because  $+3.5 - 2.6 = +0.9$ , and  $+3.5 + 2.6 = +6.1$ ). In 950 of 1,000 bootstraps (95 percent), the difference is  $+3.5 \pm 3.2$  percentage points, and in 990 of 1,000 bootstraps (99 percent), the difference is  $+3.5 \pm 4.0$  percentage points.

A couple 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 validation sample is a single sample that—thanks to sampling variation—differs in distribution from the construction/calibration sub-samples and from Mozambique’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 error and sampling variation on targeting (Friedman, 1997). Section 8 below looks at targeting accuracy in detail.

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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.



In addition, if estimates of populations' poverty rates are to be usefully accurate, then errors for individual households' poverty likelihoods must largely balance out. As discussed in the next section, this is generally the case for nationally representative samples in 2014/15, although it will hold less well for samples from sub-national populations and 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 IOF fieldwork in August 2015. That is, the scorecard may fit the construction/calibration data from 2014/15 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 2014/15 IOF construction/calibration data but not in the overall population of Mozambique. 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 2019 and that they have scores of 20, 30, and 40, corresponding to poverty likelihoods of 74.0, 62.4, and 46.8 percent (100% of the 2014-definition national line, Table 4). The population's estimated poverty rate is the households' average poverty likelihood of  $(74.0 + 62.4 + 46.8) \div 3 = 61.1$  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 62.4 percent. This differs from the 61.1 percent found as the average of the three individual poverty likelihoods associated with each of the three scores. Unlike poverty likelihoods, scores are ordinal symbols, like letters in the alphabet or colors in the spectrum. Because scores are not cardinal numbers, they cannot meaningfully be added up or averaged across households. Only three operations are valid for scores: conversion to poverty likelihoods, analysis of distributions (Schreiner, 2012a), or comparison—if desired—with a cut-off for segmentation. There are a few contexts in which the analysis of scores is appropriate, but, in general, the safest rule to follow is: If you are not completely sure what to do, then use poverty likelihoods, not scores.

Scores from the scorecard are calibrated with data from the 2014/15 IOF for all 20 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 2008 scorecard to the new 2014 scorecard, legacy users can salvage existing poverty-rate estimates for estimating the annual rate of change with supported 2008-definition poverty lines with a baseline from the old 2008 scorecard and a follow-up from the new 2014 scorecard.

## 6.1 Accuracy of estimated poverty rates at a point in time

For the scorecard applied to 1,000 bootstraps of  $n = 16,384$  from the validation sample and 100% of 2014-definition national poverty line, the average error (difference between the estimate and observed value in the 2014/15 IOF) for a poverty rate at a point in time is  $-0.8$  percentage points (Table 8, summarizing Table 7 across all poverty lines). Across all 20 poverty lines in the validation sample, the maximum of the absolute values of the average error is 6.9 percentage points, and the average of the absolute values of the average error is about 2.2 percentage points. Errors are about 10 times higher for the six relative and percentile-based lines. For the 14 absolute lines, the average of the absolute values of the average error is about 0.6 percentage points, and the maximum of the absolute values of the average error is 0.9 percentage points. At least part of these differences is due to sampling variation in the division of the 2014/15 IOF 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 scorecard and 100% of the 2014-definition national line in the validation sample, the error is  $-0.8$  percentage points, so the corrected estimate in the three-household example above is  $61.1 - (-0.8) = 61.9$  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  $\pm 0.8$  percentage points or smaller 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 0.8 percentage points of the observed value.

For example, suppose that the (uncorrected) average poverty likelihood in a sample of  $n = 16,384$  with the scorecard and 100% of the 2014-definition national line is 61.1 percent. Then estimates in 90 percent of such samples would be expected to fall in the range of  $61.1 - (-0.8) - 0.8 = 61.1$  percent to  $61.1 - (-0.8) + 0.8 = 62.7$  percent, with the most likely observed value being the corrected estimate in the middle of this range, that is,  $61.1 - (-0.8) = 61.9$  percent. This is because the original (uncorrected) estimate is 61.1 percent, the average error is  $-0.8$  percentage points, and the 90-percent confidence interval for 100% of the 2014-definition national line in the validation sample with this sample size is  $\pm 0.8$  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 estimation via a poverty-assessment tool. It starts with Cochran’s (1977) textbook formula of  $\pm c = \pm z \cdot \sigma$  that relates confidence intervals with standard errors in the case of the direct measurement of ratios, where:

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

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

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

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

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

$N$  is the population size, and

$n$  is the sample size.

For example, Mozambique’s 2014/15 IOF gives a direct-measure household-level poverty rate for 100% of the 2014-definition national line in the validation sample of  $\hat{p} = 40.1$  percent (Table 1).<sup>35</sup> If this measure came from a sample of  $n = 16,384$  households from a population  $N$  of 5,337,335 (the number of households in Mozambique in 2014/15 according to the IOF sampling weights), then the finite population correction  $\phi$  is

$$\sqrt{\frac{5,337,335 - 16,384}{5,337,335 - 1}} = 0.9985, \text{ which is not too far from } \phi = 1. \text{ If the desired confidence}$$

level is 90-percent ( $z = 1.64$ ), then the confidence interval  $\pm c$  is

$$\pm z \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}} = \pm 1.64 \cdot \sqrt{\frac{0.401 \cdot (1 - 0.401)}{16,384}} \cdot \sqrt{\frac{5,337,335 - 16,384}{5,337,335 - 1}} = \pm 0.627$$

percentage points. (If  $\phi$  were taken as 1, then the interval would be  $\pm 0.628$  percentage points.)

Unlike the 2014/15 IOF, however, the Simple Poverty Scorecard<sup>®</sup> tool does not measure poverty directly, so this formula is not applicable. To derive a formula for the 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 validation sample. For example, with  $n = 16,384$  and 100% of the 2014-definition national line in the validation sample, the 90-percent confidence interval is  $\pm 0.776$  percentage points.<sup>36</sup>

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<sup>35</sup> The analysis here ignores that poverty-rate estimates from the IOF are themselves based on a sample and so have their own sampling distribution.

<sup>36</sup> Due to rounding, Table 7 displays 0.8, not 0.776.



Thus, the 90-percent confidence interval with  $n = 16,384$  is  $\pm 0.776$  percentage points for the scorecard and  $\pm 0.627$  percentage points for direct measurement. The ratio of the two intervals is  $0.776 \div 0.627 = 1.24$ .

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

$$\text{validation sample is } \pm 1.64 \cdot \sqrt{\frac{0.401 \cdot (1 - 0.401)}{8,192}} \cdot \sqrt{\frac{5,337,335 - 8,192}{5,337,335 - 1}} = \pm 0.887$$

percentage points. The empirical confidence interval with the scorecard (Table 7) is  $\pm 1.060$  percentage points. Thus for  $n = 8,192$ , the ratio of the two intervals is  $1.060 \div 0.887 = 1.20$ .

This ratio of 1.20 for  $n = 8,192$  is close to the ratio of 1.24 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 validation sample turns out to be 1.22, implying that confidence intervals for indirect estimates of poverty rates via Mozambique’s scorecard and 100% of the 2014-definition national line are—for a given sample size—about 23-percent wider than confidence intervals for direct estimates via the 2014/15 IOF. This 1.22 appears in Table 8 as the “ $\alpha$  factor for precision” because if  $\alpha = 1.22$ , then the formula for approximate confidence intervals  $c$  for the scorecard is  $\pm c = \pm z \cdot \alpha \cdot \sigma$ . That is, the formula for the approximate standard error  $\sigma$  for point-in-

$$\text{time estimates of poverty rates via the scorecard is } \alpha \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}}.$$

In general,  $\alpha$  can be more or less than 1.00. When  $\alpha$  is more than 1.00, it means that the scorecard is less precise than direct measurement. It turns out that  $\alpha$  is more than 1.00 for 18 of the 20 poverty lines in Table 8, and its highest value is 1.52.

The formula relating confidence intervals with standard errors for the scorecard can be rearranged to give a formula for determining sample size before estimation. If  $\bar{p}$  is the expected poverty rate before estimation, then the formula for sample size  $n$  from a population of size  $N$  that is based on the desired confidence level that corresponds to  $z$

and the desired confidence interval  $\pm c$  is  $n = N \cdot \left( \frac{z^2 \cdot \alpha^2 \cdot \bar{p} \cdot (1 - \bar{p})}{z^2 \cdot \alpha^2 \cdot \bar{p} \cdot (1 - \bar{p}) + c^2 \cdot (N - 1)} \right)$ . If

the population  $N$  is “large” relative to the sample size  $n$ , then the finite-population correction factor  $\phi$  can be taken as one (1), and the formula becomes

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

To illustrate how to use this, suppose the population  $N$  is 5,337,335 (the number of households in Mozambique in 2014/15), suppose  $c = 0.06123$ ,  $z = 1.64$  (90-percent confidence), and the relevant poverty line is 100% of the 2014-definition national line so that the most sensible expected poverty rate  $\bar{p}$  is Mozambique’s overall poverty rate for that line in 2014/15 (40.1 percent at the household level, Table 1). The  $\alpha$  factor is 1.22 (Table 8). Then the sample-size formula gives

$$n = 5,337,335 \cdot \left( \frac{1.64^2 \cdot 1.22^2 \cdot 0.401 \cdot (1 - 0.401)}{1.64^2 \cdot 1.22^2 \cdot 0.401 \cdot (1 - 0.401) + 0.06123^2 \cdot (5,337,335 - 1)} \right) = 257, \text{ which}$$

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

100% of the 2014-definition national line. Taking the finite population correction factor

$\phi$  as one (1) gives the same result, as  $n = \left( \frac{1.22 \cdot 1.64}{0.06123} \right)^2 \cdot 0.401 \cdot (1 - 0.401) = 257$ .<sup>37</sup>

Of course, the  $\alpha$  factors in Table 8 are specific to Mozambique, its poverty lines, its poverty rates, and this scorecard. The derivation of the formulas for standard errors using the  $\alpha$  factors, however, is valid for any poverty-assessment tool following the approach in this paper.

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<sup>37</sup> 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 Mozambique should report using the 2014-definition \$1.90/day 2011 PPP line. Given the  $\alpha$  factor of 1.19 for this line (Table 8), an expected before-measurement household-level poverty rate of 52.9 percent (the all-Mozambique rate for this line in 2014/15, Table 1), and a confidence level of 90 percent ( $z = 1.64$ ), then  $n = 300$  implies a confidence interval of

$$\pm 1.64 \cdot 1.19 \cdot \sqrt{\frac{0.529 \cdot (1 - 0.529)}{300}} = \pm 5.6 \text{ percentage points.}$$

In practice after the end of fieldwork for the IOF in August 2015, 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,  $\pm 2.0$  percentage points, or  $c = \pm 0.02$ ), make an assumption about  $\tilde{p}$  (perhaps based on a previous estimate such as the household-level poverty rate for 100% of the 2014-definition national line for Mozambique of 40.1 percent in the 2014/15 IOF in Table 1), look up  $\alpha$  (here, 1.22 in Table 8), assume that the scorecard will still work in the future and for sub-groups that are not nationally representative,<sup>38</sup> and then compute the required sample size. In this illustration,

$$n = 10,000 \cdot \left( \frac{1.64^2 \cdot 1.22^2 \cdot 0.401 \cdot (1 - 0.401)}{1.64^2 \cdot 1.22^2 \cdot 0.401 \cdot (1 - 0.401) + 0.02^2 \cdot (10,000 - 1)} \right) = 1,939.$$

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<sup>38</sup> This paper reports accuracy for the scorecard applied to its validation sample, but it does not test accuracy for later years nor for sub-populations that are not nationally representative. Performance after August 2015 will resemble that in the 2014/15 IOF with deterioration over time and across non-nationally representative sub-groups to the extent that the relationships between indicators and poverty status change.

## **7. Estimates of changes in poverty rates over time**

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

This paper cannot test the accuracy of scorecard estimates of the annual rate of change in poverty rates in Mozambique because of changes in how some scorecard indicators were asked between the 2008/9 and 2014/15 IOF, as well as some changes in the response options offered. Likewise, this paper can only suggest approximate formulas for standard errors. Nonetheless, the relevant concepts are presented here because, in practice, local pro-poor organizations in Mozambique can apply the scorecard to collect their own data and estimate annual rates of change.

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

The scorecard can estimate change. Of course, poverty could get better or worse, and the scorecard does not indicate what caused change. This point is often forgotten or confused, so it bears repeating: the scorecard merely estimates change, and it does not, in and of itself, indicate the causes of change. In particular, estimating the impact of participation requires knowledge or assumptions about what would have happened to participants if they had not been participants. Making judgments or drawing conclusions about causality requires either strong assumptions or a control group that resembles participants in all ways except participation. To belabor the point, the scorecard can help estimate the impact of participation only if there is some way to know—or explicit assumptions about—what would have happened in the absence of participation. And that must come from beyond the scorecard.

## 7.2 Estimating annual rates of change in poverty rates

Consider the illustration begun in the previous section. On 1 January 2019, an organization samples three households who score 20, 30, and 40 and so have poverty likelihoods of 74.0, 62.4, and 46.8 percent (100% of the 2014-definition national line, Table 4). Given the known average error for this line in the validation sample of  $-0.8$  percentage points (Table 8), the corrected baseline estimated poverty rate is the households' average poverty likelihood of  $[(74.0 + 62.4 + 46.8) \div 3] - (-0.8) = 61.9$  percent.

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

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

By way of illustration, suppose that three years later on 1 January 2022, the organization samples three additional households who are in the same population as the three original households and finds that their scores are 25, 35, and 45 (poverty likelihoods of 74.0, 54.5, and 38.5 percent, 100% of the 2014-definition national line, Table 4). Adjusting for the known average error, the average poverty likelihood at follow-up is  $[(74.0 + 54.5 + 38.5) \div 3] - (-0.8) = 56.5$  percent, a reduction in the poverty rate of  $61.9 - 56.5 = 5.4$  percentage points.<sup>39</sup> Supposing that exactly three years passed between the average baseline interview and the average follow-up interview, the estimated annual rate of decrease in the poverty rate is  $5.4 \div 3 = 1.8$  percentage points

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<sup>39</sup> Of course, such a reduction in poverty in three years may be unlikely, but this is just an example to show how the scorecard can be used to estimate change.

per year. That is, about one in 56 participants in this hypothetical example cross the poverty line each year.<sup>40</sup> Among those who start below the line, about one in 34 ( $1.8 \div 61.9 = 2.9$  percent) on net end up above the line each year.<sup>41</sup>

Alternatively, suppose that the same three original households who were scored at baseline are scored again on 1 January 2022. Given scores of 25, 35, and 45, their follow-up poverty likelihoods are 74.0, 54.5, and 38.5 percent. The average across households of the difference in each given household's baseline poverty likelihood and its follow-up poverty likelihood is  $[(74.0 - 74.0) + (62.4 - 54.5) + (46.8 - 38.5)] \div 3 = 5.4$  percentage points.<sup>42</sup> Assuming in this example that there are exactly three years between each household's interviews, the estimated annual decrease in poverty is (again)  $5.4 \div 3 = 1.8$  percentage points per year.

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

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<sup>40</sup> This is a net figure; some start above the line and end below it, and vice versa.

<sup>41</sup> The scorecard does not reveal the reasons for this change.

<sup>42</sup> 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  $\sigma$  of a poverty-assessment tool's estimate of the change in poverty rates over time:

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

Here,  $z$ ,  $c$ ,  $\hat{p}$  and  $N$  are defined as above,  $n$  is the sample size at both baseline and follow-up,<sup>43</sup> and  $\alpha$  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 estimation via a poverty-assessment tool, where  $\tilde{p}$  is based on previous estimates and is assumed equal at both baseline and follow-up:

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

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

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<sup>43</sup> 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 Mozambique, it is not possible to estimate values of  $\alpha$  here. Nevertheless, this  $\alpha$  has been estimated for 18 countries (Schreiner 2017a, 2017b, 2017c, 2016a, 2016b, 2016c, 2016d, 2015b, 2015c, 2015d, 2015e, 2013b, 2013c, 2012c, 2010, 2009a, 2009b, and Chen and Schreiner, 2009). The unweighted average of  $\alpha$  across countries—after averaging  $\alpha$  across poverty lines and pairs of survey rounds within each country—is 1.08. This rough figure is as reasonable as any to use for Mozambique.

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  $\pm 2$  percentage points ( $\pm c = \pm 0.02$ ), the poverty line is 100% of the 2014-definition national line,  $\alpha = 1.08$ ,  $\hat{p} = 0.401$  (the household-level poverty rate in 2014/15 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  $\phi$  can be taken as one (1). Then the baseline sample size is  $n = 2 \cdot \left( \frac{1.08 \cdot 1.64}{0.02} \right)^2 \cdot 0.401 \cdot (1 - 0.401) \cdot 1 = 3,768$ , and the follow-up sample size is also 3,768.

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

Analogous to previous derivations, the general formula relating the confidence interval  $\pm c$  to the standard error  $\sigma$  when using a scorecard to estimate change for a single sample of households, all of whom are scored at two points in time, is:<sup>44</sup>

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

where  $z$ ,  $c$ ,  $\alpha$ ,  $N$ , 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 Mozambique, it is not possible to estimate values of  $\alpha$  here.

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

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

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<sup>44</sup> See McNemar (1947) and Johnson (2007). John Pezzullo helped find this formula.

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

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

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

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

In Peru (the only source of a data-based estimate, Schreiner, 2009c), the average  $\alpha$  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  $\pm 2.0$  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 2019 and then again in 2022 ( $y = 3$ ), and the population  $N$  is so large relative to the expected sample size  $n$  that the finite population correction  $\phi$  can be taken as one (1). The pre-baseline household-level poverty rate  $p_{2019}$  is taken as 40.1 percent (Table 1), and  $\alpha$  is assumed to be 1.30. Then the baseline sample size is

$$n = 2 \cdot \left( \frac{1.30 \cdot 1.64}{0.02} \right)^2 \cdot [-0.02 + 0.016 \cdot 3 + 0.47 \cdot 0.401 \cdot (1 - 0.401)] \cdot 1 = 3,203. \text{ The same}$$

group of 3,203 households is scored at follow-up as well.

## 8. Targeting

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

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

Households who score at or below a given cut-off should be labeled as *targeted*,<sup>45</sup> not as *poor*. After all, unless all targeted households have poverty likelihoods of 100 percent, some of them are non-poor (their consumption is above a given poverty line). In the context of the scorecard, the terms *poor* and *non-poor* have specific definitions. Using these same terms for targeting status is incorrect and misleading.

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<sup>45</sup> Others labels are acceptable as long as they describe the segment and do not confuse targeting status (having a score below a program-selected cut-off) with poverty status (having consumption below an externally-defined poverty line). Examples of acceptable labels include *Groups A, B, and C*; *Households with scores of 29 or less, 30 to 69, or 70 or more*; and *Households who qualify for reduced fees, or who do not qualify*.

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 Mozambique. For an example cut-off of 40 or less, outcomes for 100% of the 2014-definition national line in the validation sample are:

- Inclusion: 26.1 percent are below the line and correctly targeted
- Undercoverage: 14.0 percent are below the line and mistakenly not targeted
- Leakage: 15.4 percent are above the line and mistakenly targeted
- Exclusion: 44.5 percent are above the line and correctly not targeted

Increasing the cut-off to 42 or less improves inclusion and undercoverage but worsens leakage and exclusion:

- Inclusion: 28.5 percent are below the line and correctly targeted
- Undercoverage: 11.6 percent are below the line and mistakenly not targeted
- Leakage: 18.2 percent are above the line and mistakenly targeted
- Exclusion: 41.6 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 the scorecard—should thoughtfully consider how it values successful inclusion and exclusion versus errors of undercoverage and leakage. It is healthy to go through a process of thinking explicitly and intentionally about how possible targeting outcomes are valued.

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

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

Table 10 shows the hit rate for all cut-offs for the scorecard. For 100% of the 2014-definition national line in the validation sample, total net benefit—under the hit rate—is greatest (71.6) for a cut-off of 37 or less, with about two in three households in Mozambique 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  $(2 \times \text{Households correctly included}) + (1 \times \text{Households correctly excluded})$ .<sup>46</sup>

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<sup>46</sup> 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 errors in estimated poverty rates and in terms of targeting inclusion.  $BPAC = (\text{Inclusion} - |\text{Undercoverage} - \text{Leakage}|) \times [100 \div (\text{Inclusion} + \text{Undercoverage})]$ . Schreiner (2014b) explains why BPAC does not add information over-and-above that provided by the other, more-standard measures 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 scorecard applied to the 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 validation sample who score 40 or less would target 41.5 percent of all households (second column) and would be associated with a poverty rate among those targeted of 63.0 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 validation sample and a cut-off of 40 or less, 65.1 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 validation sample and a cut-off of 40 or less, covering about 1.7 poor households means leaking to 1 non-poor household.

## 9. Context of poverty-assessment tools in Mozambique

This section discusses an existing poverty-assessment tool for Mozambique in terms of its goals, methods, definitions of *poverty*, data, indicators, errors, precision, and cost. In general, the advantages of the Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool 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 Mozambique
- 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 from out-of-sample tests, and having targeting accuracy that is likely similar to that of alternative approaches
- Being feasible for pro-poor programs in Mozambique, due to its low cost and transparency

Schreiner (2013a) discusses three other poverty-assessment tools for Mozambique that, because of their age, are no longer very relevant.

Gwatkin *et al.* (2007) construct a poverty-assessment tool for Mozambique 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 12,315 households in Mozambique's 2003 DHS.<sup>47</sup> The PCA index is like the scorecard here except that—

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<sup>47</sup> DHS data for Mozambique since 1997 include each household's asset-index value ([dhsprogram.com/topics/wealth-index/Wealth-Index-Construction.cfm](http://dhsprogram.com/topics/wealth-index/Wealth-Index-Construction.cfm), retrieved 2 September 2017).

because the DHS does not collect data on consumption—the index uses 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.<sup>48</sup> 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).

The 14 indicators in Gwatkin *et al.* are similar to those in the scorecard here in terms of their ease-of-collection 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
  - Television sets
  - Refrigerators
  - Telephones
  - Bicycles
  - Motorcycles or scooters
  - Cars or trucks
- Whether any household members work their own or family’s agricultural land
- Whether the household has a domestic worker not related to the head

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<sup>48</sup> Nevertheless, the indicators are similar and the “flat maximum” is important, so carefully built PCA indexes and consumption-based poverty-assessment tools rank households much the same and may pick up the same underlying construct (perhaps “permanent income”, see Bollen, Glanville, and Stecklov, 2007). 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, for Mozambique), Sahn and Stifel (2003), Wagstaff and Watanabe (2003), and Montgomery *et al.* (2000).

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

- Segmenting households by the quintile of their index value to see how health varies with socio-economic status
- Monitoring (via exit surveys) how well local health-service posts reach the poor
- Estimating 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 for the segmentation of households by quintile of consumption 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 10), and while the scorecard requires adding up 10 integers (some of them usually zeroes), Gwatkin *et al.*'s index requires adding up 42 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 with 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 already-constructed asset index, an already-constructed 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 consumption-based tool (Schreiner, 2011).

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 an asset index can estimate only the direction of change in its definition of *poverty* over time, not the magnitude of change.

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 and well-being 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 “Do you have a flush toilet?”

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.

## 10. Conclusion

Pro-poor programs in Mozambique can use the Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool to segment clients for differentiated treatment as well as to estimate:

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

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

The scorecard is constructed with data from about half of the observations on households in Mozambique's 2014/15 IOF. Those households' scores are then calibrated to poverty likelihoods for 20 poverty lines. The scorecard's accuracy (errors and standard errors) for targeting and for estimating poverty rates at a point in time is tested out-of-sample on data that is not used in scorecard construction.

Legacy users of Mozambique's old 2008 scorecard (Schreiner, 2013a) can switch to the new 2014 scorecard without having to start over from scratch when measuring annual rates of change in poverty rates for the five 2008-definition poverty lines that are supported for both scorecards. As long as the "parallel-lines" assumption continues to hold as well as it has in the past, it is reasonable to splice such hybrid estimates of change based on the old 2008 definition of *poverty* together with non-hybrid estimates of change based on the new 2014 definition of *poverty*.

When the scorecard is applied to the 20 poverty lines in the validation sample, the maximum absolute value of the average error for point-in-time estimates of poverty rates is 6.9 percentage points, and the average of the absolute values of the average error across the 20 lines is about 2.2 percentage points. Errors are about ten times smaller for the 14 absolute poverty lines than for the six relative and percentile-based lines. 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  $\pm 0.8$  percentage points or better. With  $n = 1,024$ , the 90-percent confidence intervals are  $\pm 3.1$  percentage points or smaller.

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

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



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

In summary, the Simple Poverty Scorecard<sup>®</sup> poverty-assessment tool is a practical, objective way for pro-poor programs in Mozambique 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.

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

This appendix gives step-by-step instructions which legacy users of the old 2008 scorecard can follow to 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 2008 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*: Old 2008 scorecard, with only 2008-definition poverty lines
- *Now*: New 2014 scorecard, at least with 2014-definition lines and potentially also with 2008-definition lines
- *Future*: New 2014 scorecard, with only 2014-definition lines

The steps are:

1. Select a 2008-definition poverty line from among the five supported in this paper (100%, 150%, or 200% of the 2008-definition national line, or the 2008-definition \$1.25/day or \$2.50/day 2005 PPP lines)
2. Estimate a baseline poverty rate for the given 2008-definition line based on data already collected in the past with the old 2008 scorecard:
  - a. Retrieve (from a paper file, spreadsheet, or database) the poverty likelihoods for the given 2008-definition line for each household in the representative sample of a given population to whom the old 2008 scorecard has already been applied in the past. This likelihood is based on the look-up table for the given 2008-definition line in Schreiner, 2013a (not the look-up tables in this paper)
  - b. Average the households' poverty likelihoods to estimate their baseline poverty rate for the given 2008-definition line, subtracting off the known error based on Table 9 in Schreiner (2013a)

3. Estimate a follow-up poverty rate for the given 2008-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 2008 scorecard was originally applied in (2a)<sup>49</sup>
  - b. Add up points to get the score for each household with the new 2014 scorecard
  - c. Convert each household's score to a poverty likelihood using the look-up tables for the given 2008-definition line in this paper (not the look-up tables in Schreiner, 2013a). In this paper, the 2008-definition lines are explicitly labeled as "2008-definition"
  - d. Average the households' poverty likelihoods to estimate their follow-up poverty rate for the given 2008-definition line, subtracting off the known error based on Table 8 in this paper
  
4. Find hybrid estimates of change for the given 2008-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 2008-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 2008-definition poverty line to above it since baseline is the negative of the change (4a) expressed as a proportion,<sup>50</sup> multiplied by the number of participants in the population at baseline

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<sup>49</sup> The sample must be representative of the same population as that to which the old 2008 scorecard was originally applied. One way to satisfy this condition is to apply the new 2014 scorecard with the same households as the old 2008 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 2008 scorecard was originally applied.

<sup>50</sup> 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 2014-definition poverty lines, all users (legacy and new) from now on should:

5. Select a 2014-definition poverty line from among the nine non-relative lines supported in this paper (100%, 150%, or 200% of the 2014-definition national line; 2014-definition \$1.25/day, \$2.00/day, \$2.50/day, or \$5.00/day PPP lines; or 2014-definition \$1.90/day or \$3.10/day 2011 PPP lines)<sup>51</sup>
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 the sample of households to which the new 2014 scorecard was applied in (3a), apply the new 2014 scorecard to any samples of households that are representative of additional populations of interest
  - b. Add up points to get the score (or retrieve it from 3b) 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, 2013a, 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 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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<sup>51</sup> 2014-definition relative and percentile-based lines are omitted because their real value changes over time. For these lines, estimates of change over time are not meaningful.

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 points to get 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, 2013a, 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,<sup>52</sup> 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 2008-definition line plus the non-hybrid estimate of change for the corresponding 2014-definition line (9a)
- b. The “grand” spliced estimate of change relative to the share of participants who were below the given 2008-definition line in the past baseline is the “grand” estimate of change (10a) divided by the share of participants who were below the given 2008-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 2008-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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<sup>52</sup> As discussed in the text, the “parallel-lines” assumption holds well for Mozambique from 1996/7 to 2014/15. Still, users should think carefully about whether there are reasons to suspect that the “parallel-lines” assumption no longer holds. If it does not hold, then “grand” spliced estimates of change will be less accurate.

The following hypothetical example illustrates the steps for Mozambique:

1. *Select a 2008-definition poverty line from among those supported in this paper:*

Select 100% of the 2008-definition national line.

2. *Estimate a baseline poverty rate for the given 2008-definition line based on data already collected in the past with the old 2008 scorecard:*
  - a. *Retrieve (from a paper file, spreadsheet, or database) the scores and the poverty likelihoods for the given 2008-definition line for each household in the representative sample of a given population to whom the old 2008 scorecard has already been applied. This likelihood is based on the look-up table for the given 2008-definition line in Schreiner, 2013a (not the look-up tables in this paper)*

In this hypothetical example, the scores and likelihoods for the three<sup>53</sup> households in the sample are:

<b>Score</b>	<b>Poverty likelihood (100% of the 2008-definition national line)</b>
15	79.4
20	76.1
25	72.0

The poverty likelihoods for 100% of the 2008-definition national line come from p. 86 of Schreiner (2013a).<sup>54</sup>

- b. *Average the households' poverty likelihoods to get an estimate of their baseline poverty rate for the given 2008-definition line, subtracting off the known error*

$$[(79.4 + 76.1 + 72.0) \div 3] - (-3.1) = 78.9 \text{ percent.}$$

The known error of  $-3.1$  percentage points for 100% of the 2008-definition national line comes from Table 9, p. 91 of Schreiner (2013a).

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<sup>53</sup> Three households is an unrealistically small sample, but it is used in this hypothetical illustration to keep the arithmetic manageable.

<sup>54</sup> This is “Figure 4 (National line): Estimated poverty likelihoods associated with scores”, [SimplePovertyScorecard.com/MOZ\\_2008\\_ENG.pdf](http://SimplePovertyScorecard.com/MOZ_2008_ENG.pdf), retrieved 5 September 2017.



3. *Estimate a follow-up poverty rate for a given 2008-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 2008 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 2008-definition line in this paper (not the look-up tables in Schreiner, 2013a)*

Look up poverty likelihoods for 100% of the 2008-definition national line on p. 279 in this paper.

<b>Score</b>	<b>Poverty likelihood (100% of the 2008-definition national line)</b>
32	60.1
37	58.4
39	49.0

d. *Average the households' poverty likelihoods to get an estimate of their follow-up poverty rate for the given 2008-definition line, subtracting off the known error*

$$[(60.1 + 58.4 + 49.0) \div 3] - (-0.6) = 56.4 \text{ percent.}$$

Error for 100% of the 2008-definition national line for 2014 scorecard is -0.6 percentage points (Table 8 on p. 190 in this paper).

4. Find hybrid estimates of change for the given 2008-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

$$56.4 \text{ percent} - 78.9 \text{ percent} = -22.5 \text{ percentage points.}$$

- b. The estimated change relative to the share of participants who were under the given 2008-definition line at baseline is the estimated change (4a) divided by the estimated baseline poverty rate (2b)

$$-22.5 \text{ percentage points} \div 78.9 \text{ percentage points} = -28.5 \text{ percent.}$$

- c. The estimated net number of participants who crossed from below the given 2008-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,  
 $-(-0.225) \times 10,000 \text{ participants} = 2,250 \text{ participants.}$

*To be ready to estimate on-going changes in poverty rates over time using 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 points to get the score (or retrieve it from 3b) 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, 2013a, none of which pertain to 2014-definition lines)*

Look up the poverty likelihoods  
for 100% of the 2014-definition national line  
in Table 4 on p. 183 in this paper.

<b>Score</b>	<b>Poverty likelihood (100% of the 2014-definition national line)</b>
32	56.9
37	54.5
39	46.8

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*

$$[(56.9 + 54.5 + 46.8) \div 3] - (-0.8) = 53.5 \text{ percent.}$$

The known error of -0.8 percentage points  
is from Table 8 on p. 187 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, 2013a, none of which pertain to 2014-definition lines)*

Look up the poverty likelihoods  
for 100% of the 2014-definition national line  
in Table 4 on p. 183 in this paper.

<b>Score</b>	<b>Poverty likelihood (100% of 2014-definition national line)</b>
41	43.5
45	38.5
47	32.4

- 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*

$$[(43.5 + 38.5 + 32.4) \div 3] - (-0.8) = 38.9 \text{ percent.}$$

The known error of  $-0.8$  percentage points  
is for 100% of the 2014-definition national poverty line  
from Table 8 on p. 187 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

$$38.9 \text{ percent} - 53.5 \text{ percent} = -14.6 \text{ percentage points.}$$

- 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)

$$-14.6 \text{ percentage points} \div 53.5 \text{ percentage points} = -27.3 \text{ percent.}$$

- 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,  
 $-(-0.146) \times 10,000 \text{ participants} = 1,460 \text{ participants.}$

10. Assuming that the “parallel lines” assumption holds,<sup>55</sup> 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 2008-definition line (4a) plus the non-hybrid estimate of change for the corresponding 2014-definition line (9a)

$$-22.5 \text{ percentage points} + (-14.6 \text{ percentage points}) = -37.1 \text{ percentage points.}$$

- b. The “grand” spliced estimate of change relative to the share of participants who were below the given 2008-definition line in the past baseline is the “grand” estimate of change 10a divided by the share of participants who were below the given 2008-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)

$$-37.1 \div 78.9 = -47.0 \text{ percent.}$$

- c. The “grand” spliced estimate of the net number of participants who crossed from below the given 2008-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,  
 $-(-0.371) \times 10,000 = 3,710.$

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<sup>55</sup> As discussed in the text, the “parallel-lines” assumption holds well for Mozambique from 1996/7 to 2014/15. Still, users should think carefully about whether there are reasons to suspect that the “parallel-lines” assumption no longer holds. If it does not hold, then “grand” spliced estimates of change will be less accurate.

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

Selected poverty line: 100% of national line (2008- and 2014-definitions)

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

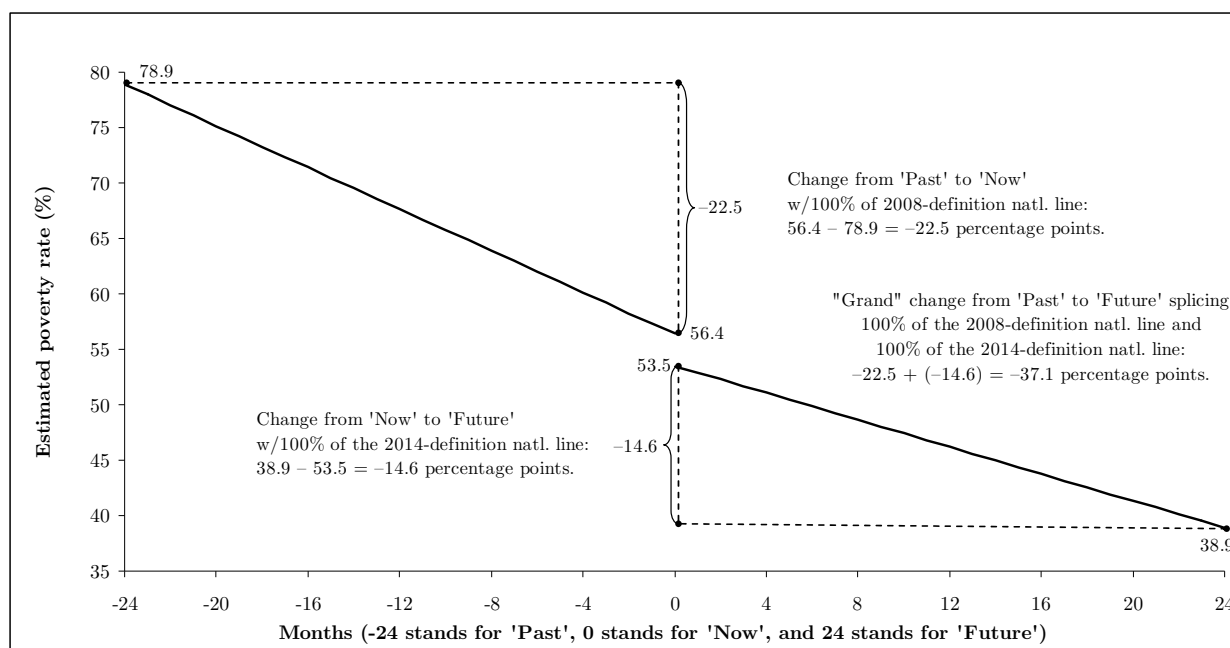
Past		“Now”			Future	
Score	Pov. like. (2008-def., 2008 card) (%)	Score	Pov. like. (2008-def., 2014 card) (%)	Pov. like. (2014-def., 2014 card) (%)	Score	Pov. like. (2014-def., 2014 card) (%)
15	79.4	32	60.1	56.9	41	43.5
20	76.1	37	58.4	54.5	45	38.5
25	72.0	39	49.0	46.8	47	32.4
Known error	-3.1	—	-0.6	-0.8	—	-0.8
<b>Est. pov. rate (%)</b>	<b>78.9</b>	—	<b>56.4</b>	<b>53.5</b>	—	<b>38.9</b>

Estimated change between:

Past and now (hybrid):  $56.4 - 78.9 = -22.5$  percentage points

Now and future (non-hybrid):  $38.9 - 53.5 = -14.6$  percentage points

Past and future (“grand” spliced):  $-22.5 + (-14.6) = -37.1$  percentage points



# Guidelines for the Interpretation of Scorecard Indicators

The excerpts quoted here are taken from:

Instituto Nacional de Estadística. (2014) “Manual do Inquiridor”. (“the *Manual*”).

## **This “Guide”**

According to p. 4 of the *Manual*, “As the enumerator, you should always carry this [‘Guide’] with you to interviews. It has all the instructions that you should follow.”

## **The enumerator**

According to p. 4 of the *Manual*, you as the *enumerator* are “the person to whom [your organization] entrusts the crucial responsibility of asking sampled households the [scorecard] questions, obtaining correct and reliable responses, and finally recording them. The success of the entire exercise depends on you, as the quality of the data collected depends on the quality of your work. The usefulness of the decisions based on the survey data depends on how well you do your job.

“Being an enumerator is challenging and requires dedication. Given that you will interview people in their residences, you will sometimes have to work after normal business hours. In particular, some people who work will return to their residence only in the late afternoon or evening, so you will have to meet them there at the time when they are available. . . .

“The essential qualities of an enumerator include common sense, politeness, quick-thinking, a high standard of personal responsibility, care with details, and a genuine interest in the work.”

## **Basic interview instructions**

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

In the scorecard header, fill in the number of household members based on the household roster that you compile as part of the “Back-page Worksheet”.

Do not ask the first scorecard indicator directly (“In what province does the household reside?”). Instead, fill in the appropriate response based on what you know of the province of residence.



Do not ask the second scorecard indicator directly (“How many members are 15-years-old or younger?”). Instead, fill in the appropriate response based on the information that you have recorded on the “Back-page Worksheet”.

Ask all of the other scorecard questions (except question 4, see next the next paragraph below) directly of the respondent.

For question 4 (“What is the main construction material of the floor of the residence?”), p. 55 of the *Manual* says “Do not ask this questions of the respondent. Instead, observe the floor yourself. Ask the question directly of the respondent only if you cannot determine the main construction material of the floor on your own.”

### **General interviewing advice**

Study these “Guidelines” carefully, and carry them with you while you work. Follow the instructions in the “Guidelines” (including this one).

Remember that the respondent is not necessarily 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 (except as noted in these “Guidelines”).

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:

---

3. Can the male head/spouse read and write?	A. No male head/spouse	0	
	B. No	5	<b>5</b>
	C. Yes	8	

---

When filling out the “Back-page Worksheet”, you should circle the relevant responses for each household member. For example:

Name	Age	Is <NAME> the head of the household or the spouse/partner of the head?	Is <NAME> 15-years-old or younger?	
1. <b>Ricardo</b>	<b>41</b>	Male head Female head	<input checked="" type="radio"/> No	<input type="radio"/> Yes
2. <b>Maria</b>	<b>35</b>	Male spouse/partner (Eldest) female spouse/partner Other	<input checked="" type="radio"/> No	<input type="radio"/> Yes
3. <b>Beatriz</b>	<b>15</b>	Other	<input type="radio"/> No	<input checked="" type="radio"/> Yes
4. <b>João</b>	<b>4</b>	Other	<input type="radio"/> No	<input checked="" type="radio"/> Yes
...	...	...	...	
13.		Other	<input type="radio"/> No	<input type="radio"/> Yes
Number of household members: <b>4</b>			Number of members ≤15: <b>2</b>	

This example has four household members, two of whom are 15-years-old or younger. In particular:

- Ricardo is the 41-year-old male head/spouse
- Maria is the 35-year-old female head/spouse
- Beatriz is the 15-year-old daughter of Ricardo and Maria
- João is the 4-year-old son of Ricardo and Maria

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 Mozambique’s *Instituto Nacional de Estatística* in the 2014/15 IOF. 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 be inaccurate and thus that verification might improve data accuracy. For example, you might choose to verify if the respondent hesitates, seems nervous, or otherwise gives signals that he/she may be lying or be confused. Likewise, verification is probably appropriate if a child in the household or a neighbor says something that does not square with the respondent’s answer. Verification is also a good idea if you can see something yourself—such as a consumer durable that the respondent avers not to possess, or a child eating in the room who has not been counted as a member of the household—that suggests that a response may be inaccurate.

In general, the application of the scorecard<sup>®</sup> should mimic as closely as possible the application of the 2014/15 IOF by Mozambique’s *Instituto Nacional de Estatística*. For example, interviews should take place in respondents’ homesteads because the 2014/15 IOF took place in respondents’ homesteads.

### **Translation:**

As of this writing, the scorecard itself, the “Back-page Worksheet”, and these “Guidelines” are available only in English and Portuguese. There are not yet official, standard translations to local languages spoken by many people in Mozambique such as Emakhuwa, Cisena, and Xichangana. Users should check [SimplePovertyScorecard.com](http://SimplePovertyScorecard.com) to see what translations have been completed since this writing.

If there is no official, standard translation to a given local language, then users should contact the author of this document for help in creating such a translation. In particular, the translation of scorecard indicators and response options should follow as closely as possible the meaning of the original Portuguese wording in the 2014/15 IOF questionnaire. The *Enumerator Manual* for the 2014/15 IOF was written in Portuguese (not in English), so anything in these “Guidelines” that is quoted from the *Manual* must be translated from the *Manual’s* original Portuguese, not from these English “Guidelines” here. Likewise the scorecard questions and response options must be translated from the original Portuguese questionnaire, not from the English questions and responses here.

### **Who should be the respondent?**

According to p. 8 of the *Manual*, “The respondent should be the head of the interviewed household or some other member of the interviewed household who is able to respond in the place of the head and who is able to identify all the usual residents of the household.”

### **Who is the head of the household?**

Note that the head of the household may or may not be the same person who participates with your organization. This is fine; the respondent does not need to be the same as the participant in your organization (although the respondent can be that person).

According to p. 33 of the *Manual*, “The head of the household is the person who is in charge of (or responsible for) the household, or the one who—for the purposes of the survey—is named [by the other members of the household] as the head.”

According to p. 34 of the *Manual*, “You should leave it to the members of the household to identify their head. They will usually be able to name the head without any problems.”

For households with members involved in polygamy, p. 32 of the *Manual* says that “a woman should be counted as the *head of the household* if her husband does not usually live with her in her residence. . . . A polygamous man may also be found to live with one wife while his other wives live in separate residences. In these cases, the polygamous man is counted as the *head of the household* in the residence where he lives, and the other wives that live in separate residences are each counted as the *head of the household* of their respective households.”

### **Tasks of the enumerator**

According to pp. 8 and 15 of the *Manual*, “You the enumerator should use this [‘Guide’] and follow these instructions:

- Interview the sampled households and record their responses
- Review the data collected from the interviewed household to ensure—before you leave the residence—that all questions have a response and that the [scorecard header] is completely filled out
- Do the work that you are assigned yourself, without taking with you to an interview any third parties who have no business being there
- Do the interviews in person at the residence of the interviewed household
- Carry this [‘Guide’] with you to all interviews, and carefully follow its instructions [including this one]
- Take care of all survey material, and do not let anyone have a copy
- After presenting your badge that shows that you a legitimate representative of [your organization], politely ask to speak with the head of the household or with his/her representative. Then ask the survey questions and record the responses accurately . . .
- Always maintain a high standard of professionalism that reflects the important task that you have been assigned . . .
- During . . . field work, you will represent [your organization]. Your exemplary conduct will make your work easier and will encourage the cooperation of the responding households
- Keep all the data that you collect strictly confidential; do not ever share it with third parties who are not involved in the survey”

## **Doing the interview**

### **Relationship with the respondent:**

According to pp. 15–20 of the *Manual*, “An *interview* is a data-collection technique and/or way to get information by way of questioning willing informants who answer directly in real time. Effective interviewing is an art, not a mechanical process. It should flow like a normal conversation between two (or more) people. The following basic guidelines will help to accomplish this.

### **Access to the respondent**

“Before the interview, you and the respondent do not know each other. Therefore, the first impression that you make—based on your appearance, actions, and words—is crucial for convincing the respondent to cooperate. When you first meet the respondent, introduce yourself cordially, tell the respondent for whom you work, show your badge, and explain the reason for the interview.

“It is important to make a positive first impression. Try to avoid questions that may seem to invite rejection such as ‘Are you very busy?’ or ‘Could you give me a few minutes of your time?’ or ‘Could you answer a few questions for me?’. Instead, ask for cooperation in a way that invites the respondent to accept, such as ‘I would like to ask you some questions. . . .’

“You should explain clearly to the respondent the goals of the survey before diving in and asking the actual questions. You should also let the respondent know that the survey includes questions about the members of the household.

“If your manager or someone else from your organization happens to accompany you on an interview, then be sure to introduce him or her to the respondent before starting the interview. Careful explanations play a key role in creating a positive atmosphere in which the respondent is glad to cooperate.

### **Confidentiality of the data**

“Before asking any questions, make sure that the respondent and all other members of the interviewed household know that all their information will be treated as strictly confidential. Tell them: ‘We will never publish anything that has the names of any respondents. The data will only be published in statistical tables that aggregate responses across households. None of the data that I collect will be revealed to third parties.’

### **Neutrality**

The questionnaire is carefully designed to avoid appearing to suggest answers to the respondent. For this reason, you as the enumerator must maintain a completely neutral attitude and appearance in relation to the content and answers in the interview.

“If you do not carefully read each question exactly as it is written, then this neutrality could be destroyed.

“If the respondent gives a vague or imprecise answer, then you should gently (and neutrally) probe for a clearer answer. For example, you could say, ‘Could you explain a little more?’, or ‘I am not sure that I heard what you said, could you please repeat it?’, or ‘Oh, there is no rush; please take as much time as you need to think.’ Do not ever infer what the respondent meant to say.

“Do not ever suggest to the respondent—be it through your facial expression, body language, or tone of voice—that he or she has given an incorrect or unacceptable answer.

“Often the respondent will ask you about your opinion or point of view. You should say, ‘It is your opinion that matters for the purposes of the survey. If you would like, we can talk about other things for a few minutes after the survey is complete.’

“If the respondent hesitates to answer a question—or outright refuses to answer—then stay calm and politely try to chip away at the resistance. Explain again that all responses are confidential and that many other households [with members who are participants from your organization] are also being surveyed.

“If the respondent still refuses to answer, then make a phone call to your manager, and simply write a note (‘Refused’) next to the question and continue with the next question as you normally would. Once all the other items in the survey have been completed, go back to the missing item to try politely to get a response for it.

### Leading/managing the interview

“You as the enumerator are the one in charge of the interview, and so you should be the one leading/managing it. Do so professionally and appropriately.

“If the respondent gives irrelevant answers to a question or digresses into topics that have nothing to do with the questionnaire, do not interrupt. Instead, wait for the first opportunity to present the question again, creatively and politely.

“During the interview, always cultivate a positive and friendly atmosphere. Respondents are much more likely to make an effort to respond quickly and in good faith when they believe that you are a nice, friendly, accepting person.

### Dealing with indecisive respondents

“Often, a respondent will say ‘I don’t know’, make an evasive comment in an attempt to avoid giving a straight answer, just giggle or make some non-meaningful sounds, repeat the question in different words, or outright refuse to answer. When this happens (and before asking the next question or repeating the current question), try to find a way to help the respondent to feel comfortable again in answering.

### The art of asking questions

“Asking questions in the process of interviewing is both a science and an art, and as such it requires practice. It also helps to follow the practical guidelines that follow.

#### *Ask the questions exactly as they are written in the survey instrument*

“[Except as noted elsewhere in this ‘Guide’,] you must ask the questions by reading them off the questionnaire exactly as they are written, using the same words and in the same order as they appear there. This reduces the risk of changing their meaning.

“If you change a question’s wording, then you may also inadvertently change its meaning. If the respondent does not understand the meaning of a question, then you should repeat it again, word-for-word, slowly, and clearly. If the respondent still does not seem to understand, you may then try to convey the meaning of the question in other words—or even translate it to the local language—but always be sure to maintain its original sense. Try to do all this in a way that does not affect the neutrality of the interview.

#### *Probe when answers are incomplete or inadequate*

“Sometimes, respondents will give answers that are not satisfactory, whether because the answers are incomplete (intentionally or unintentionally) or because the respondent does not know how to answer. When this happens, you should try to obtain an appropriate response by asking some additional questions. This process is called *probing*. Of course, you should continue to use neutral words and expressions to avoid suggesting that any particular answer is more appropriate or acceptable than others.

#### *Do not assume that you know what an answer will be*

“Regardless of the respondent’s social status, socio-economic level, location of residence, or quality of housing, you should never assume that you know what the answer to any question will be, nor should you expect to receive any particular answer . . .

“Do not form a pre-conceived notion about what any answer will be based on a respondent’s culture, ethnic group, or appearance. In case of doubt—for example, when you are not sure whether you understand a response—you should probe until you are certain that you do understand. On the other hand, the respondent may have his or her own expectations about your behavior, and the respondent may fear that his or her point of view will not be understood or accepted/approved. Just as you should work to avoid expressing (or acting on) any of your own pre-conceived notions about the respondent, you should also be sensitive to the possibility that the respondent may have his or her own pre-conceived notions about you and that these may affect his or her responses. You should always try to behave in such a way as to help the respondent feel at ease and to avoid provoking discomfort.

“If someone who is not a member of the interviewed household is present at the time of the interview, then you must explain to that person that the interview cannot be



done within earshot of third parties. If necessary, arrange to come back at another time when only household members will be present.

“Throughout the interview, maintain an even keel so as to build an atmosphere of calm, work-a-day normality. Never show disapproval of any response that you receive. Likewise, do not allow yourself to become perturbed or angry at the respondent, and never try to suggest a particular response.

“If the respondent (usually the head of the household) refuses to participate in the survey, then attempt to explain once more the purposes and objectives of your visit. If the respondent persists in his/her refusal to cooperate, then let your [manager] know.

“Sometimes a respondent may digress or go off-topic, for example, by telling some stories related to his or her life that the survey questions bring to mind. In such cases, do not rudely interrupt. Instead, gently and politely attempt to lead the respondent back to the survey question at hand.

#### *Do not rush the interview*

You should ask the questions slowly and deliberately to ensure that the respondent understands what is being asked. Once you have read the question, pause and allow the respondent the time that he or she needs to think of an answer. If you try to hurry the respondent, or if you do not allow him or her enough time to come up with his or her own opinion, then it increases the risk of an evasive—and thus inaccurate—response.

“If you suspect that the respondent is answering without thinking (perhaps to get the interview over with quickly), then it would be a good idea to explain to him or her that there is no rush and that the responses are important to [your organization].

#### *Language of the interview*

“You can translate the items in the questionnaire to the local language as needed. Of course, you should take great care not to alter the meaning of the questions and to use the appropriate words when translating. If the respondent does not speak any language that you or anyone on your team speak, then you should find a third party to serve as a translator.

#### *End of the interview*

“Once you have completed the interview, review the questionnaire again to make sure that no item has been omitted and that all responses are complete. If needed, ask any questions that are required to complete the interview.

“Before leaving the respondent’s residence, thank him or her profusely for his or her cooperation.”

## Guidelines for specific scorecard indicators

1. In what province does the household reside?
  - A. Gaza
  - B. Nampula, Niassa, or Zambézia
  - C. Inhambane
  - D. Cabo Delgado
  - E. Manica, or Maputo Província
  - F. Sofala
  - G. Maputo Cidade
  - H. Tete

Do not ask this indicator directly. Instead, fill in the appropriate response based on what you already know about the province of residence.

The *Manual* provides no additional information for this indicator.

2. How many household members are 15-years-old or younger?
- A. Five or more
  - B. Four
  - C. Three
  - D. Two
  - E. One
  - F. None

According to pp. 33–35 of the *Manual*, “A *household* is a single person or a group of people who normally reside together and who eat together. The household includes all people who normally live and eat together, regardless of whether they are related by blood or marriage. For example, three unrelated men who live together in a residence and who share meals together are considered to be a household. Following these criteria, a maid is considered to be a household member if she normally sleeps in the residence of the household for whom she works.

“*Normal residents* are those who are part of the household. They include those who, at the time of the interview, happen to be present at the residence as well as those who (for a variety of possible reasons such as business trips, vacations, hospitalizations, and so on) happen to be absent, whether in Mozambique or abroad, but who do not have another residence. If an absent person’s absence has had (or is expected to have) a total duration for six months or more, however, then do not count the person as a household member. Accordingly, always be sure to ask about the expected total duration of an absent person’s absence when determining whether he or she is a household member.

“People who have been with the household only for a short time but who intend to remain with the household [for a total duration of at least six months] are also to be counted as household members.

“It is not always easy to determine who should be counted as a household member. Here are some examples to clarify some specific situations:

- A man has two wives who live in separate residences. Count the husband as a member of the household in which he spent the largest share of his time in the past six months
- A woman reports that her husband is the head of the household but that he lives in a different residence. The husband counts as a member of the same household as the woman—even if he does not normally live and eat there—only if he spent the night before the interview with the woman’s household
- A person lives alone. He or she is the sole member of his or her household
- A domestic servant is counted as a household member if he or she normally resides with the household

[When listing household members on the “Back-page Worksheet”]:

- List the head of the household first
- List the spouse/conjugal partner of the head second. [If the head of the household has multiples wives who are also members of the household, then list the eldest wife first]
- Then list sons and daughters of the head, from youngest to oldest
- List other relatives of the head such as parents, grandchildren, nieces, nephews, and so on
- Finally, list last other normal residents who are not related to the head by blood or marriage

“When a household includes a polygamous man who has multiple wives who are also members of the interviewed household, then list the eldest wife first, followed by her children. List the second-oldest wife after that, followed by her children. [And so on, for all the wives in sequence.] As usual, finish with other relatives followed by any non-relatives. . . .

“Often, respondents fail to report newborns and toddlers who have not yet been named. You as the enumerator should specifically ask whether there are any newborns or toddlers who have not yet been named and who have not yet been reported, and then list them if any are revealed.”

3. Can the male head/spouse read and write?
- A. No male head/spouse
  - B. No
  - C. Yes

According to p. 39 of the *Manual*, “This question relates to whether the male head/spouse can read and write simple documents and common phrases that are widely and normally available, for example, in newspapers.

“If the male head/spouse can read but cannot write, then he is considered to be illiterate, and you should mark [‘B. No’].

“Count the male head/spouse as literate if he can read and write in any language—not only in an official language—as long as the language is one that is normally used in written form.”

Remember that you already know the name of the male head/spouse (and whether he exists) from when you compiled the “Back-page Worksheet”. Thus, if there is a male head/spouse, do not mechanically ask, “Can the male head/spouse read and write?”. Instead, use the actual name of the male head/spouse, for example: “Can Antonio read and write?” If there is no male head/spouse, then do not ask the question of the respondent at all. Instead, just 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 also a member of the household

According to p. 33 of the *Manual*, “The head of the household is the person who is in charge of (responsible for) the household, or the one who—for the purposes of the survey—is named [by the other members of the household] as the head.”

According to p. 34 of the *Manual*, “You should leave it to the members of the household to identify their head. They will usually be able to name the head without any problems.”

For households with members involved in polygamy, p. 32 of the *Manual* says that “a woman should be counted as the *head of the household* if her husband does not usually live with her in her residence. . . . A polygamous man may also be found to live with one wife while his other wives live in separate residences. In these cases, the polygamous man is counted as the *head of the household* in the residence where he lives, and the other wives who live in separate residences are each counted as the *head of the household* of their respective households.”

According to p. 38 of the *Manual*, “Questions about education may seem simple to collect, but you should pay careful attention to them.”

4. What is the main construction material of the floor of the residence? (*Enumerator: Observe on your own, and ask respondent only if not obvious*)
  - A. Dirt, rough planks, or other
  - B. Adobe, cement, tile/marble, parquet, or sawed wood

According to p. 55 of the *Manual*, “Do not ask this question of the respondent. Instead, observe the floor yourself. Ask the question directly of the respondent only if you cannot determine the main construction material of the floor on your own.

“The question is concerned only with the main material of the floor.”

5. What is the main source of energy for lighting in the residence of the household?
  - A. Firewood, candles, oil/paraffin/kerosene, LPG, or other
  - B. Electricity, generator, solar panel, or battery (large or small)

According to p. 54 of the *Manual*, “If the household uses more than one type of cooking fuel, then you should record the main type.”



6. Does the household have a table in good working order?
  - A. No
  - B. Yes

The *Manual* provides no additional information for this indicator.

7. How many beds and cots does the household have in good working order?
- A. None, or one
  - B. Two
  - C. Three or more

The *Manual* provides no additional information for this indicator.

8. Does the household have a television in good working order?
  - A. No
  - B. Yes

The *Manual* provides no additional information for this indicator.

9. Does the household have a charcoal or electric iron in good working order?
- A. No
  - B. Yes

The *Manual* provides no additional information for this indicator.

10. Does the household have a cell phone in good working order?

A. No

B. Yes

The *Manual* provides no additional information for this indicator.

**Table 1: National poverty lines (2014 definition), poverty rates, and sample sizes for all of Mozambique and for the construction and validation samples, by households and people in 2014/15**

Sample	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>All Mozambique</b>						
	Line	People		26.35	39.52	52.70
	Rate	Households	33,152	40.1	62.5	75.6
	Rate	People		46.1	69.2	81.2
<b>Construction/calibration:</b>						
(Selecting indicators and points, and associating scores with poverty likelihoods)						
	Rate	Households	16,498	40.1	62.5	75.6
<b>Validation:</b>						
(Measuring accuracy)						
	Rate	Households	16,654	40.1	62.5	75.6

Source: 2014/15 Household Budget Survey

Poverty lines are MTN per-person, per-day.

MTN are in average prices for Mozambique as a whole from 25 May to 15 August 2015.

**Table 1: International 2005 and 2011 PPP poverty lines (2014 definition), poverty rates, and sample sizes for all of Mozambique and for the construction and validation samples, by households and people in 2014/15**

Sample	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b><u>All Mozambique</u></b>									
	Line	People		30.69	49.10	61.38	122.76	32.97	53.79
	Rate	Households	33,152	48.8	72.7	81.1	94.1	52.9	76.4
	Rate	People		55.4	78.6	86.1	96.1	59.7	81.9
<b><u>Construction/calibration:</u></b>									
				(Selecting indicators and points, and associating scores with poverty likelihoods)					
	Rate	Households	16,498	48.7	72.8	81.2	94.0	60.6	81.7
<b><u>Validation:</u></b>									
				(Measuring accuracy)					
	Rate	Households	16,654	48.8	72.6	81.1	94.2	60.8	81.5

Source: 2014/15 Household Budget Survey

Poverty lines are MTN per-person, per-day.

MTN are in average prices for Mozambique as a whole from 25 May to 15 August 2015.

**Table 1: Relative and percentile-based poverty lines (2014 definition), poverty rates, and sample sizes for all of Mozambique and for the construction and validation samples, by households and people in 2014/15**

Sample	Line or Rate	Households or People	<i>n</i>	Poverty likelihood (%)					
				Poorest 1/2 < 100% Natl.	20th	Percentile-based lines			
				40th	50th	60th			
<b>All Mozambique</b>									
	Line	People		13.64	12.52	20.65	25.69	32.54	62.00
	Rate	Households	33,152	20.3	17.7	36.0	45.5	55.3	76.5
	Rate	People		23.0	20.0	40.0	50.0	60.0	80.0
<b>Construction/calibration:</b>									
(Selecting indicators and points, and associating scores with poverty likelihoods)									
	Rate	Households	16,498	20.3	17.6	35.9	45.6	55.5	76.4
<b>Validation:</b>									
(Measuring accuracy)									
	Rate	Households	16,654	20.3	17.7	36.0	45.4	55.0	76.5

Source: 2014/15 Household Budget Survey

Poverty lines are MTN per-person, per-day.

MTN are in average prices for Mozambique as a whole from 25 May to 15 August 2015.



**Table 1: National poverty lines and international 2005 PPP poverty lines (2008 definition), poverty rates, and sample sizes for all of Mozambique and for the construction and validation samples, by households and people in 2014/15**

Sample	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b><u>All Mozambique</u></b>								
	Line	People		28.18	42.26	56.35	30.69	61.38
	Rate	Households	33,152	42.8	65.5	77.8	47.7	80.8
	Rate	People		49.1	72.1	83.3	54.3	85.9
<b><u>Construction/calibration:</u></b>								
(Selecting indicators and points, and associating scores with poverty likelihoods)								
	Rate	Households	16,498	42.8	65.6	77.8	48.0	81.1
<b><u>Validation:</u></b>								
(Measuring accuracy)								
	Rate	Households	16,654	42.8	65.5	77.8	48.3	81.1

Source: 2014/15 Household Budget Survey

Poverty lines are MTN per-person, per-day.

MTN are in average prices for Mozambique as a whole from 25 May to 15 August 2015.

**Table 2 (All of Mozambique): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		37.50	56.26	75.01
	Rate	Households	7,052	12.7	29.2	44.4
	Rate	People		16.1	35.4	52.1
<b>Other urban</b>						
	Line	People		29.65	44.48	59.30
	Rate	Households	10,966	46.5	64.8	76.0
	Rate	People		50.9	69.5	80.1
<b>Rural</b>						
	Line	People		23.40	35.10	46.81
	Rate	Households	15,134	43.1	67.6	80.9
	Rate	People		50.1	75.1	86.8
<b>All</b>						
	Line	People		26.35	39.52	52.70
	Rate	Households	33,152	40.1	62.5	75.6
	Rate	People		46.1	69.2	81.2

Source and definitions: See Table 1 and text.

**Table 2 (All of Mozambique): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		43.68	69.89	87.37	174.74	46.92	76.56
	Rate	Households	7,052	18.2	41.0	52.1	78.2	21.0	45.4
	Rate	People		22.9	48.4	60.4	84.7	26.3	53.2
<b>Other urban</b>									
	Line	People		34.54	55.26	69.08	138.15	37.10	60.53
	Rate	Households	10,966	53.9	73.5	80.4	92.7	57.3	76.6
	Rate	People		58.5	77.8	84.2	94.8	62.0	80.6
<b>Rural</b>									
	Line	People		27.26	43.61	54.52	109.04	29.28	47.78
	Rate	Households	15,134	52.7	77.9	86.4	97.2	57.2	81.7
	Rate	People		60.3	84.3	91.3	98.5	65.0	87.5
<b>All</b>									
	Line	People		30.69	49.10	61.38	122.76	32.97	53.79
	Rate	Households	33,152	48.8	72.7	81.1	94.1	52.9	76.4
	Rate	People		55.4	78.6	86.1	96.1	59.7	81.9

Source and definitions: See Table 1 and text.

**Table 2 (All of Mozambique): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Poorest 1/2 < 100% Natl.	Percentile-based lines				
				20th	40th	50th	60th	80th	
<b>Urban Maputo and Beira</b>									
	Line	People		9.28	8.52	14.05	17.48	22.14	42.18
	Rate	Households	7,052	0.9	0.7	2.7	4.5	7.0	19.4
	Rate	People		1.2	1.0	3.5	5.9	8.9	23.6
<b>Other urban</b>									
	Line	People		11.57	10.62	17.52	21.80	27.60	52.60
	Rate	Households	10,966	13.4	11.7	26.0	34.7	44.8	70.5
	Rate	People		14.6	12.5	28.4	37.5	48.3	74.4
<b>Rural</b>									
	Line	People		15.01	13.78	22.72	28.27	35.81	68.23
	Rate	Households	15,134	25.6	22.3	44.5	55.6	66.4	87.9
	Rate	People		29.3	25.5	49.9	61.5	72.5	91.8
<b>All</b>									
	Line	People		13.64	12.52	20.65	25.69	32.54	62.00
	Rate	Households	33,152	20.3	17.7	36.0	45.5	55.3	76.5
	Rate	People		23.0	20.0	40.0	50.0	60.0	80.0

Source and definitions: See Table 1 and text.

**Table 2 (All of Mozambique): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		42.13	63.19	84.25	45.89	91.77
	Rate	Households	7,052	16.4	35.0	50.5	19.9	54.6
	Rate	People		20.7	41.9	58.8	25.0	63.2
<b>Other urban</b>								
	Line	People		31.31	46.96	62.61	34.10	68.20
	Rate	Households	10,966	48.7	67.1	77.4	52.8	79.8
	Rate	People		53.4	71.8	81.4	57.6	83.4
<b>Rural</b>								
	Line	People		24.78	37.16	49.55	26.99	53.97
	Rate	Households	15,134	45.8	70.4	82.6	51.1	85.6
	Rate	People		53.1	77.7	88.3	58.7	90.7
<b>All</b>								
	Line	People		28.18	42.26	56.35	30.69	61.38
	Rate	Households	33,152	42.8	65.5	77.8	47.7	80.8
	Rate	People		49.1	72.1	83.3	54.3	85.9

Source and definitions: See Table 1 and text.

**Table 2 (Niassa): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		32.74	49.11	65.48
	Rate	Households	1,024	57.2	75.9	83.8
	Rate	People		62.6	81.1	87.5
<b>Rural</b>						
	Line	People		29.23	43.84	58.45
	Rate	Households	1,467	52.2	76.4	88.0
	Rate	People		59.9	82.7	92.0
<b>All</b>						
	Line	People		30.05	45.07	60.09
	Rate	Households	2,491	53.4	76.3	87.0
	Rate	People		60.6	82.4	90.9

Source and definitions: See Table 1 and text.

**Table 2 (Niassa): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		38.13	61.01	76.27	152.53	40.96	66.83
	Rate	Households	1,024	66.2	81.8	87.3	96.8	69.1	84.3
	Rate	People		71.7	85.6	90.4	97.8	74.7	87.9
<b>Rural</b>									
	Line	People		34.04	54.47	68.08	136.16	36.57	59.66
	Rate	Households	1,467	62.1	85.4	92.3	98.8	65.7	88.8
	Rate	People		70.1	89.8	95.3	99.4	73.5	92.7
<b>All</b>									
	Line	People		35.00	56.00	70.00	139.99	37.59	61.34
	Rate	Households	2,491	63.1	84.5	91.1	98.3	66.5	87.7
	Rate	People		70.4	88.8	94.1	99.1	73.8	91.6

Source and definitions: See Table 1 and text.

**Table 2 (Niassa): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Poorest 1/2 < 100% Natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		10.35	9.50	15.66	19.49	24.68	47.03
	Rate	Households	1,024	13.7	11.9	25.5	34.8	43.4	74.8
	Rate	People		16.1	14.0	29.7	39.5	48.8	79.9
<b>Rural</b>									
	Line	People		11.58	10.63	17.54	21.82	27.64	52.66
	Rate	Households	1,467	10.9	9.2	23.3	34.3	48.2	84.8
	Rate	People		12.3	10.1	27.8	40.2	55.7	89.6
<b>All</b>									
	Line	People		11.29	10.37	17.10	21.28	26.95	51.34
	Rate	Households	2,491	11.6	9.9	23.8	34.4	47.1	82.4
	Rate	People		13.2	11.0	28.2	40.0	54.1	87.3

Source and definitions: See Table 1 and text.



**Table 2 (Niassa): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		36.68	55.01	73.35	39.95	79.90
	Rate	Households	1,024	63.2	79.3	86.1	68.1	87.8
	Rate	People		68.8	83.6	89.6	73.5	90.8
<b>Rural</b>								
	Line	People		32.15	48.23	64.31	35.02	70.04
	Rate	Households	1,467	56.1	79.3	90.4	62.6	92.3
	Rate	People		64.2	85.3	93.9	70.8	95.3
<b>All</b>								
	Line	People		33.21	49.82	66.42	36.17	72.35
	Rate	Households	2,491	57.8	79.3	89.3	63.9	91.2
	Rate	People		65.3	84.9	92.9	71.4	94.2

Source and definitions: See Table 1 and text.

**Table 2 (Cabo Delgado): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		32.75	49.12	65.50
	Rate	Households	1,352	43.5	65.2	77.8
	Rate	People		53.4	73.1	84.1
<b>Rural</b>						
	Line	People		29.32	43.97	58.63
	Rate	Households	1,369	33.6	58.7	73.8
	Rate	People		42.0	69.0	83.0
<b>All</b>						
	Line	People		30.14	45.21	60.28
	Rate	Households	2,721	35.6	60.0	74.6
	Rate	People		44.8	70.0	83.3

Source and definitions: See Table 1 and text.

**Table 2 (Cabo Delgado): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		38.14	61.03	76.29	152.58	40.97	66.85
	Rate	Households	1,352	50.9	74.5	82.0	93.9	55.1	78.5
	Rate	People		60.5	81.5	87.6	96.6	64.3	84.6
<b>Rural</b>									
	Line	People		34.15	54.64	68.30	136.59	36.68	59.85
	Rate	Households	1,369	43.3	70.5	79.8	96.1	48.6	74.7
	Rate	People		52.8	80.1	87.3	98.3	58.7	83.8
<b>All</b>									
	Line	People		35.10	56.17	70.21	140.42	37.71	61.53
	Rate	Households	2,721	44.9	71.3	80.2	95.7	49.9	75.4
	Rate	People		54.7	80.4	87.3	97.9	60.0	84.0

Source and definitions: See Table 1 and text.

**Table 2 (Cabo Delgado): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				Poorest 1/2 < 100% Natl.	Percentile-based lines			
				20th	40th	50th	60th	80th
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		10.34	9.49	15.66	19.48	24.67
	Rate	Households	1,352	3.6	2.8	11.5	18.5	29.4
	Rate	People		4.1	3.2	14.3	23.4	37.2
<b>Rural</b>								
	Line	People		11.54	10.60	17.47	21.74	27.54
	Rate	Households	1,369	3.1	2.3	10.2	19.0	30.8
	Rate	People		3.8	3.0	13.6	24.2	38.6
<b>All</b>								
	Line	People		11.25	10.33	17.04	21.20	26.85
	Rate	Households	2,721	3.2	2.4	10.5	18.9	30.5
	Rate	People		3.8	3.0	13.8	24.0	38.3

Source and definitions: See Table 1 and text.

**Table 2 (Cabo Delgado): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		36.71	55.07	73.43	39.99	79.98
	Rate	Households	1,352	49.0	68.9	80.4	53.2	82.6
	Rate	People		58.7	76.9	86.4	62.8	88.0
<b>Rural</b>								
	Line	People		32.08	48.12	64.16	34.94	69.89
	Rate	Households	1,369	38.0	62.0	76.2	43.6	79.0
	Rate	People		47.2	72.3	84.8	53.7	86.8
<b>All</b>								
	Line	People		33.19	49.78	66.38	36.15	72.30
	Rate	Households	2,721	40.2	63.4	77.0	45.5	79.7
	Rate	People		49.9	73.4	85.2	55.8	87.1

Source and definitions: See Table 1 and text.

**Table 2 (Nampula): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		25.92	38.89	51.85
	Rate	Households	1,885	52.0	69.7	81.2
	Rate	People		56.0	74.1	85.0
<b>Rural</b>						
	Line	People		19.48	29.22	38.96
	Rate	Households	2,406	49.7	74.3	85.5
	Rate	People		57.7	81.0	90.5
<b>All</b>						
	Line	People		21.54	32.31	43.09
	Rate	Households	4,291	50.4	72.9	84.2
	Rate	People		57.1	78.8	88.7

Source and definitions: See Table 1 and text.

**Table 2 (Nampula): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		30.20	48.32	60.39	120.79	32.44	52.92
	Rate	Households	1,885	59.9	78.7	85.7	95.2	63.5	81.9
	Rate	People		64.2	82.8	88.9	96.7	68.1	85.6
<b>Rural</b>									
	Line	People		22.69	36.30	45.38	90.75	24.37	39.76
	Rate	Households	2,406	59.8	83.4	90.4	98.3	64.6	86.2
	Rate	People		67.5	88.6	94.1	99.1	72.1	91.0
<b>All</b>									
	Line	People		25.09	40.15	50.19	100.37	26.95	43.98
	Rate	Households	4,291	59.8	82.0	89.0	97.4	64.3	84.9
	Rate	People		66.4	86.7	92.4	98.3	70.8	89.3

Source and definitions: See Table 1 and text.

**Table 2 (Nampula): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				Poorest 1/2 < 100% Natl.	Percentile-based lines			
				20th	40th	50th	60th	80th
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		13.07	12.00	19.78	24.62	31.18
	Rate	Households	1,885	20.0	17.4	37.6	49.2	62.2
	Rate	People		21.9	18.8	41.1	53.1	66.5
<b>Rural</b>								
	Line	People		17.38	15.95	26.31	32.74	41.46
	Rate	Households	2,406	41.4	36.4	69.7	79.9	88.4
	Rate	People		48.4	42.8	77.0	85.8	92.7
<b>All</b>								
	Line	People		16.00	14.69	24.22	30.14	38.17
	Rate	Households	4,291	34.9	30.6	59.9	70.6	80.4
	Rate	People		39.9	35.1	65.5	75.3	84.3

Source and definitions: See Table 1 and text.



**Table 2 (Nampula): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		29.33	44.00	58.67	31.95	63.90
	Rate	Households	1,885	57.5	75.1	84.6	61.8	86.5
	Rate	People		62.0	79.7	88.1	66.3	89.6
<b>Rural</b>								
	Line	People		20.70	31.06	41.41	22.55	45.10
	Rate	Households	2,406	53.0	76.6	86.8	57.1	89.5
	Rate	People		61.1	83.1	91.5	64.8	93.5
<b>All</b>								
	Line	People		23.47	35.20	46.94	25.56	51.12
	Rate	Households	4,291	54.3	76.1	86.1	58.5	88.6
	Rate	People		61.4	82.1	90.4	65.3	92.3

Source and definitions: See Table 1 and text.

**Table 2 (Zambézia): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		27.32	40.98	54.64
	Rate	Households	1,544	55.5	71.8	80.0
	Rate	People		59.8	74.7	82.2
<b>Rural</b>						
	Line	People		19.09	28.63	38.18
	Rate	Households	2,522	49.9	72.4	84.5
	Rate	People		55.8	78.6	88.7
<b>All</b>						
	Line	People		20.80	31.20	41.60
	Rate	Households	4,066	51.0	72.3	83.6
	Rate	People		56.6	77.8	87.3

Source and definitions: See Table 1 and text.

**Table 2 (Zambézia): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		31.82	50.92	63.64	127.29	34.18	55.77
	Rate	Households	1,544	62.1	78.5	83.4	93.2	65.1	80.5
	Rate	People		65.9	80.9	85.4	94.8	68.5	82.7
<b>Rural</b>									
	Line	People		22.23	35.57	44.47	88.93	23.88	38.97
	Rate	Households	2,522	58.8	82.2	89.2	98.1	62.7	85.4
	Rate	People		65.4	86.9	92.7	98.7	69.1	89.6
<b>All</b>									
	Line	People		24.23	38.76	48.46	96.91	26.03	42.46
	Rate	Households	4,066	59.5	81.4	88.0	97.1	63.2	84.4
	Rate	People		65.5	85.6	91.2	97.9	69.0	88.2

Source and definitions: See Table 1 and text.

**Table 2 (Zambézia): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				Poorest 1/2 < 100% Natl.	Percentile-based lines			
				20th	40th	50th	60th	80th
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		12.38	11.37	18.74	23.33	29.54
	Rate	Households	1,544	21.4	18.7	39.2	49.3	59.2
	Rate	People		24.5	20.8	43.7	54.0	63.2
<b>Rural</b>								
	Line	People		17.72	16.27	26.83	33.39	42.29
	Rate	Households	2,522	46.3	40.7	69.7	80.7	88.0
	Rate	People		51.8	45.2	75.9	85.9	91.7
<b>All</b>								
	Line	People		16.61	15.25	25.15	31.30	39.64
	Rate	Households	4,066	41.3	36.3	63.5	74.4	82.1
	Rate	People		46.1	40.2	69.2	79.2	85.8

Source and definitions: See Table 1 and text.

**Table 2 (Zambézia): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		27.00	40.50	54.00	29.41	58.81
	Rate	Households	1,544	53.7	71.5	79.6	57.5	81.5
	Rate	People		58.4	74.5	81.9	61.6	83.6
<b>Rural</b>								
	Line	People		20.91	31.36	41.82	22.77	45.55
	Rate	Households	2,522	54.2	77.2	87.1	59.5	89.9
	Rate	People		60.5	83.0	91.0	66.2	93.3
<b>All</b>								
	Line	People		22.18	33.26	44.35	24.15	48.31
	Rate	Households	4,066	54.1	76.0	85.6	59.1	88.2
	Rate	People		60.0	81.2	89.1	65.2	91.2

Source and definitions: See Table 1 and text.

**Table 2 (Tete): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		34.33	51.50	68.66
	Rate	Households	1,284	36.7	54.5	65.8
	Rate	People		42.2	60.3	71.1
<b>Rural</b>						
	Line	People		23.76	35.64	47.53
	Rate	Households	1,559	27.0	56.5	74.3
	Rate	People		30.1	63.5	80.8
<b>All</b>						
	Line	People		25.19	37.78	50.37
	Rate	Households	2,843	28.3	56.2	73.2
	Rate	People		31.7	63.0	79.5

Source and definitions: See Table 1 and text.

**Table 2 (Tete): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		39.99	63.98	79.98	159.96	42.96	70.09
	Rate	Households	1,284	44.8	63.4	70.0	86.8	47.4	66.1
	Rate	People		50.6	68.7	75.4	89.6	53.1	71.3
<b>Rural</b>									
	Line	People		27.68	44.29	55.36	110.72	29.73	48.51
	Rate	Households	1,559	38.3	68.9	82.2	97.5	43.7	75.0
	Rate	People		43.5	76.1	88.1	98.6	50.1	81.4
<b>All</b>									
	Line	People		29.34	46.94	58.67	117.35	31.51	51.42
	Rate	Households	2,843	39.1	68.2	80.7	96.1	44.2	73.8
	Rate	People		44.5	75.1	86.4	97.4	50.5	80.0

Source and definitions: See Table 1 and text.

**Table 2 (Tete): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Poorest 1/2 < 100% Natl.	Percentile-based lines				
				20th	40th	50th	60th	80th	
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	
	Rate	Households	1,024	—	—	—	—	—	
	Rate	People		—	—	—	—	—	
<b>Other urban</b>									
	Line	People		9.85	9.04	14.91	18.56	23.50	
	Rate	Households	1,284	5.5	5.1	10.3	15.4	22.8	
	Rate	People		6.3	5.5	12.3	18.2	26.5	
<b>Rural</b>									
	Line	People		14.24	13.07	21.55	26.82	33.97	
	Rate	Households	1,559	10.1	8.5	23.5	37.3	54.5	
	Rate	People		9.2	7.4	25.5	42.3	61.3	
<b>All</b>									
	Line	People		13.65	12.53	20.66	25.71	32.56	
	Rate	Households	2,843	9.5	8.1	21.8	34.5	50.4	
	Rate	People		8.8	7.2	23.7	39.0	56.6	

Source and definitions: See Table 1 and text.



**Table 2 (Tete): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		33.77	50.65	67.54	36.78	73.56
	Rate	Households	1,284	34.9	54.1	65.1	39.6	67.7
	Rate	People		40.4	60.2	70.4	45.4	73.0
<b>Rural</b>								
	Line	People		24.24	36.36	48.48	26.40	52.81
	Rate	Households	1,559	27.5	57.2	74.6	33.2	79.4
	Rate	People		30.5	64.1	81.0	37.4	85.6
<b>All</b>								
	Line	People		25.52	38.28	51.05	27.80	55.60
	Rate	Households	2,843	28.4	56.8	73.3	34.0	77.9
	Rate	People		31.8	63.6	79.6	38.5	83.9

Source and definitions: See Table 1 and text.

**Table 2 (Manica): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		34.37	51.56	68.75
	Rate	Households	1,282	28.4	49.0	64.4
	Rate	People		30.8	54.3	70.1
<b>Rural</b>						
	Line	People		23.79	35.68	47.57
	Rate	Households	1,329	37.5	62.2	77.8
	Rate	People		44.2	71.7	85.9
<b>All</b>						
	Line	People		26.30	39.45	52.61
	Rate	Households	2,611	35.3	59.0	74.5
	Rate	People		41.0	67.6	82.1

Source and definitions: See Table 1 and text.

**Table 2 (Manica): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		40.04	64.06	80.08	160.16	43.01	70.17
	Rate	Households	1,282	35.0	60.7	70.9	90.4	38.4	65.1
	Rate	People		38.5	66.4	76.8	93.6	42.4	70.9
<b>Rural</b>									
	Line	People		27.71	44.33	55.41	110.83	29.76	48.56
	Rate	Households	1,329	46.7	73.7	83.8	96.0	51.9	78.8
	Rate	People		54.7	82.5	90.9	98.0	61.1	86.9
<b>All</b>									
	Line	People		30.64	49.02	61.27	122.55	32.91	53.70
	Rate	Households	2,611	43.8	70.6	80.7	94.6	48.6	75.5
	Rate	People		50.8	78.7	87.5	97.0	56.6	83.1

Source and definitions: See Table 1 and text.

**Table 2 (Manica): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Poorest 1/2 < 100% Natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		9.84	9.03	14.90	18.54	23.47	44.73
	Rate	Households	1,282	2.0	1.7	5.1	8.2	14.4	41.6
	Rate	People		1.9	1.6	5.0	8.5	15.2	46.1
<b>Rural</b>									
	Line	People		14.22	13.06	21.53	26.79	33.93	64.66
	Rate	Households	1,329	14.3	12.5	31.5	45.5	60.9	88.6
	Rate	People		16.8	14.6	37.1	53.8	70.4	94.1
<b>All</b>									
	Line	People		13.18	12.10	19.95	24.83	31.45	59.92
	Rate	Households	2,611	11.3	9.9	25.1	36.4	49.6	77.1
	Rate	People		13.3	11.5	29.5	43.1	57.3	82.7

Source and definitions: See Table 1 and text.

**Table 2 (Manica): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		33.78	50.67	67.55	36.79	73.58
	Rate	Households	1,282	28.1	48.4	63.7	31.5	67.2
	Rate	People		30.7	53.7	69.4	34.7	73.0
<b>Rural</b>								
	Line	People		24.24	36.36	48.48	26.41	52.81
	Rate	Households	1,329	37.3	63.0	78.4	43.0	81.8
	Rate	People		44.1	72.5	86.9	50.6	89.1
<b>All</b>								
	Line	People		26.51	39.76	53.02	28.87	57.75
	Rate	Households	2,611	35.1	59.5	74.8	40.2	78.3
	Rate	People		40.9	68.0	82.7	46.9	85.3

Source and definitions: See Table 1 and text.

**Table 2 (Sofala): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		27.22	40.83	54.44
	Rate	Households	1,969	24.3	43.9	57.5
	Rate	People		30.1	51.7	65.8
<b>Other urban</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Rural</b>						
	Line	People		19.07	28.60	38.14
	Rate	Households	981	39.8	67.2	81.3
	Rate	People		52.0	77.5	88.1
<b>All</b>						
	Line	People		22.01	33.02	44.02
	Rate	Households	2,950	33.5	57.8	71.7
	Rate	People		44.1	68.2	80.1

Source and definitions: See Table 1 and text.

**Table 2 (Sofala): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		31.70	50.73	63.41	126.81	34.06	55.56
	Rate	Households	1,969	31.0	54.6	63.8	84.8	34.2	58.4
	Rate	People		38.0	63.1	72.2	89.6	41.3	66.8
<b>Other urban</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Rural</b>									
	Line	People		22.21	35.54	44.42	88.84	23.86	38.93
	Rate	Households	981	49.9	78.6	86.4	97.6	53.8	82.2
	Rate	People		62.1	86.3	92.0	98.7	65.9	88.8
<b>All</b>									
	Line	People		25.64	41.02	51.28	102.56	27.54	44.94
	Rate	Households	2,950	42.2	68.9	77.2	92.4	45.9	72.6
	Rate	People		53.4	77.9	84.8	95.4	57.0	80.9

Source and definitions: See Table 1 and text.

**Table 2 (Sofala): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Poorest 1/2 < 100% Natl.	Percentile-based lines				
				20th	40th	50th	60th	80th	
<b>Urban Maputo and Beira</b>									
	Line	People		12.43	11.41	18.81	23.41	29.65	56.49
	Rate	Households	1,969	3.9	2.9	11.4	19.1	28.4	59.6
	Rate	People		5.1	4.1	14.2	23.9	35.0	68.2
<b>Other urban</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Rural</b>									
	Line	People		17.74	16.29	26.86	33.43	42.33	80.67
	Rate	Households	981	35.7	31.8	63.6	75.9	85.3	96.6
	Rate	People		47.5	43.3	74.7	84.2	91.1	98.3
<b>All</b>									
	Line	People		15.82	14.53	23.95	29.81	37.75	71.93
	Rate	Households	2,950	22.8	20.1	42.5	52.9	62.2	81.6
	Rate	People		32.2	29.1	52.8	62.4	70.8	87.4

Source and definitions: See Table 1 and text.



**Table 2 (Sofala): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		26.98	40.47	53.96	29.39	58.77
	Rate	Households	1,969	23.3	41.7	56.6	26.9	60.2
	Rate	People		29.0	49.4	65.2	33.2	69.0
<b>Other urban</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Rural</b>								
	Line	People		20.90	31.34	41.79	22.76	45.52
	Rate	Households	981	42.9	70.8	83.7	49.3	85.8
	Rate	People		55.4	80.3	90.1	61.7	91.7
<b>All</b>								
	Line	People		23.09	34.64	46.19	25.15	50.31
	Rate	Households	2,950	35.0	59.0	72.8	40.3	75.4
	Rate	People		45.8	69.2	81.1	51.4	83.5

Source and definitions: See Table 1 and text.

**Table 2 (Inhambane): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		32.40	48.60	64.79
	Rate	Households	1,296	26.2	46.4	61.1
	Rate	People		28.7	51.5	66.1
<b>Rural</b>						
	Line	People		28.43	42.65	56.86
	Rate	Households	1,231	45.0	68.2	80.3
	Rate	People		54.8	76.6	86.3
<b>All</b>						
	Line	People		29.38	44.07	58.76
	Rate	Households	2,527	40.7	63.2	75.9
	Rate	People		48.5	70.6	81.5

Source and definitions: See Table 1 and text.

**Table 2 (Inhambane): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		37.74	60.38	75.47	150.94	40.54	66.14
	Rate	Households	1,296	32.6	57.7	67.0	85.7	36.3	62.0
	Rate	People		35.6	62.8	71.5	88.4	40.2	67.0
<b>Rural</b>									
	Line	People		33.12	52.99	66.23	132.47	35.57	58.04
	Rate	Households	1,231	54.1	77.6	85.0	96.4	58.1	80.6
	Rate	People		64.5	84.1	90.4	97.8	67.7	86.6
<b>All</b>									
	Line	People		34.22	54.75	68.44	136.88	36.76	59.98
	Rate	Households	2,527	49.2	73.0	80.9	94.0	53.1	76.4
	Rate	People		57.6	79.0	85.9	95.6	61.2	81.9

Source and definitions: See Table 1 and text.

**Table 2 (Inhambane): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				Poorest 1/2 < 100% Natl.	Percentile-based lines			
				20th	40th	50th	60th	80th
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		10.44	9.58	15.80	19.66	24.90
	Rate	Households	1,296	1.2	1.1	4.1	8.3	15.1
	Rate	People		1.2	1.0	4.2	8.9	16.7
<b>Rural</b>								
	Line	People		11.90	10.92	18.01	22.41	28.38
	Rate	Households	1,231	8.0	5.9	21.2	33.0	45.9
	Rate	People		11.3	8.7	27.1	40.9	56.0
<b>All</b>								
	Line	People		11.55	10.60	17.48	21.75	27.55
	Rate	Households	2,527	6.4	4.8	17.2	27.3	38.8
	Rate	People		8.9	6.8	21.6	33.3	46.6

Source and definitions: See Table 1 and text.

**Table 2 (Inhambane): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		32.70	49.05	65.40	35.62	71.23
	Rate	Households	1,296	25.8	46.9	61.9	30.0	65.6
	Rate	People		28.6	52.1	66.9	32.8	70.4
<b>Rural</b>								
	Line	People		27.68	41.52	55.36	30.15	60.30
	Rate	Households	1,231	47.2	69.5	82.1	50.5	84.8
	Rate	People		57.7	78.2	87.7	61.2	90.1
<b>All</b>								
	Line	People		28.88	43.32	57.76	31.46	62.92
	Rate	Households	2,527	42.3	64.3	77.4	45.8	80.4
	Rate	People		50.8	72.0	82.8	54.4	85.4

Source and definitions: See Table 1 and text.

**Table 2 (Gaza): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Other urban</b>						
	Line	People		32.42	48.62	64.83
	Rate	Households	1,299	36.3	56.3	67.8
	Rate	People		43.7	63.4	74.0
<b>Rural</b>						
	Line	People		28.39	42.58	56.78
	Rate	Households	1,141	45.5	67.1	79.1
	Rate	People		53.8	75.3	86.1
<b>All</b>						
	Line	People		29.43	44.14	58.85
	Rate	Households	2,440	43.1	64.3	76.2
	Rate	People		51.2	72.2	83.0

Source and definitions: See Table 1 and text.

**Table 2 (Gaza): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Other urban</b>									
	Line	People		37.76	60.41	75.52	151.03	40.56	66.18
	Rate	Households	1,299	43.8	64.7	73.1	89.8	47.4	68.4
	Rate	People		51.3	71.2	79.0	93.0	55.0	74.4
<b>Rural</b>									
	Line	People		33.07	52.90	66.13	132.26	35.52	57.95
	Rate	Households	1,141	53.1	76.6	84.5	94.7	58.1	79.7
	Rate	People		61.2	83.8	90.4	97.3	66.7	86.4
<b>All</b>									
	Line	People		34.28	54.84	68.55	137.10	36.82	60.07
	Rate	Households	2,440	50.7	73.5	81.5	93.4	55.3	76.8
	Rate	People		58.6	80.6	87.5	96.2	63.7	83.3

Source and definitions: See Table 1 and text.

**Table 2 (Gaza): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				Poorest 1/2 < 100% Natl.	Percentile-based lines			
				20th	40th	50th	60th	80th
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		10.43	9.58	15.79	19.65	24.89
	Rate	Households	1,299	3.1	2.5	11.4	17.3	27.2
	Rate	People		3.6	2.8	14.2	21.2	33.9
<b>Rural</b>								
	Line	People		11.91	10.94	18.04	22.44	28.42
	Rate	Households	1,141	7.7	5.6	21.5	33.3	46.0
	Rate	People		11.2	8.6	28.2	41.8	54.2
<b>All</b>								
	Line	People		11.53	10.59	17.46	21.72	27.51
	Rate	Households	2,440	6.5	4.8	18.9	29.2	41.2
	Rate	People		9.3	7.1	24.6	36.5	49.0

Source and definitions: See Table 1 and text.



**Table 2 (Gaza): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Other urban</b>								
	Line	People		32.70	49.05	65.40	35.62	71.23
	Rate	Households	1,299	37.1	57.0	68.8	41.7	72.1
	Rate	People		44.3	63.8	74.9	49.2	77.9
<b>Rural</b>								
	Line	People		27.69	41.54	55.39	30.16	60.33
	Rate	Households	1,141	41.8	66.9	78.8	48.6	81.2
	Rate	People		50.9	75.8	85.9	57.4	87.8
<b>All</b>								
	Line	People		28.98	43.48	57.97	31.57	63.14
	Rate	Households	2,440	40.6	64.4	76.2	46.8	78.8
	Rate	People		49.2	72.7	83.1	55.3	85.3

Source and definitions: See Table 1 and text.

**Table 2 (Maputo Província): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		41.31	61.97	82.62
	Rate	Households	1,955	10.4	26.9	42.6
	Rate	People		12.0	31.7	48.9
<b>Other urban</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Rural</b>						
	Line	People		37.84	56.77	75.69
	Rate	Households	1,129	30.1	52.7	65.8
	Rate	People		35.0	58.6	73.4
<b>All</b>						
	Line	People		40.27	60.41	80.54
	Rate	Households	3,084	16.8	35.3	50.1
	Rate	People		18.9	39.7	56.2

Source and definitions: See Table 1 and text.

**Table 2 (Maputo Província): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		48.12	76.99	96.24	192.47	51.69	84.33
	Rate	Households	1,955	16.2	39.1	51.1	80.6	19.1	43.5
	Rate	People		19.1	45.1	58.4	86.1	22.9	49.9
<b>Other urban</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Rural</b>									
	Line	People		44.08	70.53	88.16	176.32	47.35	77.26
	Rate	Households	1,129	38.3	63.0	72.6	91.2	42.8	66.7
	Rate	People		43.5	70.4	79.4	94.6	48.3	74.3
<b>All</b>									
	Line	People		46.91	75.05	93.82	187.63	50.39	82.21
	Rate	Households	3,084	23.4	46.8	58.1	84.0	26.8	51.0
	Rate	People		26.4	52.7	64.7	88.7	30.5	57.2

Source and definitions: See Table 1 and text.

**Table 2 (Maputo Província): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Poorest 1/2 < 100% Natl.	Percentile-based lines				
				20th	40th	50th	60th	80th	
<b>Urban Maputo and Beira</b>									
	Line	People		8.19	7.51	12.39	15.42	19.53	37.21
	Rate	Households	1,955	0.0	0.0	0.4	0.5	1.2	8.1
	Rate	People		0.0	0.0	0.4	0.6	1.4	9.3
<b>Other urban</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Rural</b>									
	Line	People		8.94	8.20	13.53	16.83	21.32	40.63
	Rate	Households	1,129	1.3	1.0	3.1	5.3	10.1	35.0
	Rate	People		0.9	0.6	3.0	5.2	11.3	40.3
<b>All</b>									
	Line	People		8.41	7.72	12.73	15.84	20.07	38.24
	Rate	Households	3,084	0.4	0.3	1.2	2.0	4.1	16.8
	Rate	People		0.3	0.2	1.1	2.0	4.4	18.6

Source and definitions: See Table 1 and text.

**Table 2 (Maputo Província): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		47.39	71.09	94.78	51.62	103.24
	Rate	Households	1,955	16.0	34.9	51.1	19.8	55.9
	Rate	People		19.0	40.4	58.5	23.7	63.7
<b>Other urban</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Rural</b>								
	Line	People		43.41	65.12	86.82	47.28	94.57
	Rate	Households	1,129	37.3	60.5	72.5	43.7	75.9
	Rate	People		42.9	66.7	78.9	49.0	81.9
<b>All</b>								
	Line	People		46.20	69.30	92.40	50.32	100.64
	Rate	Households	3,084	22.9	43.2	58.0	27.5	62.3
	Rate	People		26.1	48.3	64.6	31.3	69.2

Source and definitions: See Table 1 and text.

**Table 2 (Maputo Cidade): National poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)		
				National lines (2014 def.)		
				100%	150%	200%
<b>Urban Maputo and Beira</b>						
	Line	People		39.94	59.91	79.88
	Rate	Households	3,128	8.5	23.3	38.9
	Rate	People		11.7	29.4	47.2
<b>Other urban</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>Rural</b>						
	Line	People		—	—	—
	Rate	Households	1,024	—	—	—
	Rate	People		—	—	—
<b>All</b>						
	Line	People		39.94	59.91	79.88
	Rate	Households	3,128	8.5	23.3	38.9
	Rate	People		11.7	29.4	47.2

Source and definitions: See Table 1 and text.

**Table 2 (Maputo Cidade): International 2005 and 2011 PPP poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Intl. 2005 PPP (2014 def.)				Intl. 2011 PPP (2014 def.)	
				\$1.25	\$2.00	\$2.50	\$5.00	\$1.90	\$3.10
<b>Urban Maputo and Beira</b>									
	Line	People		46.52	74.43	93.04	186.08	49.97	81.53
	Rate	Households	3,128	12.9	35.2	46.6	72.2	15.4	40.0
	Rate	People		17.6	42.9	55.5	80.4	20.7	48.3
<b>Other urban</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Rural</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>All</b>									
	Line	People		46.52	74.43	93.04	186.08	49.97	81.53
	Rate	Households	3,128	12.9	35.2	46.6	72.2	15.4	40.0
	Rate	People		17.6	42.9	55.5	80.4	20.7	48.3

Source and definitions: See Table 1 and text.

**Table 2 (Maputo Cidade): Relative and percentile-based poverty lines (2014 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)					
				Poorest 1/2 < 100% Natl.	Percentile-based lines				
				20th	40th	50th	60th	80th	
<b>Urban Maputo and Beira</b>									
	Line	People		8.47	7.77	12.82	15.95	20.20	38.49
	Rate	Households	3,128	0.0	0.0	0.1	0.3	0.7	8.0
	Rate	People		0.0	0.0	0.1	0.4	0.7	11.0
<b>Other urban</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>Rural</b>									
	Line	People		—	—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—	—
	Rate	People		—	—	—	—	—	—
<b>All</b>									
	Line	People		8.47	7.77	12.82	15.95	20.20	38.49
	Rate	Households	3,128	0.0	0.0	0.1	0.3	0.7	8.0
	Rate	People		0.0	0.0	0.1	0.4	0.7	11.0

Source and definitions: See Table 1 and text.



**Table 2 (Maputo Cidade): National poverty lines and international 2005 PPP poverty lines (2008 definition) and poverty rates for households and people for Urban Maputo and Beira, Other urban, Rural, and All in 2014/15**

Area	Line or Rate	Households or People	<i>n</i>	Poverty lines (MTN/person/day) and poverty rates (%)				
				National (2008 def.)			Intl. 2005 PPP (2008 def.)	
				100%	150%	200%	\$1.25	\$2.50
<b>Urban Maputo and Beira</b>								
	Line	People		46.03	69.05	92.07	50.14	100.28
	Rate	Households	3,128	12.9	31.3	46.6	16.1	50.2
	Rate	People		17.4	38.8	55.4	21.4	59.3
<b>Other urban</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>Rural</b>								
	Line	People		—	—	—	—	—
	Rate	Households	1,024	—	—	—	—	—
	Rate	People		—	—	—	—	—
<b>All</b>								
	Line	People		46.03	69.05	92.07	50.14	100.28
	Rate	Households	3,128	12.9	31.3	46.6	16.1	50.2
	Rate	People		17.4	38.8	55.4	21.4	59.3

Source and definitions: See Table 1 and text.

**Table 3: Poverty indicators**

<u>Uncertainty coefficient</u>	<u>Indicator (Responses ordered starting with those linked with higher poverty likelihoods)</u>
729	How many household members are 13-years-old or younger? (Five or more; Four; Three; Two; One; None)
722	How many household members are 15-years-old or younger? (Five or more; Four; Three; Two; One; None)
720	How many household members are 12-years-old or younger? (Five or more; Four; Three; Two; One; None)
720	How many household members are 14-years-old or younger? (Five or more; Four; Three; Two; One; None)
699	How many household members are 16-years-old or younger? (Six or more; Five; Four; Three; Two; One; None)
691	How many household members are 11-years-old or younger? (Four or more; Three; Two; One; None)
683	How many household members are 17-years-old or younger? (Six or more; Five; Four; Three; Two; One; None)
653	How many household members are 18-years-old or younger? (Six or more; Five; Four; Three; Two; One; None)
621	Does the household have a wood- or charcoal-burning stove, or a gas, electric, combo gas/electric, or microwave in good working order? (No; One wood- or charcoal-burning, but no others; Two or more wood- or charcoal-burning, but no others; Gas, electric, combo, or microwave (regardless of wood- or charcoal-burning))
602	Does the household have a refrigerator or freezer in good working order? (No; Only freezer; Only refrigerator; Both)
597	What is the main source of drinking water used by household members? (Piped into a neighbor's house or yard, public standpipe, borehole, well (with hand pump, protected without a pump, or unprotected), spring (protected or unprotected), cistern (or water truck or cart), river, lake, or pond, rainwater, or other; Piped into the yard; Piped into the residence, or bottled water)
567	In what province does the household reside? (Gaza; Nampula, Niassa, or Zambézia; Inhambane; Cabo Delgado; Manica, or Maputo Província; Sofala; Maputo Cidade; Tete)
536	Does the household have an electric iron in good working order? (No; Yes)
535	In what area does the household reside? (Maputo Cidade; Urban areas of the province of Maputo; Beira (urban areas of the province of Sofala))

**Table 3 (cont.): Poverty indicators**

<u>Uncertainty coefficient</u>	<u>Indicator (Responses ordered starting with those linked with higher poverty likelihoods)</u>
525	What toilet arrangement do household members use? (Enumerator: In the case of 'latrine', check the type.) (Unimproved latrine, or none; Improved traditional latrine; Improved latrine; Flush toilet connected to septic tank)
506	Does the household have a television in good working order? (No; Yes)
500	How many household members are 6-years-old or younger? (Three or more; Two; One; None)
497	What is the main construction material of the walls of the residence? (Enumerator: Observe on your own, and ask respondent only if not obvious) (Wattle and daub, wood/metal sheets, bamboo/reeds/palm leaves, or other; Cement blocks; Bricks, or adobe blocks)
486	What is the main cooking fuel that the household uses? (Firewood, coal, or dung; Charcoal, oil/paraffin/kerosene, or other; LPG, or electricity)
485	Does the household have a gas stove, electric stove, combo gas/electric stove, or microwave in good working order? (No; Yes)
480	Does the household have a freezer in good working order? (No; Yes)
475	How many members does the household have? (Nine or more; Eight; Seven; Six; Five; Four; Three; Two; One)
442	What is the main construction material of the roof/covering of the residence? (Grass/thatch/palm leaves, or other; Metal sheets; Lusalite sheets, or tile; Concrete slabs)
431	Does the household have a fan in good working order? (No; Yes)
415	Does the household have a charcoal or electric iron in good working order? (No; Yes)
396	What is the highest educational level that the (eldest) female head/spouse has attended, and what is the highest year or grade that she completed at that level? (None; Literacy classes, or Grade school grade 1 to 3; Grade school, grade 4; Grade school, grade 5; No female head/spouse; Middle school, grades 6 or 7; Middle school, grade 7; High school, grades 8, 9, or 10; High school grades 11 or 12, technical school (elementary, basic, or middle), college, teacher college, or higher)
374	Are all household members ages 7 to 12 currently attending to school? (No; Yes; No members ages 7 to 12)

**Table 3 (cont.): Poverty indicators**

<u>Uncertainty coefficient</u>	<u>Indicator (Responses ordered starting with those linked with higher poverty likelihoods)</u>
367	Does the household have wood- or charcoal-burning stove in good working order? (No; Yes)
363	Are all household members ages 7 to 13 currently attending to school? (No; Yes; No members ages 7 to 13)
360	Are all household members ages 7 to 11 currently attending to school? (No; Yes; No members ages 7 to 11)
351	Does the household have an automobile (new or used), motorcycle/scooter, or bicycle in good working order? (None; Bicycle, but not others; Motorcycle/scooter, but no automobile (regardless of bicycle); Automobile (regardless of others))
346	Does the household have a tape player or hi-fi stereo or radio in good working order (No; Yes)
341	If the household have farmland, then does it also have wheelbarrow? (Farmland, but no wheelbarrow; Farmland, and wheelbarrow; No farmland, and no wheelbarrow; No farmland, but has wheelbarrow)
336	Are all household members ages 7 to 14 currently attending to school? (No; Yes; No members ages 7 to 14)
336	What is the highest educational level that the male head/spouse has attended, and what is the highest year or grade that he completed at that level? (None, literacy classes, or Grade school grade 1; Grade school, grade 2; Grade school, grade 3; Grade school, grade 4; Grade school, grade 5; Middle school, grade 6; No male head/spouse; Middle school, grade 7; High school grades 8, 9, 10, or 11; High school, grade 12, technical school (elementary, basic, or middle), college, teacher college, or higher)
327	Does the household have a tape player or hi-fi stereo in good working order? (No; Yes)
325	Are all household members ages 7 to 15 currently attending to school? (No; Yes; No members ages 7 to 15)
318	What is the main construction material of the floor of the residence? (Enumerator: Observe on your own, and ask respondent only if not obvious) (Dirt, rough planks, or other; Adobe, cement, tile/marble, parquet, or sawed wood)
313	Does the household have a table in good working order? (No; Yes)
311	Does the household have a cell phone in good working order? (No; Yes)
310	Are all household members ages 7 to 16 currently attending to school? (No; Yes; No members ages 7 to 16)
302	Does the household have a wall clock, wrist watch, or pocket watch in good working order (No; Yes)

**Table 3 (cont.): Poverty indicators**

<u>Uncertainty coefficient</u>	<u>Indicator (Responses ordered starting with those linked with higher poverty likelihoods)</u>
297	If any household member worked in the past 7 days (or if anyone has has work to which he/she will return), how many members worked in their main occupation for a private firm, private household, national or local government, para-statal firm, cooperative, non-government organization, international organization/embassy, or was self-employed without employees? (None; One or more)
296	How many chairs does the household have in good working order? (None to three; Four or more)
293	Does the household have a refrigerator in good working order? (No; Yes)
284	Are all household members ages 7 to 17 currently attending to school? (No; Yes; No members ages 7 to 17)
272	Does the household have an electric stove in good working order? (No; Yes)
271	If the household have farmland, then does it also have ax? (Farmland, but no ax; Farmland, and ax; No farmland, and no ax; No farmland, but has ax)
265	Can the (eldest) female head/spouse read and write? (No; No female head/spouse; Yes)
262	If the household have farmland, then does it also have machete? (Farmland, but no machete; Farmland, and machete; No farmland, and no machete; No farmland, but has machete)
261	If the household have farmland, then does it also have cows/cattle? (Farmland, but no cows/cattle; Farmland, and cows/cattle; No farmland, and no cows/cattle; No farmland, but has cows/cattle)
253	How many beds and cots does the household have in good working order? (None, or one; Two; Three or more)
251	If the household have farmland, then does it also have goats? (Farmland, but no goats; Farmland, and goats; No farmland, and no goats; No farmland, but has goats)
247	If the household have farmland, then does it also have chickens/turkeys or ducks/geese? (Farmland, but no chickens/turkeys or ducks/geese; Farmland, and chickens/turkeys or ducks/geese; No farmland, and no chickens/turkeys or ducks/geese; No farmland, but has chickens/turkeys or ducks/geese)
247	Are all household members ages 7 to 18 currently attending to school? (No; Yes; No members ages 7 to 18)
246	If the household have farmland, then does it also have hoe? (Farmland, and hoe; Farmland, but no hoe; No farmland, but has hoe; No farmland, and no hoe)

**Table 3 (cont.): Poverty indicators**

<u>Uncertainty coefficient</u>	<u>Indicator (Responses ordered starting with those linked with higher poverty likelihoods)</u>
245	If the household have farmland, then does it also have pigs? (Farmland, but no pigs; Farmland, and pigs; No farmland, and no pigs; No farmland, but has pigs)
244	If the household have farmland, then does it also have scythe? (Farmland, but no scythe; Farmland, and scythe; No farmland, and no scythe; No farmland, but has scythe)
243	Does the household have farmland? (Yes; No)
241	Does the household have an automobile (new or used) in good working order? (No; Yes)
236	If the male head/spouse worked in the past 7 days (or if he has work to which he will return), for whom does he work in his main occupation? (Unpaid worked in family business; Does not work; Has a business without employees; No male head/spouse; Private firm; Self-employed with employees, national government, private household, para-statal firm, local government, Ccooperative, non-profit organization, or international organization/embassy)
212	Does the household have gas stove in good working order? (No; Yes)
192	Does the household have a microwave in good working order? (No; Yes)
182	In the past 7 days, how many household members were self-employed without employees or were unpaid workers in a family business? (Four or more; Three; Two; One; None)
168	What is the main source of energy for lighting in the residence of the household? (Firewood, candles, oil/paraffin/kerosene, LPG, or other; Electricity, generator, solar panel, or battery (large or small))
152	If the (eldest) female head/spouse worked in the past 7 days (or if she has work to which she will return), for whom does she work in her main occupation? (Unpaid worked in family business; Has a business without employees; No female head/spouse; Does not work; Private firm, private household, self-employed with employees, national government, para-statal firm, local government, cooperative, non-profit organization, or international organization/embassy)
139	In the past 7 days, how many household members did any work for at least 1 hour (in the machamba, selling something, or in some other economic activity) or has a job, farm, company, or business to which they will return to work? (None; One; Two; Three or more)
139	Can the male head/spouse read and write? (No male head/spouse; No; Yes)

**Table 3 (cont.): Poverty indicators**

<u>Uncertainty coefficient</u>	<u>Indicator (Responses ordered starting with those linked with higher poverty likelihoods)</u>
123	In the past 7 days, how many household members were unpaid workers in a family business? (Two or more; One; None)
113	Does the household have a motorcycle/scooter in good working order? (No; Yes)
82	Does the household have a non-electric iron in good working order? (No; Yes)
74	How many rooms does the residence have (including the living room)? (One; Two; Three; Four; Five or more)
72	Does the household have a combo gas/electric stove in good working order? (No; Yes)
61	What is the marital status of the male head/spouse? (No male head/spouse; Co-habiting; Married; Single, never-married, divorced/separated, or widowed)
47	In the past 7 days, how many household members were self-employed without employees? (None; One; Two or more)
31	How many rooms in the residence are used for sleeping? (One; Two; Three or more)
16	In the past 7 days, did the (eldest) female head/spouse do any work for at least 1 hour (in the machamba, selling something, or in some othe economic activity), or even if she did not work in the past 7 days, did she have a job, farm, company, or business in which she did not work in the past 7 days but to which she will return to work? (Yes; No; No female head/spouse)
13	Does the household have a radio in good working order? (No; Yes)
12	In the past 7 days, did the male head/spouse do any work for at least 1 hour (in the machamba, selling something, or in some othe economic activity), or even if he did not work in the past 7 days, did he have a job, farm, company, or business in which he/she did not work in the past 7 days but to which he will return to work? (No; No male head/spouse; Yes)
11	What is the marital status of the (eldest) female head/spouse? (Co-habiting; Married; Divorced/separated; No female head/spouse; Single, never-married)
1	Does the household have a bicycle in good working order? (No; Yes)

Source: 2014/15 IOF with 100% of the 2014-definition national poverty line

**Tables for  
100% of the 2014-Definition National Poverty Line  
(and Tables Pertaining  
to All Poverty Lines)**



**Table 4 (100% of the 2014-def. national line): Scores and their associated estimates of poverty likelihoods**

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0-7	96.0
8-17	81.4
18-26	74.0
27-31	62.4
32-34	56.9
35-37	54.5
38-40	46.8
41-42	43.5
43-44	42.0
45-46	38.5
47-48	32.4
49-51	24.3
52-54	23.4
55-56	21.9
57-59	20.9
60-64	15.8
65-66	8.5
67-72	6.6
73-76	5.4
77-83	2.2
84-100	0.4

**Table 5 (100% of the 2014-def. national line): Derivation of estimated poverty likelihoods associated with scores**

Score	Households in range and < poverty line		All households in range		Poverty likelihood (%)
0-7	1,061	÷	1,106	=	96.0
8-17	4,154	÷	5,104	=	81.4
18-26	7,251	÷	9,797	=	74.0
27-31	4,487	÷	7,184	=	62.4
32-34	3,262	÷	5,732	=	56.9
35-37	2,995	÷	5,496	=	54.5
38-40	3,073	÷	6,565	=	46.8
41-42	2,255	÷	5,179	=	43.5
43-44	1,787	÷	4,254	=	42.0
45-46	2,030	÷	5,278	=	38.5
47-48	1,481	÷	4,564	=	32.4
49-51	1,528	÷	6,285	=	24.3
52-54	1,180	÷	5,036	=	23.4
55-56	786	÷	3,580	=	21.9
57-59	712	÷	3,400	=	20.9
60-64	928	÷	5,863	=	15.8
65-66	152	÷	1,778	=	8.5
67-72	316	÷	4,805	=	6.6
73-76	123	÷	2,286	=	5.4
77-83	70	÷	3,189	=	2.2
84-100	10	÷	2,405	=	0.4

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

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

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+6.6	4.5	5.3	6.5
8-17	-1.0	2.2	2.6	3.3
18-26	-0.8	1.8	2.2	2.7
27-31	+0.7	2.6	3.0	4.4
32-34	+2.7	2.8	3.3	4.4
35-37	+4.8	3.0	3.5	4.8
38-40	+3.5	2.6	3.2	4.0
41-42	-2.3	3.2	3.7	4.8
43-44	-0.5	3.4	4.1	5.1
45-46	+3.7	3.0	3.6	4.7
47-48	-1.9	3.2	3.8	4.9
49-51	-5.6	4.2	4.4	4.9
52-54	+0.7	2.7	3.3	4.1
55-56	-0.3	3.1	3.6	4.8
57-59	+5.1	2.8	3.4	4.3
60-64	+2.2	2.0	2.4	3.3
65-66	-3.3	3.5	4.1	5.4
67-72	-23.5	14.6	15.2	16.4
73-76	+3.6	0.9	1.1	1.4
77-83	+0.3	0.9	1.1	1.5
84-100	+0.4	0.1	0.1	0.2

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

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-1.5	69.5	79.1	87.4
4	0.0	39.9	47.0	58.9
8	+0.2	28.1	35.3	46.4
16	-0.2	22.1	27.1	37.3
32	-0.4	17.0	20.4	27.1
64	-0.4	12.0	14.7	19.2
128	-0.5	8.4	10.3	13.5
256	-0.7	6.1	7.3	9.3
512	-0.6	4.5	5.3	7.0
1,024	-0.7	3.1	3.7	4.8
2,048	-0.7	2.1	2.4	3.5
4,096	-0.7	1.5	1.8	2.4
8,192	-0.8	1.1	1.3	1.7
16,384	-0.8	0.8	0.9	1.2

**Table 8 (National lines (2014 def.)): Errors (average differences between estimated and observed poverty rates) across bootstrap samples of households at a point in time, precision, and the  $\alpha$  factor for precision, scorecard applied to the validation sample**

	Poverty lines		
	National lines (2014 def.)		
	100%	150%	200%
Error (estimate minus observed value)	-0.8	-0.4	-0.9
Precision of estimate	0.8	0.7	0.6
Alpha factor for precision	1.22	1.12	1.09

Results pertain to the 2014/15 scorecard applied to the 2014/15 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  $\pm$  percentage points.

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

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

**Table 8 (International 2005 and 2011 PPP poverty lines (2014 def.): Errors (average differences between estimated and observed poverty rates) for bootstrap samples of households at a point in time, precision, and the  $\alpha$  factor for precision, scorecard applied to the validation sample**

	Poverty lines					
	<u>Intl. 2005 PPP (2014 def.)</u>				<u>Intl. 2011 PPP (2014 def.)</u>	
	<u>\$1.25</u>	<u>\$2.00</u>	<u>\$2.50</u>	<u>\$5.00</u>	<u>\$1.90</u>	<u>\$3.10</u>
Error (estimate minus observed value)	-0.7	0.0	-0.7	-0.6	-0.8	-0.9
Precision of estimate	0.7	0.6	0.5	0.2	0.7	0.6
Alpha factor for precision	1.18	1.05	1.03	0.76	1.19	1.18

Results pertain to the 2014/15 scorecard applied to the 2014/15 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  $\pm$  percentage points.

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

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

**Table 8 (Relative and percentile-based poverty lines (2014 def.): Errors (average differences between estimated and observed poverty rates) for bootstrap samples of households at a point in time, precision, and the  $\alpha$  factor for precision, scorecard applied to the validation sample**

	Poverty lines					
	Poorest 1/2 < 100% Natl.	Percentile-based lines				
		20th	40th	50th	60th	80th
Error (estimate minus observed value)	-5.5	-5.1	-6.9	-6.8	-6.3	-5.2
Precision of estimate	0.8	0.7	0.8	0.7	0.7	0.5
Alpha factor for precision	1.47	1.52	1.24	1.13	1.05	0.97

Results pertain to the 2014/15 scorecard applied to the 2014/15 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  $\pm$  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 poverty lines and international 2005 PPP poverty lines (2008 def.)): Errors (average differences between estimated and observed poverty rates) for bootstrap samples of households at a point in time, precision, and the  $\alpha$  factor for precision, scorecard applied to the validation sample**

	Poverty lines				
	National (2008 def.)			Intl. 2005 PPP (2008 def.)	
	100%	150%	200%	\$1.25	\$2.50
Error (estimate minus observed value)	-0.6	-0.2	-0.6	-0.6	-0.6
Precision of estimate	0.7	0.7	0.6	0.7	0.5
Alpha factor for precision	1.19	1.10	1.07	1.17	1.03

Results pertain to the 2014/15 scorecard applied to the 2014/15 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  $\pm$  percentage points.

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

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



**Table 9 (All poverty lines): Possible targeting outcomes**

		<u>Targeting segment</u>	
		<u>Targeted</u>	<u>Non-targeted</u>
<u>Observed poverty status</u>	<u>Poor</u>	<u>Inclusion</u> Poor correctly targeted	<u>Undercoverage</u> Poor mistakenly not targeted
	<u>Non-poor</u>	<u>Leakage</u> Non-poor mistakenly targeted	<u>Exclusion</u> Non-poor correctly not targeted

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

<b>Targeting cut-off</b>	<b><u>Inclusion:</u> Poor correctly targeted</b>	<b><u>Undercoverage:</u> Poor mistakenly not targeted</b>	<b><u>Leakage:</u> Non-poor mistakenly targeted</b>	<b><u>Exclusion:</u> Non-poor correctly not targeted</b>	<b><u>Hit rate</u> Inclusion + Exclusion</b>	<b><u>BPAC</u> See text</b>
<=7	0.8	39.3	0.1	59.8	60.6	-95.6
<=17	5.3	34.8	1.0	58.9	64.1	-71.1
<=26	12.9	27.2	3.7	56.2	69.1	-26.3
<=31	17.3	22.9	6.3	53.6	70.8	+1.7
<=34	20.5	19.6	8.9	51.0	71.5	+24.4
<=37	23.1	17.0	11.4	48.5	71.6	+43.9
<=40	26.1	14.0	15.4	44.5	70.6	+61.7
<=42	28.5	11.6	18.2	41.6	70.1	+54.5
<=44	30.3	9.8	20.6	39.3	69.6	+48.7
<=46	32.1	8.0	24.0	35.9	68.0	+40.3
<=48	33.7	6.4	26.8	33.1	66.8	+33.3
<=51	35.6	4.5	31.1	28.8	64.4	+22.5
<=54	36.9	3.2	34.8	25.1	62.0	+13.3
<=56	37.7	2.4	37.4	22.5	60.2	+6.8
<=59	38.4	1.7	40.4	19.4	57.9	-0.8
<=64	39.2	0.9	45.4	14.5	53.7	-13.1
<=66	39.4	0.7	47.1	12.8	52.2	-17.4
<=72	40.0	0.1	52.0	7.9	47.9	-29.6
<=76	40.0	0.1	54.4	5.5	45.5	-35.7
<=83	40.1	0.0	57.6	2.3	42.4	-43.7
<=100	40.1	0.0	59.9	0.0	40.1	-49.3

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

**Table 11 (100% of the 2014-def. national line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	89.8	2.1	8.8:1
<=17	6.3	83.6	13.2	5.1:1
<=26	16.6	77.7	32.2	3.5:1
<=31	23.6	73.3	43.0	2.7:1
<=34	29.4	69.8	51.1	2.3:1
<=37	34.6	67.0	57.7	2.0:1
<=40	41.5	63.0	65.1	1.7:1
<=42	46.7	61.0	71.0	1.6:1
<=44	50.8	59.5	75.5	1.5:1
<=46	56.0	57.2	80.0	1.3:1
<=48	60.5	55.7	84.0	1.3:1
<=51	66.7	53.4	88.8	1.1:1
<=54	71.6	51.5	92.0	1.1:1
<=56	75.1	50.2	94.1	1.0:1
<=59	78.9	48.7	95.8	1.0:1
<=64	84.6	46.4	97.8	0.9:1
<=66	86.5	45.6	98.3	0.8:1
<=72	92.0	43.5	99.6	0.8:1
<=76	94.5	42.4	99.8	0.7:1
<=83	97.7	41.0	100.0	0.7:1
<=100	100.0	40.1	100.0	0.7:1

**Tables for  
150% of the 2014-Definition National Poverty Line**

**Table 4 (150% of the 2014-def. national line): Scores and their associated estimates of poverty likelihoods**

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0-7	100.0
8-17	95.8
18-26	91.5
27-31	87.9
32-34	82.5
35-37	80.4
38-40	73.2
41-42	72.3
43-44	71.7
45-46	65.1
47-48	62.0
49-51	52.1
52-54	48.5
55-56	48.2
57-59	43.9
60-64	36.7
65-66	29.9
67-72	24.9
73-76	15.3
77-83	9.2
84-100	2.9

**Table 6 (150% of the 2014-def. national line): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	-0.1	1.2	1.4	1.7
18-26	+0.2	1.2	1.4	1.9
27-31	+3.0	1.8	2.2	2.9
32-34	+0.8	2.3	2.9	3.5
35-37	-0.8	2.4	2.9	3.7
38-40	+2.7	2.4	2.9	3.7
41-42	+0.8	2.7	3.3	4.4
43-44	+3.1	3.3	3.8	4.9
45-46	-1.6	3.1	3.6	4.8
47-48	-0.8	3.3	4.1	5.6
49-51	-3.0	2.9	3.3	4.4
52-54	-0.4	3.3	3.9	4.9
55-56	+2.4	3.7	4.6	5.9
57-59	-3.2	3.8	4.6	5.6
60-64	+3.2	2.7	3.2	4.3
65-66	-4.3	5.2	6.3	7.9
67-72	-13.4	9.4	9.9	10.9
73-76	+1.7	2.9	3.5	4.5
77-83	+0.6	2.0	2.3	3.0
84-100	-0.6	1.9	2.3	3.0

**Table 7 (150% of the 2014-def. national line): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+2.0	70.0	79.0	88.1
4	+0.9	38.0	44.4	56.0
8	+0.7	27.8	31.7	43.5
16	+0.4	20.7	25.4	32.8
32	+0.1	14.7	18.0	24.4
64	+0.3	11.0	13.2	17.5
128	+0.1	7.5	8.9	12.3
256	-0.2	5.5	6.5	8.5
512	-0.2	4.0	4.7	5.9
1,024	-0.3	2.8	3.3	4.2
2,048	-0.3	1.9	2.3	3.1
4,096	-0.4	1.4	1.7	2.3
8,192	-0.4	1.0	1.2	1.5
16,384	-0.4	0.7	0.8	1.0

**Table 10 (150% of the 2014-def. national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	61.6	0.0	37.5	38.4	-97.1
<=17	6.1	56.4	0.2	37.2	43.3	-80.2
<=26	15.5	47.0	1.1	36.3	51.8	-48.6
<=31	21.4	41.1	2.1	35.3	56.8	-28.1
<=34	26.3	36.3	3.1	34.4	60.6	-11.0
<=37	30.5	32.1	4.1	33.4	63.8	+4.0
<=40	35.4	27.1	6.1	31.4	66.8	+22.9
<=42	39.2	23.4	7.6	29.9	69.1	+37.3
<=44	42.1	20.5	8.8	28.7	70.7	+48.6
<=46	45.4	17.1	10.6	26.9	72.3	+62.3
<=48	48.3	14.2	12.1	25.3	73.7	+74.0
<=51	51.8	10.7	14.9	22.6	74.4	+76.2
<=54	54.4	8.1	17.2	20.2	74.6	+72.4
<=56	56.0	6.5	19.1	18.4	74.4	+69.5
<=59	57.8	4.7	21.1	16.4	74.2	+66.3
<=64	59.8	2.7	24.8	12.7	72.5	+60.4
<=66	60.5	2.1	26.1	11.4	71.9	+58.3
<=72	61.7	0.8	30.2	7.3	69.0	+51.7
<=76	62.1	0.4	32.3	5.1	67.3	+48.3
<=83	62.5	0.1	35.3	2.2	64.6	+43.6
<=100	62.5	0.0	37.5	0.0	62.5	+40.1

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



**Table 11 (150% of the 2014-def. national line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	100.0	1.5	Only poor targeted
<=17	6.3	96.5	9.7	27.2:1
<=26	16.6	93.2	24.8	13.8:1
<=31	23.6	91.0	34.3	10.1:1
<=34	29.4	89.4	42.0	8.4:1
<=37	34.6	88.1	48.7	7.4:1
<=40	41.5	85.4	56.6	5.8:1
<=42	46.7	83.8	62.6	5.2:1
<=44	50.8	82.7	67.3	4.8:1
<=46	56.0	81.1	72.7	4.3:1
<=48	60.5	79.9	77.3	4.0:1
<=51	66.7	77.7	82.9	3.5:1
<=54	71.6	75.9	87.0	3.2:1
<=56	75.1	74.6	89.6	2.9:1
<=59	78.9	73.3	92.4	2.7:1
<=64	84.6	70.7	95.6	2.4:1
<=66	86.5	69.9	96.7	2.3:1
<=72	92.0	67.1	98.7	2.0:1
<=76	94.5	65.8	99.4	1.9:1
<=83	97.7	63.9	99.9	1.8:1
<=100	100.0	62.5	100.0	1.7:1

**Tables for  
200% of the 2014-Definition National Poverty Line**

**Table 4 (200% of the 2014-def. national line): Scores and their associated estimates of poverty likelihoods**

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0-7	100.0
8-17	99.2
18-26	97.3
27-31	95.3
32-34	91.6
35-37	90.8
38-40	87.2
41-42	85.5
43-44	84.1
45-46	82.2
47-48	81.3
49-51	71.0
52-54	68.9
55-56	65.2
57-59	64.5
60-64	54.8
65-66	48.9
67-72	42.9
73-76	30.3
77-83	20.6
84-100	9.5

**Table 6 (200% of the 2014-def. national line): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+1.2	0.7	0.9	1.1
18-26	+0.2	0.7	0.8	1.1
27-31	+1.0	1.2	1.4	1.9
32-34	-1.1	1.6	1.9	2.6
35-37	+0.2	1.8	2.2	3.0
38-40	+0.4	1.8	2.2	2.9
41-42	+2.7	2.4	2.8	3.9
43-44	+1.2	2.7	3.2	4.3
45-46	-1.4	2.3	2.6	3.4
47-48	+0.2	2.6	3.2	3.9
49-51	-3.1	2.9	3.1	4.1
52-54	-2.0	3.1	3.7	5.0
55-56	+1.5	3.7	4.4	5.8
57-59	-0.7	3.6	4.4	5.6
60-64	+4.2	2.9	3.5	4.5
65-66	-4.7	5.5	6.8	8.6
67-72	-19.6	11.9	12.2	12.9
73-76	+3.4	4.2	5.1	7.2
77-83	+0.5	2.9	3.7	4.7
84-100	-2.2	3.2	3.9	4.8

**Table 7 (200% of the 2014-def. national line): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-0.2	63.7	72.1	91.1
4	+0.2	32.4	39.6	54.8
8	-0.1	22.1	27.0	42.1
16	-0.5	17.8	21.1	30.4
32	-0.7	12.5	14.5	20.1
64	-0.6	9.4	11.7	15.2
128	-0.7	6.5	7.7	9.7
256	-0.9	4.7	5.5	7.1
512	-0.8	3.3	3.9	5.2
1,024	-0.9	2.4	2.9	3.8
2,048	-0.9	1.7	2.0	2.5
4,096	-0.9	1.2	1.5	1.8
8,192	-0.9	0.9	1.1	1.3
16,384	-0.9	0.6	0.7	0.9

**Table 10 (200% of the 2014-def. national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>Inclusion: Poor correctly targeted</b>	<b>Undercoverage: Poor mistakenly not targeted</b>	<b>Leakage: Non-poor mistakenly targeted</b>	<b>Exclusion: Non-poor correctly not targeted</b>	<b>Hit rate Inclusion + Exclusion</b>	<b>BPAC See text</b>
<=7	0.9	74.7	0.0	24.4	25.3	-97.6
<=17	6.2	69.4	0.1	24.3	30.5	-83.5
<=26	16.2	59.4	0.4	23.9	40.1	-56.6
<=31	22.7	52.9	0.8	23.5	46.3	-38.8
<=34	28.2	47.4	1.2	23.2	51.4	-23.9
<=37	32.9	42.7	1.7	22.7	55.6	-10.8
<=40	38.9	36.7	2.6	21.8	60.7	+6.3
<=42	43.3	32.3	3.4	21.0	64.3	+19.0
<=44	46.8	28.8	4.1	20.3	67.1	+29.1
<=46	51.0	24.6	5.0	19.3	70.4	+41.5
<=48	54.7	21.0	5.8	18.5	73.2	+52.2
<=51	59.3	16.3	7.4	17.0	76.3	+66.7
<=54	62.9	12.7	8.7	15.6	78.5	+77.9
<=56	65.2	10.5	9.9	14.4	79.6	+85.5
<=59	67.6	8.0	11.3	13.1	80.7	+85.1
<=64	70.6	5.0	14.0	10.4	81.0	+81.5
<=66	71.7	4.0	14.9	9.5	81.1	+80.3
<=72	73.9	1.7	18.0	6.4	80.3	+76.2
<=76	74.7	1.0	19.8	4.6	79.2	+73.8
<=83	75.4	0.3	22.4	2.0	77.4	+70.4
<=100	75.6	0.0	24.4	0.0	75.6	+67.8

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

**Table 11 (200% of the 2014-def. national line): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	100.0	1.2	Only poor targeted
<=17	6.3	98.2	8.2	53.8:1
<=26	16.6	97.4	21.4	37.9:1
<=31	23.6	96.5	30.1	27.8:1
<=34	29.4	96.0	37.3	23.8:1
<=37	34.6	95.2	43.5	19.9:1
<=40	41.5	93.8	51.4	15.3:1
<=42	46.7	92.7	57.3	12.7:1
<=44	50.8	92.0	61.9	11.5:1
<=46	56.0	91.0	67.5	10.2:1
<=48	60.5	90.4	72.3	9.4:1
<=51	66.7	88.9	78.4	8.0:1
<=54	71.6	87.8	83.2	7.2:1
<=56	75.1	86.8	86.2	6.5:1
<=59	78.9	85.7	89.4	6.0:1
<=64	84.6	83.5	93.4	5.1:1
<=66	86.5	82.8	94.7	4.8:1
<=72	92.0	80.4	97.8	4.1:1
<=76	94.5	79.0	98.7	3.8:1
<=83	97.7	77.1	99.6	3.4:1
<=100	100.0	75.6	100.0	3.1:1

**Tables for  
the \$1.25/day 2005 PPP Poverty Line (2014-Definition)**



**Table 4 (\$1.25/day 2005 PPP (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:
0-7	99.1
8-17	89.1
18-26	82.1
27-31	74.3
32-34	68.1
35-37	66.1
38-40	56.4
41-42	52.8
43-44	52.8
45-46	48.2
47-48	44.0
49-51	33.8
52-54	32.9
55-56	31.8
57-59	29.2
60-64	22.1
65-66	15.3
67-72	11.4
73-76	7.9
77-83	4.3
84-100	0.8

**Table 6 (\$1.25/day 2005 PPP (2014 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+2.9	2.9	3.3	4.4
8-17	-1.4	1.7	2.1	2.7
18-26	-1.0	1.6	1.8	2.5
27-31	+2.7	2.5	2.8	3.7
32-34	+3.5	2.9	3.4	4.4
35-37	+5.5	2.9	3.5	4.9
38-40	+2.5	2.7	3.2	4.0
41-42	-2.2	3.2	3.7	4.9
43-44	0.0	3.4	4.0	5.3
45-46	+0.5	3.2	3.9	5.4
47-48	-1.2	3.3	3.9	5.1
49-51	-5.6	4.3	4.6	5.0
52-54	-1.1	3.1	3.8	5.1
55-56	+3.3	3.5	4.0	5.2
57-59	+2.5	3.5	4.1	5.6
60-64	+3.3	2.3	2.7	3.5
65-66	-7.9	6.2	6.7	7.3
67-72	-21.1	13.4	13.8	15.1
73-76	+5.0	1.2	1.5	1.9
77-83	+0.7	1.3	1.6	2.1
84-100	+0.3	0.6	0.6	0.8

**Table 7 (\$1.25/day 2005 PPP (2014 def.)): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-0.6	68.2	80.0	85.4
4	+0.4	38.6	47.3	59.5
8	+0.7	29.6	35.7	46.1
16	0.0	21.6	26.6	35.4
32	-0.5	16.0	19.6	25.5
64	-0.2	11.6	13.7	19.5
128	-0.4	8.3	9.7	13.0
256	-0.6	6.1	7.1	9.0
512	-0.6	4.3	5.2	7.0
1,024	-0.6	3.1	3.7	5.1
2,048	-0.6	2.1	2.5	3.4
4,096	-0.7	1.5	1.8	2.3
8,192	-0.7	1.1	1.3	1.6
16,384	-0.7	0.7	0.9	1.1

**Table 10 (\$1.25/day 2005 PPP (2014 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	47.9	0.0	51.1	52.0	-96.3
<=17	5.8	43.1	0.5	50.6	56.4	-75.2
<=26	14.3	34.6	2.3	48.8	63.1	-36.7
<=31	19.3	29.5	4.2	46.9	66.2	-12.2
<=34	23.2	25.6	6.2	45.0	68.2	+7.7
<=37	26.4	22.4	8.2	43.0	69.4	+24.8
<=40	30.1	18.7	11.3	39.8	69.9	+46.5
<=42	33.0	15.8	13.7	37.5	70.5	+63.3
<=44	35.2	13.6	15.6	35.6	70.8	+68.1
<=46	37.7	11.2	18.4	32.8	70.5	+62.4
<=48	39.8	9.0	20.7	30.5	70.3	+57.7
<=51	42.3	6.5	24.4	26.8	69.1	+50.1
<=54	44.1	4.7	27.5	23.7	67.8	+43.7
<=56	45.2	3.6	29.9	21.2	66.4	+38.8
<=59	46.2	2.6	32.6	18.5	64.8	+33.2
<=64	47.4	1.4	37.2	14.0	61.3	+23.8
<=66	47.8	1.0	38.7	12.4	60.3	+20.7
<=72	48.6	0.3	43.4	7.8	56.3	+11.2
<=76	48.7	0.2	45.8	5.4	54.1	+6.3
<=83	48.8	0.0	48.9	2.2	51.1	-0.2
<=100	48.8	0.0	51.2	0.0	48.8	-4.7

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

**Table 11 (\$1.25/day 2005 PPP (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	97.1	1.8	34.1:1
<=17	6.3	91.6	11.8	10.8:1
<=26	16.6	85.9	29.3	6.1:1
<=31	23.6	82.0	39.6	4.6:1
<=34	29.4	78.9	47.5	3.7:1
<=37	34.6	76.4	54.1	3.2:1
<=40	41.5	72.6	61.7	2.7:1
<=42	46.7	70.7	67.6	2.4:1
<=44	50.8	69.3	72.2	2.3:1
<=46	56.0	67.2	77.2	2.1:1
<=48	60.5	65.8	81.5	1.9:1
<=51	66.7	63.5	86.7	1.7:1
<=54	71.6	61.6	90.4	1.6:1
<=56	75.1	60.2	92.5	1.5:1
<=59	78.9	58.6	94.7	1.4:1
<=64	84.6	56.0	97.0	1.3:1
<=66	86.5	55.3	97.9	1.2:1
<=72	92.0	52.8	99.4	1.1:1
<=76	94.5	51.5	99.7	1.1:1
<=83	97.7	50.0	100.0	1.0:1
<=100	100.0	48.8	100.0	1.0:1

**Tables for  
the \$2.00/day 2005 PPP Poverty Line (2014-Definition)**

**Table 4 (\$2.00/day 2005 PPP (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:
0-7	100.0
8-17	98.8
18-26	96.8
27-31	94.0
32-34	89.1
35-37	88.5
38-40	84.6
41-42	82.9
43-44	81.5
45-46	78.6
47-48	77.2
49-51	67.1
52-54	64.6
55-56	61.4
57-59	60.1
60-64	50.2
65-66	43.7
67-72	38.2
73-76	27.1
77-83	16.9
84-100	7.7

**Table 6 (\$2.00/day 2005 PPP (2014 def.)): Errors**  
 (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+1.1	0.9	1.1	1.3
18-26	+1.2	0.9	1.0	1.4
27-31	+0.6	1.2	1.5	2.0
32-34	-1.2	1.8	2.2	2.7
35-37	-0.2	1.9	2.3	3.0
38-40	+0.9	1.9	2.3	3.4
41-42	+1.7	2.4	2.9	3.8
43-44	+1.1	2.9	3.4	4.8
45-46	-0.7	2.6	3.1	3.7
47-48	-0.9	2.8	3.3	4.3
49-51	-2.1	2.6	3.0	3.9
52-54	-1.1	3.2	3.9	5.0
55-56	+3.8	3.7	4.5	5.7
57-59	-0.6	3.7	4.4	5.7
60-64	+4.2	2.9	3.4	4.2
65-66	-1.9	5.6	6.6	8.6
67-72	-8.0	6.5	7.1	8.5
73-76	+2.8	4.1	5.0	6.4
77-83	+1.3	2.6	3.0	4.0
84-100	-1.6	2.9	3.3	4.4



**Table 7 (\$2.00/day 2005 PPP (2014 def.)): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+0.6	66.4	75.2	90.0
4	+1.1	34.2	41.3	52.0
8	+0.8	23.9	28.7	42.0
16	+0.4	18.6	21.1	29.5
32	+0.2	13.0	15.8	20.8
64	+0.3	9.7	12.0	15.5
128	+0.2	6.5	7.8	10.2
256	0.0	4.8	5.4	7.2
512	0.0	3.3	4.0	5.3
1,024	0.0	2.5	3.0	3.8
2,048	0.0	1.6	1.9	2.5
4,096	0.0	1.2	1.5	1.9
8,192	0.0	0.9	1.0	1.3
16,384	0.0	0.6	0.7	0.9

**Table 10 (\$2.00/day 2005 PPP (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	71.7	0.0	27.4	28.3	-97.5
<=17	6.2	66.4	0.1	27.3	33.5	-82.8
<=26	16.0	56.5	0.6	26.8	42.9	-55.0
<=31	22.5	50.1	1.1	26.4	48.9	-36.6
<=34	27.8	44.7	1.6	25.9	53.7	-21.2
<=37	32.4	40.1	2.1	25.3	57.7	-7.7
<=40	38.2	34.4	3.2	24.2	62.4	+9.8
<=42	42.5	30.1	4.2	23.2	65.7	+22.9
<=44	45.9	26.7	5.0	22.5	68.3	+33.3
<=46	49.9	22.7	6.1	21.3	71.2	+46.0
<=48	53.4	19.2	7.0	20.4	73.8	+56.9
<=51	57.8	14.8	8.9	18.5	76.4	+71.6
<=54	61.2	11.4	10.5	16.9	78.1	+83.0
<=56	63.2	9.3	11.9	15.5	78.8	+83.6
<=59	65.5	7.1	13.4	14.1	79.6	+81.6
<=64	68.3	4.3	16.3	11.1	79.4	+77.5
<=66	69.2	3.4	17.3	10.1	79.3	+76.1
<=72	71.1	1.4	20.8	6.6	77.7	+71.3
<=76	71.8	0.8	22.7	4.8	76.5	+68.8
<=83	72.4	0.2	25.4	2.1	74.4	+65.1
<=100	72.6	0.0	27.4	0.0	72.6	+62.2

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

**Table 11 (\$2.00/day 2005 PPP (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	100.0	1.3	Only poor targeted
<=17	6.3	97.9	8.5	47.3:1
<=26	16.6	96.4	22.1	26.9:1
<=31	23.6	95.5	31.0	21.3:1
<=34	29.4	94.7	38.4	17.9:1
<=37	34.6	93.9	44.7	15.3:1
<=40	41.5	92.2	52.7	11.8:1
<=42	46.7	91.0	58.6	10.1:1
<=44	50.8	90.2	63.2	9.2:1
<=46	56.0	89.1	68.8	8.2:1
<=48	60.5	88.4	73.6	7.6:1
<=51	66.7	86.7	79.7	6.5:1
<=54	71.6	85.4	84.3	5.8:1
<=56	75.1	84.2	87.1	5.3:1
<=59	78.9	83.1	90.2	4.9:1
<=64	84.6	80.7	94.1	4.2:1
<=66	86.5	80.0	95.3	4.0:1
<=72	92.0	77.4	98.0	3.4:1
<=76	94.5	76.0	98.9	3.2:1
<=83	97.7	74.1	99.7	2.9:1
<=100	100.0	72.6	100.0	2.6:1

**Tables for  
the \$2.50/day 2005 PPP Poverty Line (2014-Definition)**

**Table 4 (\$2.50/day 2005 PPP (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:
0-7	100.0
8-17	99.4
18-26	98.8
27-31	97.8
32-34	95.6
35-37	95.0
38-40	92.1
41-42	90.4
43-44	88.9
45-46	88.2
47-48	87.2
49-51	79.1
52-54	76.4
55-56	74.0
57-59	74.0
60-64	65.8
65-66	60.7
67-72	52.7
73-76	37.9
77-83	28.5
84-100	13.9

**Table 6 (\$2.50/day 2005 PPP (2014 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+0.3	0.5	0.6	0.8
18-26	+0.6	0.6	0.7	0.9
27-31	+0.8	0.8	1.0	1.3
32-34	-0.5	1.2	1.4	1.7
35-37	-0.1	1.4	1.7	2.1
38-40	+0.6	1.4	1.8	2.3
41-42	+2.4	2.0	2.4	3.0
43-44	+0.2	2.2	2.7	3.7
45-46	-1.5	1.8	2.0	2.6
47-48	-0.5	2.3	2.7	3.5
49-51	-2.9	2.5	2.7	3.4
52-54	+0.1	3.0	3.5	4.8
55-56	-0.5	3.3	3.9	5.1
57-59	+2.6	3.3	4.0	5.1
60-64	+5.2	2.9	3.4	4.7
65-66	-4.7	5.1	5.9	7.7
67-72	-16.6	10.2	10.5	11.0
73-76	+1.2	4.4	5.2	7.3
77-83	+0.4	3.4	4.1	5.2
84-100	-3.3	3.7	4.3	5.9

**Table 7 (\$2.50/day 2005 PPP (2014 def.)): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+0.8	59.2	68.9	88.5
4	+0.2	28.6	35.5	51.3
8	0.0	19.8	23.4	37.9
16	-0.2	14.7	18.7	26.1
32	-0.4	10.7	13.2	16.2
64	-0.4	8.4	9.5	13.2
128	-0.5	5.6	6.9	9.3
256	-0.7	3.9	4.5	6.2
512	-0.6	2.7	3.3	4.3
1,024	-0.6	2.1	2.4	3.1
2,048	-0.6	1.5	1.8	2.2
4,096	-0.7	1.1	1.3	1.6
8,192	-0.7	0.8	0.9	1.2
16,384	-0.7	0.5	0.6	0.8

**Table 10 (\$2.50/day 2005 PPP (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	80.2	0.0	18.9	19.8	-97.7
<=17	6.3	74.8	0.1	18.8	25.1	-84.5
<=26	16.4	64.7	0.3	18.6	35.0	-59.3
<=31	23.1	58.0	0.5	18.4	41.5	-42.5
<=34	28.7	52.4	0.7	18.2	46.9	-28.4
<=37	33.6	47.5	0.9	18.0	51.6	-15.9
<=40	40.0	41.1	1.5	17.4	57.4	+0.4
<=42	44.7	36.4	2.1	16.8	61.5	+12.7
<=44	48.4	32.8	2.5	16.4	64.8	+22.3
<=46	52.9	28.2	3.1	15.8	68.7	+34.3
<=48	56.8	24.3	3.6	15.3	72.1	+44.6
<=51	62.0	19.1	4.7	14.2	76.1	+58.7
<=54	65.8	15.3	5.8	13.1	78.9	+69.5
<=56	68.4	12.7	6.7	12.2	80.7	+77.0
<=59	71.1	10.0	7.8	11.1	82.3	+84.9
<=64	74.7	6.4	9.9	9.0	83.7	+87.8
<=66	75.9	5.2	10.6	8.3	84.2	+86.9
<=72	78.8	2.3	13.2	5.7	84.5	+83.8
<=76	79.7	1.4	14.7	4.2	83.9	+81.8
<=83	80.7	0.4	17.0	1.9	82.6	+79.0
<=100	81.1	0.0	18.9	0.0	81.1	+76.7

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



**Table 11 (\$2.50/day 2005 PPP (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	100.0	1.1	Only poor targeted
<=17	6.3	99.0	7.7	99.7:1
<=26	16.6	98.5	20.2	64.8:1
<=31	23.6	98.0	28.5	49.0:1
<=34	29.4	97.7	35.4	42.8:1
<=37	34.6	97.4	41.5	36.7:1
<=40	41.5	96.4	49.3	26.9:1
<=42	46.7	95.6	55.1	21.6:1
<=44	50.8	95.1	59.6	19.4:1
<=46	56.0	94.4	65.2	16.9:1
<=48	60.5	94.0	70.1	15.6:1
<=51	66.7	92.9	76.4	13.1:1
<=54	71.6	91.9	81.2	11.3:1
<=56	75.1	91.1	84.4	10.3:1
<=59	78.9	90.2	87.7	9.2:1
<=64	84.6	88.3	92.1	7.6:1
<=66	86.5	87.8	93.6	7.2:1
<=72	92.0	85.7	97.1	6.0:1
<=76	94.5	84.4	98.3	5.4:1
<=83	97.7	82.6	99.5	4.7:1
<=100	100.0	81.1	100.0	4.3:1

**Tables for  
the \$5.00/day 2005 PPP Poverty Line (2014-Definition)**

**Table 4 (\$5.00/day 2005 PPP (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:
0-7	100.0
8-17	100.0
18-26	99.9
27-31	99.9
32-34	99.6
35-37	99.5
38-40	99.5
41-42	99.0
43-44	98.3
45-46	97.5
47-48	97.2
49-51	95.7
52-54	95.2
55-56	95.2
57-59	95.1
60-64	92.0
65-66	88.7
67-72	84.5
73-76	69.6
77-83	63.1
84-100	46.1

**Table 6 (\$5.00/day 2005 PPP (2014 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+0.2	0.2	0.3	0.4
18-26	+0.2	0.2	0.3	0.3
27-31	+0.2	0.3	0.3	0.4
32-34	-0.2	0.2	0.3	0.3
35-37	+0.5	0.6	0.7	1.0
38-40	0.0	0.4	0.4	0.6
41-42	+0.5	0.7	0.8	1.1
43-44	-1.4	0.9	0.9	0.9
45-46	-0.9	0.8	0.8	1.0
47-48	-0.9	0.9	1.0	1.3
49-51	-0.7	1.1	1.3	1.6
52-54	-1.0	1.2	1.4	2.1
55-56	-1.4	1.3	1.5	1.9
57-59	+1.5	1.7	2.1	2.7
60-64	+1.8	1.8	2.2	2.9
65-66	-3.0	2.8	3.2	4.0
67-72	-7.2	4.3	4.4	4.7
73-76	-0.9	4.4	5.4	6.9
77-83	-2.8	3.8	4.5	5.5
84-100	+1.1	4.7	5.5	7.6

**Table 7 (\$5.00/day 2005 PPP (2014 def.)): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-0.7	30.8	53.2	74.7
4	-0.6	14.2	17.7	29.6
8	-0.3	9.6	12.6	19.7
16	-0.4	7.0	8.6	12.1
32	-0.3	5.0	6.0	8.5
64	-0.4	3.7	4.4	5.8
128	-0.5	2.6	3.1	4.4
256	-0.6	1.8	2.1	2.8
512	-0.6	1.3	1.5	2.1
1,024	-0.6	0.9	1.1	1.4
2,048	-0.6	0.6	0.8	1.0
4,096	-0.6	0.5	0.6	0.8
8,192	-0.6	0.3	0.4	0.5
16,384	-0.6	0.2	0.3	0.3

**Table 10 (\$5.00/day 2005 PPP (2014 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	93.3	0.0	5.8	6.7	-98.0
<=17	6.3	87.9	0.0	5.8	12.1	-86.6
<=26	16.6	77.6	0.0	5.7	22.3	-64.8
<=31	23.5	70.7	0.1	5.7	29.2	-50.1
<=34	29.3	64.9	0.1	5.7	35.0	-37.7
<=37	34.4	59.8	0.1	5.6	40.1	-26.8
<=40	41.3	52.9	0.2	5.6	46.9	-12.2
<=42	46.5	47.8	0.3	5.5	52.0	-1.1
<=44	50.6	43.6	0.3	5.5	56.1	+7.6
<=46	55.7	38.6	0.4	5.4	61.1	+18.5
<=48	60.0	34.2	0.5	5.3	65.3	+27.9
<=51	66.1	28.2	0.7	5.1	71.2	+40.9
<=54	70.8	23.4	0.8	4.9	75.7	+51.2
<=56	74.1	20.1	1.0	4.8	78.9	+58.4
<=59	77.6	16.6	1.2	4.5	82.2	+66.1
<=64	82.8	11.4	1.8	4.0	86.8	+77.7
<=66	84.6	9.7	2.0	3.8	88.4	+81.6
<=72	89.2	5.1	2.8	3.0	92.1	+92.2
<=76	91.0	3.2	3.5	2.3	93.3	+96.3
<=83	93.2	1.1	4.6	1.2	94.4	+95.1
<=100	94.2	0.0	5.8	0.0	94.2	+93.9

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

**Table 11 (\$5.00/day 2005 PPP (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	100.0	1.0	Only poor targeted
<=17	6.3	99.8	6.7	590.1:1
<=26	16.6	99.7	17.6	363.8:1
<=31	23.6	99.7	24.9	309.4:1
<=34	29.4	99.7	31.1	340.7:1
<=37	34.6	99.6	36.5	256.3:1
<=40	41.5	99.6	43.8	235.1:1
<=42	46.7	99.5	49.3	183.7:1
<=44	50.8	99.5	53.7	186.7:1
<=46	56.0	99.3	59.1	146.8:1
<=48	60.5	99.2	63.7	129.3:1
<=51	66.7	99.0	70.1	98.4:1
<=54	71.6	98.8	75.1	83.7:1
<=56	75.1	98.7	78.7	75.4:1
<=59	78.9	98.4	82.4	62.5:1
<=64	84.6	97.9	87.9	46.3:1
<=66	86.5	97.7	89.7	42.7:1
<=72	92.0	97.0	94.6	31.9:1
<=76	94.5	96.3	96.6	26.1:1
<=83	97.7	95.3	98.9	20.3:1
<=100	100.0	94.2	100.0	16.3:1

**Tables for  
the \$1.90/day 2011 PPP Poverty Line (2014-Definition)**



**Table 4 (\$1.90/day 2011 PPP (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:
0-7	100.0
8-17	91.3
18-26	84.7
27-31	79.0
32-34	73.6
35-37	70.7
38-40	60.8
41-42	59.2
43-44	59.2
45-46	53.2
47-48	48.9
49-51	38.5
52-54	37.0
55-56	35.8
57-59	34.4
60-64	25.5
65-66	18.4
67-72	15.4
73-76	10.5
77-83	5.2
84-100	1.1

**Table 6 (\$1.90/day 2011 PPP (2014 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+3.8	2.9	3.3	4.4
8-17	-1.0	1.5	1.8	2.3
18-26	-2.3	1.9	2.0	2.3
27-31	+2.2	2.3	2.7	3.5
32-34	+2.8	2.6	3.1	4.4
35-37	+4.1	2.9	3.4	4.5
38-40	+0.9	2.6	3.0	3.8
41-42	-0.2	3.0	3.7	5.1
43-44	+0.1	3.3	4.1	5.3
45-46	+0.9	3.1	3.8	5.1
47-48	+0.1	3.4	4.2	5.3
49-51	-6.1	4.5	4.8	5.3
52-54	-0.9	3.1	3.9	4.9
55-56	+1.2	3.5	4.3	6.0
57-59	+3.3	3.6	4.2	5.9
60-64	+3.7	2.4	2.8	3.8
65-66	-8.3	6.5	6.9	7.6
67-72	-18.3	12.0	12.5	13.6
73-76	+5.5	1.7	2.1	2.6
77-83	+0.7	1.5	1.7	2.4
84-100	-1.1	1.7	2.0	2.4

**Table 7 (\$1.90/day 2011 PPP (2014 def.)): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+0.3	68.9	79.6	84.7
4	+0.7	38.6	45.6	57.2
8	+0.7	28.5	34.6	44.2
16	+0.2	21.2	26.4	35.9
32	-0.4	15.5	18.7	26.4
64	-0.1	11.3	13.7	18.5
128	-0.4	8.1	9.6	12.9
256	-0.7	6.0	7.3	8.7
512	-0.7	4.3	5.0	7.0
1,024	-0.7	3.0	3.5	4.7
2,048	-0.7	2.0	2.4	3.3
4,096	-0.8	1.5	1.8	2.4
8,192	-0.8	1.1	1.2	1.5
16,384	-0.8	0.7	0.8	1.1

**Table 10 (\$1.90/day 2011 PPP (2014 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	52.2	0.0	46.9	47.8	-96.6
<=17	5.9	47.2	0.4	46.5	52.4	-77.0
<=26	14.8	38.3	1.8	45.1	59.9	-40.8
<=31	20.2	32.9	3.4	43.6	63.8	-17.6
<=34	24.4	28.6	5.0	42.0	66.4	+1.4
<=37	27.9	25.1	6.6	40.3	68.2	+17.8
<=40	32.1	21.0	9.4	37.6	69.6	+38.6
<=42	35.2	17.8	11.5	35.4	70.7	+54.4
<=44	37.7	15.4	13.1	33.8	71.5	+66.9
<=46	40.3	12.7	15.7	31.3	71.6	+70.4
<=48	42.6	10.4	17.8	29.1	71.8	+66.4
<=51	45.5	7.6	21.3	25.7	71.2	+59.9
<=54	47.5	5.6	24.2	22.8	70.2	+54.4
<=56	48.7	4.3	26.4	20.6	69.3	+50.3
<=59	50.0	3.1	28.9	18.0	68.0	+45.5
<=64	51.3	1.7	33.3	13.7	65.0	+37.2
<=66	51.8	1.3	34.7	12.2	64.0	+34.5
<=72	52.7	0.4	39.3	7.7	60.3	+25.9
<=76	52.8	0.2	41.6	5.3	58.2	+21.5
<=83	53.0	0.0	44.7	2.2	55.2	+15.7
<=100	53.0	0.0	47.0	0.0	53.0	+11.5

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

**Table 11 (\$1.90/day 2011 PPP (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	97.1	1.7	34.1:1
<=17	6.3	93.0	11.1	13.2:1
<=26	16.6	88.9	27.9	8.0:1
<=31	23.6	85.7	38.0	6.0:1
<=34	29.4	83.1	46.0	4.9:1
<=37	34.6	80.8	52.6	4.2:1
<=40	41.5	77.3	60.4	3.4:1
<=42	46.7	75.4	66.4	3.1:1
<=44	50.8	74.1	71.1	2.9:1
<=46	56.0	72.0	76.1	2.6:1
<=48	60.5	70.5	80.4	2.4:1
<=51	66.7	68.1	85.7	2.1:1
<=54	71.6	66.3	89.5	2.0:1
<=56	75.1	64.9	91.8	1.8:1
<=59	78.9	63.3	94.2	1.7:1
<=64	84.6	60.6	96.7	1.5:1
<=66	86.5	59.9	97.6	1.5:1
<=72	92.0	57.3	99.3	1.3:1
<=76	94.5	55.9	99.6	1.3:1
<=83	97.7	54.2	99.9	1.2:1
<=100	100.0	53.0	100.0	1.1:1

**Tables for  
the \$3.10/day 2011 PPP Poverty Line (2014-Definition)**

**Table 4 (\$3.10/day 2011 PPP (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:
0-7	100.0
8-17	99.2
18-26	97.8
27-31	95.9
32-34	91.8
35-37	91.3
38-40	88.2
41-42	86.5
43-44	85.1
45-46	83.0
47-48	82.0
49-51	72.0
52-54	69.4
55-56	66.5
57-59	65.6
60-64	55.9
65-66	50.8
67-72	44.2
73-76	30.7
77-83	21.7
84-100	10.2

**Table 6 (\$3.10/day 2011 PPP (2014 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+0.8	0.7	0.8	1.0
18-26	+0.5	0.7	0.8	1.0
27-31	+1.2	1.2	1.4	1.9
32-34	-1.5	1.5	1.9	2.4
35-37	-0.4	1.7	2.0	2.7
38-40	+0.5	1.7	2.1	2.7
41-42	+3.5	2.4	2.8	3.9
43-44	+1.7	2.6	3.2	4.4
45-46	-1.9	2.2	2.5	3.1
47-48	0.0	2.7	3.2	3.8
49-51	-3.7	3.1	3.4	4.1
52-54	-2.4	3.1	3.6	4.9
55-56	+2.3	3.7	4.4	5.9
57-59	-1.5	3.6	4.3	5.6
60-64	+4.2	2.9	3.5	4.6
65-66	-3.2	5.5	6.7	8.8
67-72	-18.7	11.4	11.8	12.4
73-76	+2.8	4.2	5.2	6.8
77-83	+0.3	3.1	3.8	4.9
84-100	-2.1	3.3	3.7	4.9



**Table 7 (\$3.10/day 2011 PPP (2014 def.)): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	0.0	66.1	72.0	90.9
4	-0.1	31.6	38.3	54.7
8	-0.1	22.1	27.2	41.7
16	-0.5	17.2	20.9	28.8
32	-0.7	12.0	14.1	19.0
64	-0.6	9.0	11.3	14.4
128	-0.7	6.2	7.4	10.0
256	-0.9	4.5	5.3	7.0
512	-0.8	3.3	3.9	5.1
1,024	-0.8	2.3	2.9	3.7
2,048	-0.9	1.7	2.0	2.5
4,096	-0.9	1.2	1.4	1.9
8,192	-0.9	0.9	1.1	1.3
16,384	-0.9	0.6	0.7	0.9

**Table 10 (\$3.10/day 2011 PPP (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	75.5	0.0	23.6	24.5	-97.6
<=17	6.2	70.2	0.1	23.5	29.7	-83.6
<=26	16.2	60.2	0.4	23.2	39.4	-57.0
<=31	22.8	53.6	0.8	22.8	45.6	-39.3
<=34	28.3	48.1	1.1	22.5	50.8	-24.5
<=37	33.1	43.4	1.5	22.1	55.1	-11.5
<=40	39.1	37.3	2.4	21.2	60.3	+5.4
<=42	43.5	32.9	3.2	20.4	63.9	+18.1
<=44	47.0	29.4	3.8	19.7	66.8	+28.1
<=46	51.3	25.1	4.7	18.9	70.2	+40.5
<=48	55.0	21.4	5.5	18.1	73.1	+51.1
<=51	59.8	16.6	6.9	16.6	76.4	+65.5
<=54	63.4	13.0	8.3	15.3	78.7	+76.7
<=56	65.7	10.7	9.4	14.1	79.8	+84.2
<=59	68.2	8.3	10.7	12.9	81.1	+86.0
<=64	71.3	5.2	13.3	10.2	81.5	+82.5
<=66	72.3	4.1	14.2	9.3	81.6	+81.4
<=72	74.6	1.8	17.3	6.3	80.9	+77.3
<=76	75.4	1.0	19.1	4.5	79.9	+75.0
<=83	76.1	0.3	21.6	2.0	78.1	+71.7
<=100	76.4	0.0	23.6	0.0	76.4	+69.1

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

**Table 11 (\$3.10/day 2011 PPP (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	100.0	1.2	Only poor targeted
<=17	6.3	98.5	8.1	65.5:1
<=26	16.6	97.6	21.2	41.5:1
<=31	23.6	96.8	29.8	30.3:1
<=34	29.4	96.3	37.0	25.7:1
<=37	34.6	95.6	43.3	21.9:1
<=40	41.5	94.3	51.2	16.6:1
<=42	46.7	93.1	56.9	13.6:1
<=44	50.8	92.5	61.5	12.3:1
<=46	56.0	91.6	67.1	10.9:1
<=48	60.5	90.9	72.0	10.0:1
<=51	66.7	89.6	78.2	8.6:1
<=54	71.6	88.5	83.0	7.7:1
<=56	75.1	87.4	85.9	7.0:1
<=59	78.9	86.4	89.2	6.4:1
<=64	84.6	84.2	93.2	5.3:1
<=66	86.5	83.5	94.6	5.1:1
<=72	92.0	81.2	97.7	4.3:1
<=76	94.5	79.8	98.6	4.0:1
<=83	97.7	77.9	99.6	3.5:1
<=100	100.0	76.4	100.0	3.2:1

**Tables for  
the Poverty Line Marking the Poorest Half of People  
below 100% of the 2014-Definition National Line**

**Table 4 (Line marking poorest half below 100% of 2014-def. national line): Scores and their associated estimates of poverty likelihoods**

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0-7	75.9
8-17	58.1
18-26	47.5
27-31	37.8
32-34	31.4
35-37	23.1
38-40	21.8
41-42	20.7
43-44	18.6
45-46	15.0
47-48	10.8
49-51	6.9
52-54	5.7
55-56	5.0
57-59	5.0
60-64	3.2
65-66	0.7
67-72	0.5
73-76	0.1
77-83	0.0
84-100	0.0

**Table 6 (Line marking poorest half below 100% of 2014-def. national line): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+1.7	5.9	7.0	8.6
8-17	-4.2	3.5	3.8	4.2
18-26	-8.5	5.3	5.5	6.0
27-31	-0.3	2.6	3.2	3.9
32-34	+0.6	2.7	3.3	4.1
35-37	-3.8	3.4	3.6	4.8
38-40	-3.5	3.0	3.3	3.8
41-42	-11.2	7.1	7.4	8.0
43-44	-4.3	3.7	4.0	4.8
45-46	-6.0	4.4	4.8	5.4
47-48	-0.2	2.3	2.6	3.4
49-51	-8.4	5.4	5.6	6.1
52-54	-3.7	3.0	3.1	3.6
55-56	-3.4	2.8	3.1	3.7
57-59	+1.0	1.8	2.2	3.0
60-64	-2.7	2.2	2.3	2.7
65-66	-2.8	2.7	3.1	3.6
67-72	-27.0	16.4	16.9	18.2
73-76	+0.1	0.0	0.0	0.0
77-83	0.0	0.0	0.1	0.1
84-100	0.0	0.0	0.0	0.0

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

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-0.4	63.4	68.3	78.1
4	-2.7	36.6	41.1	53.1
8	-3.5	28.5	34.4	44.6
16	-4.3	21.3	26.6	36.8
32	-4.7	16.0	20.0	27.1
64	-5.1	11.9	14.4	18.0
128	-5.2	8.3	10.4	13.9
256	-5.4	6.2	7.2	9.0
512	-5.3	4.2	5.0	6.6
1,024	-5.3	3.1	3.6	4.8
2,048	-5.4	2.1	2.5	3.5
4,096	-5.4	1.5	1.8	2.3
8,192	-5.4	1.1	1.3	1.6
16,384	-5.5	0.8	0.9	1.1

**Table 10 (Line marking poorest half below 100% of 2014-def. national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.6	19.7	0.3	79.4	80.0	-92.4
<=17	3.7	16.6	2.6	77.1	80.8	-50.7
<=26	8.8	11.5	7.8	71.9	80.7	+25.2
<=31	11.1	9.2	12.4	67.2	78.3	+38.8
<=34	12.6	7.7	16.8	62.9	75.5	+17.5
<=37	13.8	6.6	20.8	58.9	72.6	-2.3
<=40	15.2	5.2	26.3	53.4	68.6	-29.3
<=42	16.5	3.8	30.2	49.5	66.0	-48.5
<=44	17.3	3.0	33.6	46.1	63.4	-65.1
<=46	18.1	2.2	37.9	41.7	59.9	-86.5
<=48	18.5	1.8	42.0	37.7	56.2	-106.4
<=51	19.2	1.2	47.6	32.1	51.3	-134.0
<=54	19.5	0.8	52.1	27.5	47.1	-156.4
<=56	19.7	0.6	55.4	24.3	44.1	-172.3
<=59	19.8	0.5	59.0	20.7	40.5	-190.3
<=64	20.1	0.3	64.5	15.1	35.2	-217.4
<=66	20.1	0.2	66.4	13.2	33.3	-226.7
<=72	20.3	0.0	71.6	8.0	28.4	-252.3
<=76	20.3	0.0	74.1	5.5	25.9	-264.6
<=83	20.3	0.0	77.4	2.3	22.6	-280.8
<=100	20.3	0.0	79.7	0.0	20.3	-291.9

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



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

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	68.5	3.1	2.2:1
<=17	6.3	58.8	18.3	1.4:1
<=26	16.6	53.0	43.4	1.1:1
<=31	23.6	47.2	54.7	0.9:1
<=34	29.4	42.9	62.1	0.8:1
<=37	34.6	39.8	67.7	0.7:1
<=40	41.5	36.6	74.6	0.6:1
<=42	46.7	35.4	81.3	0.5:1
<=44	50.8	34.0	85.0	0.5:1
<=46	56.0	32.3	89.1	0.5:1
<=48	60.5	30.6	91.0	0.4:1
<=51	66.7	28.7	94.2	0.4:1
<=54	71.6	27.2	96.0	0.4:1
<=56	75.1	26.3	97.1	0.4:1
<=59	78.9	25.2	97.6	0.3:1
<=64	84.6	23.7	98.7	0.3:1
<=66	86.5	23.2	98.9	0.3:1
<=72	92.0	22.1	100.0	0.3:1
<=76	94.5	21.5	100.0	0.3:1
<=83	97.7	20.8	100.0	0.3:1
<=100	100.0	20.3	100.0	0.3:1

**Tables for  
the First-Quintile (20<sup>th</sup>-Percentile) Poverty Line,  
2014-Definition**

**Table 4 (First-quintile (20<sup>th</sup>-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:
0-7	70.9
8-17	52.8
18-26	41.3
27-31	32.5
32-34	25.6
35-37	20.6
38-40	18.8
41-42	17.3
43-44	15.7
45-46	12.8
47-48	8.4
49-51	5.7
52-54	4.9
55-56	4.6
57-59	4.6
60-64	2.7
65-66	0.7
67-72	0.5
73-76	0.1
77-83	0.0
84-100	0.0

**Table 6 (First-quintile (20<sup>th</sup>-percentile) line (2014 def.):  
 Errors (average differences between estimated and  
 observed poverty likelihoods) for households by  
 score range, with confidence intervals, from 1,000  
 bootstraps of  $n = 16,384$ , scorecard applied to the  
 validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+1.2	6.2	7.4	9.1
8-17	-2.3	2.9	3.5	4.5
18-26	-9.4	5.8	6.0	6.3
27-31	+0.4	2.6	3.0	4.1
32-34	-0.5	2.6	3.1	3.9
35-37	-2.2	2.8	3.2	4.5
38-40	-3.3	2.8	3.1	3.8
41-42	-12.3	7.6	8.0	8.6
43-44	-4.3	3.6	3.9	4.7
45-46	-5.5	4.1	4.4	5.0
47-48	0.0	2.0	2.3	2.9
49-51	-6.0	4.0	4.2	4.7
52-54	-3.4	2.7	2.9	3.4
55-56	-2.8	2.4	2.7	3.4
57-59	+0.9	1.8	2.1	2.8
60-64	-2.3	1.9	2.1	2.4
65-66	-2.2	2.3	2.6	3.6
67-72	-26.0	15.9	16.4	17.9
73-76	+0.1	0.0	0.0	0.0
77-83	0.0	0.0	0.1	0.1
84-100	0.0	0.0	0.0	0.0

**Table 7 (First-quintile (20<sup>th</sup>-percentile) line (2014 def.):  
 Errors (average differences between estimated and  
 observed poverty rates) for households at a point in time  
 by sample size, with confidence intervals, for 1,000  
 bootstraps of various sample sizes, scorecard applied to  
 the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-0.5	61.3	67.1	74.1
4	-2.7	35.5	40.9	52.8
8	-3.3	26.8	33.3	43.6
16	-4.2	20.5	25.3	35.8
32	-4.6	15.6	18.3	26.9
64	-4.9	11.2	13.7	17.8
128	-4.9	8.1	9.8	14.1
256	-5.0	6.1	6.9	9.0
512	-4.9	4.0	4.9	6.6
1,024	-5.0	3.0	3.5	4.7
2,048	-5.0	2.1	2.5	3.3
4,096	-5.1	1.5	1.7	2.2
8,192	-5.1	1.1	1.3	1.7
16,384	-5.1	0.7	0.9	1.1

**Table 10 (First-quintile (20<sup>th</sup>-percentile) line (2014 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.6	17.1	0.3	81.9	82.5	-91.5
<=17	3.3	14.4	3.0	79.3	82.6	-45.5
<=26	8.0	9.7	8.6	73.6	81.6	+38.8
<=31	9.9	7.8	13.6	68.6	78.6	+23.1
<=34	11.2	6.5	18.2	64.1	75.3	-2.6
<=37	12.2	5.6	22.4	59.9	72.0	-26.4
<=40	13.4	4.4	28.1	54.2	67.5	-58.4
<=42	14.6	3.1	32.1	50.1	64.7	-81.2
<=44	15.3	2.5	35.6	46.7	61.9	-100.7
<=46	16.0	1.8	40.1	42.2	58.1	-126.1
<=48	16.2	1.5	44.2	38.0	54.3	-149.4
<=51	16.8	1.0	50.0	32.3	49.1	-181.8
<=54	17.1	0.7	54.6	27.7	44.7	-207.8
<=56	17.3	0.5	57.9	24.4	41.7	-226.3
<=59	17.3	0.4	61.5	20.7	38.1	-247.0
<=64	17.5	0.2	67.1	15.2	32.7	-278.3
<=66	17.6	0.2	69.0	13.3	30.8	-289.0
<=72	17.7	0.0	74.2	8.0	25.8	-318.6
<=76	17.7	0.0	76.7	5.5	23.3	-332.7
<=83	17.7	0.0	80.0	2.3	20.0	-351.2
<=100	17.7	0.0	82.3	0.0	17.7	-364.0

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

**Table 11 (First-quintile (20<sup>th</sup>-percentile) line (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	63.6	3.3	1.7:1
<=17	6.3	53.0	18.9	1.1:1
<=26	16.6	48.0	45.1	0.9:1
<=31	23.6	42.1	55.9	0.7:1
<=34	29.4	38.1	63.2	0.6:1
<=37	34.6	35.2	68.5	0.5:1
<=40	41.5	32.2	75.4	0.5:1
<=42	46.7	31.2	82.3	0.5:1
<=44	50.8	30.0	86.0	0.4:1
<=46	56.0	28.5	90.0	0.4:1
<=48	60.5	26.9	91.6	0.4:1
<=51	66.7	25.1	94.5	0.3:1
<=54	71.6	23.8	96.2	0.3:1
<=56	75.1	23.0	97.3	0.3:1
<=59	78.9	22.0	97.8	0.3:1
<=64	84.6	20.7	98.8	0.3:1
<=66	86.5	20.3	99.0	0.3:1
<=72	92.0	19.3	100.0	0.2:1
<=76	94.5	18.8	100.0	0.2:1
<=83	97.7	18.1	100.0	0.2:1
<=100	100.0	17.7	100.0	0.2:1

**Tables for  
the Second-Quintile (40<sup>th</sup>-Percentile) Poverty Line,  
2014-Definition**



**Table 4 (Second-quintile (40<sup>th</sup>-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:
0-7	92.8
8-17	79.6
18-26	70.2
27-31	61.9
32-34	55.7
35-37	47.6
38-40	43.2
41-42	41.2
43-44	38.4
45-46	33.4
47-48	26.7
49-51	21.3
52-54	16.0
55-56	14.5
57-59	12.3
60-64	7.9
65-66	2.2
67-72	2.2
73-76	2.2
77-83	0.1
84-100	0.0

**Table 6 (Second-quintile (40<sup>th</sup>-percentile) line (2014 def.)): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	-0.5	2.9	3.4	4.3
8-17	-5.5	3.6	3.8	4.1
18-26	-7.7	4.7	4.9	5.2
27-31	-1.5	2.6	3.0	3.9
32-34	-4.8	3.8	4.0	4.4
35-37	-7.8	5.5	5.8	6.4
38-40	-2.4	2.6	3.1	3.9
41-42	-11.4	7.3	7.6	8.2
43-44	-4.2	3.7	4.1	5.3
45-46	-13.0	8.1	8.6	9.4
47-48	-4.9	4.1	4.4	5.2
49-51	-9.3	6.0	6.3	6.9
52-54	-6.8	4.8	5.1	5.8
55-56	-2.9	3.0	3.6	4.4
57-59	-1.1	2.9	3.5	4.7
60-64	-1.6	1.9	2.2	2.9
65-66	-6.4	5.0	5.3	6.3
67-72	-26.5	16.0	16.7	17.9
73-76	+0.6	1.4	1.7	2.2
77-83	0.0	0.0	0.1	0.1
84-100	0.0	0.0	0.0	0.0

**Table 7 (Second-quintile (40<sup>th</sup>-percentile) line (2014 def.):  
 Errors (average differences between estimated and  
 observed poverty rates) for households at a point in time  
 by sample size, with confidence intervals, for 1,000  
 bootstraps of various sample sizes, scorecard applied to  
 the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+0.2	67.6	75.8	88.7
4	-3.3	39.5	45.0	55.2
8	-4.8	28.9	34.8	43.4
16	-5.3	22.4	27.1	36.6
32	-5.9	15.9	20.0	26.9
64	-6.2	11.6	14.5	18.0
128	-6.4	8.2	10.3	13.6
256	-6.7	6.1	7.2	8.9
512	-6.7	4.2	5.1	7.0
1,024	-6.8	3.0	3.6	4.7
2,048	-6.8	2.1	2.6	3.6
4,096	-6.8	1.6	1.8	2.4
8,192	-6.9	1.1	1.3	1.7
16,384	-6.9	0.8	0.9	1.2

**Table 10 (Second-quintile (40<sup>th</sup>-percentile) line (2014 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.8	35.2	0.1	63.9	64.7	-95.1
<=17	5.1	30.9	1.2	62.8	67.9	-68.2
<=26	12.6	23.4	4.0	59.9	72.5	-18.9
<=31	16.6	19.4	6.9	57.0	73.6	+11.5
<=34	19.7	16.3	9.7	54.3	74.0	+36.3
<=37	22.2	13.8	12.4	51.6	73.8	+57.6
<=40	24.9	11.1	16.5	47.4	72.4	+54.1
<=42	27.3	8.7	19.4	44.6	71.9	+46.1
<=44	28.9	7.2	22.0	42.0	70.9	+39.0
<=46	30.8	5.2	25.3	38.7	69.5	+29.9
<=48	32.0	4.0	28.5	35.5	67.5	+21.0
<=51	33.4	2.6	33.3	30.7	64.1	+7.6
<=54	34.3	1.7	37.3	26.7	61.0	-3.5
<=56	34.8	1.2	40.3	23.7	58.5	-11.8
<=59	35.2	0.8	43.7	20.3	55.5	-21.2
<=64	35.6	0.4	49.0	15.0	50.6	-36.0
<=66	35.7	0.3	50.8	13.1	48.9	-41.1
<=72	36.0	0.0	55.9	8.0	44.0	-55.3
<=76	36.0	0.0	58.4	5.5	41.6	-62.2
<=83	36.0	0.0	61.7	2.3	38.3	-71.3
<=100	36.0	0.0	64.0	0.0	36.0	-77.6

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

**Table 11 (Second-quintile (40<sup>th</sup>-percentile) line (2014 def.)): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	89.7	2.3	8.7:1
<=17	6.3	81.3	14.3	4.4:1
<=26	16.6	75.7	34.9	3.1:1
<=31	23.6	70.5	46.1	2.4:1
<=34	29.4	67.1	54.8	2.0:1
<=37	34.6	64.2	61.6	1.8:1
<=40	41.5	60.1	69.2	1.5:1
<=42	46.7	58.5	75.8	1.4:1
<=44	50.8	56.8	80.1	1.3:1
<=46	56.0	54.9	85.4	1.2:1
<=48	60.5	52.9	88.8	1.1:1
<=51	66.7	50.1	92.8	1.0:1
<=54	71.6	47.9	95.3	0.9:1
<=56	75.1	46.4	96.7	0.9:1
<=59	78.9	44.6	97.7	0.8:1
<=64	84.6	42.1	98.9	0.7:1
<=66	86.5	41.3	99.1	0.7:1
<=72	92.0	39.2	99.9	0.6:1
<=76	94.5	38.1	100.0	0.6:1
<=83	97.7	36.9	100.0	0.6:1
<=100	100.0	36.0	100.0	0.6:1

**Tables for  
the Median (50<sup>th</sup>-Percentile) Poverty Line,  
2014-Definition**

**Table 4 (Median (50<sup>th</sup>-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:
0-7	97.6
8-17	88.7
18-26	82.4
27-31	73.9
32-34	68.9
35-37	63.7
38-40	55.5
41-42	52.8
43-44	50.8
45-46	48.1
47-48	38.6
49-51	33.7
52-54	23.9
55-56	21.3
57-59	19.4
60-64	12.5
65-66	4.6
67-72	4.0
73-76	3.3
77-83	0.1
84-100	0.0

**Table 6 (Median (50<sup>th</sup>-percentile) line (2014 def.): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+3.4	2.7	3.4	4.3
8-17	-2.5	2.0	2.1	2.3
18-26	-2.8	2.1	2.2	2.5
27-31	-3.5	2.7	3.0	3.4
32-34	-5.4	3.9	4.1	4.5
35-37	-3.3	3.1	3.4	4.1
38-40	-4.0	3.2	3.5	3.9
41-42	-11.7	7.3	7.5	8.2
43-44	-4.9	4.1	4.5	5.1
45-46	-9.6	6.4	6.7	7.2
47-48	-9.8	6.5	6.8	7.6
49-51	-10.6	6.7	6.9	7.4
52-54	-12.4	7.8	8.1	8.6
55-56	-5.0	4.1	4.5	5.4
57-59	-2.6	3.5	4.1	5.4
60-64	-2.9	2.5	2.8	3.7
65-66	-9.1	6.6	7.1	8.0
67-72	-26.8	16.2	16.8	18.0
73-76	-2.4	2.8	3.4	4.1
77-83	-0.2	0.3	0.3	0.4
84-100	-0.8	1.0	1.1	1.5



**Table 7 (Median (50<sup>th</sup>-percentile) line (2014 def.): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+0.1	67.6	76.3	89.2
4	-3.2	39.1	45.4	56.5
8	-4.6	27.8	31.7	47.0
16	-5.4	21.0	26.1	36.9
32	-6.0	15.7	19.8	26.0
64	-6.2	11.3	14.6	19.4
128	-6.4	7.9	9.4	12.9
256	-6.7	5.7	6.6	9.1
512	-6.7	4.0	5.1	6.4
1,024	-6.7	3.0	3.6	4.5
2,048	-6.7	2.0	2.5	3.2
4,096	-6.8	1.5	1.8	2.4
8,192	-6.8	1.0	1.2	1.7
16,384	-6.8	0.7	0.8	1.2

**Table 10 (Median (50<sup>th</sup>-percentile) line (2014 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.8	44.6	0.1	54.5	55.3	-96.1
<=17	5.6	39.9	0.7	53.8	59.4	-73.8
<=26	13.9	31.5	2.7	51.8	65.7	-32.8
<=31	18.9	26.6	4.7	49.9	68.8	-6.6
<=34	22.8	22.6	6.5	48.0	70.9	+15.0
<=37	26.0	19.5	8.6	46.0	71.9	+33.2
<=40	29.6	15.9	11.9	42.7	72.2	+56.3
<=42	32.6	12.9	14.2	40.4	73.0	+68.9
<=44	34.6	10.8	16.2	38.3	72.9	+64.3
<=46	37.1	8.4	19.0	35.6	72.7	+58.3
<=48	39.0	6.5	21.5	33.1	72.1	+52.7
<=51	41.3	4.2	25.4	29.1	70.4	+44.0
<=54	42.7	2.7	28.9	25.6	68.4	+36.4
<=56	43.5	1.9	31.6	22.9	66.4	+30.4
<=59	44.1	1.3	34.7	19.8	64.0	+23.6
<=64	44.8	0.6	39.8	14.8	59.6	+12.4
<=66	45.0	0.5	41.6	13.0	58.0	+8.5
<=72	45.3	0.1	46.6	8.0	53.3	-2.6
<=76	45.4	0.0	49.0	5.5	50.9	-7.9
<=83	45.4	0.0	52.3	2.3	47.7	-15.1
<=100	45.4	0.0	54.6	0.0	45.4	-20.1

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

**Table 11 (Median (50<sup>th</sup>-percentile) line (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	91.5	1.9	10.8:1
<=17	6.3	88.2	12.3	7.5:1
<=26	16.6	83.6	30.6	5.1:1
<=31	23.6	80.1	41.5	4.0:1
<=34	29.4	77.7	50.3	3.5:1
<=37	34.6	75.1	57.1	3.0:1
<=40	41.5	71.3	65.1	2.5:1
<=42	46.7	69.7	71.7	2.3:1
<=44	50.8	68.1	76.2	2.1:1
<=46	56.0	66.2	81.6	2.0:1
<=48	60.5	64.5	85.8	1.8:1
<=51	66.7	61.9	90.8	1.6:1
<=54	71.6	59.6	94.0	1.5:1
<=56	75.1	57.9	95.7	1.4:1
<=59	78.9	56.0	97.1	1.3:1
<=64	84.6	53.0	98.6	1.1:1
<=66	86.5	52.0	98.9	1.1:1
<=72	92.0	49.3	99.8	1.0:1
<=76	94.5	48.1	100.0	0.9:1
<=83	97.7	46.5	100.0	0.9:1
<=100	100.0	45.4	100.0	0.8:1

**Tables for  
the Third-Quintile (60<sup>th</sup>-Percentile) Poverty Line,  
2014-Definition**

**Table 4 Third-quintile (60<sup>th</sup>-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:
0-7	98.8
8-17	94.2
18-26	89.7
27-31	82.9
32-34	81.4
35-37	76.8
38-40	68.6
41-42	65.8
43-44	63.3
45-46	62.7
47-48	53.7
49-51	47.2
52-54	37.7
55-56	33.5
57-59	27.7
60-64	19.4
65-66	12.1
67-72	8.9
73-76	5.7
77-83	1.7
84-100	0.0

**Table 6 (Third-quintile (60<sup>th</sup>-percentile) line (2014 def.):  
 Errors (average differences between estimated and  
 observed poverty likelihoods) for households by  
 score range, with confidence intervals, from 1,000  
 bootstraps of  $n = 16,384$ , scorecard applied to the  
 validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+1.0	1.5	1.8	2.3
8-17	-1.3	1.1	1.2	1.6
18-26	-2.0	1.5	1.6	1.9
27-31	-3.7	2.7	2.8	3.2
32-34	-3.3	2.6	2.8	3.1
35-37	-0.8	2.5	2.9	3.6
38-40	-3.8	3.0	3.2	3.5
41-42	-7.2	4.9	5.1	5.7
43-44	-2.1	3.1	3.7	4.9
45-46	-10.3	6.5	6.7	7.2
47-48	-10.1	6.6	7.0	7.4
49-51	-10.7	6.7	6.9	7.4
52-54	-12.4	7.9	8.2	8.8
55-56	-9.1	6.6	6.9	7.3
57-59	-7.9	5.8	6.2	6.9
60-64	-3.3	3.0	3.3	3.9
65-66	-11.3	8.1	8.7	9.4
67-72	-24.9	15.2	15.7	16.9
73-76	-2.1	3.1	3.7	4.7
77-83	+1.2	0.5	0.6	0.7
84-100	-2.0	2.0	2.1	2.6

**Table 7 (Third-quintile (60<sup>th</sup>-percentile) line (2014 def.):  
 Errors (average differences between estimated and  
 observed poverty rates) for households at a point in time  
 by sample size, with confidence intervals, for 1,000  
 bootstraps of various sample sizes, scorecard applied to  
 the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-1.2	71.7	81.0	90.4
4	-4.0	37.1	44.7	60.2
8	-4.4	26.5	32.3	45.0
16	-5.0	18.9	23.2	35.4
32	-5.5	14.8	18.6	23.8
64	-5.7	10.7	13.2	17.0
128	-5.9	7.3	8.8	11.2
256	-6.2	5.1	6.1	8.2
512	-6.2	3.8	4.5	5.8
1,024	-6.2	2.7	3.3	4.1
2,048	-6.2	1.9	2.2	3.0
4,096	-6.2	1.4	1.7	2.2
8,192	-6.3	1.0	1.2	1.5
16,384	-6.3	0.7	0.8	1.0

**Table 10 (Third-quintile (60<sup>th</sup>-percentile) line (2014 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	54.2	0.0	44.9	45.8	-96.7
<=17	5.9	49.1	0.4	44.6	50.5	-77.8
<=26	15.1	40.0	1.6	43.4	58.4	-42.4
<=31	20.8	34.3	2.8	42.2	62.9	-19.5
<=34	25.4	29.6	3.9	41.0	66.5	-0.4
<=37	29.2	25.9	5.4	39.6	68.7	+15.8
<=40	33.7	21.3	7.7	37.2	70.9	+36.6
<=42	37.3	17.8	9.5	35.5	72.8	+52.6
<=44	39.7	15.3	11.1	33.8	73.6	+64.6
<=46	43.0	12.1	13.1	31.9	74.9	+76.3
<=48	45.5	9.5	15.0	30.0	75.5	+72.8
<=51	48.6	6.4	18.1	26.9	75.5	+67.2
<=54	50.7	4.3	20.9	24.0	74.7	+62.0
<=56	51.9	3.1	23.2	21.8	73.7	+57.9
<=59	53.0	2.1	25.9	19.1	72.1	+53.0
<=64	54.0	1.0	30.6	14.4	68.4	+44.5
<=66	54.3	0.7	32.2	12.8	67.1	+41.5
<=72	54.9	0.2	37.1	7.9	62.8	+32.7
<=76	55.0	0.0	39.5	5.5	60.5	+28.3
<=83	55.0	0.0	42.7	2.2	57.3	+22.4
<=100	55.0	0.0	45.0	0.0	55.0	+18.3

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



**Table 11 (Third-quintile (60<sup>th</sup>-percentile) line (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	96.2	1.6	25.5:1
<=17	6.3	93.8	10.8	15.1:1
<=26	16.6	90.5	27.4	9.6:1
<=31	23.6	88.2	37.7	7.5:1
<=34	29.4	86.6	46.2	6.4:1
<=37	34.6	84.4	53.0	5.4:1
<=40	41.5	81.3	61.3	4.4:1
<=42	46.7	79.7	67.7	3.9:1
<=44	50.9	78.1	72.2	3.6:1
<=46	56.0	76.7	78.1	3.3:1
<=48	60.5	75.3	82.7	3.0:1
<=51	66.7	72.9	88.4	2.7:1
<=54	71.6	70.8	92.1	2.4:1
<=56	75.1	69.1	94.3	2.2:1
<=59	78.9	67.2	96.3	2.0:1
<=64	84.6	63.9	98.2	1.8:1
<=66	86.5	62.8	98.7	1.7:1
<=72	92.0	59.7	99.7	1.5:1
<=76	94.5	58.2	99.9	1.4:1
<=83	97.7	56.3	100.0	1.3:1
<=100	100.0	55.0	100.0	1.2:1

**Tables for  
the Fourth-Quintile (80<sup>th</sup>-Percentile) Poverty Line,  
2014-Definition**

**Table 4 (Fourth-quintile (80<sup>th</sup>-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:
0-7	100.0
8-17	99.1
18-26	98.8
27-31	97.3
32-34	96.0
35-37	94.7
38-40	93.9
41-42	91.4
43-44	89.7
45-46	86.6
47-48	85.2
49-51	77.1
52-54	70.2
55-56	66.3
57-59	63.1
60-64	51.5
65-66	38.5
67-72	31.5
73-76	15.6
77-83	9.4
84-100	2.5

**Table 6 (Fourth-quintile (80<sup>th</sup>-percentile) line (2014 def.)): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	-0.2	0.4	0.5	0.6
18-26	+0.2	0.4	0.5	0.7
27-31	-0.3	0.7	0.8	1.1
32-34	-1.6	1.1	1.2	1.4
35-37	-1.1	1.1	1.3	1.7
38-40	-0.5	1.1	1.2	1.7
41-42	-3.3	2.3	2.4	2.5
43-44	-3.6	2.5	2.6	2.7
45-46	-5.7	3.5	3.6	3.8
47-48	-5.3	3.4	3.7	3.9
49-51	-8.3	5.1	5.2	5.7
52-54	-13.1	7.7	7.8	8.2
55-56	-7.8	5.5	5.7	6.0
57-59	-5.7	4.4	4.7	5.4
60-64	-4.9	3.9	4.2	4.7
65-66	-11.6	8.4	9.0	9.8
67-72	-33.8	18.9	19.1	19.5
73-76	-12.8	8.8	9.3	9.9
77-83	-0.8	2.8	3.4	4.5
84-100	-3.3	3.2	3.6	4.5

**Table 7 (Fourth-quintile (80<sup>th</sup>-percentile) line (2014 def.):  
 Errors (average differences between estimated and  
 observed poverty rates) for households at a point in time  
 by sample size, with confidence intervals, for 1,000  
 bootstraps of various sample sizes, scorecard applied to  
 the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-1.7	58.4	77.2	90.2
4	-3.4	24.9	32.1	49.3
8	-3.5	17.3	21.7	40.5
16	-4.3	13.2	20.3	26.1
32	-4.6	11.3	13.6	17.7
64	-4.8	7.6	9.6	13.5
128	-5.1	5.7	6.9	9.0
256	-5.2	4.0	4.6	6.6
512	-5.1	3.0	3.5	4.6
1,024	-5.2	2.2	2.6	3.2
2,048	-5.2	1.4	1.7	2.2
4,096	-5.2	1.0	1.3	1.7
8,192	-5.2	0.8	0.9	1.2
16,384	-5.2	0.5	0.6	0.8

**Table 10 (Fourth-quintile (80<sup>th</sup>-percentile) line (2014 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>Inclusion: Poor correctly targeted</b>	<b>Undercoverage: Poor mistakenly not targeted</b>	<b>Leakage: Non-poor mistakenly targeted</b>	<b>Exclusion: Non-poor correctly not targeted</b>	<b>Hit rate Inclusion + Exclusion</b>	<b>BPAC See text</b>
<=7	0.9	75.6	0.0	23.5	24.4	-97.6
<=17	6.3	70.3	0.1	23.4	29.7	-83.6
<=26	16.4	60.1	0.3	23.2	39.6	-56.9
<=31	23.1	53.4	0.5	23.0	46.1	-39.1
<=34	28.7	47.8	0.7	22.8	51.5	-24.1
<=37	33.6	42.9	1.0	22.5	56.1	-10.9
<=40	39.9	36.6	1.5	21.9	61.9	+6.4
<=42	44.8	31.7	1.9	21.5	66.3	+19.6
<=44	48.5	28.0	2.4	21.1	69.6	+29.8
<=46	53.0	23.5	3.0	20.4	73.4	+42.5
<=48	56.8	19.7	3.7	19.8	76.6	+53.3
<=51	61.9	14.7	4.9	18.6	80.5	+68.0
<=54	65.6	10.9	6.0	17.5	83.1	+79.4
<=56	67.9	8.6	7.2	16.3	84.2	+86.9
<=59	70.2	6.3	8.6	14.9	85.1	+88.7
<=64	73.0	3.5	11.6	11.9	84.9	+84.9
<=66	73.8	2.8	12.8	10.7	84.5	+83.3
<=72	75.7	0.8	16.3	7.2	82.9	+78.7
<=76	76.2	0.3	18.3	5.2	81.4	+76.1
<=83	76.4	0.1	21.3	2.2	78.6	+72.2
<=100	76.5	0.0	23.5	0.0	76.5	+69.3

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

**Table 11 (Fourth-quintile (80<sup>th</sup>-percentile) line (2014 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	100.0	1.2	Only poor targeted
<=17	6.3	99.2	8.2	118.9:1
<=26	16.6	98.5	21.4	63.8:1
<=31	23.6	97.9	30.1	47.2:1
<=34	29.4	97.7	37.5	41.8:1
<=37	34.6	97.1	43.9	34.0:1
<=40	41.5	96.3	52.2	25.8:1
<=42	46.7	95.8	58.5	23.1:1
<=44	50.9	95.4	63.4	20.5:1
<=46	56.0	94.6	69.3	17.4:1
<=48	60.5	93.9	74.2	15.5:1
<=51	66.7	92.7	80.8	12.7:1
<=54	71.6	91.6	85.7	10.9:1
<=56	75.1	90.4	88.8	9.5:1
<=59	78.9	89.1	91.8	8.1:1
<=64	84.6	86.3	95.4	6.3:1
<=66	86.5	85.2	96.4	5.8:1
<=72	92.0	82.3	98.9	4.6:1
<=76	94.5	80.6	99.6	4.2:1
<=83	97.7	78.2	99.9	3.6:1
<=100	100.0	76.5	100.0	3.3:1

**Tables for  
100% of the 2008-Definition National Poverty Line**



**Table 4 (100% of national line (2008 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:
0-7	97.6
8-17	84.4
18-26	77.3
27-31	66.2
32-34	60.1
35-37	58.4
38-40	49.0
41-42	46.9
43-44	45.4
45-46	42.3
47-48	34.7
49-51	26.6
52-54	26.2
55-56	24.4
57-59	23.2
60-64	17.7
65-66	12.3
67-72	8.6
73-76	6.7
77-83	3.1
84-100	0.6

**Table 6 (100% of national line (2008 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+5.8	4.0	4.7	6.0
8-17	-2.1	2.1	2.4	3.1
18-26	-1.0	1.7	2.0	2.7
27-31	+0.4	2.6	3.0	4.1
32-34	+3.5	2.9	3.4	4.2
35-37	+6.0	3.0	3.5	4.7
38-40	+2.6	2.6	3.2	3.8
41-42	-1.5	3.2	3.7	5.0
43-44	-0.3	3.4	4.1	5.1
45-46	+4.8	3.0	3.5	4.7
47-48	-2.4	3.4	4.0	5.2
49-51	-4.5	3.6	3.9	4.6
52-54	+1.3	2.7	3.3	4.2
55-56	+0.2	3.2	3.7	4.9
57-59	+3.4	3.1	3.6	4.7
60-64	+2.5	2.1	2.4	3.4
65-66	-0.6	3.6	4.3	5.4
67-72	-22.4	14.0	14.5	15.7
73-76	+3.3	1.5	1.9	2.7
77-83	+0.6	1.0	1.3	1.8
84-100	+0.2	0.5	0.5	0.6

**Table 7 (100% of national line (2008 def.): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-1.9	70.0	79.8	87.9
4	+0.5	39.0	46.5	55.6
8	+0.7	29.2	34.5	45.4
16	+0.2	21.7	26.8	36.4
32	0.0	16.7	20.2	26.4
64	0.0	11.9	14.1	18.8
128	-0.2	8.3	10.1	14.1
256	-0.4	6.2	7.2	9.5
512	-0.4	4.3	5.3	6.8
1,024	-0.5	3.1	3.7	4.7
2,048	-0.5	2.1	2.5	3.7
4,096	-0.5	1.5	1.8	2.4
8,192	-0.6	1.0	1.3	1.8
16,384	-0.6	0.7	0.9	1.1

**Table 10 (100% of national line (2008 def.)): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	42.0	0.1	57.1	58.0	-95.9
<=17	5.5	37.3	0.8	56.4	61.9	-72.4
<=26	13.5	29.3	3.1	54.1	67.6	-29.6
<=31	18.1	24.7	5.4	51.8	69.9	-2.7
<=34	21.5	21.3	7.9	49.3	70.9	+18.9
<=37	24.3	18.5	10.3	46.9	71.2	+37.5
<=40	27.5	15.3	14.0	43.2	70.7	+61.0
<=42	30.0	12.8	16.7	40.5	70.5	+61.0
<=44	32.0	10.9	18.9	38.3	70.3	+55.9
<=46	33.9	8.9	22.2	35.0	68.9	+48.3
<=48	35.6	7.2	24.8	32.3	68.0	+42.0
<=51	37.7	5.2	29.1	28.1	65.8	+32.1
<=54	39.1	3.7	32.6	24.6	63.7	+23.9
<=56	40.0	2.8	35.1	22.1	62.0	+18.0
<=59	40.8	2.0	38.1	19.1	59.9	+11.1
<=64	41.7	1.1	42.9	14.3	56.1	-0.1
<=66	42.0	0.8	44.5	12.7	54.7	-4.0
<=72	42.6	0.2	49.3	7.8	50.4	-15.3
<=76	42.7	0.1	51.8	5.4	48.1	-20.9
<=83	42.8	0.0	54.9	2.2	45.1	-28.3
<=100	42.8	0.0	57.2	0.0	42.8	-33.6

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

**Table 11 (100% of national line (2008 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	92.6	2.0	12.5:1
<=17	6.3	87.5	12.9	7.0:1
<=26	16.6	81.3	31.6	4.3:1
<=31	23.6	76.9	42.3	3.3:1
<=34	29.4	73.3	50.3	2.7:1
<=37	34.6	70.3	56.8	2.4:1
<=40	41.5	66.3	64.2	2.0:1
<=42	46.7	64.3	70.1	1.8:1
<=44	50.8	62.9	74.6	1.7:1
<=46	56.0	60.5	79.1	1.5:1
<=48	60.5	58.9	83.2	1.4:1
<=51	66.7	56.4	88.0	1.3:1
<=54	71.6	54.5	91.2	1.2:1
<=56	75.1	53.2	93.4	1.1:1
<=59	78.9	51.7	95.3	1.1:1
<=64	84.6	49.3	97.5	1.0:1
<=66	86.5	48.5	98.1	0.9:1
<=72	92.0	46.3	99.5	0.9:1
<=76	94.5	45.2	99.7	0.8:1
<=83	97.7	43.8	100.0	0.8:1
<=100	100.0	42.8	100.0	0.7:1

**Tables for  
150% of the 2008-Definition National Poverty Line**

**Table 4 (150% of national line (2008 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:
0-7	100.0
8-17	97.4
18-26	93.8
27-31	90.3
32-34	85.3
35-37	83.1
38-40	76.1
41-42	75.2
43-44	74.5
45-46	69.5
47-48	66.1
49-51	55.7
52-54	52.7
55-56	51.1
57-59	48.2
60-64	40.2
65-66	33.8
67-72	29.1
73-76	19.7
77-83	11.8
84-100	4.9

**Table 6 (150% of national line (2008 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+0.4	1.0	1.2	1.5
18-26	+0.5	1.1	1.2	1.6
27-31	+2.0	1.6	2.0	2.6
32-34	0.0	2.1	2.5	3.1
35-37	-0.5	2.2	2.7	3.8
38-40	+2.0	2.4	2.8	3.5
41-42	+0.5	2.6	3.0	4.0
43-44	+3.6	3.2	3.8	5.1
45-46	-0.2	2.9	3.5	4.8
47-48	-0.5	3.3	3.9	5.1
49-51	-2.5	2.9	3.5	4.2
52-54	-2.0	3.2	3.9	4.9
55-56	+2.2	3.8	4.5	6.3
57-59	+0.2	3.8	4.6	5.7
60-64	+3.8	2.9	3.3	4.2
65-66	-4.0	5.2	6.0	7.5
67-72	-11.6	8.5	9.0	9.8
73-76	+3.5	3.1	3.9	4.8
77-83	-0.1	2.3	2.7	3.6
84-100	-0.6	2.1	2.5	3.3



**Table 7 (150% of national line (2008 def.): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+1.9	71.5	80.6	89.0
4	+1.0	37.6	44.1	56.6
8	+0.4	26.2	31.3	42.3
16	+0.2	20.2	24.3	32.3
32	+0.1	14.1	17.2	23.0
64	+0.3	10.5	12.8	16.9
128	+0.1	7.3	8.8	11.8
256	-0.1	5.4	6.3	7.9
512	-0.1	3.8	4.6	5.8
1,024	-0.1	2.7	3.2	4.2
2,048	-0.1	1.8	2.2	2.9
4,096	-0.2	1.4	1.6	2.1
8,192	-0.2	1.0	1.1	1.5
16,384	-0.2	0.7	0.8	1.1

**Table 10 (150% of national line (2008 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	64.6	0.0	34.5	35.4	-97.2
<=17	6.2	59.3	0.2	34.3	40.5	-81.0
<=26	15.7	49.8	0.9	33.6	49.4	-50.6
<=31	21.9	43.6	1.7	32.8	54.7	-30.6
<=34	26.9	38.6	2.5	32.0	58.9	-14.1
<=37	31.2	34.3	3.3	31.2	62.4	+0.4
<=40	36.4	29.1	5.1	29.4	65.8	+18.8
<=42	40.3	25.2	6.4	28.1	68.4	+32.9
<=44	43.3	22.2	7.5	27.0	70.3	+43.7
<=46	46.8	18.7	9.2	25.3	72.1	+57.1
<=48	49.9	15.6	10.6	23.9	73.8	+68.5
<=51	53.6	11.9	13.1	21.4	74.9	+79.9
<=54	56.4	9.1	15.3	19.2	75.6	+76.7
<=56	58.1	7.4	17.0	17.5	75.7	+74.1
<=59	60.0	5.5	18.9	15.6	75.6	+71.2
<=64	62.2	3.3	22.4	12.1	74.3	+65.8
<=66	62.9	2.6	23.6	10.9	73.8	+64.0
<=72	64.4	1.1	27.5	7.0	71.4	+58.0
<=76	64.9	0.6	29.5	5.0	69.9	+54.9
<=83	65.4	0.1	32.4	2.1	67.5	+50.6
<=100	65.5	0.0	34.5	0.0	65.5	+47.3

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

**Table 11 (150% of national line (2008 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	100.0	1.4	Only poor targeted
<=17	6.3	97.4	9.4	37.9:1
<=26	16.6	94.7	24.0	17.7:1
<=31	23.6	92.9	33.4	13.0:1
<=34	29.4	91.5	41.1	10.8:1
<=37	34.6	90.3	47.7	9.3:1
<=40	41.5	87.7	55.5	7.2:1
<=42	46.7	86.3	61.5	6.3:1
<=44	50.8	85.2	66.1	5.7:1
<=46	56.0	83.6	71.5	5.1:1
<=48	60.5	82.5	76.2	4.7:1
<=51	66.7	80.3	81.8	4.1:1
<=54	71.6	78.7	86.1	3.7:1
<=56	75.1	77.4	88.8	3.4:1
<=59	78.9	76.0	91.6	3.2:1
<=64	84.6	73.5	94.9	2.8:1
<=66	86.5	72.7	96.1	2.7:1
<=72	92.0	70.1	98.4	2.3:1
<=76	94.5	68.7	99.1	2.2:1
<=83	97.7	66.9	99.8	2.0:1
<=100	100.0	65.5	100.0	1.9:1

**Tables for  
200% of the 2008-Definition National Poverty Line**

**Table 4 (200% of national line (2008 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:
0-7	100.0
8-17	99.2
18-26	98.2
27-31	96.7
32-34	93.5
35-37	92.4
38-40	90.1
41-42	88.1
43-44	86.3
45-46	84.0
47-48	82.9
49-51	73.8
52-54	71.5
55-56	67.5
57-59	67.4
60-64	58.6
65-66	52.5
67-72	46.2
73-76	34.5
77-83	25.2
84-100	12.3

**Table 6 (200% of national line (2008 def.): Errors**  
**(average differences between estimated and observed**  
**poverty likelihoods) for households by score range,**  
**with confidence intervals, from 1,000 bootstraps of  $n$**   
**= 16,384, scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+0.5	0.6	0.7	0.9
18-26	+0.5	0.6	0.8	1.1
27-31	+1.5	1.1	1.3	1.8
32-34	-0.2	1.5	1.9	2.4
35-37	+0.1	1.7	1.9	2.6
38-40	+1.6	1.6	2.0	2.6
41-42	+3.4	2.3	2.7	3.6
43-44	+2.4	2.8	3.3	4.1
45-46	-2.1	2.1	2.4	3.2
47-48	+0.3	2.5	3.0	4.0
49-51	-3.5	3.0	3.2	3.7
52-54	-1.3	3.2	3.6	4.7
55-56	+0.4	3.5	4.3	5.5
57-59	-0.2	3.6	4.2	5.6
60-64	+5.7	2.9	3.6	4.6
65-66	-4.3	5.5	6.5	8.5
67-72	-18.5	11.2	11.7	12.2
73-76	+3.8	4.3	5.2	7.4
77-83	-0.4	3.3	3.9	5.2
84-100	-3.6	3.6	4.3	5.2

**Table 7 (200% of national line (2008 def.): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+0.8	65.7	72.0	89.7
4	+0.8	31.7	38.8	55.3
8	+0.6	22.0	27.5	41.5
16	-0.1	17.1	21.2	29.1
32	-0.3	12.2	14.2	18.2
64	-0.3	9.0	10.9	14.3
128	-0.4	6.1	7.1	9.5
256	-0.6	4.3	5.3	6.8
512	-0.5	3.1	3.7	4.8
1,024	-0.5	2.4	2.8	3.6
2,048	-0.5	1.6	1.9	2.3
4,096	-0.6	1.2	1.4	1.8
8,192	-0.6	0.8	1.0	1.3
16,384	-0.6	0.6	0.7	0.9

**Table 10 (200% of national line (2008 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	76.9	0.0	22.2	23.1	-97.6
<=17	6.2	71.6	0.1	22.1	28.3	-83.9
<=26	16.3	61.5	0.3	21.8	38.1	-57.7
<=31	22.9	54.9	0.7	21.5	44.4	-40.3
<=34	28.4	49.4	1.0	21.2	49.6	-25.7
<=37	33.2	44.6	1.3	20.8	54.0	-12.9
<=40	39.3	38.5	2.2	20.0	59.3	+3.8
<=42	43.8	34.0	2.9	19.3	63.1	+16.3
<=44	47.3	30.5	3.5	18.6	66.0	+26.1
<=46	51.7	26.1	4.3	17.8	69.5	+38.4
<=48	55.4	22.4	5.1	17.1	72.5	+48.9
<=51	60.3	17.5	6.4	15.7	76.0	+63.2
<=54	64.0	13.8	7.6	14.5	78.5	+74.2
<=56	66.4	11.5	8.7	13.4	79.8	+81.8
<=59	68.9	8.9	10.0	12.2	81.1	+87.2
<=64	72.1	5.7	12.5	9.7	81.8	+83.9
<=66	73.2	4.6	13.3	8.8	82.1	+82.9
<=72	75.7	2.1	16.2	5.9	81.7	+79.2
<=76	76.6	1.3	17.9	4.3	80.8	+77.0
<=83	77.5	0.4	20.3	1.9	79.4	+74.0
<=100	77.8	0.0	22.2	0.0	77.8	+71.5

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



**Table 11 (200% of national line (2008 def.)): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	100.0	1.2	Only poor targeted
<=17	6.3	98.7	8.0	73.9:1
<=26	16.6	98.0	20.9	48.6:1
<=31	23.6	97.2	29.4	34.9:1
<=34	29.4	96.7	36.5	29.2:1
<=37	34.6	96.1	42.7	24.6:1
<=40	41.5	94.8	50.5	18.3:1
<=42	46.7	93.8	56.3	15.1:1
<=44	50.8	93.1	60.8	13.5:1
<=46	56.0	92.2	66.4	11.9:1
<=48	60.5	91.6	71.2	10.9:1
<=51	66.7	90.4	77.5	9.4:1
<=54	71.6	89.3	82.2	8.4:1
<=56	75.1	88.4	85.3	7.6:1
<=59	78.9	87.4	88.5	6.9:1
<=64	84.6	85.2	92.6	5.8:1
<=66	86.5	84.6	94.1	5.5:1
<=72	92.0	82.4	97.3	4.7:1
<=76	94.5	81.1	98.4	4.3:1
<=83	97.7	79.3	99.5	3.8:1
<=100	100.0	77.8	100.0	3.5:1

**Tables for  
the \$1.25/day 2005 PPP Poverty Line (2008-Definition)**

**Table 4 (\$1.25/day 2005 PPP line (2008 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:
0-7	100.0
8-17	88.8
18-26	81.5
27-31	72.1
32-34	66.2
35-37	65.1
38-40	54.4
41-42	51.0
43-44	50.8
45-46	47.4
47-48	41.6
49-51	33.0
52-54	30.8
55-56	30.2
57-59	28.8
60-64	21.3
65-66	16.7
67-72	11.5
73-76	8.9
77-83	4.3
84-100	1.0

**Table 6 (\$1.25/day 2005 PPP line (2008 def.): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	+4.4	3.0	3.6	4.6
8-17	-0.8	1.8	2.2	2.8
18-26	-1.1	1.5	1.8	2.5
27-31	+1.5	2.4	2.8	3.7
32-34	+3.8	2.8	3.4	4.5
35-37	+6.0	3.0	3.5	4.8
38-40	+2.5	2.7	3.0	4.1
41-42	-2.7	3.1	3.8	5.0
43-44	-0.7	3.4	4.1	5.5
45-46	+1.4	3.2	3.9	5.1
47-48	-0.7	3.4	3.9	5.2
49-51	-5.3	4.1	4.4	4.9
52-54	-0.3	3.0	3.6	4.5
55-56	+1.9	3.4	4.0	5.3
57-59	+4.2	3.3	4.0	5.4
60-64	+3.1	2.2	2.7	3.4
65-66	-3.5	4.5	5.4	6.8
67-72	-21.0	13.4	13.8	15.0
73-76	+4.7	1.7	2.1	2.9
77-83	+0.2	1.4	1.7	2.2
84-100	+0.4	0.7	0.7	0.9

**Table 7 (\$1.25/day 2005 PPP line (2008 def.): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	-2.0	68.0	82.4	86.8
4	+0.3	39.3	47.4	56.4
8	+0.8	28.9	34.6	44.3
16	+0.3	21.6	26.4	36.1
32	0.0	16.4	19.7	26.8
64	+0.1	11.6	14.0	18.6
128	-0.2	8.4	10.2	13.1
256	-0.5	6.2	7.2	9.2
512	-0.5	4.3	5.1	7.3
1,024	-0.5	3.0	3.5	5.0
2,048	-0.5	2.0	2.5	3.4
4,096	-0.6	1.5	1.8	2.4
8,192	-0.6	1.0	1.3	1.7
16,384	-0.6	0.7	0.9	1.1

**Table 10 (\$1.25/day 2005 PPP line (2008 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	46.9	0.0	52.2	53.1	-96.2
<=17	5.7	42.0	0.6	51.6	57.4	-74.8
<=26	14.2	33.6	2.5	49.8	63.9	-35.6
<=31	19.1	28.7	4.4	47.8	66.9	-10.7
<=34	22.9	24.9	6.5	45.7	68.6	+9.4
<=37	26.0	21.8	8.6	43.7	69.6	+26.7
<=40	29.6	18.2	11.9	40.3	69.9	+48.7
<=42	32.4	15.4	14.3	37.9	70.4	+65.7
<=44	34.6	13.2	16.2	36.0	70.6	+66.0
<=46	36.9	10.8	19.1	33.1	70.1	+60.0
<=48	39.0	8.8	21.5	30.7	69.7	+55.0
<=51	41.4	6.3	25.3	26.9	68.4	+47.1
<=54	43.1	4.7	28.5	23.7	66.8	+40.3
<=56	44.2	3.6	30.9	21.3	65.5	+35.2
<=59	45.2	2.6	33.7	18.5	63.7	+29.5
<=64	46.3	1.5	38.3	13.9	60.3	+19.9
<=66	46.7	1.1	39.8	12.4	59.1	+16.6
<=72	47.5	0.3	44.5	7.7	55.2	+6.9
<=76	47.6	0.2	46.9	5.4	53.0	+1.9
<=83	47.8	0.0	50.0	2.2	50.0	-4.6
<=100	47.8	0.0	52.2	0.0	47.8	-9.3

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

**Table 11 (\$1.25/day 2005 PPP line (2008 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the validation sample**

<b>Targeting cut-off</b>	<b>% all HHs who are targeted</b>	<b>% targeted HHs who are poor</b>	<b>% poor HHs who are targeted</b>	<b>Poor HHs targeted per non-poor HH targeted</b>
<=7	0.9	96.0	1.9	24.0:1
<=17	6.3	90.7	12.0	9.8:1
<=26	16.6	85.1	29.6	5.7:1
<=31	23.6	81.2	40.0	4.3:1
<=34	29.4	77.9	47.9	3.5:1
<=37	34.6	75.2	54.4	3.0:1
<=40	41.5	71.3	61.9	2.5:1
<=42	46.7	69.4	67.9	2.3:1
<=44	50.8	68.1	72.4	2.1:1
<=46	56.0	65.9	77.3	1.9:1
<=48	60.5	64.4	81.6	1.8:1
<=51	66.7	62.1	86.7	1.6:1
<=54	71.6	60.2	90.3	1.5:1
<=56	75.1	58.8	92.5	1.4:1
<=59	78.9	57.3	94.5	1.3:1
<=64	84.6	54.7	96.9	1.2:1
<=66	86.5	54.0	97.8	1.2:1
<=72	92.0	51.6	99.4	1.1:1
<=76	94.5	50.4	99.6	1.0:1
<=83	97.7	48.9	100.0	1.0:1
<=100	100.0	47.8	100.0	0.9:1

**Tables for  
the \$2.50/day 2005 PPP Poverty Line (2008-Definition)**



**Table 4 (\$2.50/day 2005 PPP line (2008 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:
0-7	100.0
8-17	99.4
18-26	98.9
27-31	98.0
32-34	96.1
35-37	94.6
38-40	91.8
41-42	89.9
43-44	88.2
45-46	86.9
47-48	86.3
49-51	78.2
52-54	75.0
55-56	71.9
57-59	71.8
60-64	65.1
65-66	60.5
67-72	52.7
73-76	39.8
77-83	29.3
84-100	16.0

**Table 6 (\$2.50/day 2005 PPP line (2008 def.): Errors (average differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of  $n = 16,384$ , scorecard applied to the validation sample**

Score	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
0-7	0.0	0.0	0.0	0.0
8-17	+0.4	0.5	0.6	0.8
18-26	+0.8	0.6	0.7	0.9
27-31	+0.9	0.8	1.0	1.3
32-34	+0.2	1.2	1.4	1.8
35-37	0.0	1.4	1.7	2.3
38-40	+1.0	1.5	1.8	2.3
41-42	+2.7	2.1	2.5	3.2
43-44	+1.2	2.5	2.9	3.9
45-46	-2.1	1.9	2.2	2.8
47-48	+0.3	2.4	3.0	3.7
49-51	-4.0	3.1	3.3	3.9
52-54	-2.0	2.9	3.4	5.0
55-56	+0.5	3.5	4.0	5.1
57-59	+2.0	3.4	4.0	5.4
60-64	+5.0	2.9	3.5	4.4
65-66	-7.0	5.8	6.2	7.6
67-72	-15.1	9.3	9.8	10.3
73-76	+4.5	4.5	5.5	7.5
77-83	-1.2	3.6	4.3	5.5
84-100	-3.2	3.7	4.6	5.7

**Table 7 (\$2.50/day 2005 PPP line (2008 def.): Errors (average differences between estimated and observed poverty rates) for households at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, scorecard applied to the validation sample**

Sample Size <i>n</i>	Difference between estimate and observed value			
	Diff.	Confidence interval ( $\pm$ percentage points)		
		90-percent	95-percent	99-percent
1	+0.2	62.8	68.6	87.9
4	+0.3	29.4	35.5	53.5
8	+0.3	20.7	25.3	39.2
16	-0.1	15.0	19.3	28.2
32	-0.4	11.1	13.8	16.5
64	-0.3	8.4	10.0	13.8
128	-0.4	5.7	6.8	9.6
256	-0.6	3.9	4.6	6.2
512	-0.5	2.8	3.4	4.5
1,024	-0.5	2.1	2.5	3.2
2,048	-0.6	1.5	1.7	2.2
4,096	-0.6	1.1	1.3	1.6
8,192	-0.6	0.8	0.9	1.1
16,384	-0.6	0.5	0.6	0.8

**Table 10 (\$2.50/day 2005 PPP line (2008 def.): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, scorecard applied to the 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
<=7	0.9	79.9	0.0	19.2	20.1	-97.7
<=17	6.2	74.5	0.1	19.2	25.4	-84.4
<=26	16.4	64.4	0.3	19.0	35.3	-59.2
<=31	23.1	57.7	0.5	18.8	41.8	-42.3
<=34	28.7	52.1	0.7	18.5	47.3	-28.1
<=37	33.6	47.2	0.9	18.3	51.9	-15.6
<=40	39.9	40.9	1.6	17.6	57.5	+0.7
<=42	44.5	36.3	2.2	17.0	61.5	+12.9
<=44	48.1	32.6	2.7	16.5	64.7	+22.6
<=46	52.7	28.1	3.4	15.8	68.5	+34.6
<=48	56.5	24.3	3.9	15.3	71.8	+44.8
<=51	61.7	19.1	5.0	14.2	75.9	+59.0
<=54	65.6	15.2	6.0	13.2	78.8	+69.9
<=56	68.1	12.7	7.0	12.2	80.4	+77.3
<=59	70.8	10.0	8.1	11.1	81.9	+85.2
<=64	74.3	6.5	10.3	8.9	83.2	+87.2
<=66	75.5	5.2	11.0	8.2	83.8	+86.4
<=72	78.3	2.5	13.6	5.6	83.9	+83.1
<=76	79.3	1.5	15.2	4.0	83.3	+81.2
<=83	80.3	0.4	17.4	1.8	82.1	+78.5
<=100	80.8	0.0	19.2	0.0	80.8	+76.2

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

**Table 11 (\$2.50/day 2005 PPP line (2008 def.): Share of all households who are targeted (that is, score at or below a cut-off), share of targeted households who are poor, share of poor households who are targeted, and number of poor households who are successfully targeted per non-poor household mistakenly targeted, scorecard applied to the 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
<=7	0.9	100.0	1.1	Only poor targeted
<=17	6.3	98.9	7.7	93.5:1
<=26	16.6	98.4	20.3	62.7:1
<=31	23.6	98.0	28.6	49.6:1
<=34	29.4	97.7	35.5	42.4:1
<=37	34.6	97.3	41.6	35.7:1
<=40	41.5	96.2	49.4	25.3:1
<=42	46.7	95.3	55.1	20.2:1
<=44	50.8	94.7	59.6	17.9:1
<=46	56.0	94.0	65.2	15.6:1
<=48	60.5	93.5	70.0	14.3:1
<=51	66.7	92.5	76.4	12.3:1
<=54	71.6	91.6	81.2	10.9:1
<=56	75.1	90.7	84.3	9.8:1
<=59	78.9	89.7	87.6	8.7:1
<=64	84.6	87.8	92.0	7.2:1
<=66	86.5	87.3	93.5	6.9:1
<=72	92.0	85.2	97.0	5.7:1
<=76	94.5	83.9	98.1	5.2:1
<=83	97.7	82.2	99.4	4.6:1
<=100	100.0	80.8	100.0	4.2:1