Simple Poverty Scorecard® Poverty-Assessment Tool Sri Lanka

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Abstract

The Simple Poverty Scorecard-brand poverty-assessment tool uses 10 low-cost indicators from Sri Lanka's 2012/13 Household Income and Expenditure Survey to estimate the likelihood that a household has consumption below a given poverty line. Field workers can collect responses in about ten minutes. The scorecard's accuracy is reported for a range of poverty lines. The scorecard is a practical way for pro-poor programs in Sri Lanka to measure poverty rates, to track changes in poverty rates over time, and to segment clients for differentiated treatment.

Version note

This paper uses 2012/13 data. It replaces Schreiner (2010a), which uses 2006/7 data. The new 2012/13 scorecard here should be used from now on. Some poverty lines supported for the old 2006/7 scorecard are also supported for the new 2012/13 scorecard, so existing users can measure change over time for those lines with a baseline from the old scorecard and a follow-up from the new scorecard.

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Simple Poverty Scorecard® Poverty-Assessment Tool

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

Indicator	Response	Points	Score
1. How many members does the household have?	A. Six or more	0	
	B. Five	6	
	C. Four	12	
	D. Three	19	
	E. One, or two	31	
2. What is the highest level of education that the female head/spouse has completed?	A. None	0	
	B. Grade 1, 2, 3, or 4	2	
	C. Grade 5	3	
	D. Grade 6, 7, 8, 9, or 10	4	
	E. GCE (O/L) or equivalent, or grade 12	6	
	F. No female head/spouse	7	
	G. GCE (A/L) or equivalent, GAQ/GSQ, degree, or higher	10	
3. What is the principal construction material of the floors?	A. Mud, wood, sand, or other	0	
	B. Cement, or concrete	5	
	C. Teraso/tile	10	
4. What is the principal type of cooking fuel used?	A. Firewood, kerosene, or sawdust/paddy husk	0	
	B. Gas, electricity, does not cook, or other	8	
5. Does the household possess a cooker (gas, kerosene, electric)?	A. No	0	
	B. Yes	7	
6. Does the household possess a refrigerator?	A. No	0	
	B. Yes	5	
7. Does the household possess a television and a VCD/DVD?	A. No	0	
	B. Only television	1	
	C. VCD/DVD (regardless of televison)	3	
8. Does the household possess an electric fan?	A. No	0	
	B. Yes	4	
9. Does the household possess a domestic telephone and a mobile telephone?	A. No	0	
	B. Domestic or mobile, but not both	7	
	C. Both	12	
10. Does the household possess a motor cycle/scooter, or a motor car/van, bus/lorry/tipper, 3 wheeler, 2-wheel tractor, or 4-wheel tractor?	A. None	0	
	B. Only motor cycle/scooter	6	
	C. Motor car/van and so on (regardless of motorcycle/scooter)	10	

Score:

Back-page Worksheet: Household Membership

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

Read to the respondent: *Please tell me the first names (or nicknames) of the members of your household. A* household *is a person or group of people—with or without blood or marital relationship—who usually live together and who share at least some meals with each other.* Members of the household *include those who are usual residents with the household as well as those temporarily residing elsewhere (as long as their absence is one month or less). Domestic servants and lodgers who live and share at least some meals with other household members are part of the household.*

For your own future use, make a note of who is the female head/spouse (if she exists).

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

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

First name or nickname
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
12.
13.
14.
Number of household members:

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

	Poverty likelihood (%)		
	National lines		
Score	**100%**	**150%**	**200%**
0–4	78.0	95.3	100.0
5–9	57.8	91.3	99.6
10–14	46.4	84.4	97.7
15–19	30.4	71.9	92.7
20–24	19.3	64.3	87.9
25–29	11.5	48.7	79.1
30–34	7.3	36.4	68.5
35–39	4.9	27.9	56.5
40–44	2.4	18.0	45.6
45–49	0.6	9.0	34.2
50–54	0.2	5.5	21.5
55–59	0.0	2.8	11.9
60–64	0.0	1.1	6.8
65–69	0.0	0.3	3.8
70–74	0.0	0.2	1.9
75–79	0.0	0.0	0.4
80–84	0.0	0.0	0.3
85–89	0.0	0.0	0.1
90–94	0.0	0.0	0.0
95–100	0.0	0.0	0.0

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

	Poverty likelihood (%)					
	Intl. 2005 PPP lines				Intl. 2011 PPP lines	
Score	**$1.25**	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
0–4	61.7	94.8	100.0	100.0	43.6	85.3
5–9	43.2	91.1	97.9	100.0	25.9	76.6
10–14	35.3	83.0	93.8	100.0	15.2	66.7
15–19	22.5	69.9	89.1	99.0	12.0	56.1
20–24	14.1	61.1	81.6	98.8	6.0	44.9
25–29	7.3	46.9	71.5	98.1	1.5	29.0
30–34	4.5	33.9	58.9	97.0	1.4	18.9
35–39	3.2	26.4	48.0	95.6	1.0	14.0
40–44	1.2	16.1	37.9	90.8	0.3	7.7
45–49	0.5	8.1	24.5	85.2	0.1	3.3
50–54	0.1	4.3	14.5	76.8	0.0	1.6
55–59	0.0	2.4	8.0	63.8	0.0	0.3
60–64	0.0	0.9	4.2	50.5	0.0	0.0
65–69	0.0	0.3	2.8	40.4	0.0	0.0
70–74	0.0	0.2	0.8	31.7	0.0	0.0
75–79	0.0	0.0	0.2	17.8	0.0	0.0
80–84	0.0	0.0	0.2	6.0	0.0	0.0
85–89	0.0	0.0	0.0	3.7	0.0	0.0
90–94	0.0	0.0	0.0	3.7	0.0	0.0
95–100	0.0	0.0	0.0	1.2	0.0	0.0

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

	Poverty likelihood (%)					
	Poorest half of people	Percentile-based lines				
Score	below 100% Natl. line	20th	40th	50th	60th	80th
0–4	61.3	91.5	100.0	100.0	100.0	100.0
5–9	35.3	85.5	99.4	99.7	100.0	100.0
10–14	25.3	75.6	95.3	98.3	99.8	100.0
15–19	17.6	63.8	90.6	94.5	96.5	99.1
20–24	10.2	57.1	83.6	90.9	95.9	98.9
25–29	5.3	41.8	74.3	84.2	91.0	98.4
30–34	3.4	27.4	62.0	77.1	87.2	97.5
35–39	2.4	21.2	50.8	64.9	79.8	96.0
40–44	1.0	12.7	39.5	53.9	67.8	91.5
45–49	0.3	6.6	27.6	42.5	57.2	86.1
50–54	0.0	3.7	16.6	28.6	42.6	77.9
55–59	0.0	1.6	8.5	17.2	29.0	65.4
60–64	0.0	0.2	4.3	10.5	20.3	53.7
65–69	0.0	0.0	2.5	5.2	11.2	42.3
70–74	0.0	0.0	1.2	3.1	8.5	34.0
75–79	0.0	0.0	0.4	0.4	3.6	18.7
80–84	0.0	0.0	0.0	0.3	1.1	6.2
85–89	0.0	0.0	0.0	0.1	0.1	3.3
90–94	0.0	0.0	0.0	0.0	0.0	0.9
95–100	0.0	0.0	0.0	0.0	0.0	0.4

Simple Poverty Scorecard® Poverty-Assessment Tool Sri Lanka

1. Introduction

Pro-poor programs in Sri Lanka can use the Simple Poverty Scorecard poverty-assessment tool to estimate the likelihood that a household has consumption below a given poverty line, to estimate a population's poverty rate at a point in time, to track changes in a population's poverty rate over time, and to segment participants for differentiated treatment.

The new scorecard here uses data from Sri Lanka's 2012/13 Household Income and Expenditure Survey (HIES). It replaces the old scorecard in Schreiner (2010a) that uses data from the 2006/7 HIES. Only the new 2012/13 scorecard should be used from now on, as it is more accurate. Some of the poverty lines that are supported for the old 2006/7 scorecard are also supported for the new 2012/13 scorecard, so legacy users of the old 2006/7 scorecard can measure change over time for these supported lines with a baseline from the old scorecard and a follow-up from the new scorecard.

The direct approach to poverty measurement via consumption surveys is difficult and costly. The 2012/13 HIES (conducted by Sri Lanka's Department of Census and Statistics, DCS) is a case in point. It runs 34 pages and includes about 750 questions,

most of which have many sub-questions or which may be asked multiple times (for example, for each household member).

In comparison, the indirect approach of the scorecard is quick and low-cost. It uses 10 verifiable indicators drawn from the 2012/13 HIES (such as "What is the principal construction material of the floors?" and "Does the household possess a cooker (gas, kerosene, electric)?") to get a score that is correlated with poverty status as measured by the exhaustive HIES survey.

The scorecard differs from "proxy-means tests" (Coady, Grosh, and Hoddinott, 2004) in that it is transparent, it is freely available,[1] and it is tailored to the capabilities and purposes not of national governments but rather of local, pro-poor programs. The feasible poverty-assessment options for local programs 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 measures from these approaches may be costly, their accuracy is unknown, and they are not comparable across places, organizations, nor time.

The scorecard can be used to measure the share of a program's participants who are below a given poverty line (for example, Sri Lanka's national line). USAID microenterprise partners in Sri Lanka can use scoring with the poverty line that marks the poorest half of people below 100% of the national poverty line to report how many

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

of their participants are "very poor".[2] Scoring can also be used to measure net movement across a poverty line over time. In all these applications, the scorecard provides a consumption-based, objective tool with known accuracy. While consumption surveys are costly even for governments, some local pro-poor programs may be able to implement a low-cost scorecard to help with monitoring poverty and (if desired) segmenting clients for differentiated treatment.

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

[2] USAID defines a household as *very poor* if its daily per-capita consumption is less than the highest of the $1.90/day 2011 PPP line (LKR91, Table 1) or the line (LKR98) that marks the poorest half of people below 100% of the national line.

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

The scorecard is based on data from the 2012/13 HIES by Sri Lanka's DCS. Indicators are selected to be:

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

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 the poverty rate. With two independent samples from the same population, this is the difference in the average poverty likelihood in the baseline sample versus the average likelihood in the

follow-up sample, divided by the difference (in years) between the average interview date in the baseline sample and the average interview date in the follow-up sample.

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

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

This paper presents a single scorecard whose indicators and points are derived with 200% of Sri Lanka's national poverty line applied to data from the 2012/13 HIES. Scores from this one scorecard are calibrated with this same data to poverty likelihoods for 15 poverty lines. In particular, it is calibrated to five of the absolute lines supported for the old 2006/7 scorecard (Schreiner, 2010a). Because the definition of *poverty* is the same in the 2006/7 and 2012/13 HIES (World Bank and DCS, 2015, p. 5), legacy users can switch to the new 2012/13 scorecard here and measure change over time for these five poverty lines by combining existing estimates from the old 2006/7 scorecard with estimates from the new 2012/13 scorecard.

The new 2012/13 scorecard is constructed using data from half of the households in the 2012/13 HIES. Data from that same half of households is also used to calibrate scores to poverty likelihoods for 15 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. Furthermore, the accuracy of estimates of changes in poverty rates over time is tested using the validation sample from the 2012/13 HIES (baseline) and data for all households in the 2006/7 HIES (follow-up).

Given their assumptions, all three scoring-based estimators (a household's poverty likelihood, a population's poverty rate at a point in time, and a population's annual rate of change in its poverty rate) are *unbiased*. That is, they match the true value on average in repeated samples when constructed from (and applied to) a single, unchanging population in which the relationship between scorecard indicators and poverty is unchanging. Like all predictive models, the scorecard is constructed from a single sample and so misses the mark to some unknown extent when applied (as in this paper) to a validation sample. Furthermore, it makes errors when applied (in practice) to a different population or when applied before or after 2012/13 (because the relationships between indicators and poverty change over time).[3]

Thus, while the indirect scoring approach is less costly than the direct survey approach, it makes errors when applied in practice. (Observed estimates from the direct survey approach are taken as correct, ignoring sampling variation.) There are errors because scoring necessarily assumes that all future relationships between indicators and

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

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 2012/13 validation sample, the average error (difference between the scorecard's estimate of a poverty rate versus the observed rate in the HIES) at a point in time for 100% of the national poverty line) is +0.1 percentage points. Across all 15 poverty lines, the average absolute error is about 0.1 percentage points, and the maximum average absolute error is 0.3 percentage points. These estimation errors are due to sampling variation, not bias; the average difference would be zero if the whole 2012/13 HIES were to be repeatedly re-fielded and divided into sub-samples before repeating the entire process of constructing and validating scorecards.

With $n = 16{,}384$, the 90-percent confidence intervals are ± 0.6 percentage points or less. For $n = 1{,}024$, the 90-percent intervals are ± 2.2 percentage points or less.

To check the accuracy of estimates of changes in poverty rates over time, the new 2012/13 scorecard is applied to data from the 2012/13 validation sample (as a baseline) and to data on all households in the 2006/7 HIES (as a follow-up).

Across 1,000 bootstraps with $n = 16{,}384$, the average absolute error across the nine absolute poverty lines is about 3.6 percentage points. For comparison, the average absolute observed change is about 6.7 percentage points. Thus, the average absolute error is more than half of the average absolute observed change.

The smallest error is for 100% of the national line. The observed change from 2012/13 to 2006/7 in the HIES at the household level in the validation samples is 12.6 – 5.3 = +7.3 percentage points (Table 1), while the scorecard estimates a change of +6.6 percentage points. The resulting error of –0.7 percentage points is about one-tenth of the observed change.

In terms of precision, the 90-percent confidence interval (with $n = 1{,}024$) of the estimated change includes the observed value for three of nine lines. The estimated direction of change matches the observed direction and is "statistically significant" (the confidence interval of the estimate does not include zero) for all nine lines.

Whether this accuracy is adequate depends on the specific purpose and context. Sometimes some number is better than no number, and sometimes just knowing the direction of change (or a rough idea of magnitude) is useful, but sometimes it is not.

Section 2 below documents data and poverty lines. Sections 3 and 4 describe scorecard construction and offer guidelines for implementation. Sections 5 and 6 tell how to estimate households' poverty likelihoods and populations' poverty rates at a point in time. Section 7 discusses estimating changes in poverty rates over time. Section 8 covers targeting. Section 9 places the new 2012/13scorecard in the context of related exercises for Sri Lanka. The last section is a summary.

The "Guidelines for the Interpretation of Scorecard Indicators" (found after the "References") tells how to ask questions—and how to interpret responses—so as to mimic practice in Sri Lanka's 2012/13 HIES as closely as possible. The "Guidelines" (and the "Back-page Worksheet") are integral parts of the Simple Poverty Scorecard tool.

2. Data and poverty lines

This section presents the data used to construct and validate the scorecard. It also documents the 15 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 20,540 households interviewed in the 2012/13 HIES, Sri Lanka's most-recent available national consumption survey.

The data from the households that is used to construct the scorecard is also used to associate (*calibrate*) scores to poverty likelihoods for all poverty lines.

Data from the other half of households in the 2012/13 HIES 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. This 2012/13 validation sample is also used—along with data from all 18,544 households in the 2006/7 HIES—to test scorecard accuracy for estimates of changes in poverty rates between 2012/13 and 2006/7. This test is *out-of-sample* and *out-of-time* because it uses data not used in construction/calibration that also comes from a different time period than that of the data used in construction/calibration.

Field work for the 2006/7 and 2012/13 HIES ran from 1 July to 30 June in the relevant years. Consumption is in units of LKR per person per day in average prices for Sri Lanka as a whole during the HIES field work.

2.2 Poverty rates at the household, person, or 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[4] average of poverty statuses (or estimated poverty likelihoods) across households with participants. This is $\frac{1 \cdot 1 + 1 \cdot 0}{1 + 1} = \frac{1}{2} = 0.5 = 50$ percent. In the "$1 \cdot 1$" term in the numerator, the first "1" is the first household's weight, and the second "1" represents the first household's poverty status (poor) or its estimated poverty likelihood. In the "$1 \cdot 0$" term in the numerator, the "1" is the second household's weight, and the "0" represents the second household's poverty status (non-poor) or its estimated poverty likelihood. The "$1 + 1$" in the

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

denominator is the sum of the weights of the two households. Household-level weights are used because the unit of analysis is the household.

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

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

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

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

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

Table 1 reports poverty lines and poverty rates for households and people in the 2006/7 and 2012/13 HIES for Sri Lanka as a whole, for the construction/calibration sample, and for the 2006/7 and 2012/13 validation samples. For all of Sri Lanka and for each of its 25 districts, Table 2 reports poverty lines and poverty rates for households and people in the 2006/7 and 2012/13 HIES.

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

Household-level poverty rates are reported because—as shown above—household-level poverty likelihoods can be straightforwardly converted into poverty rates for other units of analysis and because sampling is almost always done at the level of households. This is also why the scorecard is constructed, calibrated, and validated with household weights. Person-level poverty rates are also included in Tables 1 and 2 because these are the rates reported by the government of Sri Lanka. Furthermore, popular discussions and policy discourse usually proceed in terms of person-level rates, and the goal of pro-poor programs is to help people (not households) to improve their well-being.

2.3 Definition of *poverty*, and the national poverty line

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 the combination of a poverty line and a measure of consumption.

Poverty-rate estimates for the national line from the 2006/7 and 2012/13 HIES are comparable (World Bank and DCS, 2015, p. 5) because they both use the same definition of *poverty* (the same constant-price poverty lines and the same measure of consumption).

Following the cost-of-basic-needs method (Ravallion, 1998), Sri Lanka's national poverty line (usually called here "100% of the national line") is the sum of food and non-food components. The food component is the average cost of 2,030 Calories for the food basket and prices observed for households in the 2002 HIES in the second, third, and fourth deciles of total consumption (DCS, 2004). In 2002, the food component (also called the *food poverty line*) is about LKR32 per person per day.

The DCS then derives two non-food components:

- *Lower*: Median total (both food and non-food) consumption of households whose *total* (both food and non-food) consumption is within ±10 percent of the food component
- *Upper*: Median total (both food and non-food) consumption of households whose *food* consumption is within ±10 percent of the food component

The national line is then the food component, plus half of the lower non-food component, plus half of the upper non-food component. In 2002, this is about LKR47 per person per day.

The national line for 2002 is then adjusted for inflation from 2002 to 2006/7 and then to 2012/13 using district-level price indexes. The person-weighted average of the district-level national lines in 2012/13 is LKR118, giving a household-level poverty rate of 5.3 percent and a person-level poverty rate of 6.7 percent (Tables 1 and 2).[7]

[7] The person-level rates in Tables 1 and 2 match those in DCS (2015) for Sri Lanka as a whole and for each district.

2.4 Supported poverty lines

Because pro-poor organizations in Sri Lanka may want to use different or various poverty lines, this paper calibrates scores from its single new 2012/13 scorecard to poverty likelihoods for 15 lines:

- 100% of national
- 150% of national
- 200% of national
- $1.25/day 2005 PPP
- $2.00/day 2005 PPP
- $2.50/day 2005 PPP
- $5.00/day 2005 PPP
- $1.90/day 2011 PPP
- $3.10/day 2011 PPP
- Line marking the poorest half of people below 100% of the national line
- First-quintile (20^{th}-percentile) line
- Second-quintile (40^{th}-percentile) line
- Median (50^{th}-percentile) line
- Third-quintile (60^{th}-percentile) line
- Fourth-quintile (80^{th}-percentile) line

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

The international 2005 and 2011 PPP lines are derived from:

- PPP exchange rates for Sri Lanka for "individual consumption expenditure by households":
  - 2005: LKR40.039 per $1.00[8]
  - 2011: LKR42.219 per $1.00[9]
- Average Consumer Price Index (CPI) for all of Sri Lanka:[10]
  - July 2006 to June 2007: 149.700
  - Calendar-year 2011: 233.691
  - July 2012 to June 2013: 260.854
- Person-weighted average $1.25/day 2005 PPP line for Sri Lanka as a whole in average prices during the 2006/7 HIES field work (Schreiner, 2010a): LKR61.50
- Person-weighted average district price deflators for Sri Lanka as a whole:
  - 2006/7: 1.01956
  - 2012/13: 0.98852

[8] World Bank, 2008.

[9] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=LKA_3&PPP0=42.22&PL0=1.90&Y0=2012.5&NumOfCountries=1`, retrieved 11 September 2016.

[10] The CPI series (base = 100 for calendar-year 2000) splices `statistics.gov.lk/price/ccpi(2002)/Movementsof%20CCPI(N).pdf` with `statistics.gov.lk/price/ccpi(new)/Movements%20of%20CCPI(200607).pdf` (retrieved 11 September 2016).

The district price deflators used by the DCS in the 2006/7 and 2012/13 HIES are:

District	**2006/7**	**2012/13**
Colombo	1.11405	1.04558
Gampaha	1.05950	1.04426
Kalutara	1.08664	1.01833
Kandy	1.02458	1.00431
Matale	0.99011	1.01039
Nuwara Eliya	1.07145	1.01462
Galle	1.02825	0.97256
Matara	0.97988	0.96647
Hambantota	0.96376	0.92652
Jaffna	—	0.99161
Mannar	—	1.03896
Vavuniya	—	1.02785
Mullaitivu	—	0.99478
Kilinochchi	—	1.01991
Batticaloa	1.12478	1.01833
Ampara	1.04848	0.99822
Trincomalee	0.97661	1.00589
Kurunegala	1.00654	0.97176
Puttalam	0.94806	1.00483
Anuradhapura	0.98752	0.95166
Polonnaruwa	1.02334	0.99214
Badulla	0.94699	0.96436
Monaragala	0.99756	0.91409
Ratnapura	1.02385	0.97758
Kegalle	1.12478	1.01567

A given district's \$1.25/day 2005 PPP line in prices for Sri Lanka as a whole on average during the 2012/13 HIES field work is is

$$\frac{\text{All - Sri Lanka \$1.25/day 2005 PPP in 2006/7} \cdot \left(\frac{\text{CPI}_{2012/13}}{\text{CPI}_{2006/7}} \right) \cdot \text{District price deflator}}{\text{Average district price deflator}}.$$

For the example of the district of Colombo in 2012/13, this works out to:

$$\frac{\text{LKR}61.50 \cdot \left(\frac{260.854}{149.700} \right) \cdot 1.04558}{0.98852} = \text{LKR}113.35 \text{ (Table 2)}.$$

The all-Sri Lanka \$1.25/day 2005 PPP line is the person-weighted average of the district \$1.25/day lines. For 2012/13, this is LKR108 per person per day, giving a household-level poverty rate of 3.7 percent and a person-level poverty rate of 4.7 percent (Table 1).

The World Bank's PovcalNet[11] is the only other source of \$1.25/day 2005 PPP figures. Its \$1.25/day line for Sri Lanka in 2012/13 is LKR102, with a person-level poverty rate of 3.5 percent.[12] For 2006/7, PovcalNet's person-level poverty rate is 6.7 percent (versus 7.2 percent in Table 1 here).[13]

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[11] `iresearch.worldbank.org/PovcalNet/`, retrieved 11 September 2016.

[12] `iresearch.worldbank.org/PovcalNetPPP2005/Detail.aspx?Format=Detail&C0=LKA_3&PPP0=40.04&PL0=1.25&Y0=2012.5&NumOfCountries=1`, retrieved 11 September 2016.

[13] PovcalNet does not report its \$1.25/day 2005 PPP line for 2006/7. `iresearch.worldbank.org/PovcalNetPPP2005/Detail.aspx?Format=Detail&C0=LKA_3&PPP0=40.04&PL0=1.25&Y0=2006.5&NumOfCountries=1`, retrieved 11 September 2016. This page reports a head-count poverty rate of 6.7 percent, but PovcalNet also reports 7.0 percent on another page.

PovcalNet's $1.25/day estimates are close to those in this paper. The estimates here are to be preferred (Schreiner, 2014b) because PovcalNet does not report:

- The time/place of its price units
- Whether/how it adjusts for district-level differences in prices
- How it deflates 2005 PPP factors over time

The other 2005 PPP lines are multiples of the $1.25/day line.

Sri Lanka's $1.90/day 2011 PPP line is derived analogously to its $1.25/day 2005 PPP line. In 2012/13, a given district's $1.90/day 2011 PPP line in prices for Sri Lanka as a whole on average during the 2012/13 HIES field work is is

$$\frac{\$1.90 \cdot 2011 \text{ PPP} \cdot \left(\frac{\text{CPI}_{2012/13}}{\text{CPI}_{2011}} \right) \cdot \text{District price deflator}}{\text{Average district price deflator}}.$$

For the example of the district of Colombo in 2012/13, this works out to:

$$\frac{\$1.90 \cdot 42.219 \cdot \left(\frac{260.854}{233.691} \right) \cdot 1.04558}{0.98852} = \text{LKR}94.71 \text{ (Table 2)}.$$

The all-Sri Lanka $1.90/day 2005 PPP line is the person-weighted average of the district $1.90/day lines. For 2012/13, this is LKR91 per person per day, giving a household-level poverty rate of 1.5 percent and a person-level poverty rate of 1.9 percent (Table 1).

PovcalNet reports a $1.90/day 2011 PPP line for 2012/13 of LKR89 and a person-level poverty rate of 1.7 percent.[14] For 2006/7, PovcalNet's poverty line is

[14] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=LKA_3&PPP0=42.22&PL0=1.90&Y0=2012.5&NumOfCountries=1`, retrieved 11 September 2016.

LKR52 per person per day and its person-level poverty rate is 3.8 percent.[15] This paper has the same line and a lower poverty rate (3.4 percent, Table 1). The difference in poverty rates probably is due to PovcalNet's not adjusting for district-level price differences.

The $3.10/day 2011 PPP line is a multiple of the $1.90/day line.

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

- Putting all district-level price adjustments in the measure of consumption rather than in the poverty line
- Deriving a single line for all of Sri Lanka
- Taking all price adjustments out of consumption and putting them back in the district lines[16]

[15] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=LKA_3&PPP0=42.22&PL0=1.90&Y0=2006.5&NumOfCountries=1`, retrieved 11 September 2016.

[16] This corrects how the scorecard derived this line prior to 2016 (in particular, in Schreiner 2010a). Formerly, price adjustments were left in the poverty line and compared with nominal consumption to find a line in each poverty-line region that marked the poorest half of people below 100% of the national line in that particular poverty-line region. Both approaches produce a person-level poverty rate at the level of the country as a whole that is half that of 100% of the national line, but the set of people who are identified as *poor* differs. Unlike the former approach, the current approach correctly identifies as *poor* the poorest half of all people in the country whose price-adjusted consumption is below the single, all-country national line. This implies that the correction in Schreiner (2014b) of the derivation used for this line by IRIS Center for its Poverty-Assessment Tool is itself wrong, and IRIS Center's approach (the

Microenterprise programs in Sri Lanka who use the scorecard to report the number of their participants who are "very poor" to USAID should use the line that marks the poorest half of people below 100% of the national 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 in 2012/13:

- The line that marks the poorest half of people below 100% of the national line (LKR98, with a person-level poverty rate of 3.4 percent, Table 1)
- $1.90/day 2011 PPP (LKR91, with a person-level poverty rate of 1.9 percent)

The scorecard also supports percentile-based poverty lines for Sri Lanka. This facilitates a number of types of analyses. For example, the second-quintile (40^{th}-percentile) line might be used to help track Sri Lanka'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 have typically 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.

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one now used here) is correct. (IRIS Center still incorrectly derives this line based on households instead of people).

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

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

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

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

3. Scorecard construction

For Sri Lanka, about 75 candidate indicators are initially prepared in the areas of:

- Household composition (such as the number of members)
- Education (such the highest level completed by the female head/spouse)
- Housing (such as the principal construction material of the floors)
- Ownership of durable assets (such as cookers or electric fans)
- Employment (such as the number of household members who work)

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.[17]

One possible application of the scorecard is to measure *changes* in poverty through time. Thus, when selecting indicators—and holding other considerations constant—preference is given to more sensitive indicators. For example, the ownership of an electric fan 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 200% of the national poverty line and Logit regression on the construction sub-sample. Indicator selection uses both judgment and statistics. The first step is to use Logit to build one scorecard for each candidate indicator. The power of each one-indicator scorecard to rank households by poverty status is measured as "c" (SAS Institute Inc., 2004).

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

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

A series of two-indicator scorecards are then built, each adding a second indicator to the one-indicator scorecard selected from the first round. The best two-indicator scorecard is then selected, again using judgment to balance statistical accuracy with the non-statistical criteria. These steps are repeated until the scorecard has 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[18] 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 practical, common-sense, and acceptable to users.

The single scorecard here applies to all of Sri Lanka. Tests for Sri Lanka (Narayan and Yoshida, 2005)—as well as for Indonesia (World Bank, 2012), Bangladesh (Sharif, 2009), India and Mexico (Schreiner, 2006 and 2005a), and Jamaica (Grosh and Baker, 1995)—suggest that segmenting poverty-assessment tools by urban/rural does not improve targeting accuracy much. In general, segmentation may improve the accuracy of estimates of poverty rates (Diamond *et al.*, 2016; Tarozzi and Deaton, 2009), but it may also increase the risk of overfitting (Haslett, 2012).

[18] The statistical criterion for selecting an indicator is not the p values of its coefficients but rather the indicator's contribution to the ranking of households by poverty status.

4. Practical guidelines for scorecard use

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

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

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

- Only 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 scorecard in Sri Lanka would:

- Record the interview identifier, interview date, country code ("LKA"), scorecard code ("002") and the sampling weight assigned by the program's survey design to the household of the participant (if known)
- Record the names and identifiers of the participant (who may not be the same as the respondent), of the field agent, and of the relevant program service point
- Complete the "Back-page Worksheet" with each household member's first name or nickname
- Based on what has already been recorded on the "Back-page Worksheet", record household size (that is, the number of household members) in the scorecard header next to "Number of household members:"
- Based on what has already been recorded on the "Back-page Worksheet", mark the response to the first scorecard indicator ("How many members does the household have?") based on the number of household members
- Read the rest of the scorecard indicators to the respondent one-by-one.
- Draw a circle around the relevant response and its points after each answer by the respondent, writing each point value in the far right-hand column
- Add up the points to get a score
- Implement targeting policy (if any)
- 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).[19] 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.

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

[19] 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.

"Guidelines"—along with the "Back-page Worksheet"—are integral parts of the Simple Poverty Scorecard tool.[20]

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 simple as whether a household owns an automobile. At the same time, Grosh and Baker (1995) suggest that gross underreporting of assets does not affect targeting. For the first stage of targeting in a conditional cash-transfer program in Mexico, Martinelli and Parker (2007, pp. 24–25) find that "underreporting [of asset ownership] is widespread but not overwhelming, except for a few goods . . . [and] overreporting is common for a few goods". Still, as is done in Mexico in the second stage of its targeting process, most false self-reports can be corrected (or avoided in the first place) by field workers who make a home visit. This is the recommended procedure for organizations who use scoring for targeting in Sri Lanka.

[20] 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 Sri Lanka's DCS did in the HIES.

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

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

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

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

- Employees of the organization
- Third parties

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

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

Given a population of participants relevant for a particular business question, the participants to be scored can be:

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

If not determined by other factors, the number of participants to be scored can be derived from sample-size formulas (presented later) to achieve a desired confidence level and a desired confidence interval. To have a chance to meaningfully inform questions that matter to the organization, however, the focus should be less on having a sample size large enough to achieve some arbitrary level of statistical significance and more on having a representative sample from a well-defined population that is relevant for issues that matter to the program.

The frequency of application can be:

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

When a scorecard is applied more than once in order to measure changes in poverty rates, it can be applied:

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

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

5. Estimates of a household's poverty likelihood

The sum of scorecard points for a household is called the *score*. For Sri Lanka, 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 simple look-up tables. For the example of 100% of the national line, scores of 30–34 have a poverty likelihood of 7.3 percent, and scores of 35–39 have a poverty likelihood of 4.9 percent (Table 4).

The poverty likelihood associated with a score varies by poverty line. For example, scores of 30–34 are associated with a poverty likelihood of 7.3 percent for 100% of the national line but 1.4 percent for the $1.90/day 2011 PPP line.[21]

[21] From Table 4 on, many tables have 15 versions, one for each of the 15 poverty lines. To keep them straight, they are grouped by line. Single tables pertaining to all lines appear with the first group of tables for 100% of the national line.

5.1 Calibrating scores with poverty likelihoods

A given score is associated ("calibrated") with a poverty likelihood 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 national line (Table 5), there are 8,465 (normalized) households in the calibration sub-sample with a score of 30–34. Of these, 620 (normalized) are below the poverty line. The estimated poverty likelihood associated with a score of 30–34 is then 7.3 percent, because 620 ÷ 8,465 = 7.3 percent.

To illustrate with 100% of the national line and a score of 35–39, there are 10,784 (normalized) households in the calibration sub-sample, of whom 532 (normalized) are below the line (Table 5). The poverty likelihood for this score range is then 532 ÷ 10,784 = 4.9 percent.

The same method is used to calibrate scores with estimated poverty likelihoods for all 15 poverty lines.[22]

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

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

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

5.2 Accuracy of estimates of households' poverty likelihoods

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

Of course, the relationships between indicators and poverty do change to some unknown extent over time, and they also vary across sub-national groups in Sri Lanka's population. Thus, the scorecard will generally be biased when applied after June 2013 (the last month of field work for the 2012/13 HIES) or when applied with sub-groups that are not nationally representative.

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

How accurate are estimates of households' poverty likelihoods, given the assumption of unchanging relationships between indicators and poverty over time and the assumption of a sample that is representative of Sri Lanka as a whole? To find out, the scorecard is applied to 1,000 bootstrap samples of size $n = 16{,}384$ with the 2012/13 validation sample. Bootstrapping means to:

- Score each household in a validation sample
- Draw a bootstrap sample *with replacement* from that 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 poverty likelihoods and observed poverty likelihoods. It also shows confidence intervals for the differences.

For the 100% of the national line, the average poverty likelihood across bootstrap samples for scores of 30–34 in the 2012/13 validation sample is too high by 0.5 percentage points. For scores of 35–39, the estimate is too high by 1.1 percentage points.[24]

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

The 90-percent confidence interval for the differences for scores of 30–34 is ±1.2 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 –0.7 and +1.7 percentage points (because +0.5 – 1.2 = –0.7, and +0.5 + 1.2 = +1.7). In 950 of 1,000 bootstraps (95 percent), the difference is +0.5 ± 1.4 percentage points, and in 990 of 1,000 bootstraps (99 percent), the difference is +0.5 ± 1.8 percentage points.

A couple of the absolute differences between estimated poverty likelihoods and observed values in Table 6 for 100% of the national line are large. There are differences because the 2012/13 validation sample is a single sample that—thanks to sampling variation—differs in distribution from the construction/calibration sub-samples and from Sri Lanka'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 below the targeting cut-off. This mitigates the effects of bias and sampling variation on targeting (Friedman, 1997). Section 8 below looks at targeting accuracy in detail.

In addition, if estimates of groups' poverty rates are to be usefully accurate, then errors for individual households' poverty likelihoods must largely balance out. As discussed in the next section, this is generally the case for nationally representative

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

samples in 2012/13, although it holds less well for samples from sub-national populations or in other time periods.

Another possible source of differences between estimates and observed values is overfitting. The scorecard here is unbiased, but it may still be *overfit* when applied after the end of the HIES field work in June 2013. That is, the scorecard may fit the construction/calibration data from 2012/13 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 2012/13 HIES construction/calibration data but not in the overall population of Sri Lanka. 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 in the group.

To illustrate, suppose a program samples three households on 1 January 2017 and that they have scores of 20, 30, and 40, corresponding to poverty likelihoods of 19.3, 7.3, and 2.4 percent (100% of the national line, Table 4). The group's estimated poverty rate is the households' average poverty likelihood of $(19.3 + 7.3 + 2.4) \div 3 =$ 9.7 percent.

Be careful; the group's 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 7.3 percent. This differs from the 9.7 percent found as the average of the three individual poverty likelihoods associated with each of the three scores. Unlike poverty likelihoods, scores are ordinal symbols, like letters in the alphabet or colors in the spectrum. Because scores are not cardinal numbers, they cannot meaningfully be added up or averaged across households. Only three operations are valid for scores: conversion to poverty likelihoods, analysis of distributions (Schreiner, 2012a), or comparison—if desired—with a cut-off for targeting. There are a few contexts in which the analysis of scores is appropriate, but, in general, the safest rule to follow is: If you are not completely sure what to do, then use poverty likelihoods, not scores.

Scores from the new 2012/13 scorecard are calibrated with data from the 2012/13 HIES for all 15 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 2006/7 scorecard to the new 2012/13 scorecard, legacy users can salvage existing poverty-rate estimates for measuring change over time with supported poverty lines, with a baseline from the old 2006/7 scorecard and a follow-up from the new 2012/13 scorecard.

6.1 Accuracy of estimated poverty rates at a point in time

For the new 2012/13 scorecard applied to 1,000 bootstraps of $n = 16{,}384$ from the 2012/13 validation sample and 100% of the national poverty line, the average error (difference between the estimate and the observed value in the 2012/13 HIES) for a poverty rate at a point in time is +0.1 percentage points (Table 8, summarizing Table 7 across all poverty lines). Across all 15 poverty lines in the 2012/13 validation sample, the maximum average absolute error is 0.3 percentage points, and the average absolute error is about 0.1 percentage points. At least part of these differences is due to sampling variation in the division of the 2012/13 HIES into sub-samples.

When estimating poverty rates at a point in time for a given poverty line, the average error reported in Table 8 should be subtracted from the average poverty likelihood to give a corrected estimate. For the example of the new 2012/13 scorecard and 100% of the national line in the 2012/13 validation sample, the error is +0.1 percentage points, so the corrected estimate in the three-household example above is 9.7 – (+0.1) = 9.6 percent.

In terms of precision, the 90-percent confidence interval for a group's estimated poverty rate at a point in time with $n = 16{,}384$ is ±0.6 percentage points or better for all poverty lines (Table 8). This means that in 900 of 1,000 bootstraps of this size, the estimate (after correcting for the known average error) is within 0.6 percentage points of the observed value.

For example, suppose that the (uncorrected) average poverty likelihood in a sample of $n = 16{,}384$ with the new 2012/13 scorecard and 100% of the national line is 9.7 percent. Then estimates in 90 percent of such samples would be expected to fall in the range of 9.7 – (+0.1) – 0.3 = 9.3 percent to 9.7 – (+0.1) + 0.3 = 9.9 percent, with the most likely observed value being the corrected estimate in the middle of this range, that is, 9.7 – (+0.1) = 9.6 percent. This is because the original (uncorrected) estimate is 9.7 percent, the average error is +0.1 percentage points, and the 90-percent confidence interval for 100% of the national line in the 2012/13 validation sample with this sample size is ±0.3 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 (2008a) proposes an approach to deriving a formula for the standard errors of estimated poverty rates at a point in time from indirect measurement via poverty-assessment tools. It starts with Cochran's (1977) textbook formula of $\pm c = \pm z \cdot \sigma$ that relates confidence intervals with standard errors in the case of the direct measurement of ratios, where:

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

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

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

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

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

N is the population size, and

n is the sample size.

For example, Sri Lanka's 2012/13 HIES gives a direct-measurement estimate of the household-level poverty rate for 100% of the national line in the 2012/13 validation sample of $\hat{p} = 5.3$ percent (Table 1).[25] If this estimate came from a sample of $n =$ 16,384 households from a population N of 5,121,354 (the number of households in Sri Lanka in 2012/13 according to the HIES sampling weights), then the finite population correction ϕ is $\sqrt{\frac{5{,}121{,}354 - 16{,}384}{5{,}121{,}354 - 1}} = 0.9984$, which close to $\phi = 1$. If the desired confidence level is 90-percent ($z = 1.64$), then the confidence interval $\pm c$ is

$$\pm z \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}} = \pm 1.64 \cdot \sqrt{\frac{0.053 \cdot (1 - 0.053)}{16{,}384}} \cdot \sqrt{\frac{5{,}121{,}354 - 16{,}384}{5{,}121{,}354 - 1}} = \pm 0.289$$

percentage points. (If ϕ were taken as 1, then the interval is ± 0.287 percentage points.)

Unlike the 2012/13 HIES, however, the scorecard does not measure poverty directly, so this formula is not applicable. To derive a formula for the new 2012/13 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 2012/13 validation sample. For example, with $n = 16{,}384$ and 100% of the national line in the 2012/13 validation sample, the 90-percent confidence interval is ± 0.277 percentage points.[26]

[25] The analysis here ignores that poverty-rate estimates from the HIES are themselves based on samples and so have their own sampling distribution.
[26] Due to rounding, Table 7 displays 0.3, not 0.277.

Thus, the 90-percent confidence interval with $n = 16{,}384$ is ± 0.277 percentage points for the new 2012/13 scorecard and ± 0.289 percentage points for direct measurement. The ratio of the two intervals is $0.277 \div 0.289 = 0.96$.

Now consider the same exercise, but with $n = 8{,}192$. The confidence interval under direct measurement and 100% of the national line in the 2012/13 validation sample is $\pm 1.64 \cdot \sqrt{\frac{0.053 \cdot (1 - 0.053)}{8{,}192}} \cdot \sqrt{\frac{5{,}121{,}354 - 8{,}192}{5{,}121{,}354 - 1}} = \pm 0.405$ percentage points. The empirical confidence interval with the new 2012/13 scorecard (Table 7) is ± 0.403 percentage points. Thus for $n = 8{,}192$, the ratio of the two intervals is $0.403 \div 0.405 = 0.99$.

This ratio of 0.99 for $n = 8{,}192$ is close to the ratio of 0.96 for $n = 16{,}384$. Across all sample sizes of 256 or more in Table 7, these ratios are generally close to each other, and their average in the 2012/13 validation sample turns out to be 0.95, implying that confidence intervals for indirect estimates of poverty rates via Sri Lanka's new 2012/13 scorecard and 100% of the national line are—for a given sample size—about 5-percent narrower than confidence intervals for direct estimates via the 2012/13 HIES. This 0.95 appears in Table 8 as the "α factor for precision" because if $\alpha = 0.95$, then the formula for confidence intervals c for the new 2012/13 scorecard is $\pm c = \pm z \cdot \alpha \cdot \sigma$. That is, the formula for the standard error σ for point-in-time estimates of poverty rates via scoring is $\alpha \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}}$.

In general, α can be more or less than 1.00. When α is less than 1.00, it means that the scorecard is more precise than direct measurement. It turns out that α is less than 1.00 for 13 of the 15 poverty lines in Table 8, and it is never higher than 1.03.

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

To illustrate how to use this, suppose the population N is 5,121,354 (the number of households in Sri Lanka in 2012/13), suppose $c = 0.02154$, $z = 1.64$ (90-percent confidence), and the relevant poverty line is 100% of the national line so that the most sensible expected poverty rate $\widetilde{p}$ is Sri Lanka's overall poverty rate for that line in 2012/13 (5.3 percent at the household level, Table 1). The α factor is 0.95 (Table 8). Then the sample-size formula gives $n = 5{,}121{,}354 \cdot \left(\frac{1.64^2 \cdot 0.95^2 \cdot 0.053 \cdot (1 - 0.053)}{1.64^2 \cdot 0.95^2 \cdot 0.053 \cdot (1 - 0.053) + 0.02154^2 \cdot (5{,}121{,}354 - 1)} \right) = 263$, which is close to the sample size of 256 observed for these parameters in Table 7 for 100% of

the national line. Taking the finite population correction factor ϕ as one (1) gives the same result, as $n = \left(\frac{0.95 \cdot 1.64}{0.02154}\right)^2 \cdot 0.053 \cdot (1 - 0.053) = 263$.[27]

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

[27] 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 Sri Lanka should report using the line that marks the poorest half of people below 100% of the national line. Given the α factor of 1.00 for this line (Table 8), an expected before-measurement household-level poverty rate of 2.7 percent (the all-Sri Lanka rate for this line in 2012/13, Table 1), and a confidence level of 90 percent ($z = 1.64$), then $n = 300$ implies a confidence interval of $\pm 1.64 \cdot 1.00 \cdot \sqrt{\frac{0.027 \cdot (1 - 0.027)}{300}} = \pm 1.5$ percentage points.

In practice after the end of field work for the HIES in June 2013, a program would select a poverty line (say, 100% of the national line), note its participants' population size (for example, $N = 10{,}000$ participants), select a desired confidence level (say, 90 percent, or $z = 1.64$), select a desired confidence interval (say, ± 2.0 percentage points, or $c = \pm 0.02$), make an assumption about $\widetilde{p}$ (perhaps based on a previous measurement such as the household-level poverty rate for 100% of the national line for Sri Lanka of 5.3 percent in the 2012/13 HIES in Table 1), look up α (here, 0.95 in Table 8), assume that the scorecard will still work in the future and for sub-groups that are not nationally representative,[28] and then compute the required sample size. In this illustration, $n = 10{,}000 \cdot \left(\frac{1.64^2 \cdot 0.95^2 \cdot 0.053 \cdot (1 - 0.053)}{1.64^2 \cdot 0.95^2 \cdot 0.053 \cdot (1 - 0.053) + 0.02^2 \cdot (10{,}000 - 1)} \right) = 296.$

[28] This paper reports accuracy for the scorecard applied to its validation sample, but it does not test accuracy for later years or for sub-populations that are not nationally representative. Performance after June 2013 will resemble that in the 2012/13 HIES with deterioration over time to the extent that the relationships between indicators and poverty status change.

7. Estimates of changes in poverty rates over time

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

When measuring change, the same definition of *poverty* must be used at both baseline and follow-up, but it is not necessary to use same scorecard at both points. In the case of Sri Lanka, the baseline estimate can come from the old 2006/7 scorecard and the follow-up estimate can come from the new 2012/13 scorecard. This holds for the five poverty lines that are supported for both scorecards.

To give an idea of how accurate the new 2012/13 scorecard might be when used to measure changes in poverty rates over time from now on, this section looks at how accurate this scorecard would have been, had it been applied with a baseline of the 2012/13 validation sample and a follow-up of the 2006/7 validation sample.[29]

[29] In actual use, the baseline occurs in time before the follow-up. The 2012/13 baseline for the test here is after the 2006/7 follow-up because the old 2006/7 scorecard will not be used from now on, so it is not as useful to know how well the old 2006/7 scorecard would have estimated the change from 2006/7 to 2012/13. In any case, such tests are merely indicative—not definitive—as there is no way to know now how well the new 2012/13 scorecard will work in, say, 2018.

The tests here are stringent because:

- They compare scorecard estimates with observed values from the HIES
- The long time frame (six years) increases the risk of inaccuracy due to greater changes in the relationship between indicators and poverty
- The tests are *out-of-sample* in that they use—in both baseline and follow-up—only HIES data on households that are not used in construction nor calibration of the new 2012/13 scorecard
- The tests are *out-of-time* in that the follow-up is from a different time (2006/7) than the data used to construct the scorecard (2012/13)

Of course, these necessarily backward-looking tests can only give a rough idea of how accurate the scorecard might be when used from now on. After all, the factors that mattered in the past will differ in type and degree from the factors that will matter in the future. This is the unfortunate-but-inevitable nature of scorecards.

Because estimates from the scorecard are unbiased when applied to an unchanging population in which there are unchanging relationships between indicators and poverty, inaccuracies in estimates of change between the two HIES rounds rounds must be due to some combination of:

- Sampling variation
- Inconsistent data quality
- Inconstancy in the definitions of *poverty* over time
- Imperfections in how well a definition of *poverty* captures a household's consumption-based poverty
- Changes in the relationships between indicators and poverty
- Changes in the composition of Sri Lanka's population

Of course, the more resistent a scorecard's estimates are to deviations from its assumptions, the better. A scorecard whose real-world inaccuracies are too much to be useful for measuring change in a given context for a given purpose can take no consolation in how well it would work in a (non-existent) world in which all of its assumptions hold.

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

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

7.2 Estimating changes in poverty rates over time

Consider the illustration begun in the previous section. On 1 January 2017, an organization samples three households who score 20, 30, and 40 and so have poverty likelihoods of 19.3, 7.3, and 2.4 percent (100% of the national line, Table 4). Correcting for the known average error for this line in the 2012/13 validation sample of +0.1 percentage points (Table 8), the corrected baseline estimated poverty rate is the households' average poverty likelihood of [(19.3 + 7.3 + 2.4) ÷ 3] – (+0.1) = 9.6 percent.

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

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

By way of illustration, suppose that three years later on 1 January 2020, the program 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 11.5, 4.9, and 0.6 percent, 100% of the national line, Table 4). Adjusting for the known average error, the average poverty likelihood at follow-up is [(11.5 + 4.9 + 0.6) ÷ 3] – (+0.1) = 5.6 percent, an improvement of 9.6 – 5.6 = 4.0 percentage points. 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 4.0 ÷ 3 = 1.3 percentage points per year. About one in 77 participants in this hypothetical example cross the poverty line between 2017 and

2020.[30] Among those who start below the line, about two in five (4.0 ÷ 9.6 = 41.7 percent) on net end up above the line.[31]

Alternatively, suppose that the same three original households who were scored at baseline are scored again on 1 January 2020. Given scores of 25, 35, and 45, their follow-up poverty likelihoods are 11.5, 4.9, and 0.6 percent. The average across households of the difference in each given household's baseline poverty likelihood and its follow-up poverty likelihood is [(19.3 – 11.5) + (7.3 – 4.9) + (2.4 – 0.6)] ÷ 3 = 4.0 percentage points.[32] Assuming in this example that there are exactly three years between each household's interviews, the estimated annual decrease in poverty is (again) 4.0 ÷ 3 = 1.3 percentage points per year.

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

[30] This is a net figure; some start above the line and end below it, and vice versa.
[31] The scorecard does not reveal the reasons for this change.
[32] In this approach, the error for this line in Table 8 should *not* be subtracted off.

7.3 Accuracy for estimated change in two independent samples

The accuracy of scoring's estimates of changes in poverty rates over time is checked using data from the 2006/7 and 2012/13 HIES. While one cannot "drive by looking in the rear-view mirror", historical accuracy is the best-available—but inevitably imperfect—indicator of future accuracy.

Change between 2012/13 (baseline) and 2006/7 (follow-up) can be estimated for the nine non-relative poverty lines supported for the new 2012/13 scorecard.[33] The average absolute error across the nine estimates of change is about 3.6 percentage points (Table 9), while the average absolute change observed in the HIES is about 6.7 percentage points. Thus, the average absolute error is more than half of the average absolute observed change. Absolute error is less than 1.0 percentage points for each the three national lines, and averages 5.1 percentage points for the six 2005 and 2011 PPP lines. This is not close to perfect, but it may be good enough for some purposes.

For example, the scorecard's estimate of change for 100% of the national line from 2012/13 to 2006/7 is +6.6 percentage points. The observed change in the HIES validation samples is +7.3 percentage points, so the error is +6.6 – (+7.3) = –0.7 percentage points.

[33] Only five of these nine absolute lines are calibrated to the old 2006/7 scorecard. Nevertheless, all nine can be used in the test here. Change cannot be estimated for relative lines because their real value is not constant over time. The relative lines are the five percentile-based lines and the line that marks the poorest half of people below 100% of the national line.

For three of the nine lines (the three national lines), the observed value is in the estimate's 90-percent confidence interval (given $n = 1{,}024$). Of course, if scoring's assumptions held, then eight or nine of the nine 90-percent confidence intervals would contain the observed value.

The estimated direction of change (that is, whether poverty increased or decreased) matches the observed direction of change for all nine lines. The estimated direction is also always "statistically significant" in that it matches the observed direction of change and in that zero is not in the estimate's 90-percent confidence interval (given $n = 1{,}024$). This is encouraging for the hope that the scorecard can usefully estimate change over time. Still, this is not a very high hurdle. After all, most people on the street probably can also estimate changes of direction correctly. Still, it helps to know that the Sri Lanka scorecard got the direction of change right.

In sum, the scorecard always has the *sign* of change correct. The absolute error in the estimated *size* of change averages more than half of the absolute change observed in the HIES. One-third of the observed changes in the HIES are in the 90-percent confidence interval of the estimated changes. The scorecard is most-accurate for the most-important poverty line (100% of the national line). Averaged across poverty lines, the confidence intervals are about the same as those of direct measurement (average $\alpha = 0.99$). Compared with the other 15 countries with similar tests of accuracy for estimates of change over time (Schreiner, 2016a, 2016b, 2015a, 2015b, 2015c, 2015d, 2013a, 2013b, 2012c, 2010b, 2009a, 2009b, 2009c; Schreiner and Woller (2010); and

Chen and Schreiner, 2009), Sri Lanka's new 2012/13 scorecard has below-average absolute bias (average of 3.6 percentage points versus an average across countries of 3.0) and above-average precision (α of 0.99 versus 1.09). Of course, accuracy might be worse (or better) from now on in Sri Lanka.

Are these estimates of change for Sri Lanka "accurate enough"? The answer depends, of course, on the context and purpose of a given analysis task. Sometimes they will be adequate, sometimes not. While greater accuracy is always preferred and sought, a strength of the scorecard is that more is known about its accuracy than is known about the accuracy of alternatives, allowing for more-transparent and more-intentional judgments about how much trust to put in scoring's estimates.

7.4 Precision for estimates of change in two samples

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

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

Here, z, c, $\hat{p}$ and N are defined as above, n is the sample size at both baseline and follow-up,[34] and α is the average (across a range of bootstrapped sample sizes) of the ratio of the observed confidence interval from a scorecard and the theoretical confidence interval under direct measurement.

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

[34] 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 total interviews (not twice as many) as does estimating a poverty rate at a point in time.

To illustrate the use of this formula to determine sample size for estimating changes in poverty rates across two independent samples, suppose the desired confidence level is 90 percent ($z = 1.64$), the desired confidence interval is ± 2 percentage points ($\pm c = \pm 0.02$), the poverty line is 100% of the national line, $\alpha = 1.18$ (Table 9), $\hat{p} = 0.053$ (the household-level poverty rate in 2012/13 for 100% of the national line in Table 1), and the population N is large enough relative to the expected sample size n that the finite population correction ϕ can be taken as one (1). Then the baseline sample size is $n = 2 \cdot \left(\frac{1.18 \cdot 1.64}{0.02} \right)^2 \cdot 0.053 \cdot (1 - 0.053) \cdot 1 = 940$, and the follow-up sample size is also 940.

7.5 Precision for estimated change for one sample, scored twice

Analogous to previous derivations, the general formula relating the confidence interval $\pm c$ to the standard error σ when using a scorecard to estimate change for a single group of households, all of whom are scored at two points in time, is:[35]

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

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

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

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

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

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

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

Given this, a sample-size formula for a group of households to whom the new 2012/13 scorecard is applied twice (once after June 2013 and then again later) is

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

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

To illustrate the use of this formula, suppose the desired confidence level is 90 percent ($z = 1.64$), the desired confidence interval is ±2.0 percentage points ($\pm c = \pm 0.02$), the poverty line is 100% of the national line, the sample will first be scored in 2017 and then again in 2020 ($y = 3$), and the population N is so large relative to the expected sample size n that the finite population correction ϕ can be taken as one (1). The pre-baseline household-level poverty rate p_{2017} is taken as 5.3 percent (Table 1), and α is assumed to be 1.30. Then the baseline sample size is

$n = 2 \cdot \left(\frac{1.30 \cdot 1.64}{0.02}\right)^2 \cdot \left[-0.02 + 0.016 \cdot 3 + 0.47 \cdot 0.053 \cdot (1 - 0.053)\right] \cdot 1 = 1{,}173$. The same group of 1,173 households is scored at follow-up as well.

8. Targeting

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

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

Households who score at or below a given cut-off should be labeled as *targeted*,[36] not as *poor*. After all, unless all targeted households have poverty likelihoods of 100 percent, some of them are non-poor (their consumption is above a given poverty line). With scoring, the terms *poor* and *non-poor* have specific definitions. Using these same terms for targeting status is incorrect and misleading.

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

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

Table 10 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 11 shows the distribution of households by targeting outcome for Sri Lanka. For an example cut-off of 34 or less, outcomes for 100% of the national line in the 2012/13 validation sample are:

- Inclusion: 4.4 percent are below the line and correctly targeted
- Undercoverage: 0.9 percent are below the line and mistakenly not targeted
- Leakage: 22.2 percent are above the line and mistakenly targeted
- Exclusion: 72.5 percent are above the line and correctly not targeted

Increasing the cut-off to 39 or less improves inclusion and undercoverage but worsens leakage and exclusion:

- Inclusion: 4.8 percent are below the line and correctly targeted
- Undercoverage: 0.5 percent are below the line and mistakenly not targeted
- Leakage: 32.5 percent are above the line and mistakenly targeted
- Exclusion: 62.2 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 11 for a given poverty line
- Select the cut-off with the highest total net benefit

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

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

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

Table 11 shows the hit rate for all cut-offs for the new 2012/13 scorecard. For the example of 100% of the national line in the 2012/13 validation sample, total net benefit under the hit rate for a cut-off of 34 or less is 76.9 percent, with about three in four households in Sri Lanka correctly classified.

The hit rate weighs successful inclusion of households below the line the same as successful exclusion of households above the line. If a program values inclusion more (say, twice as much) than exclusion, then it can reflect this by setting the benefit for inclusion to 2 and the benefit for exclusion to 1. Then the chosen cut-off will maximize (2 x Households correctly included) + (1 x Households correctly excluded).[37]

[37] Table 11 also reports BPAC, the Balanced Poverty Accuracy Criteria adopted by USAID for certifying poverty-assessment tools. IRIS Center (2005) made BPAC to consider accuracy in terms of the error of estimated poverty rates and in terms of targeting inclusion. BPAC = (Inclusion – |Undercoverage – Leakage|) x [100 ÷ (Inclusion + Undercoverage)]. Schreiner (2014b) explains why BPAC does not add any useful information beyond that provided by the more-standard measures used here.

As an alternative to assigning benefits and costs to targeting outcomes and then choosing a cut-off to maximize total net benefits, a program could set a cut-off to achieve a desired poverty rate among targeted households. The third column of Table 12 ("% targeted HHs who are poor") shows, for the new 2012/13 scorecard applied to the 2012/13 validation sample, the expected poverty rate among households who score at or below a given cut-off. For the example of 100% of the national line, targeting households in the 2012/13 validation sample who score 34 or less would target 26.6 percent of all households (second column) and would be associated with a poverty rate among those targeted of 16.5 percent (third column).

Table 12 also reports two other measures of targeting accuracy. The first is a version of coverage ("% poor HHs who are targeted"). For the example of 100% of the national line with the 2012/13 validation sample and a cut-off of 34 or less, 82.3 percent of all poor households are covered.

The final targeting measure in Table 12 is the number of successfully targeted poor households for each non-poor household mistakenly targeted (right-most column). For 100% of the national line with the 2012/13 validation sample and a cut-off of 34 or less, covering 0.2 poor households means leaking to 1 non-poor household.

9. Context of poverty-assessment tools in Sri Lanka

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

- Using data from the most-recent nationally representative consumption survey
- Having fewer and lower-cost indicators
- 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 errors and precision for estimates of changes in poverty rates over time from out-of-sample and out-of-time tests, including formulas for standard errors
- Being feasible for pro-poor programs in Sri Lanka, due to its low cost and transparency

9.1 World Bank and DCS

World Bank and DCS (2015) use data from the 2012/13 HIES and the 2012 Census of Population and Housing to construct 16 poverty-assessment tools that feed into a "poverty map" (Elbers, Lanjouw, and Lanjouw, 2003) of estimated person-level poverty rates for 100% of the national line at the level of Sri Lanka's 331 sub-districts. The poverty map updates an earlier one (World Bank and DCS, 2005) that made 26 poverty-assessment tools with data from the 2002 HIES and the 2001 census. The earlier map's main use was to identify Sri Lanka's poorest 119 sub-districts during the 2005 reform of the Samurdhi food-stamp program (World Bank and DCS, 2015, p. 3; Vishwanath and Yoshida, 2007).

The updated poverty map constructs its 16 regional tools using least-squares stepwise regression on the logarithm of per-capita consumption for households in the 2012/13 HIES, selecting only matched indicators also collected by the 2012 census.

World Bank and DCS (2015) apply the 16 tools to data from the 2012 census to estimate poverty rates at the sub-district level that are more precise than direct estimates at this level from the 2012/13 HIES.[38] The estimates are presented as "poverty maps" that quickly show—in a way that is clear for non-specialists—how poverty rates vary across sub-districts.

[38] The error of the sub-district estimates are not known. World Bank and DCS (2015) do report district-level errors (see below).

Poverty mapping in World Bank and DCS and the scorecard in this paper are similar in that they both:

- Build poverty-measurement tools with data that is representative of a population (all-Sri Lanka for the scorecard, and 16 regions of Sri Lanka for poverty mapping) and then apply the tools to other data on groups that are not, in general, representative of the same populations
- Use straightforward, verifiable indicators that are quick and inexpensive to collect
- Estimate poverty rates for groups
- Adopt a consumption-based definition of *poverty* that is widely understood and that is used by the government of Sri Lanka
- Test accuracy *out-of-sample* (that is, with data not used in scorecard construction)
- Provide unbiased estimates when their assumptions hold
- Report estimation errors vis-à-vis observed values in the 2012/13 HIES
- Seek to be useful in practice and so aim to be understood by non-specialists

Strengths of poverty mapping include that it:

- Has formally established theoretical properties
- Can be applied straightforwardly to measures of well-being beyond head-count poverty rates (such as the poverty gap)
- Accounts for uncertainty in the estimation of scorecard points when estimating standard errors
- Requires data on fewer households for construction and calibration
- Includes community-level indicators, decreasing errors and increasing precision
- Reduces overfitting via automatic techniques
- Uses only indicators that are collected by a census
- Reports standard errors (and complex formula for standard errors)[39]

[39] World Bank and DCS (2015) report standard errors and confidence intervals for districts but not for sub-districts.

Strengths of the scorecard include that it:

- Is simpler in terms of both construction and application
- Associates poverty likelihoods with scores non-parametrically
- Supports many poverty lines
- Reduces overfitting by selecting indicators with statistical and non-statistical criteria and by having only a single, all-Sri Lanka scorecard[40]
- Surfaces estimates of poverty likelihoods for individual households
- Reports straightforward formulas for standard errors

The basic difference between the two approaches is that poverty mapping seeks to help governments to target pro-poor policies, while the scorecard seeks to help local, pro-poor programs to manage their social performance.[41] On a technical level, World Bank and DCS estimate consumption levels, whereas the scorecard estimates poverty likelihoods.

[40] According to Mahadevan, Yoshida, and Praslova (2013, pp. 6–7), "The latest recommendation from poverty-map experts in the World Bank Research Department is not to use multiple [poverty-measurement tools] to predict household consumption" because multiple tools can be "problematic since the number of observations for each area becomes small and, as a result, the regression coefficients become less stable." To reduce overfitting, Haslett (2012) likewise recommends that poverty maps be based on a single, all-country scorecard.

[41] Another apparent difference is that the developers of poverty mapping (Elbers, Lanjouw, and Lanjouw, 2003; Demombynes *et al.*, 2004) say that poverty mapping is too inaccurate to be used for targeting at the household level. In contrast, Schreiner (2008b) supports household-level targeting as a legitimate, potentially useful application of the scorecard. In Elbers *et al.* (2007), the developers of poverty mapping seem to take a step back from their original position.

The poverty map's 16 tools have an average of about 15 indicators from among the following 37 indicators that appear in at least one tool:

- Household demographics:
  - Number of household members (and its square and cube)
  - Share of household members who are male
  - Share of household members who are not working
  - Sex of the head
  - Age of the head (and its square and cube)
  - Marital status of the head
- Education of household members:
  - Education of the head
  - Highest educational attainment of any household member
- Employment of household members:
  - Whether the head works
  - Employment status of the head
- Characteristics of the residence:
  - Tenancy status
  - Presence of electrical connection
  - Type of floor
  - Type of wall
  - Type of roof
  - Type of cooking fuel
  - Source of drinking water
  - Type of toilet arrangement
  - Whether the toilet arrangement is shared with another household
  - Method of disposal of garbage
- Possession of durable assets:
  - Radio
  - Television
  - Land-line telephone
  - Mobile telephone
  - Personal computer
- District of residence
- Shares of households in the given sub-sub-district (*Grama Niladhari*) with:
  - Electricity
  - Permanent roof
  - Safe drinking water
  - Water-sealed toilet
  - Solid-waste-disposal service
  - Internet

- Combined indicators:
  - — Number of household members, multipled by the share of household members who do not work
  - — Number of household members, multipled by the share of household members who are male
  - — Age of the household head, multiplied by the number of household members
  - — Age of the household head, multiplied by the share of household members who do not work
  - — The district-level share of households with a water-sealed toilet

All these indicators are all low-cost and verifiable (which is one reason why they are collected in the census). The poverty-map tools, however, are not feasible (nor intended) for field use by local, pro-poor programs. There are 16 tools to manage, and computing estimates involves ratios, squares, cubes, and combinations, as well as access to district and sub-sub-district census data. Furthermore, World Bank and DCS do not report their points nor the wording of indicators and response options.

Because the 2012 census does not measure consumption, the poverty map's accuracy cannot be tested out-of-sample. Instead—and unlike many poverty maps that are less well-documented—World Bank and DCS report errors and standard errors for their district-level estimates vis-à-vis observed values in the HIES.

Averaged across districts, poverty mapping's standard errors are about the same as those in the HIES. The poverty-map estimates are based on a much larger number of households than are the 2012/13 HIES estimates, so—holding the number of households constant—the HIES estimates (and the scorecard estimates) have smaller standard errors. The poverty map's use of census data makes up for this.

In terms of district-level errors in estimated person-level poverty rates, the average absolute error for the poverty map applied out-of-sample to the census data is about 1.7 percentage points, with a maximum absolute error of 8.1 percentage points (Table 13). The map's errors exceed 4.0 percentage points in one district.

For comparison, when the new 2012/13 scorecard is applied out-of-sample to the households in a given district in the 2012/13 validation sample, the average absolute error is about 3.8 percentage points, and the maximum absolute error is 11.6 percentage points. Errors exceed 4.0 percentage points in seven districts.

Thus, the poverty map's district-level poverty-rate estimates are more accurate than those of the scorecard. This is not too surprising, as the poverty map has 16 regional tools (all with an indicator for districts within their specific region, plus a constant term, along with region-customized indicators and points), versus the single scorecard. In the absence of overfitting, poverty-assessment tools that are more tailored to a specific sub-population will do better than tools covering the over-arching population.[42]

For the example of Indonesia, Schreiner (2016c) shows that the reduction in error due to building province-specific scorecards from scratch (similar to the approach of the poverty map) can be attained more easily by adding indicators for the region to the all-country scorecard. As for the poverty map, the resulting errors are low enough (less

[42] This is the main point of Diamond *et al.* (2016).

than 1 or 2 percentage points) that further improvements in accuracy is unlikely to be demanded in most real-world decision-making contexts.

As always, there is still a trade-off. Greater accuracy for sub-populations requires customized tools (with higher costs for construction and implementation), or tools with indicators for specific sub-populations (with the potential for political backlash when those indicators directly and obviously—as opposed to indirectly, as is the case for the rest of a tool's indicators—seem to favor or disfavor specific sub-groups or regions).[43] For some purposes and contexts, a single, all-country scorecard may be "good enough for government work"; in others, more accuracy may be needed, with its attendant higher costs.

Of course, estimating district-level poverty rates is not the main purpose of the poverty map of World Bank and DCS (2015). As in World Bank and DCS (2005), the updated map seeks to identify small areas for targeting social assistance and pro-poor programs. Table 13 thus looks at ranking accuracy. It shows Sri Lanka's 25 districts in order of decreasing poverty rates as observed in the 2012/13 HIES, as well the districts' estimated ranks by the poverty map and by the scorecard. It also reports a tabular version of a "reciever operating curve" (ROC),[44] the standard way in the scoring

[43] For Sri Lanka, Narayan and Yoshida (2005) note that an urban/rural indicator sparked political opposition to their poverty-assessment tool (see below), as did an indicator for province. This author has observed similar responses to indicators for well-defined population sub-groups in several countries.

[44] For example, see Engelmann, Hayden, and Tasche (2002).

literature to compare two tools' targeting accuracy.[45] Suppose a policymaker in Sri Lanka wants to target the d poorest districts based on the poverty map or the scorecard. The "ROC" columns in Table 13 tell how many of the d targeted districts—based on the highest estimated poverty rates according to a given poverty-assessment tool—are among the d poorest districts observed in the 2012/13 HIES.

For example, targeting five districts with the poverty map would target perfectly, as the five poorest districts observed in the 2012/13 HIES are all among the five poorest districts as estimated by the poverty map. In contrast, the scorecard would target two of the five. If 10 districts are to be targeted, then the poverty map would pick up nine of the poorest 10, while the scorecard would target seven. In general and except for extreme cut-offs (such as $d = 1$ or $d = 25$), the poverty map successfully targets one to three more districts than the scorecard. Thus, the poverty map's more-accurate poverty-rate estimates translate into more-accurate targeting as well, at least in this case for Sri Lanka. As discussed above, this improvement in accuracy comes with greater cost and complexity.

[45] Even though most poverty maps focus on targeting, as far as I know this is the first analysis of the accuracy of their ranking of small areas by poverty vis-à-vis those areas' poverty ranks as observed in a national consumption survey.

9.2 Narayan and Yoshida

In all the poverty-assessment literature, Narayan and Yoshida (2005) is the one closest to the scorecard. As discussed below, however, there are still some differences.[46]

The purpose of Narayan and Yoshida's poverty-assessment tool is to improve the efficiency of targeting of social transfers in Sri Lanka by enhancing "objectivity and transparency, thereby minimizing the scope of political interference in the selection process" (p. 1). According to the preface, "This formula has been accepted as the method of targeting *Samurdhi* [food-stamp] transfers in the North and East."

The approach of the scorecard shares a number of features with that of Narayan and Yoshida. In particular, both:

- Present a low-cost, transparent tool "based on easily observable and verifiable indicators" (p. 1) designed for ease of interpretation and thus acceptance both by policymakers and by users in the field
- Report the actual tool, including indicators and points
- Transform points to integers
- Support the use of the tool for targeting
- Respect the "flat maximum" phenomenon and eschew uselessly fancy tools. Tests by Narayan and Yoshida find that simple models target about as well as complex ones and that an all-Sri Lanka tool targets about as well as segmented urban/rural tools

[46] The scorecard was independently developed from 2006–8 before the author discovered Narayan and Yoshida.

The two approaches also differ in some ways:

- The scorecard supports not only targeting but also estimating poverty rates at a point in time and estimating changes over time
- The new scorecard uses more recent data (2012/13 HIES versus the 1999/2000 Sri Lanka Integrated Survey)
- The scorecard can be applied by hand in the field because—unlike Narayan and Yoshida—it does not require multiplication, division, adding a constant, dealing with negative points, interpreting 0/1 indicators, or taking exponents
- The new 2012/13 scorecard reports standard-error formula for estimated poverty rates (and their changes), while Narayan and Yoshida report standard errors for measures of targeting accuracy
- In construction:
    - The scorecard uses household-level weights rather than person-level weights
    - The scorecard uses Logit to estimate poverty likelihoods rather than least-squares stepwise regression to estimate the logarithm of consumption
- Narayan and Yoshida include some community-level indicators (versus none here)
- The scorecard has 10 indicators (versus 27)

The 27 indicators in Narayan and Yoshida's tool are low-cost and verifiable:

- Demographics:
    - Number of household members
    - Structure of headship
    - Marital status of the head
    - Age of the head
- Education:
    - Highest edcuational level completed by the head
    - Whether all household members ages 5–16 attend school
- Employment: Whether the head is salaried or self-employed
- Characteristics of the residence:
    - Tenancy status
    - Type of walls
    - Type of cooking fuel
    - Type of toilet arrangement
    - Number of rooms per household member

- Asset ownership:
    - — Radio/CD/cassette player
    - — Television/video player
    - — Fan
    - — Cooker (kerosene/gas/electric)
    - — Sewing machine
    - — Refrigerator
    - — Bicycle/tricycle
    - — Motorcycle/scooter
    - — Car/van
    - — Tractor
- Agricultural assets:
    - — Presence of livestock
    - — Acres of cultivable land
- Location (urban/rural)
- Community characteristics:
    - — Presence of a bank
    - — Presence of Divisional Secretariat

Seven of the 10 indicators in the new 2012/13 scorecard appear in some form in Narayan and Yoshida.

Schreiner (2010a) compares the accuracy of the old 2006/7 scorecard with that of Narayan and Yoshida's tool.[47] The comparison tends to favor Narayan and Yoshida in three ways.

First, Narayan and Yoshida use person-level weights in construction and testing, while the old 2006/7 scorecard is constructed using household-level weights for construction. Comparability requires that the scorecard also be tested using person-level weights.

[47] This comparison is the most relevant because 2006/7 is closer to the time period of Narayan and Yoshida's data (1999/2000) than is 2012/13.

Second, the old 2006/7 scorecard is built with district-specific poverty lines, while Narayan and Yoshida use a single line for all of Sri Lanka. For the comparison, the old 2006/7 scorecard is re-constructed (with the same indicators) using all-Sri Lanka poverty lines that give poverty rates similar to those of the poverty lines in Narayan and Yoshida. Again, the scorecard is at a disadvantage because it is being used in a way for which it is not tailored.

Third, all tests of the old 2006/7 scorecard are out-of-sample. Narayan and Yoshida report some out-of-sample tests and some in-sample tests. Their out-of-sample tests, however, are only partly out-of-sample; they use the same data to choose indicators—although not to derive points—in both construction and testing. Being partly in-sample gives Narayan and Yoshida an advantage. Furthermore, their comparison of their own results in-sample and out-of-sample suggest that the in-sample tests overstate targeting accuracy by an average of 6 to 9 percent.

Given these caveats, how do the two poverty-assessment tools compare in terms of the bias of estimates of poverty rates at a point in time?[48] For a poverty line at the 30th percentile of the actual person-level distribution of consumption, Narayan and Yoshida report an (non-bootstrapped) error of –4.0 percentage points (p. 15). For a poverty line that gives a person-level poverty rate of 30 percent, the (bootstrapped) error for the old 2006/7 scorecard is smaller (+0.4 percentage points).

[48] Narayan and Yoshida do not focus on this, but it is still a valid use of their tool.

For targeting—the sole purpose of Narayan and Yoshida—a cut-off at the 30th percentile of predicted consumption and a poverty line that gives a person-level poverty rate of 30 percent leads to inclusion of 18.9 percent and exclusion of 58.9 percent. Applied to a similar poverty line and a cut-off of 24 or less, the old 2006/7 scorecard has inclusion of 18.5 percent and exclusion of 61.9. Thus, the two poverty-assessment tools—one with 27 indicators, the other with 10—have about the same targeting accuracy. If a comparison with Narayan and Yoshida's out-of-sample results were possible, then the old 2006/7 scorecard would be ahead.

10. Conclusion

Pro-poor programs in Sri Lanka can use the scorecard to segment clients for differentiated treatment as well as to estimate:

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

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

The new 2012/13 scorecard is constructed with data from half of the households in Sri Lanka's 2012/13 HIES. Those households' scores are then calibrated to poverty likelihoods for 15 poverty lines. The accuracy (errors and precision) of the new 2012/13 scorecard is tested out-of-sample on data that is not used in scorecard construction for targeting, for household's poverty likelihoods at a point in time, and for estimates of a population's poverty rates a point in time.

The accuracy of estimates for changes in poverty rates over time is tested out-of-sample and out-of-time. Of course, the scorecard's estimates of change are not necessarily the same as estimates of program impact. Legacy users of Sri Lanka's old 2006/7 scorecard can switch to the new 2012/13 scorecard without having to start over from scratch when measuring change in poverty rates over time.

When the scorecard is applied to the 15 poverty lines in the 2012/13 validation sample, the maximum absolute error for point-in-time estimates of poverty rates is 0.3

percentage points, and the average absolute error is about 0.1 percentage points. Corrected estimates may be had by subtracting the known error for a given poverty line from original, uncorrected estimates.

For $n = 16{,}384$ and 90-percent confidence, the precision of point-in-time estimates of poverty rates is ± 0.6 percentage points or better. With $n = 1{,}024$, the 90-percent confidence intervals are ± 2.2 percentage points or better.

Accuracy is also reported for estimates of changes in poverty rates over time. Across 1,000 bootstraps with $n = 16{,}384$, the average absolute error across the nine absolute (non-relative) poverty lines is about 3.6 percentage points. The average absolute observed change is about 6.7 percentage points, so the average absolute error is more than half of the average absolute observed change.

On average, the 90-percent confidence intervals for scoring's estimates of change are about the same as those under direct measurement. The 90-percent confidence interval (with $n = 1{,}024$) of the estimated change includes the observed value for three of nine poverty lines. The estimated direction of change is both correct and "statistically significant" (the confidence interval excludes zero) for all nine lines. Whether such estimates of change are accurate enough depends on the accuracy required for a given purpose and context. A strength of the scorecard is that its accuracy and precision is documented to the extent possible.

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

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

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

In summary, the scorecard is a practical, objective way for pro-poor programs in Sri Lanka 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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Guidelines for the Interpretation of Scorecard Indicators

The quoted excerpts below come from the *Enumerator's Manual* for the 2006/7 HIES and the Enumerator Manual for the 2012/13 HIES. As translated from Sinhala to English by Nimmi Ariyaratne and S.A.K.C. Sudasingha. Thanks go as well to David Bartocha.

Interview Procedure

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

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

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

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

General Interviewing Advice

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

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

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

When an issue arises that is not addressed here, its resolution should be left to the unaided judgment of the enumerator, as that apparently was the practice of Sri Lanka's Department of Census and Statistics in the 2012/13 HIES. That is, an organization using the scorecard should not promulgate any definitions or rules (other than those in these "Guidelines") to be used by all its field agents. Anything not explicitly addressed in these "Guidelines" is to be left to the unaided judgment of each individual enumerator.

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

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

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

In general, the application of the scorecard should mimic as closely as possible the application of the 2012/13 HIES by Sri Lanka's Department of Census and Statistics. For example, poverty-scoring interviews should take place in respondents' homesteads because the 2012/13 HIES took place in respondents' homesteads.

Translation

These "Guidelines"—and this document in general—have been written in English and then translated to Sinhala and Tamil. Do not change the wording of the questions or of the response options in any of these languages. If you believe a translation can be improved, please contact the author. In general, the wording of the questions and of the response options follows the original DCS questionnaires as closely as possible.

Guidelines for specific scorecard indicators

1. How many members does the household have?
    A. Six or more
    B. Five
    C. Four
    D. Three
    E. One, or two

According to pp. 8–9 of the *Manual*, *household members* include those "usual residents with a household unit as well as those temporarily residing outside of the residence. This includes domestic helpers and lodgers if they are normally resident with the household. . . .

"A *household* is a unit of one person or of a group of people who live together and collectively prepare/share at least some meals for each other. They do not necessarily have to be related. Domestic helpers and boarders who live and share at least some meals with other household members are to be considered part of the household."

A *usual resident* is someone who has lived in the residence with the household for six months or more or who currently lives in the residence with the household, has no other usual place of residence, and whose expected total duration with the household is six months or more.

Persons who are usual residents with the household, but who have left temporarily for a period of less than a month (on vacation, pilgrimmage, business, medical treatment, and so on) are to be counted as members of the household.

Family members who have more than one residence and who stay somewhere other than the residence of the household during the week (for example, for work or education purposes) do not count as household members.

People who live in another country are not counted as household members.

Lodgers (who may stay in the same house/compound but live separately from the household and who do not share meals and household activities) and visitors (who normally reside elsewhere) do not count as household members.

A person's *usual residence* is not necessarily the same as his/her *permanent residence*. For example, a lodger's usual residence may be a boarding house in the place where he/she works during the week, but his/her permanent residence may be in a rural village with his/her family of origin.

2. What is the highest level of education that the female head/spouse has completed?
    A. None
    B. Grade 1, 2, 3, or 4
    C. Grade 5
    D. Grade 6, 7, 8, 9, or 10
    E. GCE (O/L) or equivalent, or grade 12
    F. No female head/spouse
    G. GCE (A/L) or equivalent, GAQ/GSQ, degree, or higher

According to p. 8 of the *Manual*, "The *head of the household* is normally the oldest member or the member who earns the most income. However, [you as the enumerator should] consider whomever (male or female) the members of the household consider to be the head of the household."

Remember that you already know the name of the female head/spouse (and whether she exists) from the notes you took for your own use while compiling the "Back-page Worksheet". Thus, if there is a female head/spouse, do not mechanically ask, "What is the highest level of education that the female head/spouse has completed?". Instead, use the actual name of the female head/spouse, for example: "What is the highest level of education that Janani has completed?" If there is no female head/spouse, then do not read the question at all; just mark "F. No female head/spouse" and proceed to the next indicator.

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

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

3. What is the principal construction material of the floors?
    A. Mud, wood, sand, or other
    B. Cement, or concrete
    C. Teraso/tile

The *Manual* has no additional information about this indicator.

4. What is the principal type of cooking fuel used?
    A. Firewood, kerosene, or sawdust/paddy husk
    B. Gas, electricity, does not cook, or other

The *Manual* has no additional information about this indicator.

5. Does the household possess a cooker (gas, kerosene, electric)?
    A. No
    B. Yes

Only cookers (gas, kerosene, electric) possessed by the household count, be they new or used.

According to p. 50 of the 2012/13 *Manual*, you as the enumerator should count any cookers (gas, kerosene, electric) that the household possesses that are in good working order, regardless of whether the household actually uses the cookers (gas, kerosene, electric).

6. Does the household possess a refrigerator?
    A. No
    B. Yes

Only refrigerators possessed by the household count, be they new or used.

According to p. 50 of the 2012/13 *Manual*, you as the enumerator should count any refrigerators that the household possesses that are in good working order, regardless of whether the household actually uses the refrigerators.

7. Does the household possess a television and a VCD/DVD?
    A. No
    B. Only television
    C. VCD/DVD (regardless of televison)

Only televisions and VCD/DVDs possessed by the household count, be they new or used.

According to p. 50 of the 2012/13 *Manual*, you as the enumerator should count any televisions and VCD/DVDs that the household possesses that are in good working order, regardless of whether the household actually uses the televisions and VCD/DVDs.

Ask one question for each of the two items:

- Does the household possess a television?
- Does the household possess a VCD/DVD?

Mark the responses as follows:

Does the household possess a . . . ?		**Response to be marked**
Television	**VCD/DVD**	
No	No	A. No
Yes	No	B. Television only
No	Yes	C. VCD/DVD (regardless of televison)
Yes	Yes	C. VCD/DVD (regardless of televison)

8. Does the household possess an electric fan?
    A. No
    B. Yes

Only electric fans possessed by the household count, be they new or used.

According to p. 50 of the 2012/13 *Manual*, you as the enumerator should count any electric fans that the household possesses that are in good working order, regardless of whether the household actually uses the electric fans.

9. Does the household possess a domestic telephone and a mobile telephone?
    A. No
    B. Domestic or mobile, but not both
    C. Both

Only domestic telephones and mobile telephones possessed by the household count, be they new or used.

According to p. 50 of the 2012/13 *Manual*, you as the enumerator should count any domestic telephones and mobile telephones that the household possesses that are in good working order, regardless of whether the household actually uses the domestic telephones and mobile telephones.

Ask one question for each of the two items:

- Does the household possess a domestic telephone?
- Does the household possess a mobile telephone?

Mark the responses as follows:

Does the household possess a . . . ?		
Domestic telephone	**Mobile telephone**	**Response to be marked**
No	No	A. No
Yes	No	B. Domestic or mobile, but not both
No	Yes	B. Domestic or mobile, but not both
Yes	Yes	C. Both

10. Does the household possess a motor cycle/scooter, or a motor car/van, bus/lorry/tipper, 3 wheeler, 2-wheel tractor, or 4-wheel tractor?
    A. None
    B. Only motor cycle/scooter
    C. Motor car/van and so on (regardless of motorcycle/scooter)

Only motor cycles/scooters, or motor cars/vans, buses/lorries/tippers, 3 wheelers, 2-wheel tractors, or 4-wheel tractors possessed by the household count, be they new or used.

According to p. 50 of the 2012/13 *Manual*, you as the enumerator should count any motor cycles/scooters, or motor cars/vans, buses/lorries/tippers, 3 wheelers, 2-wheel tractors, or 4-wheel tractors that the household possesses that are in good working order, regardless of whether the household actually uses the motor cycles/scooters, or motor cars/vans, buses/lorries/tippers, 3 wheelers, 2-wheel tractors, or 4-wheel tractors.

Ask one question for each of the two items:

- Does the household have a motor cycle/scooter?
- Does the household have a motor car/van, bus/lorry/tipper, 3 wheeler, 2-wheel tractor, or 4-wheel tractor?

Mark the responses as follows:

Does the household possess a . . . ?		
Motor cycle/ scooter	**Motor car/van, bus/lorry/tipper, 3 wheeler, 2-wheel tractor, or 4-wheel tractor**	**Response to be marked**
No	No	A. No
Yes	No	B. Only motor cycle/scooter
No	Yes	C. Motor car/van and so on (regardless of motorcycle/scooter)
Yes	Yes	C. Motor car/van and so on (regardless of motorcycle/scooter)

Table 1: National poverty lines, poverty rates, and sample sizes for all of Sri Lanka and for the construction and validation samples, by households and people in 2006/7 and 2012/13

Year	Line or Rate	HHs or People	n	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All of Sri Lanka						
	Line	People		76	114	151
2006/7	Rate	HHs	18,544	12.6	35.2	53.8
	Rate	People		15.2	40.0	58.5
	Line	People		118	178	237
2012/13	Rate	HHs	20,540	5.3	20.8	39.6
	Rate	People		6.7	24.6	44.6
Construction and calibration:						
(Selecting indicators and points, and associating scores with poverty likelihoods)						
	Rate	HHs	10,231	5.3	20.8	39.5
Validation:						
(Measuring accuracy)						
2006/7	Rate	HHs	18,544	12.6	35.2	53.8
2012/13	Rate	HHs	10,309	5.3	20.8	39.7

Source: 2006/7 and 2012/13 HIES

Poverty lines are LKR/day/person in average prices in Sri Lanka as a whole during the HIES field work.

Table 1: International 2005 and 2011 poverty lines, poverty rates, and sample sizes for all of Sri Lanka and for the construction and validation samples, by households and people in 2006/7 and 2012/13

	Line or	HHs or		Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
Year	**Rate**	**People**	n	**$1.25**	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All of Sri Lanka									
	Line	People		61	98	123	246	52	85
2006/7	Rate	HHs	18,544	5.6	25.8	40.5	78.3	2.6	17.9
	Rate	People		7.2	29.9	45.3	81.4	3.4	21.2
	Line	People		108	173	217	434	91	148
2012/13	Rate	HHs	20,540	3.7	19.6	33.7	75.5	1.5	12.2
	Rate	People		4.7	23.3	38.4	79.2	1.9	14.9
Construction and calibration:									
(Selecting indicators and points, and associating scores with poverty likelihoods)									
	Rate	HHs	10,231	3.7	19.5	33.6	75.5	1.5	12.1
Validation:									
(Measuring accuracy)									
2006/7	Rate	HHs	18,544	5.6	25.8	40.5	78.3	2.6	17.9
2012/13	Rate	HHs	10,309	3.8	19.7	33.8	75.5	1.5	12.3

Source: 2006/7 and 2012/13 HIES

Poverty lines are LKR/day/person in average prices in Sri Lanka as a whole during the HIES field work.

Table 1: Relative and percentile-based poverty lines, poverty rates, and sample sizes for all of Sri Lanka and for the construction and validation samples, by households and people in 2006/7 and 2012/13

Year	Line or Rate	HHs or People	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All of Sri Lanka									
	Line	People		62	83	117	135	161	247
2006/7	Rate	HHs	18,544	6.1	17.0	35.8	45.4	55.6	76.8
	Rate	People		7.6	20.0	40.0	50.0	60.0	80.0
	Line	People		98	162	222	258	302	455
2012/13	Rate	HHs	20,540	2.7	16.8	35.4	45.1	55.1	76.5
	Rate	People		3.4	20.0	40.0	50.0	60.0	80.0
Construction and calibration:									
(Selecting indicators and points, and associating scores with poverty likelihoods)									
	Rate	HHs	10,231	2.7	16.8	35.3	45.1	55.2	76.5
Validation:									
(Measuring accuracy)									
2006/7	Rate	HHs	18,544	6.1	17.0	35.8	45.4	55.6	76.8
2012/13	Rate	HHs	10,309	2.7	16.9	35.4	45.1	55.1	76.4

Source: 2006/7 and 2012/13 HIES

Poverty lines are LKR/day/person in average prices in Sri Lanka as a whole during the HIES field work.

Table 2 (All of Sri Lanka): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		76	114	151
		Rate (HHs)	18,544	12.6	35.2	53.8
		Rate (people)		15.2	40.0	58.5
All	2012/13	Line		118	186	248
		Rate (HHs)	20,540	5.3	6.4	16.3
		Rate (people)		6.7	8.3	20.2

Source and definitions: See Table 1 and text.

Table 2 (All of Sri Lanka): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)						
				Intl. 2005 PPP lines					Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**		**$1.90**	**$3.10**
All	2006/7	Line		61	98	123	246		52	85
		Rate (HHs)	18,544	5.6	25.8	40.5	78.3		2.6	17.9
		Rate (people)		7.2	29.9	45.3	81.4		3.4	21.2
All	2012/13	Line		108	173	217	434	#	91	148
		Rate (HHs)	20,540	0.9	5.6	12.7	55.6		1.5	12.2
		Rate (people)		1.2	7.2	16.0	61.9		1.9	14.9

Source and definitions: See Table 1 and text.

Table 2 (All of Sri Lanka): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		62	83	117	135	161	247
		Rate (HHs)	18,544	6.1	17.0	35.8	45.4	55.6	76.8
		Rate (people)		7.6	20.0	40.0	50.0	60.0	80.0
All	2012/13	Line		98	162	222	258	302	455
		Rate (HHs)	20,540	2.7	16.8	35.4	45.1	55.1	76.5
		Rate (people)		3.4	20.0	40.0	50.0	60.0	80.0

Source and definitions: See Table 1 and text.

Table 2 (Colombo): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		82	123	164
		Rate (HHs)	2,194	3.9	16.1	30.0
		Rate (people)		5.4	20.3	36.1
All	2012/13	Line		124	186	247
		Rate (HHs)	2,166	1.1	9.3	21.8
		Rate (people)		1.4	12.0	26.1

Source and definitions: See Table 1 and text.

Table 2 (Colombo): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		66	106	133	266	56	92
		Rate (HHs)	2,194	1.7	9.7	19.9	59.7	0.8	5.7
		Rate (people)		2.2	12.4	24.9	65.2	1.1	7.7
All	2012/13	Line		113	181	227	453	95	155
		Rate (HHs)	2,166	1.1	8.8	17.8	60.1	0.4	3.0
		Rate (people)		1.6	11.4	21.5	65.7	0.5	3.8

Source and definitions: See Table 1 and text.

Table 2 (Colombo): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		67	90	126	146	173	267
		Rate (HHs)	2,194	0.8	2.8	9.3	15.1	23.8	49.0
		Rate (people)		1.0	3.9	11.9	19.0	29.0	55.1
All	2012/13	Line		103	170	232	269	316	476
		Rate (HHs)	2,166	0.3	2.9	10.0	15.5	24.7	51.7
		Rate (people)		0.4	3.8	13.0	19.4	30.5	58.2

Source and definitions: See Table 1 and text.

Table 2 (Gampaha): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		78	117	156
		Rate (HHs)	1,707	7.2	23.1	42.9
		Rate (people)		8.7	26.2	47.0
All	2012/13	Line		124	181	241
		Rate (HHs)	1,948	1.5	13.9	31.2
		Rate (people)		2.1	16.7	35.0

Source and definitions: See Table 1 and text.

Table 2 (Gampaha): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		63	101	126	253	53	87
		Rate (HHs)	1,707	2.6	15.6	27.8	69.9	1.0	10.0
		Rate (people)		3.1	18.0	31.2	73.7	1.2	11.8
All	2012/13	Line		113	181	226	453	95	154
		Rate (HHs)	1,948	1.6	13.2	24.9	67.3	0.7	5.0
		Rate (people)		2.1	16.0	28.0	70.3	0.8	6.6

Source and definitions: See Table 1 and text.

Table 2 (Gampaha): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		64	86	120	139	165	254
		Rate (HHs)	1,707	2.0	7.3	20.3	29.2	41.3	66.6
		Rate (people)		2.5	8.9	23.0	32.8	45.3	70.7
All	2012/13	Line		103	170	232	269	315	476
		Rate (HHs)	1,948	0.6	4.9	14.5	21.4	29.9	57.1
		Rate (people)		0.6	6.6	17.8	25.6	35.1	62.8

Source and definitions: See Table 1 and text.

Table 2 (Kalutara): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		80	120	160
		Rate (HHs)	1,245	10.3	33.1	49.7
		Rate (people)		13.0	39.4	55.5
All	2012/13	Line		121	178	238
		Rate (HHs)	1,244	2.5	21.9	42.8
		Rate (people)		3.1	25.7	47.3

Source and definitions: See Table 1 and text.

Table 2 (Kalutara): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		65	104	130	259	55	89
		Rate (HHs)	1,245	5.2	23.0	37.8	75.0	2.5	14.6
		Rate (people)		6.9	27.9	44.2	80.1	3.3	18.4
All	2012/13	Line		110	177	221	442	92	150
		Rate (HHs)	1,244	3.4	21.1	37.5	75.7	0.5	8.0
		Rate (people)		4.5	24.9	41.8	79.6	0.7	10.0

Source and definitions: See Table 1 and text.

Table 2 (Kalutara): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		65	88	123	143	169	260
		Rate (HHs)	1,245	2.9	8.6	24.8	34.8	45.1	69.7
		Rate (people)		4.0	11.0	30.2	41.1	50.8	75.6
All	2012/13	Line		100	165	226	262	308	464
		Rate (HHs)	1,244	0.6	9.0	23.1	32.8	42.5	67.3
		Rate (people)		0.7	11.1	26.1	36.9	46.2	70.3

Source and definitions: See Table 1 and text.

Table 2 (Kandy): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		75	113	150
		Rate (HHs)	1,070	13.9	38.6	57.2
		Rate (people)		17.0	44.6	63.2
All	2012/13	Line		119	180	239
		Rate (HHs)	983	4.6	23.7	43.3
		Rate (people)		6.2	28.8	49.4

Source and definitions: See Table 1 and text.

Table 2 (Kandy): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		61	98	122	244	52	84
		Rate (HHs)	1,070	6.8	27.9	43.9	77.5	3.5	19.2
		Rate (people)		8.9	33.3	49.9	80.9	4.7	23.0
All	2012/13	Line		109	174	218	435	91	148
		Rate (HHs)	983	3.5	22.1	36.3	78.1	1.1	12.3
		Rate (people)		4.7	26.9	42.8	81.3	1.3	15.0

Source and definitions: See Table 1 and text.

Table 2 (Kandy): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		62	83	116	135	160	246
		Rate (HHs)	1,070	6.8	17.7	39.5	48.5	59.0	77.0
		Rate (people)		8.9	21.3	45.7	54.8	64.7	80.5
All	2012/13	Line		99	163	223	259	303	457
		Rate (HHs)	983	1.6	15.3	37.6	47.2	56.5	77.1
		Rate (people)		2.0	18.3	41.9	52.1	60.9	81.1

Source and definitions: See Table 1 and text.

Table 2 (Matale): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		73	109	145
		Rate (HHs)	591	15.7	39.9	56.7
		Rate (people)		18.9	45.7	62.0
All	2012/13	Line		120	180	240
		Rate (HHs)	604	6.0	27.4	56.4
		Rate (people)		7.8	31.9	63.2

Source and definitions: See Table 1 and text.

Table 2 (Matale): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		59	94	118	236	50	81
		Rate (HHs)	591	7.3	30.8	44.0	82.3	2.9	21.0
		Rate (people)		10.0	36.3	49.6	84.3	3.9	25.0
All	2012/13	Line		110	175	219	438	92	149
		Rate (HHs)	604	2.9	25.7	46.8	88.6	0.7	12.6
		Rate (people)		3.4	29.9	53.2	91.1	0.9	16.3

Source and definitions: See Table 1 and text.

Table 2 (Matale): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		60	80	112	130	154	237
		Rate (HHs)	591	8.4	23.6	43.4	53.5	63.0	85.2
		Rate (people)		11.2	28.1	49.1	59.1	68.1	87.3
All	2012/13	Line		99	164	225	260	305	460
		Rate (HHs)	604	1.4	17.2	36.1	46.3	58.9	79.0
		Rate (people)		1.8	21.1	42.7	52.4	64.4	81.9

Source and definitions: See Table 1 and text.

Table 2 (Nuwara Eliya): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		79	118	157
		Rate (HHs)	659	27.5	60.8	79.8
		Rate (people)		33.8	68.3	85.5
All	2012/13	Line		120	173	230
		Rate (HHs)	791	5.6	24.2	43.2
		Rate (people)		6.6	29.5	49.7

Source and definitions: See Table 1 and text.

Table 2 (Nuwara Eliya): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		64	102	128	256	54	88
		Rate (HHs)	659	12.2	49.4	67.9	94.2	5.4	36.7
		Rate (people)		16.0	57.6	75.3	96.0	6.6	44.2
All	2012/13	Line		110	176	220	440	92	150
		Rate (HHs)	791	5.1	23.4	36.8	79.4	1.3	15.5
		Rate (people)		6.8	28.4	43.2	83.7	1.6	19.1

Source and definitions: See Table 1 and text.

Table 2 (Nuwara Eliya): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people	Percentile-based lines				
				below 100% Natl. line	20th	40th	50th	60th	80th
All	2006/7	Line		65	87	121	141	167	257
		Rate (HHs)	659	8.5	26.5	53.9	66.8	77.6	91.2
		Rate (people)		11.1	32.5	62.1	74.4	84.0	94.2
All	2012/13	Line		100	165	225	262	306	462
		Rate (HHs)	791	1.7	19.5	46.1	59.1	69.3	88.7
		Rate (people)		2.1	22.9	52.6	65.5	75.2	91.3

Source and definitions: See Table 1 and text.

Table 2 (Galle): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		75	113	151
		Rate (HHs)	1,467	10.7	32.5	50.9
		Rate (people)		13.7	38.6	56.1
All	2012/13	Line		115	172	229
		Rate (HHs)	1,299	7.7	23.2	44.0
		Rate (people)		9.9	26.5	48.5

Source and definitions: See Table 1 and text.

Table 2 (Galle): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		61	98	123	245	52	85
		Rate (HHs)	1,467	5.6	23.1	37.4	77.8	2.7	15.2
		Rate (people)		7.5	28.5	43.7	81.2	3.9	19.4
All	2012/13	Line		105	169	211	422	88	144
		Rate (HHs)	1,299	4.2	22.2	37.6	77.3	2.3	15.4
		Rate (people)		5.0	25.4	41.8	80.1	3.3	19.6

Source and definitions: See Table 1 and text.

Table 2 (Galle): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		62	83	116	135	160	246
		Rate (HHs)	1,467	5.5	14.1	32.6	43.0	52.8	76.9
		Rate (people)		7.4	17.9	38.9	48.9	57.7	80.3
All	2012/13	Line		96	158	216	251	294	443
		Rate (HHs)	1,299	4.2	22.3	41.6	52.8	63.8	83.2
		Rate (people)		5.6	27.3	48.1	59.3	69.8	87.1

Source and definitions: See Table 1 and text.

Table 2 (Matara): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		72	108	144
		Rate (HHs)	1,303	11.7	36.3	54.5
		Rate (people)		14.6	41.1	59.4
All	2012/13	Line		114	165	220
		Rate (HHs)	1,148	6.2	16.2	36.2
		Rate (people)		7.1	18.9	40.8

Source and definitions: See Table 1 and text.

Table 2 (Matara): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		58	93	117	234	49	81
		Rate (HHs)	1,303	4.4	27.9	40.6	79.1	1.3	18.0
		Rate (people)		5.4	32.0	45.4	81.8	2.0	21.6
All	2012/13	Line		105	168	210	419	88	143
		Rate (HHs)	1,148	2.7	15.3	29.7	75.3	2.1	14.7
		Rate (people)		3.3	18.2	34.0	79.4	2.5	17.1

Source and definitions: See Table 1 and text.

Table 2 (Matara): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		59	79	111	129	153	235
		Rate (HHs)	1,303	6.9	21.3	41.5	52.6	60.7	82.3
		Rate (people)		8.7	25.5	46.3	57.7	65.6	84.8
All	2012/13	Line		95	157	215	249	292	440
		Rate (HHs)	1,148	3.4	21.9	43.3	52.8	63.3	81.2
		Rate (people)		4.0	25.1	47.8	56.8	66.8	83.7

Source and definitions: See Table 1 and text.

Table 2 (Hambantota): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		71	106	142
		Rate (HHs)	841	10.5	31.8	55.5
		Rate (people)		12.7	33.9	57.9
All	2012/13	Line		110	176	235
		Rate (HHs)	735	3.8	28.3	48.3
		Rate (people)		4.9	33.9	54.9

Source and definitions: See Table 1 and text.

Table 2 (Hambantota): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		57	92	115	230	49	79
		Rate (HHs)	841	4.4	23.6	37.8	80.3	1.2	15.6
		Rate (people)		5.7	25.8	39.7	82.3	1.8	17.7
All	2012/13	Line		100	161	201	402	84	137
		Rate (HHs)	735	4.8	26.8	43.5	82.8	1.3	8.8
		Rate (people)		6.0	32.2	49.5	86.4	1.6	10.7

Source and definitions: See Table 1 and text.

Table 2 (Hambantota): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		58	78	109	127	150	231
		Rate (HHs)	841	7.7	20.0	41.4	55.1	64.2	84.9
		Rate (people)		9.5	22.3	43.8	57.4	66.5	87.5
All	2012/13	Line		91	150	206	239	280	422
		Rate (HHs)	735	3.1	19.7	41.6	52.5	63.5	82.6
		Rate (people)		3.9	23.3	46.4	57.0	68.2	86.0

Source and definitions: See Table 1 and text.

Table 2 (Jaffna): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line	—	—	—	—
		Rate (HHs)		—	—	—
		Rate (people)		—	—	—
All	2012/13	Line	643	117	185	246
		Rate (HHs)		6.6	46.4	69.9
		Rate (people)		8.3	54.3	76.0

Source and definitions: See Table 1 and text.

Table 2 (Jaffna): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		107	172	215	430	90	147
		Rate (HHs)	643	11.7	44.8	64.3	93.4	2.1	15.4
		Rate (people)		15.8	52.8	70.7	94.9	2.6	19.2

Source and definitions: See Table 1 and text.

Table 2 (Jaffna): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		98	161	220	256	300	452
		Rate (HHs)	643	3.8	21.8	45.6	55.9	66.2	85.4
		Rate (people)		4.7	26.6	52.0	63.6	73.0	89.0

Source and definitions: See Table 1 and text.

Table 2 (Mannar): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		—	—	—
		Rate (HHs)	—	—	—	—
		Rate (people)		—	—	—
All	2012/13	Line		123	183	244
		Rate (HHs)	290	15.0	17.3	33.4
		Rate (people)		20.1	18.8	37.1

Source and definitions: See Table 1 and text.

Table 2 (Mannar): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		113	180	225	451	94	154
		Rate (HHs)	290	1.6	16.3	27.6	76.3	7.2	30.8
		Rate (people)		2.2	18.0	31.6	80.2	10.5	38.1

Source and definitions: See Table 1 and text.

Table 2 (Mannar): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		102	169	231	268	314	473
		Rate (HHs)	290	7.2	30.8	58.0	69.9	77.9	92.7
		Rate (people)		10.5	38.1	64.7	76.0	82.7	94.3

Source and definitions: See Table 1 and text.

Table 2 (Vavuniya): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		—	—	—
		Rate (HHs)	—	—	—	—
		Rate (people)		—	—	—
All	2012/13	Line		122	177	236
		Rate (HHs)	282	2.4	59.7	80.3
		Rate (people)		3.4	67.2	85.9

Source and definitions: See Table 1 and text.

Table 2 (Vavuniya): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		111	178	223	446	93	152
		Rate (HHs)	282	19.9	58.0	75.5	94.6	0.8	8.9
		Rate (people)		23.2	65.3	82.1	95.9	1.0	10.5

Source and definitions: See Table 1 and text.

Table 2 (Vavuniya): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		101	167	228	265	310	468
		Rate (HHs)	282	0.8	9.3	24.8	34.6	46.5	75.9
		Rate (people)		1.0	10.7	28.9	38.6	51.3	80.0

Source and definitions: See Table 1 and text.

Table 2 (Mullaitivu): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line	—	—	—	—
		Rate (HHs)		—	—	—
		Rate (people)		—	—	—
All	2012/13	Line	263	118	181	242
		Rate (HHs)		24.7	40.6	65.4
		Rate (people)		28.8	45.9	69.5

Source and definitions: See Table 1 and text.

Table 2 (Mullaitivu): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		108	173	216	431	90	147
		Rate (HHs)	263	8.0	39.1	61.0	90.4	10.3	44.2
		Rate (people)		9.8	44.4	66.2	91.7	11.9	50.3

Source and definitions: See Table 1 and text.

Table 2 (Mullaitivu): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		98	162	221	256	300	453
		Rate (HHs)	263	13.5	52.3	77.6	83.0	88.6	95.0
		Rate (people)		16.9	59.4	84.2	88.0	91.6	96.0

Source and definitions: See Table 1 and text.

Table 2 (Kilinochchi): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		—	—	—
		Rate (HHs)	—	—	—	—
		Rate (people)		—	—	—
All	2012/13	Line		121	181	241
		Rate (HHs)	325	10.7	36.9	63.0
		Rate (people)		12.7	44.1	68.8

Source and definitions: See Table 1 and text.

Table 2 (Kilinochchi): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		111	177	221	442	92	151
		Rate (HHs)	325	11.7	35.3	55.7	90.7	3.4	26.3
		Rate (people)		16.2	42.3	62.3	92.8	4.4	31.2

Source and definitions: See Table 1 and text.

Table 2 (Kilinochchi): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		100	166	227	263	308	464
		Rate (HHs)	325	4.0	30.6	59.2	70.5	79.9	90.4
		Rate (people)		5.3	36.4	63.8	73.7	81.8	91.7

Source and definitions: See Table 1 and text.

Table 2 (Batticaloa): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		83	124	165
		Rate (HHs)	681	9.5	33.7	57.4
		Rate (people)		10.7	38.6	62.3
All	2012/13	Line		121	177	237
		Rate (HHs)	698	14.3	26.1	54.9
		Rate (people)		19.4	31.7	61.6

Source and definitions: See Table 1 and text.

Table 2 (Batticaloa): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		67	107	134	268	57	92
		Rate (HHs)	681	3.1	22.9	40.6	87.1	0.6	15.4
		Rate (people)		3.1	26.3	46.0	89.1	0.7	17.2
All	2012/13	Line		110	177	221	442	92	150
		Rate (HHs)	698	2.2	24.3	46.8	87.6	6.2	26.2
		Rate (people)		2.9	29.8	53.3	89.9	9.1	32.7

Source and definitions: See Table 1 and text.

Table 2 (Batticaloa): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		68	91	127	148	175	270
		Rate (HHs)	681	0.6	5.1	21.4	31.2	46.2	79.3
		Rate (people)		0.7	5.5	24.8	35.7	52.2	82.6
All	2012/13	Line		100	165	226	262	308	464
		Rate (HHs)	698	7.4	28.5	53.7	65.2	74.9	90.7
		Rate (people)		10.7	35.1	60.2	70.9	79.6	92.8

Source and definitions: See Table 1 and text.

Table 2 (Ampara): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		77	115	154
		Rate (HHs)	789	8.7	33.0	57.0
		Rate (people)		10.9	39.4	63.4
All	2012/13	Line		118	179	238
		Rate (HHs)	739	4.1	24.7	48.4
		Rate (people)		5.4	31.7	57.5

Source and definitions: See Table 1 and text.

Table 2 (Ampara): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		63	100	125	250	53	86
		Rate (HHs)	789	4.6	21.9	40.5	84.5	1.9	15.2
		Rate (people)		6.1	26.4	46.7	87.8	2.3	19.0
All	2012/13	Line		108	173	216	433	90	148
		Rate (HHs)	739	3.4	23.3	40.2	87.9	0.6	12.8
		Rate (people)		5.2	30.3	48.7	91.4	0.6	16.5

Source and definitions: See Table 1 and text.

Table 2 (Ampara): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		63	85	118	138	163	251
		Rate (HHs)	789	3.5	10.7	28.8	42.6	56.9	82.3
		Rate (people)		4.4	13.2	34.1	48.9	63.3	85.6
All	2012/13	Line		98	162	222	257	302	455
		Rate (HHs)	739	0.9	18.7	48.8	61.2	72.7	88.6
		Rate (people)		0.9	23.0	55.6	67.5	78.3	90.6

Source and definitions: See Table 1 and text.

Table 2 (Trincomalee): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		—	—	—
		Rate (HHs)	—	—	—	—
		Rate (people)		—	—	—
All	2012/13	Line		119	173	230
		Rate (HHs)	502	6.2	21.7	40.1
		Rate (people)		9.0	25.3	45.2

Source and definitions: See Table 1 and text.

Table 2 (Trincomalee): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		109	174	218	436	91	149
		Rate (HHs)	502	3.6	20.5	34.4	78.6	0.9	15.6
		Rate (people)		4.8	24.0	39.0	81.9	1.4	21.0

Source and definitions: See Table 1 and text.

Table 2 (Trincomalee): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		—	—	—	—	—	—
		Rate (HHs)	—	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
All	2012/13	Line		99	163	224	259	304	458
		Rate (HHs)	502	1.8	19.1	40.2	53.2	68.2	87.9
		Rate (people)		2.8	25.6	48.7	62.3	75.2	91.4

Source and definitions: See Table 1 and text.

Table 2 (Kurunegala): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		72	108	143
		Rate (HHs)	1,095	12.9	36.9	56.8
		Rate (people)		15.4	41.3	61.1
All	2012/13	Line		115	179	238
		Rate (HHs)	1,157	5.0	15.7	32.9
		Rate (people)		6.5	19.7	38.9

Source and definitions: See Table 1 and text.

Table 2 (Kurunegala): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		58	93	116	233	49	80
		Rate (HHs)	1,095	5.1	26.9	42.0	82.2	2.8	19.0
		Rate (people)		6.6	30.6	46.4	85.0	3.8	22.1
All	2012/13	Line		105	169	211	421	88	144
		Rate (HHs)	1,157	2.4	14.1	27.4	74.2	1.8	12.2
		Rate (people)		3.9	18.0	33.1	78.2	2.4	14.7

Source and definitions: See Table 1 and text.

Table 2 (Kurunegala): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		59	79	110	128	152	234
		Rate (HHs)	1,095	7.6	22.8	43.8	54.8	65.5	84.1
		Rate (people)		9.4	26.4	47.9	59.1	69.5	86.8
All	2012/13	Line		96	158	216	250	294	443
		Rate (HHs)	1,157	3.1	19.6	38.8	51.5	59.9	81.5
		Rate (people)		4.3	23.0	43.7	56.5	64.9	84.4

Source and definitions: See Table 1 and text.

Table 2 (Puttalam): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		74	111	148
		Rate (HHs)	762	10.6	33.6	54.4
		Rate (people)		13.1	38.1	58.7
All	2012/13	Line		119	169	225
		Rate (HHs)	654	3.3	23.2	45.7
		Rate (people)		5.1	27.4	51.0

Source and definitions: See Table 1 and text.

Table 2 (Puttalam): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		60	96	120	240	51	83
		Rate (HHs)	762	4.5	23.6	40.0	80.5	1.4	15.4
		Rate (people)		5.4	27.7	44.6	83.2	2.1	19.3
All	2012/13	Line		109	174	218	436	91	149
		Rate (HHs)	654	3.6	21.9	39.0	82.2	0.9	7.6
		Rate (people)		4.4	26.0	44.5	85.3	1.5	10.5

Source and definitions: See Table 1 and text.

Table 2 (Puttalam): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		61	81	114	132	157	241
		Rate (HHs)	762	4.8	15.4	37.8	47.6	58.4	81.8
		Rate (people)		5.9	19.3	42.5	52.4	62.8	84.3
All	2012/13	Line		99	163	223	259	304	458
		Rate (HHs)	654	1.3	10.7	27.8	39.0	51.8	76.0
		Rate (people)		1.8	14.1	33.6	45.3	57.2	80.2

Source and definitions: See Table 1 and text.

Table 2 (Anuradhapura): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		70	104	139
		Rate (HHs)	733	12.7	31.6	52.6
		Rate (people)		14.9	35.1	55.8
All	2012/13	Line		113	176	235
		Rate (HHs)	743	6.3	21.4	41.0
		Rate (people)		7.6	25.3	45.3

Source and definitions: See Table 1 and text.

Table 2 (Anuradhapura): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		57	90	113	226	48	78
		Rate (HHs)	733	5.4	22.1	37.5	76.9	2.3	17.5
		Rate (people)		6.7	24.5	41.0	79.6	3.0	19.9
All	2012/13	Line		103	165	206	413	86	141
		Rate (HHs)	743	3.3	19.0	35.6	76.5	1.6	15.1
		Rate (people)		4.2	22.3	39.7	80.4	1.8	18.4

Source and definitions: See Table 1 and text.

Table 2 (Anuradhapura): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		57	77	107	124	148	227
		Rate (HHs)	733	10.1	21.1	45.5	53.9	62.4	81.4
		Rate (people)		11.9	23.5	48.5	57.2	65.7	83.7
All	2012/13	Line		94	155	212	245	287	433
		Rate (HHs)	743	3.3	23.2	47.9	56.0	66.5	86.8
		Rate (people)		4.1	27.4	53.2	61.7	71.6	89.4

Source and definitions: See Table 1 and text.

Table 2 (Polonnaruwa): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		72	109	145
		Rate (HHs)	503	10.0	31.0	50.7
		Rate (people)		12.7	35.1	55.6
All	2012/13	Line		118	171	228
		Rate (HHs)	526	5.6	30.9	50.3
		Rate (people)		6.7	35.1	55.5

Source and definitions: See Table 1 and text.

Table 2 (Polonnaruwa): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		59	94	118	236	50	81
		Rate (HHs)	503	4.9	23.9	35.2	79.3	2.6	15.8
		Rate (people)		6.7	27.5	39.4	81.8	3.8	19.4
All	2012/13	Line		108	172	215	430	90	147
		Rate (HHs)	526	7.4	29.1	44.5	83.8	0.7	10.5
		Rate (people)		8.6	32.8	49.3	87.6	0.7	12.4

Source and definitions: See Table 1 and text.

Table 2 (Polonnaruwa): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people	Percentile-based lines				
				below 100% Natl. line	20th	40th	50th	60th	80th
All	2006/7	Line		59	80	112	130	154	237
		Rate (HHs)	503	6.1	16.5	35.6	47.0	59.3	81.3
		Rate (people)		8.1	20.2	39.9	52.2	64.4	83.4
All	2012/13	Line		98	161	220	256	300	452
		Rate (HHs)	526	1.9	16.0	37.0	45.6	56.0	78.3
		Rate (people)		2.6	18.5	40.7	49.8	61.7	82.1

Source and definitions: See Table 1 and text.

Table 2 (Badulla): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		75	113	150
		Rate (HHs)	762	21.0	50.9	68.9
		Rate (people)		23.7	56.0	73.1
All	2012/13	Line		114	162	217
		Rate (HHs)	731	10.4	45.2	65.3
		Rate (people)		12.3	49.2	68.8

Source and definitions: See Table 1 and text.

Table 2 (Badulla): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		61	98	122	244	52	84
		Rate (HHs)	762	10.4	40.8	57.1	87.1	4.8	29.3
		Rate (people)		12.9	44.9	62.1	89.2	6.4	32.5
All	2012/13	Line		105	167	209	418	87	143
		Rate (HHs)	731	14.6	44.0	59.5	89.4	1.8	20.4
		Rate (people)		15.8	48.2	62.9	91.9	2.3	23.4

Source and definitions: See Table 1 and text.

Table 2 (Badulla): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		62	83	116	134	159	245
		Rate (HHs)	762	10.1	27.8	51.3	62.3	70.2	86.9
		Rate (people)		12.7	31.1	56.4	66.9	74.6	89.0
All	2012/13	Line		95	157	214	249	291	439
		Rate (HHs)	731	5.9	28.7	50.3	59.0	67.4	86.7
		Rate (people)		6.7	32.2	55.5	64.6	73.0	90.2

Source and definitions: See Table 1 and text.

Table 2 (Monaragala): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		70	104	139
		Rate (HHs)	524	29.2	63.6	78.7
		Rate (people)		33.2	66.9	81.1
All	2012/13	Line		108	174	232
		Rate (HHs)	576	18.8	29.4	52.7
		Rate (people)		20.8	35.0	58.5

Source and definitions: See Table 1 and text.

Table 2 (Monaragala): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		56	90	113	226	48	78
		Rate (HHs)	524	14.6	51.4	67.0	95.4	8.2	37.3
		Rate (people)		17.3	55.5	70.3	96.1	10.4	41.1
All	2012/13	Line		99	159	198	396	83	135
		Rate (HHs)	576	5.1	28.0	44.8	86.8	5.8	31.3
		Rate (people)		7.3	33.6	50.8	89.3	6.1	34.4

Source and definitions: See Table 1 and text.

Table 2 (Monaragala): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		57	77	107	124	147	227
		Rate (HHs)	524	24.5	49.4	72.7	80.8	87.6	96.3
		Rate (people)		27.9	53.8	76.0	83.7	89.3	97.0
All	2012/13	Line		90	148	203	236	276	416
		Rate (HHs)	576	18.3	50.1	71.9	79.6	84.3	94.1
		Rate (people)		20.3	53.7	74.9	82.2	86.7	95.4

Source and definitions: See Table 1 and text.

Table 2 (Ratnapura): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		73	110	146
		Rate (HHs)	889	21.5	51.2	68.2
		Rate (people)		26.6	57.6	72.7
All	2012/13	Line		116	180	241
		Rate (HHs)	825	7.5	22.2	44.1
		Rate (people)		10.4	26.9	49.3

Source and definitions: See Table 1 and text.

Table 2 (Ratnapura): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		59	95	119	238	50	82
		Rate (HHs)	889	9.6	39.2	58.0	88.1	5.1	29.8
		Rate (people)		12.6	45.9	63.5	90.2	6.6	35.6
All	2012/13	Line		106	170	212	424	89	144
		Rate (HHs)	825	3.5	20.0	36.3	82.9	1.7	16.1
		Rate (people)		4.2	24.8	41.3	86.1	2.5	20.2

Source and definitions: See Table 1 and text.

Table 2 (Ratnapura): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		60	81	113	131	155	239
		Rate (HHs)	889	11.0	30.9	56.5	64.5	73.9	89.6
		Rate (people)		14.4	37.0	62.1	69.1	77.8	91.5
All	2012/13	Line		96	159	217	252	295	445
		Rate (HHs)	825	3.6	25.8	50.3	61.7	72.5	89.1
		Rate (people)		5.1	31.4	56.1	67.2	76.7	91.1

Source and definitions: See Table 1 and text.

Table 2 (Kegalle): National poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)		
				National lines		
				100%	150%	200%
All	2006/7	Line		75	113	150
		Rate (HHs)	729	18.4	49.3	68.9
		Rate (people)		21.0	54.8	73.3
All	2012/13	Line		120	110	146
		Rate (HHs)	668	5.4	51.2	68.2
		Rate (people)		6.7	57.6	72.7

Source and definitions: See Table 1 and text.

Table 2 (Kegalle): International 2005 and 2011 PPP poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	*n*	Poverty lines and poverty rates (%)					
				Intl. 2005 PPP lines				Intl. 2011 PPP lines	
				$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
All	2006/7	Line		61	98	122	244	52	84
		Rate (HHs)	729	8.2	37.5	55.5	90.5	3.7	27.5
		Rate (people)		10.1	42.4	60.8	91.8	4.8	31.2
All	2012/13	Line		110	176	220	440	92	150
		Rate (HHs)	668	9.6	39.2	58.0	88.1	1.3	12.5
		Rate (people)		12.6	45.9	63.5	90.2	1.5	15.3

Source and definitions: See Table 1 and text.

Table 2 (Kegalle): Relative and percentile-based poverty lines and poverty rates for households and people in 2006/7 and 2012/13

Region	Year	Line/rate	n	Poverty lines and poverty rates (%)					
				Poorest half of people below 100% Natl. line	Percentile-based lines				
					20th	40th	50th	60th	80th
All	2006/7	Line		62	83	116	134	159	245
		Rate (HHs)	729	7.9	25.2	50.4	61.7	72.6	90.3
		Rate (people)		9.7	29.2	55.9	67.6	76.5	91.7
All	2012/13	Line		100	165	226	262	307	463
		Rate (HHs)	668	2.1	15.4	35.6	48.5	62.9	83.0
		Rate (people)		2.5	19.0	40.6	53.6	68.0	86.2

Source and definitions: See Table 1 and text.

Table 3: Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
1255	Does the household possess a cooker (gas, kerosene, electric)? (No; Yes)
1124	Does the household possess a refrigerator? (No; Yes)
886	Does the household possess an electric fan? (No; Yes)
846	What is the highest level of education that the female head/spouse has completed? (None; Grade 1, 2, 3, or 4; Grade 5; Grade 6, 7, 8, 9, or 10; GCE (O/L) or equivalent, or grade 12; No female head/spouse; GCE (A/L) or equivalent, GAQ/GSQ, degree, or higher)
839	What is the principal type of cooking fuel used? (Firewood, kerosene, or sawdust/paddy husk; Gas, electricity, does not cook, or other)
821	What is the highest level of education that the male head/spouse has completed? (None, or grade 1, 2, or 3; Grade 4; Grade 5; Grade 6 or 7; Grade 8 or 9; No male head/spouse; Grade 10; GCE (O/L) or equivalent, passed grade 12, GCE (A/L) or equivalent, GAQ/GSQ, degree, or higher)
745	Does the household possess a washing machine? (No; Yes)
673	What is the principal construction material of the floors? (Mud, wood, sand, or other; Cement, or concrete; Teraso/tile)
651	Does the household possess a personal computer? (No; Yes)
648	Does the household possess a domestic telephone and a mobile telephone? (No; Domestic or mobile, but not both; Both)
623	Does the household possess a motor cycle/scooter, or a motor car/van, bus/lorry/tipper, 3 wheeler, 2-wheel tractor, or 4-wheel tractor? (None; Only motor cycle/scooter; Motor car/van and so on (regardless of motorcycle/scooter))
581	If the male head/spouse worked in an economic activity in the past week, then what was his main occupation? (Elementary occupations; Skilled workers in agriculture and fishing; Craft and related trades workers; Does not work; No male head/spouse; Service workers and shop and market salesworkers; Plant and machine operators and assemblers; Legislators, senior officials, managers, professionals, technicians and associated professionals, clerks, or armed forces)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
526	What is the total floor area in square feet of the household's residence? (Up to 99; 100 to 249; 250 to 499; 500 to 749; 750 or more)
512	Among the household members ages 15 or older who worked in an economic activity in the past week, how many were in their main occupation skilled workers in agriculture and fishing or workers in elementary occupations? (Two or more; One; None)
504	In what province does the household reside? (Uva; Eastern; Northern; Sabaragamuwa; Central; North Central; Southern; North Western; Western)
495	Does the household possess a television and a VCD/DVD? (No; Only television; VCD/DVD (regardless of televison)
492	Among the household members ages 15 or older who worked in an economic activity in the past week, are any in their main occupation legislators, senior officials, managers, professionals, technicians and associated professionals, clerks, or members of the armed forces? (No; Yes)
478	How many members does the household have? (Six or more; Five; Four; Three; One, or two)
469	Does the household possess a sewing machine? (No; Yes)
422	How many household members are 17-years-old or younger? (Three or more; Two; One; None)
422	How many household members are 18-years-old or younger? (Three or more; Two; One; None)
416	How many household members are 16-years-old or younger? (Three or more; Two; One; None)
402	Does the household possess a domestic telephone? (No; Yes)
393	How many household members are 15-years-old or younger? (Three or more; Two; One; None)
391	Does the household possess a motor car/van, bus/lorry/tipper, three wheeler, two-wheel tractor, or four-wheel tractor?(No; Yes)
389	What is the household's main source of drinking water? (Unprotected well; River/tank/streams; Protected well outside premises; Tap outside premises (main line); Project in village; Tube well; Protected well within premises; Bowser, rainwater, bottled water, or other; Tap inside home, or tap within unit/premises (main line))

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
384	Does the household possess a VCD/DVD? (No; Yes)
363	How many household members are 14-years-old or younger? (Three or more; Two; One; None)
356	How many household members are 13-years-old or younger? (Three or more; Two; One; None)
351	How many bedrooms does the household's residence have? (None, or one; Two; Three; Four or more)
351	What is the principal construction material of the roof? (Metal sheets, *taka ram*, *cadjan*/*palmyra*h/straw, or other; Tile; Asbestos; Concrete)
348	If the female head/spouse worked in an economic activity in the past week, then what was her main occupation? (Elementary occupations; Skilled workers in agriculture and fishing; Does not work; Craft and related trades workers; No female head/spouse; Service workers and shop and market salesworkers, or plant and machine operators and assemblers; Legislators, senior officials, managers, professionals, technicians and associated professionals, clerks, or armed forces)
345	How many household members are 12-years-old or younger? (Three or more; Two; One; None)
339	Does the household possess a camera/video camera? (No; Yes)
333	Among the household members ages 15 or older who worked in an economic activity in the past week, were any mainly in elementary occupations? (Yes; No)
325	Among the household members ages 15 or older who worked in an economic activity in the past week, were any in their main occupation government employees or semi-government employees? (No; Yes)
314	How many household members are 11-years-old or younger? (Three or more; Two; One; None)
293	Does the household possess a motor cycle/scooter? (No; Yes)
287	Does the household possess a television? (No; Yes)
264	How does the household usually dispose of its garbage? (Processed for fertilizer; Burned, dumped/thrown away outside premises, or other; Dumped within premises; Collected by garbage truck)
253	What is the household's principal source of energy for lighting? (Kerosene, solar energy, generator/battery, gas, or other; Electricity)
241	Does the household possess a mobile telephone? (No; Yes)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
231	If the male head/spouse worked in an economic activity in the past week, then what was his employment status in his main occupation? (Private-sector employee, or contributing family worker; Own-account worker; Does not work; No male head/spouse; Semi-government employee; Government employee, or employer)
222	Do all household members age 6 to 18 attend a school or other educational institution? (No; Yes; No household members in this age range)
216	Do all household members age 6 to 16 attend a school or other educational institution? (No; Yes; No household members in this age range)
213	Do all household members age 6 to 17 attend a school or other educational institution? (No; Yes; No household members in this age range)
213	If the female head/spouse worked in an economic activity in the past week, then what was her employment status in her main occupation? (Private-sector employee; Contributing family worker; Does not work; Own-account worker; Semi-government employee; No female head/spouse; Government employee, or employer)
208	Do all household members age 6 to 13 attend a school or other educational institution? (No; Yes; No household members in this age range)
207	Do all household members age 6 to 15 attend a school or other educational institution? (No; Yes; No household members in this age range)
206	Among the household members ages 15 or older who worked in an economic activity in the past week, how many were in their main occupation private-sector employees? (Two or more; One; None)
205	Do all household members age 6 to 14 attend a school or other educational institution? (No; Yes; No household members in this age range)
189	Do all household members age 6 to 12 attend a school or other educational institution? (No; Yes; No household members in this age range)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
189	What is the principal construction material of the walls? (Mud, planks/sheet metal, *cadjan/palmyrah*, or other; Pressed soil block; Cement block; *Cabook*; Brick)
179	How many household members are 6-years-old or younger? (Two or more; One; None)
169	Do all household members age 6 to 11 attend a school or other educational institution? (No; Yes; No household members in this age range)
132	Does the household possess a radio/cassette player? (No; Yes)
132	What is the ethnicity of the female head/spouse? (Indian Tamil; Sri-Lanka Tamil; Sri-Lanka Moor; Sinhala; No female head/spouse; Malay, Burgher, or other)
131	What religion does the female head/spouse follow? (Hindu; Islam; Buddhist; No female head/spouse; Roman Catholic/other Christian, or other)
114	What is the tenure status of the household in its residence? (Freely received/received as a gift, rent free (employer/other), relief payment (employer/other), compensated, encroached, or other; Inherited; Constructed or purchased by the occupant; Rent, or lease)
109	What religion does the male head/spouse follow? (Hindu; Islam; Buddhist; No female head/spouse; Roman Catholic/other Christian, or other)
105	What is the ethnicity of the male head/spouse? (Indian Tamil; Sri-Lanka Tamil; Sri-Lanka Moor; Sinhala; No male head/spouse; Malay, Burgher, or other)
97	Among the household members ages 15 or older who worked in an economic activity in the past week, how many were in their main occupation skilled workers in agriculture and fishing? (Yes; No)
95	What type of toilet arrangement does the household mainly use? (Direct pit, other, or no toilet arrangement; Water seal connected to pit/tank, water seal connected to drainage system/piped sewer, or not water seal)
83	What type of toilet arrangement does the household mainly use? (None, no toilet arrangement, public toilets, or no toilet in housing unit but shared with another unit; Shared with another household (within unit or outside unit); Exclusive for the household (within unit or outside unit))

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
69	In what type of structure does the household reside? (Line room/row house, slum/shanty, or other; Single house (single floor, double floor, or above double floor), attached house/annex, flat, Condominium/luxury apartment, or twin houses)
60	How many household members ages 15 or older worked in an economic activity in the past week? (Three or more; Two; One; None)
46	If the male head/spouse or the female head/spouse worked in an economic activity in the past week, then was either one in his/her main occupation an own-account worker in an occupation other than skilled worker in agriculture and fishing? (No; Yes)
44	What is the marital status of the male head/spouse? (Married; No male head/spouse; Never-married, widowed, divorced, or separated)
43	What is the structure of household headship? (Male head/spouse only; Both male and female heads/spouses; Female head/spouse only)
26	Did the male head/spouse work in an economic activity in the past week? (Yes; No; No male head/spouse)
24	Did the female head/spouse work in an economic activity in the past week? (No; Yes; No female head/spouse)
23	Does the household possess a bicycle? (Yes; No)
23	What is the marital status of the female head/spouse? (Married; Widowed, divorced, separated, or never-married; No female head/spouse)
17	Among the household members ages 15 or older who worked in an economic activity in the past week, how many were in their main occupation private-sector employees, government employees, semi-government employees, or employers? (Three or more; Two; One; None)
1	Among the household members ages 15 or older who worked in an economic activity in the past week, were any in their main occupation own-account workers? (No; Yes)
1	Among the household members ages 15 or older who worked in an economic activity in the past week, were any in their main occupation own-account workers or contributing family workers? (Yes; No)

Source: 2012/13 HIES with 200% of the national poverty line

Tables for
100% of the National Poverty Line

(and Tables Pertaining
to All Poverty Lines)

Table 4 (100% of the national line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	78.0
5–9	57.8
10–14	46.4
15–19	30.4
20–24	19.3
25–29	11.5
30–34	7.3
35–39	4.9
40–44	2.4
45–49	0.6
50–54	0.2
55–59	0.0
60–64	0.0
65–69	0.0
70–74	0.0
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

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

Score	Households in range and < poverty line		All households in range		Poverty likelihood (%)
0–4	114	÷	146	=	78.0
5–9	332	÷	574	=	57.8
10–14	594	÷	1,279	=	46.4
15–19	1,006	÷	3,309	=	30.4
20–24	1,033	÷	5,348	=	19.3
25–29	855	÷	7,440	=	11.5
30–34	620	÷	8,465	=	7.3
35–39	532	÷	10,784	=	4.9
40–44	263	÷	11,120	=	2.4
45–49	65	÷	10,279	=	0.6
50–54	24	÷	9,946	=	0.2
55–59	3	÷	8,405	=	0.0
60–64	0	÷	6,840	=	0.0
65–69	0	÷	5,370	=	0.0
70–74	0	÷	4,168	=	0.0
75–79	0	÷	2,973	=	0.0
80–84	0	÷	1,818	=	0.0
85–89	0	÷	915	=	0.0
90–94	0	÷	368	=	0.0
95–100	0	÷	455	=	0.0

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

Table 6 (100% of the national line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	+17.8	18.2	21.6	29.9
5–9	+3.8	9.7	11.6	16.0
10–14	+2.8	6.1	7.3	9.1
15–19	–3.4	3.7	4.6	5.9
20–24	–0.3	2.2	2.7	3.9
25–29	+1.0	1.5	1.9	2.5
30–34	+0.5	1.2	1.4	1.8
35–39	+1.1	0.7	0.9	1.2
40–44	–0.6	0.7	0.8	1.1
45–49	+0.1	0.3	0.3	0.5
50–54	–0.5	0.4	0.4	0.5
55–59	0.0	0.0	0.0	0.0
60–64	–0.5	0.5	0.5	0.6
65–69	0.0	0.0	0.0	0.0
70–74	0.0	0.0	0.0	0.0
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (100% of the national line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	–0.9	44.5	59.5	72.0
4	–0.4	17.8	22.0	33.4
8	–0.2	12.2	15.0	20.7
16	+0.1	8.2	10.2	13.5
32	+0.2	5.8	7.0	9.1
64	+0.1	4.2	4.9	6.5
128	+0.1	2.9	3.5	4.7
256	0.0	2.2	2.5	3.1
512	+0.1	1.5	1.8	2.5
1,024	+0.1	1.1	1.4	1.8
2,048	+0.1	0.8	1.0	1.3
4,096	+0.1	0.6	0.7	0.8
8,192	+0.1	0.4	0.5	0.6
16,384	+0.1	0.3	0.3	0.5

Table 8 (National poverty lines): Errors (average differences between estimated poverty rates and observed rates) for groups of households at a point in time, precision, and the α factor for precision, 2012/13 scorecard applied to the 2012/13 validation sample

	Poverty lines		
	National lines		
	100%	**150%**	**200%**
Error (estimate minus observed value)	+0.1	+0.2	+0.3
Precision of difference	0.3	0.5	0.5
Alpha factor for precision	0.95	0.89	0.88

Results pertain to the 2012/13 scorecard applied to the 2012/13 validation sample.
Differences between estimates and observed values are displayed in units of percentage points.
Precision is measured as 90-percent confidence intervals in units of ± percentage points.
Differences and precision estimated from 1,000 bootstraps with n = 16,384.
Alpha is estimated from 1,000 bootstrap samples of n = 256, 512, 1,024, 2,048, 4,096, 8,192, and 16,384.

Table 8 (International 2005 and 2011 PPP poverty lines): Errors (average differences between estimated poverty rates and observed rates) for groups of households at a point in time, precision, and the α factor for precision, 2012/13 scorecard applied to the 2012/13 validation sample

	Poverty lines					
	Intl. 2005 PPP lines				Intl. 2011 PPP lines	
	$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
Error (estimate minus observed value)	0.0	+0.1	+0.2	+0.1	0.0	–0.1
Precision of difference	0.2	0.5	0.5	0.5	0.2	0.4
Alpha factor for precision	0.99	0.90	0.88	0.86	1.03	0.93

Results pertain to the 2012/13 scorecard applied to the 2012/13 validation sample.

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

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

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

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

Table 8 (Relative and percentile-based poverty lines): Errors (average differences between estimated poverty rates and observed rates) for groups of households at a point in time, precision, and the α factor for precision, 2012/13 scorecard applied to the 2012/13 validation sample

	Poverty lines					
	Poorest half of people below 100% Natl. line	Percentile-based lines				
		20th	40th	50th	60th	80th
Error (estimate minus observed value)	+0.2	+0.1	+0.1	+0.2	+0.2	+0.1
Precision of difference	0.2	0.4	0.5	0.6	0.6	0.5
Alpha factor for precision	1.00	0.89	0.88	0.85	0.84	0.86

Results pertain to the 2012/13 scorecard applied to the 2012/13 validation sample.

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

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

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

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

Table 9 (National poverty lines): Errors (average differences between estimated changes in poverty rates and observed changes) for groups of households at two points in time, precision, and the α factor for precision, 2012/13 scorecard applied to the 2006/7 and 2012/13 validation samples

	Poverty lines		
	National lines		
	100%	**150%**	**200%**
Error (estimate minus observed value)	–0.7	–0.8	+0.7
Precision of difference	0.5	0.7	0.7
Alpha factor for precision	1.18	0.96	0.85

New 2012/13 scorecard with the 2012/13 validation sample (baseline) and 2006/7 validation sample (follow-up).
Differences between estimates and observed values are displayed in units of percentage points.
Precision is measured as 90-percent confidence intervals in units of ± percentage points.
Differences and precision estimated from 1,000 bootstraps with n = 16,384.
Alpha is estimated from 1,000 bootstrap samples of n = 256, 512, 1,024, 2,048, 4,096, 8,192, and 16,384.

Table 9 (International 2005 and 2011 PPP poverty lines): Errors (average differences between estimated changes in poverty rates and observed changes) for groups of households at two points in time, precision, and the α factor for precision, 2012/13 scorecard applied to the 2006/7 and 2013/14 validation samples

	Poverty lines					
	Intl. 2005 PPP lines				Intl. 2011 PPP lines	
	$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
Error (estimate minus observed value)	+3.0	+7.3	+8.4	+5.4	+1.4	+5.0
Precision of difference	0.4	0.7	0.7	0.7	0.3	0.6
Alpha factor for precision	1.08	0.94	0.90	0.84	1.16	1.02

New 2012/13 scorecard with the 2012/13 validation sample (baseline) and 2006/7 validation sample (follow-up).
Differences between estimates and observed values are displayed in units of percentage points.
Precision is measured as 90-percent confidence intervals in units of ± percentage points.
Differences and precision estimated from 1,000 bootstraps with n = 16,384.
Alpha is estimated from 1,000 bootstrap samples of n = 256, 512, 1,024, 2,048, 4,096, 8,192, and 16,384.

Table 10 (All poverty lines): Possible targeting outcomes

True poverty status	Targeting segment: Targeted	Targeting segment: Non-targeted
Below poverty line	**Inclusion** Below poverty line correctly targeted	**Undercoverage** Below poverty line mistakenly not targeted
Above poverty line	**Leakage** Above poverty line mistakenly targeted	**Exclusion** Above poverty line correctly not targeted

Table 11 (100% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	5.3	0.1	94.6	94.7	–96.0
<=9	0.4	5.0	0.4	94.3	94.7	–79.8
<=14	0.9	4.5	1.1	93.5	94.4	–46.5
<=19	2.0	3.4	3.3	91.3	93.3	+36.7
<=24	3.0	2.3	7.7	87.0	90.0	–43.6
<=29	3.8	1.5	14.3	80.4	84.2	–167.6
<=34	4.4	0.9	22.2	72.5	76.9	–316.1
<=39	4.8	0.5	32.5	62.2	67.0	–509.8
<=44	5.2	0.2	43.3	51.4	56.5	–712.5
<=49	5.2	0.1	53.5	41.1	46.4	–904.3
<=54	5.3	0.0	63.4	31.3	36.6	–1,089.4
<=59	5.3	0.0	71.8	22.9	28.2	–1,247.1
<=64	5.3	0.0	78.6	16.1	21.4	–1,374.9
<=69	5.3	0.0	84.0	10.7	16.0	–1,475.6
<=74	5.3	0.0	88.1	6.5	11.9	–1,553.8
<=79	5.3	0.0	91.1	3.6	8.9	–1,609.6
<=84	5.3	0.0	92.9	1.7	7.1	–1,643.7
<=89	5.3	0.0	93.8	0.8	6.2	–1,660.9
<=94	5.3	0.0	94.2	0.5	5.8	–1,667.8
<=100	5.3	0.0	94.7	0.0	5.3	–1,676.3

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

Table 12 (100% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	47.0	1.3	0.9:1
<=9	0.7	49.5	6.7	1.0:1
<=14	2.0	42.6	16.0	0.7:1
<=19	5.3	37.2	37.1	0.6:1
<=24	10.7	28.2	56.3	0.4:1
<=29	18.1	21.2	71.9	0.3:1
<=34	26.6	16.5	82.3	0.2:1
<=39	37.3	13.0	90.9	0.1:1
<=44	48.5	10.7	96.9	0.1:1
<=49	58.7	8.9	98.0	0.1:1
<=54	68.7	7.7	99.4	0.1:1
<=59	77.1	6.9	99.5	0.1:1
<=64	83.9	6.3	100.0	0.1:1
<=69	89.3	6.0	100.0	0.1:1
<=74	93.5	5.7	100.0	0.1:1
<=79	96.4	5.5	100.0	0.1:1
<=84	98.3	5.4	100.0	0.1:1
<=89	99.2	5.4	100.0	0.1:1
<=94	99.5	5.4	100.0	0.1:1
<=100	100.0	5.3	100.0	0.1:1

Table 13: Accuracy of district-level estimates of person-level poverty rates and accuracy rankings of districts by estimated poverty, the poverty map of World Bank and DCS (2015) versus the new 2013/14 scorecard

	2012/13 HIES		Poverty map				Poverty Scorecard			
District	**Pov. rate**	**Rank**	**Est. rate**	**Error**	**Est. rank**	**ROC**	**Est. rate**	**Error**	**Est. rank**	**ROC**
Mullaitivu	28.8	1	31.4	+2.7	1	1	22.2	–6.5	1	1
Monaragala	20.8	2	21.1	+0.3	2	2	9.3	–11.6	8	1
Mannar	20.1	3	20.9	+0.8	3	3	10.3	–9.7	7	1
Batticaloa	19.4	4	18.5	–0.9	5	3	7.9	–11.5	13	1
Kilinochchi	12.7	5	20.8	+8.1	4	5	18.4	+5.7	2	2
Badulla	12.3	6	9.5	–2.8	8	5	11.8	–0.6	5	3
Ratnapura	10.4	7	11.2	+0.7	7	6	6.8	–3.6	17	4
Galle	9.9	8	8.7	–1.1	10	7	6.6	–3.2	18	5
Trincomalee	9.0	9	8.5	–0.5	11	7	12.1	+3.1	4	6
Jaffna	8.3	10	11.5	+3.2	6	9	11.8	+3.4	6	7
Matale	7.8	11	7.8	–0.0	15	10	6.9	–0.9	16	7
Anuradhapura	7.6	12	6.8	–0.8	18	10	7.6	–0.1	15	7
Matara	7.1	13	9.2	+2.1	9	11	9.2	+2.1	9	9
Polonnaruwa	6.7	14	5.8	–0.9	21	11	2.3	–4.4	25	9
Kegalle	6.7	15	8.0	+1.3	14	13	7.6	+0.9	14	11
Nuwara Eliya	6.6	16	8.3	+1.7	12	14	13.7	+7.1	3	13
Kurunegala	6.5	17	7.0	+0.5	17	15	3.9	–2.6	22	14
Kandy	6.2	18	7.3	+1.1	16	17	5.7	–0.5	19	15
Ampara	5.4	19	8.2	+2.8	13	18	8.8	+3.3	10	17
Puttalam	5.1	20	6.2	+1.2	20	19	4.2	–0.9	21	17
Hambantota	4.9	21	5.7	+0.8	22	20	8.2	+3.3	12	19
Vavuniya	3.4	22	6.4	+3.0	19	22	8.7	+5.3	11	21
Kalutara	3.1	23	5.1	+2.0	23	23	4.8	+1.7	20	22
Gampaha	2.1	24	3.9	+1.8	24	24	3.6	+1.5	23	23
Colombo	1.4	25	2.5	+1.1	25	25	3.1	+1.7	24	25
Average absolute error:				1.7				3.8		
Maximum absolute error:				8.1				11.6		

"Est. rate" is a given district's estimated person-level poverty rate by 100% of the national line.

"Error" is the percentage-point difference between an estimated poverty rate and the observed rate in the 2013 HIES.

"Est. rank" is the estimated rank of a given district's poverty rate.

"ROC" is the number of districts whose estimated ranks are at or below a given cut-off rank for targeting.

The poverty map is constructed with the 2012/13 HIES and tested (out-of-sample) with the 2012 Census.

The poverty scorecard is both constructed and tested (out-of-sample) with the 2012/13 HIES.

Poverty-map estimates are from World Bank and DCS (2015, Table 9)

Tables for
150% of the National Poverty Line

Table 4 (150% of the national line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	95.3
5–9	91.3
10–14	84.4
15–19	71.9
20–24	64.3
25–29	48.7
30–34	36.4
35–39	27.9
40–44	18.0
45–49	9.0
50–54	5.5
55–59	2.8
60–64	1.1
65–69	0.3
70–74	0.2
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 (150% of the national line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	–4.7	2.4	2.4	2.4
5–9	+4.0	5.7	6.8	8.4
10–14	+2.5	4.5	5.4	6.9
15–19	–6.4	4.7	4.9	5.4
20–24	+0.3	3.0	3.4	4.2
25–29	+1.0	2.6	3.1	3.9
30–34	+2.8	2.2	2.5	3.4
35–39	+0.8	1.7	2.1	2.8
40–44	–0.5	1.7	1.9	2.3
45–49	+0.4	1.2	1.4	1.9
50–54	–0.3	1.0	1.2	1.6
55–59	+0.6	0.7	0.8	1.0
60–64	–0.8	0.7	0.8	1.1
65–69	+0.1	0.2	0.2	0.3
70–74	–0.4	0.5	0.6	0.7
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (150% of the national line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.5	60.4	73.1	83.9
4	+0.3	29.6	35.7	46.8
8	+0.4	20.5	25.1	33.1
16	+0.3	14.5	17.3	22.4
32	+0.2	10.4	12.2	16.5
64	+0.3	7.2	8.6	12.2
128	+0.2	5.4	6.5	8.2
256	+0.1	3.7	4.5	5.7
512	+0.2	2.6	3.1	4.4
1,024	+0.2	1.8	2.2	3.0
2,048	+0.2	1.3	1.5	2.0
4,096	+0.2	0.9	1.1	1.4
8,192	+0.2	0.7	0.8	1.0
16,384	+0.2	0.5	0.6	0.7

Table 11 (150% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	20.7	0.0	79.2	79.3	–98.6
<=9	0.6	20.2	0.1	79.1	79.7	–93.5
<=14	1.7	19.2	0.3	78.8	80.5	–82.4
<=19	4.2	16.6	1.1	78.1	82.3	–54.3
<=24	7.6	13.3	3.1	76.1	83.7	–12.5
<=29	11.1	9.7	7.0	72.2	83.3	+40.3
<=34	14.0	6.8	12.6	66.6	80.6	+39.7
<=39	17.0	3.8	20.4	58.8	75.8	+2.2
<=44	19.0	1.8	29.5	49.7	68.7	–41.6
<=49	19.9	0.9	38.9	40.3	60.2	–86.8
<=54	20.4	0.4	48.2	30.9	51.4	–131.8
<=59	20.6	0.2	56.5	22.7	43.4	–171.2
<=64	20.8	0.0	63.2	16.0	36.8	–203.4
<=69	20.8	0.0	68.5	10.7	31.5	–229.1
<=74	20.8	0.0	72.7	6.5	27.3	–249.1
<=79	20.8	0.0	75.6	3.6	24.4	–263.3
<=84	20.8	0.0	77.4	1.7	22.6	–272.1
<=89	20.8	0.0	78.4	0.8	21.6	–276.5
<=94	20.8	0.0	78.7	0.5	21.3	–278.2
<=100	20.8	0.0	79.2	0.0	20.8	–280.4

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

Table 12 (150% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.7	Only poor targeted
<=9	0.7	88.0	3.0	7.3:1
<=14	2.0	83.2	8.0	4.9:1
<=19	5.3	79.0	20.2	3.8:1
<=24	10.7	71.0	36.3	2.4:1
<=29	18.1	61.4	53.3	1.6:1
<=34	26.6	52.7	67.3	1.1:1
<=39	37.3	45.5	81.6	0.8:1
<=44	48.5	39.2	91.3	0.6:1
<=49	58.7	33.8	95.4	0.5:1
<=54	68.7	29.8	98.2	0.4:1
<=59	77.1	26.8	99.2	0.4:1
<=64	83.9	24.8	99.8	0.3:1
<=69	89.3	23.3	99.9	0.3:1
<=74	93.5	22.3	100.0	0.3:1
<=79	96.4	21.6	100.0	0.3:1
<=84	98.3	21.2	100.0	0.3:1
<=89	99.2	21.0	100.0	0.3:1
<=94	99.5	20.9	100.0	0.3:1
<=100	100.0	20.8	100.0	0.3:1

Tables for
200% of the National Poverty Line

Table 4 (200% of the national line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	99.6
10–14	97.7
15–19	92.7
20–24	87.9
25–29	79.1
30–34	68.5
35–39	56.5
40–44	45.6
45–49	34.2
50–54	21.5
55–59	11.9
60–64	6.8
65–69	3.8
70–74	1.9
75–79	0.4
80–84	0.3
85–89	0.1
90–94	0.0
95–100	0.0

Table 6 (200% of the national line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+1.1	1.7	2.0	2.4
10–14	+1.7	2.1	2.5	3.3
15–19	–1.1	2.0	2.4	3.0
20–24	+0.3	1.9	2.3	3.1
25–29	+0.2	2.1	2.5	3.4
30–34	+1.5	2.3	2.7	3.4
35–39	+0.3	2.1	2.5	3.2
40–44	+2.3	2.0	2.4	3.0
45–49	+2.0	2.0	2.3	3.2
50–54	–2.3	2.0	2.2	2.8
55–59	–0.1	1.5	1.9	2.4
60–64	–1.1	1.4	1.7	2.4
65–69	+0.7	1.0	1.2	1.5
70–74	–0.3	0.9	1.1	1.4
75–79	+0.1	0.4	0.4	0.5
80–84	+0.3	0.0	0.0	0.0
85–89	–1.2	1.4	1.7	2.2
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (200% of the national line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.4	61.2	78.8	91.3
4	0.0	34.3	39.7	47.9
8	0.0	23.9	28.8	36.0
16	+0.2	16.5	19.0	26.0
32	+0.1	12.4	14.7	19.7
64	+0.2	8.5	10.0	13.4
128	+0.2	6.1	7.4	10.4
256	+0.3	4.4	5.1	7.5
512	+0.3	3.2	4.0	5.2
1,024	+0.3	2.2	2.7	3.4
2,048	+0.3	1.5	1.8	2.3
4,096	+0.4	1.0	1.3	1.6
8,192	+0.3	0.8	0.9	1.3
16,384	+0.3	0.5	0.6	0.9

Table 11 (200% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	39.5	0.0	60.3	60.5	–99.3
<=9	0.7	39.0	0.0	60.3	61.0	–96.4
<=14	1.9	37.8	0.1	60.2	62.2	–90.1
<=19	5.0	34.7	0.3	60.0	65.0	–74.0
<=24	9.6	30.0	1.0	59.3	69.0	–48.8
<=29	15.5	24.2	2.6	57.7	73.3	–15.3
<=34	21.2	18.5	5.4	55.0	76.2	+20.4
<=39	27.3	12.3	10.0	50.3	77.7	+63.0
<=44	32.1	7.5	16.3	44.0	76.2	+58.9
<=49	35.4	4.2	23.3	37.0	72.5	+41.2
<=54	37.8	1.9	30.9	29.4	67.2	+22.0
<=59	38.8	0.9	38.3	22.0	60.9	+3.5
<=64	39.4	0.3	44.6	15.8	55.1	–12.3
<=69	39.6	0.1	49.8	10.6	50.1	–25.4
<=74	39.6	0.0	53.8	6.5	46.2	–35.7
<=79	39.7	0.0	56.8	3.5	43.2	–43.1
<=84	39.7	0.0	58.6	1.7	41.4	–47.7
<=89	39.7	0.0	59.5	0.8	40.5	–50.0
<=94	39.7	0.0	59.9	0.5	40.1	–50.9
<=100	39.7	0.0	60.3	0.0	39.7	–52.1

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

Table 12 (200% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.4	Only poor targeted
<=9	0.7	97.7	1.8	41.8:1
<=14	2.0	95.9	4.8	23.6:1
<=19	5.3	94.3	12.6	16.6:1
<=24	10.7	90.5	24.3	9.6:1
<=29	18.1	85.8	39.1	6.0:1
<=34	26.6	79.8	53.4	4.0:1
<=39	37.3	73.2	68.9	2.7:1
<=44	48.5	66.3	81.0	2.0:1
<=49	58.7	60.3	89.3	1.5:1
<=54	68.7	55.0	95.2	1.2:1
<=59	77.1	50.3	97.8	1.0:1
<=64	83.9	46.9	99.2	0.9:1
<=69	89.3	44.3	99.7	0.8:1
<=74	93.5	42.4	99.9	0.7:1
<=79	96.4	41.1	100.0	0.7:1
<=84	98.3	40.4	100.0	0.7:1
<=89	99.2	40.0	100.0	0.7:1
<=94	99.5	39.9	100.0	0.7:1
<=100	100.0	39.7	100.0	0.7:1

Tables for
the $1.25/day 2005 PPP Poverty Line

Table 4 ($1.25/day 2005 PPP line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	61.7
5–9	43.2
10–14	35.3
15–19	22.5
20–24	14.1
25–29	7.3
30–34	4.5
35–39	3.2
40–44	1.2
45–49	0.5
50–54	0.1
55–59	0.0
60–64	0.0
65–69	0.0
70–74	0.0
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 ($1.25/day 2005 PPP line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	+10.9	20.0	23.8	34.5
5–9	+0.8	9.0	10.7	14.8
10–14	–3.1	6.1	7.2	8.8
15–19	–1.8	3.3	3.9	5.0
20–24	+1.3	1.9	2.4	3.0
25–29	0.0	1.4	1.6	2.1
30–34	+0.4	0.9	1.1	1.5
35–39	+0.7	0.6	0.7	1.0
40–44	–1.1	0.9	0.9	1.1
45–49	+0.1	0.3	0.3	0.4
50–54	–0.3	0.3	0.3	0.4
55–59	0.0	0.0	0.0	0.0
60–64	0.0	0.0	0.0	0.0
65–69	0.0	0.0	0.0	0.0
70–74	0.0	0.0	0.0	0.0
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 ($1.25/day 2005 PPP line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	–0.4	7.1	50.0	65.7
4	–0.1	16.1	19.3	27.7
8	–0.1	10.7	12.9	18.7
16	+0.1	7.2	8.7	12.6
32	+0.1	5.1	6.3	8.1
64	0.0	3.6	4.5	6.1
128	0.0	2.6	3.1	4.4
256	0.0	1.9	2.2	3.1
512	0.0	1.3	1.6	2.0
1,024	0.0	1.0	1.2	1.4
2,048	0.0	0.7	0.8	1.1
4,096	0.0	0.5	0.6	0.7
8,192	0.0	0.3	0.4	0.6
16,384	0.0	0.2	0.3	0.4

Table 11 ($1.25/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	3.7	0.1	96.1	96.2	–94.7
<=9	0.3	3.5	0.4	95.8	96.1	–73.0
<=14	0.7	3.0	1.3	95.0	95.7	–27.8
<=19	1.6	2.2	3.8	92.5	94.0	+0.4
<=24	2.2	1.5	8.4	87.8	90.1	–123.1
<=29	2.8	1.0	15.3	80.9	83.7	–305.7
<=34	3.1	0.6	23.4	72.8	76.0	–521.2
<=39	3.4	0.3	33.9	62.3	65.7	–799.5
<=44	3.7	0.1	44.8	51.4	55.1	–1,088.0
<=49	3.7	0.1	55.0	41.2	44.9	–1,359.5
<=54	3.8	0.0	64.9	31.3	35.1	–1,622.0
<=59	3.8	0.0	73.3	22.9	26.7	–1,844.9
<=64	3.8	0.0	80.2	16.1	19.8	–2,026.3
<=69	3.8	0.0	85.5	10.7	14.5	–2,168.7
<=74	3.8	0.0	89.7	6.5	10.3	–2,279.3
<=79	3.8	0.0	92.7	3.6	7.3	–2,358.1
<=84	3.8	0.0	94.5	1.7	5.5	–2,406.3
<=89	3.8	0.0	95.4	0.8	4.6	–2,430.6
<=94	3.8	0.0	95.8	0.5	4.2	–2,440.4
<=100	3.8	0.0	96.2	0.0	3.8	–2,452.4

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

Table 12 ($1.25/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	38.3	1.5	0.6:1
<=9	0.7	41.2	7.9	0.7:1
<=14	2.0	36.2	19.2	0.6:1
<=19	5.3	29.2	41.2	0.4:1
<=24	10.7	21.1	59.6	0.3:1
<=29	18.1	15.5	74.3	0.2:1
<=34	26.6	11.8	83.3	0.1:1
<=39	37.3	9.2	91.0	0.1:1
<=44	48.5	7.6	97.5	0.1:1
<=49	58.7	6.3	98.6	0.1:1
<=54	68.7	5.5	99.9	0.1:1
<=59	77.1	4.9	100.0	0.1:1
<=64	83.9	4.5	100.0	0.0:1
<=69	89.3	4.2	100.0	0.0:1
<=74	93.5	4.0	100.0	0.0:1
<=79	96.4	3.9	100.0	0.0:1
<=84	98.3	3.8	100.0	0.0:1
<=89	99.2	3.8	100.0	0.0:1
<=94	99.5	3.8	100.0	0.0:1
<=100	100.0	3.8	100.0	0.0:1

Tables for
the $2.00/day 2005 PPP Poverty Line

Table 4 ($2.00/day 2005 PPP line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	94.8
5–9	91.1
10–14	83.0
15–19	69.9
20–24	61.1
25–29	46.9
30–34	33.9
35–39	26.4
40–44	16.1
45–49	8.1
50–54	4.3
55–59	2.4
60–64	0.9
65–69	0.3
70–74	0.2
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 ($2.00/day 2005 PPP line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	+0.4	7.1	8.2	11.0
5–9	+4.4	5.7	6.8	8.8
10–14	+3.8	5.1	6.0	7.2
15–19	–7.0	5.0	5.3	5.8
20–24	–1.0	2.9	3.6	4.4
25–29	+1.9	2.6	3.1	3.9
30–34	+1.3	2.2	2.5	3.4
35–39	+1.3	1.8	2.1	2.7
40–44	–0.3	1.5	1.8	2.3
45–49	+0.5	1.2	1.4	1.8
50–54	–0.6	0.9	1.2	1.5
55–59	+0.2	0.7	0.8	1.0
60–64	–0.5	0.6	0.7	0.9
65–69	+0.1	0.2	0.2	0.3
70–74	–0.4	0.5	0.6	0.7
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 ($2.00/day 2005 PPP line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.6	60.3	72.5	82.8
4	+0.2	29.2	35.5	46.3
8	+0.2	20.0	24.0	31.1
16	+0.1	14.5	17.1	22.0
32	0.0	10.4	12.1	16.3
64	+0.2	7.1	8.7	11.7
128	+0.1	5.2	6.4	8.1
256	0.0	3.7	4.3	5.4
512	+0.1	2.5	3.1	4.2
1,024	+0.1	1.8	2.1	2.9
2,048	+0.1	1.2	1.5	2.0
4,096	+0.1	0.9	1.1	1.4
8,192	+0.1	0.6	0.8	1.0
16,384	+0.1	0.5	0.6	0.7

Table 11 ($2.00/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	19.5	0.0	80.3	80.5	–98.6
<=9	0.6	19.0	0.1	80.2	80.9	–93.2
<=14	1.6	18.0	0.4	80.0	81.6	–81.6
<=19	4.1	15.6	1.2	79.1	83.2	–52.2
<=24	7.4	12.3	3.3	77.0	84.4	–8.4
<=29	10.7	9.0	7.4	72.9	83.6	+46.4
<=34	13.5	6.2	13.1	67.3	80.8	+33.6
<=39	16.3	3.4	21.1	59.3	75.5	–7.2
<=44	18.1	1.6	30.4	49.9	68.0	–54.6
<=49	18.8	0.8	39.9	40.4	59.2	–103.0
<=54	19.3	0.3	49.4	31.0	50.3	–151.0
<=59	19.5	0.1	57.6	22.8	42.3	–192.7
<=64	19.6	0.0	64.3	16.0	35.7	–227.0
<=69	19.6	0.0	69.7	10.7	30.3	–254.2
<=74	19.7	0.0	73.8	6.5	26.2	–275.3
<=79	19.7	0.0	76.8	3.6	23.2	–290.4
<=84	19.7	0.0	78.6	1.7	21.4	–299.7
<=89	19.7	0.0	79.5	0.8	20.5	–304.3
<=94	19.7	0.0	79.9	0.5	20.1	–306.2
<=100	19.7	0.0	80.3	0.0	19.7	–308.5

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

Table 12 ($2.00/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	93.5	0.7	14.4:1
<=9	0.7	85.8	3.1	6.0:1
<=14	2.0	81.0	8.2	4.3:1
<=19	5.3	77.1	20.8	3.4:1
<=24	10.7	69.0	37.4	2.2:1
<=29	18.1	59.1	54.4	1.4:1
<=34	26.6	50.8	68.6	1.0:1
<=39	37.3	43.6	82.7	0.8:1
<=44	48.5	37.3	91.9	0.6:1
<=49	58.7	32.1	95.7	0.5:1
<=54	68.7	28.1	98.3	0.4:1
<=59	77.1	25.3	99.3	0.3:1
<=64	83.9	23.4	99.8	0.3:1
<=69	89.3	22.0	99.9	0.3:1
<=74	93.5	21.0	100.0	0.3:1
<=79	96.4	20.4	100.0	0.3:1
<=84	98.3	20.0	100.0	0.3:1
<=89	99.2	19.8	100.0	0.2:1
<=94	99.5	19.8	100.0	0.2:1
<=100	100.0	19.7	100.0	0.2:1

Tables for
the $2.50/day 2005 PPP Poverty Line

Table 4 ($2.50/day 2005 PPP line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	97.9
10–14	93.8
15–19	89.1
20–24	81.6
25–29	71.5
30–34	58.9
35–39	48.0
40–44	37.9
45–49	24.5
50–54	14.5
55–59	8.0
60–64	4.2
65–69	2.8
70–74	0.8
75–79	0.2
80–84	0.2
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 ($2.50/day 2005 PPP line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+4.3	4.2	5.0	6.3
10–14	–0.2	2.6	3.1	4.0
15–19	–1.2	2.4	2.7	3.6
20–24	–2.3	2.2	2.5	3.6
25–29	+0.4	2.4	2.8	3.8
30–34	+1.8	2.3	2.7	3.6
35–39	+1.6	2.1	2.5	3.3
40–44	+1.4	2.0	2.4	3.1
45–49	+0.5	1.8	2.2	2.8
50–54	–2.3	2.0	2.1	2.4
55–59	+0.4	1.2	1.5	2.0
60–64	–0.3	1.0	1.2	1.8
65–69	+0.9	0.8	1.0	1.3
70–74	–1.4	1.2	1.3	1.5
75–79	+0.2	0.1	0.1	0.1
80–84	+0.2	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 ($2.50/day 2005 PPP line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.4	60.5	78.5	89.1
4	+0.2	32.5	39.2	50.7
8	+0.3	24.2	28.2	37.2
16	+0.3	16.3	19.2	27.6
32	–0.1	11.9	15.0	18.3
64	0.0	8.3	10.0	13.2
128	0.0	6.1	7.4	9.9
256	+0.1	4.3	5.2	7.3
512	+0.2	3.2	3.7	5.2
1,024	+0.2	2.2	2.6	3.3
2,048	+0.2	1.5	1.8	2.3
4,096	+0.2	1.0	1.3	1.6
8,192	+0.2	0.8	0.9	1.2
16,384	+0.2	0.5	0.6	0.9

Table 11 ($2.50/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	33.6	0.0	66.2	66.4	–99.1
<=9	0.7	33.1	0.0	66.2	66.8	–95.9
<=14	1.9	31.9	0.1	66.1	67.9	–88.6
<=19	4.8	29.0	0.5	65.7	70.5	–70.1
<=24	9.2	24.6	1.4	64.8	74.0	–41.2
<=29	14.5	19.3	3.6	62.6	77.2	–3.4
<=34	19.4	14.4	7.2	59.1	78.5	+36.0
<=39	24.5	9.3	12.8	53.4	77.9	+62.1
<=44	28.5	5.3	19.9	46.3	74.8	+41.1
<=49	30.9	2.8	27.8	38.4	69.4	+17.7
<=54	32.6	1.2	36.1	30.1	62.7	–6.9
<=59	33.3	0.5	43.8	22.4	55.6	–29.7
<=64	33.6	0.2	50.4	15.9	49.4	–49.0
<=69	33.7	0.1	55.6	10.6	44.3	–64.5
<=74	33.8	0.0	59.7	6.5	40.3	–76.6
<=79	33.8	0.0	62.6	3.6	37.4	–85.4
<=84	33.8	0.0	64.5	1.7	35.5	–90.8
<=89	33.8	0.0	65.4	0.8	34.6	–93.5
<=94	33.8	0.0	65.8	0.5	34.2	–94.6
<=100	33.8	0.0	66.2	0.0	33.8	–95.9

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

Table 12 ($2.50/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.4	Only poor targeted
<=9	0.7	94.2	2.0	16.3:1
<=14	2.0	92.8	5.5	12.9:1
<=19	5.3	90.4	14.2	9.4:1
<=24	10.7	86.4	27.3	6.4:1
<=29	18.1	80.4	43.0	4.1:1
<=34	26.6	73.1	57.4	2.7:1
<=39	37.3	65.7	72.6	1.9:1
<=44	48.5	58.9	84.5	1.4:1
<=49	58.7	52.7	91.6	1.1:1
<=54	68.7	47.4	96.4	0.9:1
<=59	77.1	43.1	98.4	0.8:1
<=64	83.9	40.0	99.4	0.7:1
<=69	89.3	37.7	99.7	0.6:1
<=74	93.5	36.2	100.0	0.6:1
<=79	96.4	35.0	100.0	0.5:1
<=84	98.3	34.4	100.0	0.5:1
<=89	99.2	34.1	100.0	0.5:1
<=94	99.5	33.9	100.0	0.5:1
<=100	100.0	33.8	100.0	0.5:1

Tables for
the $5.00/day 2005 PPP Poverty Line

Table 4 ($5.00/day 2005 PPP line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	99.0
20–24	98.8
25–29	98.1
30–34	97.0
35–39	95.6
40–44	90.8
45–49	85.2
50–54	76.8
55–59	63.8
60–64	50.5
65–69	40.4
70–74	31.7
75–79	17.8
80–84	6.0
85–89	3.7
90–94	3.7
95–100	1.2

Table 6 ($5.00/day 2005 PPP line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+0.2	0.4	0.5	0.7
10–14	+0.5	0.6	0.7	0.9
15–19	–0.7	0.5	0.5	0.5
20–24	–0.2	0.6	0.6	0.8
25–29	+0.3	0.7	0.8	1.0
30–34	+0.2	0.8	0.9	1.2
35–39	+2.0	1.0	1.2	1.6
40–44	+2.4	1.2	1.5	2.0
45–49	–0.5	1.5	1.8	2.4
50–54	+1.7	1.8	2.2	2.8
55–59	–1.1	2.2	2.6	3.4
60–64	–3.2	2.9	3.2	4.2
65–69	–3.2	3.1	3.5	4.6
70–74	–0.9	3.2	3.8	4.7
75–79	+2.7	3.0	3.5	4.5
80–84	–5.9	5.0	5.3	6.2
85–89	–2.4	3.3	3.9	4.9
90–94	+2.6	1.5	1.7	2.1
95–100	+1.2	0.0	0.0	0.0

Table 7 ($5.00/day 2005 PPP line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	–0.6	65.7	72.4	88.9
4	+0.1	28.1	35.5	48.0
8	–0.1	20.1	23.8	32.8
16	+0.1	14.9	17.5	21.3
32	+0.1	10.6	12.6	16.0
64	–0.1	7.2	8.6	12.3
128	–0.1	5.4	6.4	8.8
256	0.0	3.8	4.5	6.0
512	0.0	2.8	3.2	4.1
1,024	0.0	1.8	2.2	2.8
2,048	0.0	1.3	1.6	2.1
4,096	+0.1	0.9	1.2	1.6
8,192	0.0	0.7	0.8	1.1
16,384	+0.1	0.5	0.6	0.8

Table 11 ($5.00/day 2005 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	75.4	0.0	24.5	24.6	–99.6
<=9	0.7	74.8	0.0	24.5	25.2	–98.1
<=14	2.0	73.5	0.0	24.5	26.4	–94.7
<=19	5.3	70.2	0.0	24.4	29.7	–86.0
<=24	10.6	65.0	0.1	24.4	35.0	–71.9
<=29	17.8	57.7	0.3	24.2	42.0	–52.4
<=34	26.0	49.5	0.6	23.9	49.9	–30.4
<=39	36.0	39.5	1.3	23.2	59.2	–2.8
<=44	45.8	29.7	2.6	21.8	67.7	+24.9
<=49	54.6	20.9	4.1	20.3	75.0	+50.1
<=54	61.9	13.6	6.7	17.7	79.7	+73.0
<=59	67.4	8.1	9.7	14.8	82.1	+87.1
<=64	71.1	4.4	12.8	11.7	82.8	+83.1
<=69	73.5	2.0	15.8	8.7	82.2	+79.1
<=74	74.8	0.7	18.6	5.8	80.7	+75.3
<=79	75.3	0.2	21.2	3.3	78.6	+72.0
<=84	75.5	0.1	22.8	1.7	77.1	+69.8
<=89	75.5	0.0	23.7	0.8	76.3	+68.7
<=94	75.5	0.0	24.0	0.5	76.0	+68.2
<=100	75.5	0.0	24.5	0.0	75.5	+67.6

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

Table 12 ($5.00/day 2005 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.2	Only poor targeted
<=9	0.7	99.5	0.9	193.0:1
<=14	2.0	99.4	2.6	170.6:1
<=19	5.3	99.5	7.0	193.9:1
<=24	10.7	99.2	14.0	124.7:1
<=29	18.1	98.5	23.6	64.0:1
<=34	26.6	97.8	34.4	44.6:1
<=39	37.3	96.5	47.7	27.7:1
<=44	48.5	94.6	60.7	17.4:1
<=49	58.7	93.0	72.3	13.2:1
<=54	68.7	90.2	82.0	9.2:1
<=59	77.1	87.4	89.2	6.9:1
<=64	83.9	84.8	94.2	5.6:1
<=69	89.3	82.3	97.3	4.7:1
<=74	93.5	80.1	99.1	4.0:1
<=79	96.4	78.1	99.7	3.6:1
<=84	98.3	76.8	99.9	3.3:1
<=89	99.2	76.1	100.0	3.2:1
<=94	99.5	75.9	100.0	3.1:1
<=100	100.0	75.5	100.0	3.1:1

Tables for
the $1.90/day 2011 PPP Poverty Line

Table 4 ($1.90/day 2011 PPP line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	43.6
5–9	25.9
10–14	15.2
15–19	12.0
20–24	6.0
25–29	1.5
30–34	1.4
35–39	1.0
40–44	0.3
45–49	0.1
50–54	0.0
55–59	0.0
60–64	0.0
65–69	0.0
70–74	0.0
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 ($1.90/day 2011 PPP line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	–2.4	20.4	25.6	35.2
5–9	+4.2	7.5	9.1	12.2
10–14	–1.4	5.2	6.0	7.4
15–19	+4.6	2.0	2.4	3.0
20–24	–0.5	1.4	1.7	2.3
25–29	–0.7	0.7	0.9	1.1
30–34	–0.2	0.6	0.7	0.9
35–39	–0.1	0.4	0.5	0.6
40–44	–0.7	0.5	0.6	0.7
45–49	0.0	0.1	0.1	0.1
50–54	–0.2	0.2	0.2	0.2
55–59	0.0	0.0	0.0	0.0
60–64	0.0	0.0	0.0	0.0
65–69	0.0	0.0	0.0	0.0
70–74	0.0	0.0	0.0	0.0
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 ($1.90/day 2011 PPP line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	0.0	3.0	6.0	62.2
4	+0.1	6.5	14.0	22.8
8	0.0	7.2	8.5	13.2
16	–0.1	4.7	5.9	8.6
32	–0.1	3.2	4.1	5.3
64	–0.1	2.3	2.8	4.0
128	–0.1	1.7	2.0	2.8
256	–0.1	1.3	1.5	1.9
512	0.0	0.9	1.1	1.3
1,024	0.0	0.6	0.7	1.0
2,048	0.0	0.4	0.5	0.7
4,096	0.0	0.3	0.4	0.5
8,192	0.0	0.2	0.3	0.4
16,384	0.0	0.2	0.2	0.2

Table 11 ($1.90/day 2011 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.0	1.5	0.1	98.4	98.4	–87.8
<=9	0.2	1.4	0.5	97.9	98.1	–42.0
<=14	0.4	1.2	1.6	96.8	97.2	–6.1
<=19	0.6	0.9	4.7	93.8	94.4	–203.4
<=24	1.0	0.6	9.7	88.8	89.8	–525.1
<=29	1.2	0.4	16.9	81.5	82.7	–995.0
<=34	1.3	0.3	25.3	73.2	74.5	–1,534.7
<=39	1.4	0.1	35.9	62.5	63.9	–2,224.9
<=44	1.5	0.0	47.0	51.5	53.0	–2,937.3
<=49	1.5	0.0	57.2	41.2	42.8	–3,601.3
<=54	1.5	0.0	67.1	31.3	32.8	–4,243.3
<=59	1.5	0.0	75.5	22.9	24.5	–4,786.8
<=64	1.5	0.0	82.4	16.1	17.6	–5,229.2
<=69	1.5	0.0	87.8	10.7	12.2	–5,576.5
<=74	1.5	0.0	91.9	6.5	8.1	–5,846.1
<=79	1.5	0.0	94.9	3.6	5.1	–6,038.4
<=84	1.5	0.0	96.7	1.7	3.3	–6,156.0
<=89	1.5	0.0	97.6	0.8	2.4	–6,215.2
<=94	1.5	0.0	98.0	0.5	2.0	–6,239.0
<=100	1.5	0.0	98.5	0.0	1.5	–6,268.4

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

Table 12 ($1.90/day 2011 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	29.6	2.8	0.4:1
<=9	0.7	24.6	11.4	0.3:1
<=14	2.0	17.9	23.2	0.2:1
<=19	5.3	11.6	40.0	0.1:1
<=24	10.7	9.3	64.2	0.1:1
<=29	18.1	6.5	75.5	0.1:1
<=34	26.6	4.9	83.4	0.1:1
<=39	37.3	3.8	90.7	0.0:1
<=44	48.5	3.1	97.5	0.0:1
<=49	58.7	2.6	98.4	0.0:1
<=54	68.7	2.2	99.8	0.0:1
<=59	77.1	2.0	100.0	0.0:1
<=64	83.9	1.8	100.0	0.0:1
<=69	89.3	1.7	100.0	0.0:1
<=74	93.5	1.7	100.0	0.0:1
<=79	96.4	1.6	100.0	0.0:1
<=84	98.3	1.6	100.0	0.0:1
<=89	99.2	1.6	100.0	0.0:1
<=94	99.5	1.6	100.0	0.0:1
<=100	100.0	1.5	100.0	0.0:1

Tables for
the $3.10/day 2011 PPP Poverty Line

Table 4 ($3.10/day 2011 PPP line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	85.3
5–9	76.6
10–14	66.7
15–19	56.1
20–24	44.9
25–29	29.0
30–34	18.9
35–39	14.0
40–44	7.7
45–49	3.3
50–54	1.6
55–59	0.3
60–64	0.0
65–69	0.0
70–74	0.0
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 ($3.10/day 2011 PPP line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	–4.2	9.6	12.2	15.6
5–9	+5.3	8.7	10.2	13.7
10–14	+4.1	5.6	6.7	8.9
15–19	–2.5	3.7	4.2	6.1
20–24	+1.9	3.0	3.5	4.7
25–29	–1.0	2.3	2.8	3.6
30–34	–1.5	1.9	2.3	3.1
35–39	+0.6	1.4	1.6	2.3
40–44	–0.2	1.1	1.3	1.7
45–49	+0.8	0.6	0.8	1.0
50–54	+0.3	0.4	0.5	0.7
55–59	–0.5	0.5	0.5	0.7
60–64	–0.6	0.6	0.6	0.7
65–69	–0.2	0.2	0.2	0.3
70–74	–0.4	0.5	0.5	0.7
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 ($3.10/day 2011 PPP line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	–0.6	50.0	65.5	77.3
4	–0.3	25.5	31.4	41.8
8	–0.3	17.9	21.1	28.1
16	–0.1	12.2	14.0	18.0
32	0.0	8.2	9.5	13.3
64	–0.1	6.4	7.6	9.8
128	–0.1	4.5	5.5	6.9
256	–0.2	3.2	3.8	4.8
512	–0.1	2.2	2.6	3.3
1,024	–0.1	1.5	1.8	2.3
2,048	–0.1	1.0	1.3	1.6
4,096	–0.1	0.8	0.9	1.2
8,192	–0.1	0.6	0.7	0.9
16,384	–0.1	0.4	0.4	0.6

Table 11 ($3.10/day 2011 PPP line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	12.1	0.0	87.7	87.9	–97.8
<=9	0.5	11.7	0.2	87.6	88.1	–89.8
<=14	1.3	10.9	0.7	87.1	88.4	–73.1
<=19	3.2	9.0	2.1	85.7	88.9	–30.4
<=24	5.5	6.8	5.2	82.6	88.1	+31.9
<=29	7.7	4.6	10.4	77.3	85.0	+15.0
<=34	9.4	2.9	17.2	70.6	80.0	–40.2
<=39	10.8	1.4	26.5	61.2	72.1	–116.3
<=44	11.7	0.6	36.8	51.0	62.7	–200.2
<=49	12.0	0.3	46.8	41.0	52.9	–282.0
<=54	12.1	0.1	56.6	31.2	43.3	–361.8
<=59	12.2	0.1	64.9	22.8	35.0	–429.9
<=64	12.2	0.0	71.7	16.0	28.3	–485.4
<=69	12.2	0.0	77.1	10.7	22.9	–529.1
<=74	12.3	0.0	81.2	6.5	18.8	–563.0
<=79	12.3	0.0	84.2	3.6	15.8	–587.3
<=84	12.3	0.0	86.0	1.7	14.0	–602.1
<=89	12.3	0.0	86.9	0.8	13.1	–609.6
<=94	12.3	0.0	87.3	0.5	12.7	–612.6
<=100	12.3	0.0	87.7	0.0	12.3	–616.3

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

Table 12 ($3.10/day 2011 PPP line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	85.6	1.0	6.0:1
<=9	0.7	73.4	4.3	2.8:1
<=14	2.0	65.1	10.6	1.9:1
<=19	5.3	60.7	26.3	1.5:1
<=24	10.7	51.6	44.9	1.1:1
<=29	18.1	42.5	62.7	0.7:1
<=34	26.6	35.3	76.6	0.5:1
<=39	37.3	29.0	88.5	0.4:1
<=44	48.5	24.1	95.4	0.3:1
<=49	58.7	20.3	97.6	0.3:1
<=54	68.7	17.6	98.9	0.2:1
<=59	77.1	15.8	99.4	0.2:1
<=64	83.9	14.6	99.8	0.2:1
<=69	89.3	13.7	99.9	0.2:1
<=74	93.5	13.1	100.0	0.2:1
<=79	96.4	12.7	100.0	0.1:1
<=84	98.3	12.5	100.0	0.1:1
<=89	99.2	12.4	100.0	0.1:1
<=94	99.5	12.3	100.0	0.1:1
<=100	100.0	12.3	100.0	0.1:1

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

Table 4 (Line marking the poorest half of people below 100% of the national line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	61.3
5–9	35.3
10–14	25.3
15–19	17.6
20–24	10.2
25–29	5.3
30–34	3.4
35–39	2.4
40–44	1.0
45–49	0.3
50–54	0.0
55–59	0.0
60–64	0.0
65–69	0.0
70–74	0.0
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 (Line marking the poorest half of people below 100% of the national line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	+12.3	20.2	24.2	34.5
5–9	+2.6	8.8	10.6	13.7
10–14	–4.1	5.9	7.3	9.6
15–19	+2.3	2.7	3.1	4.5
20–24	+0.5	1.7	2.1	3.1
25–29	+1.3	0.9	1.1	1.5
30–34	–0.3	0.8	1.0	1.3
35–39	+1.1	0.4	0.5	0.7
40–44	–0.6	0.6	0.6	0.8
45–49	+0.2	0.1	0.1	0.2
50–54	–0.3	0.3	0.3	0.3
55–59	0.0	0.0	0.0	0.0
60–64	0.0	0.0	0.0	0.0
65–69	0.0	0.0	0.0	0.0
70–74	0.0	0.0	0.0	0.0
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (Line marking the poorest half of people below 100% of the national line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.1	5.1	43.6	63.4
4	+0.2	13.6	17.7	24.0
8	+0.2	8.5	11.1	15.1
16	+0.3	5.5	7.0	9.8
32	+0.3	4.2	4.9	6.8
64	+0.2	2.9	3.7	5.1
128	+0.2	2.3	2.7	3.4
256	+0.2	1.6	2.0	2.4
512	+0.2	1.1	1.3	1.7
1,024	+0.2	0.8	0.9	1.3
2,048	+0.2	0.6	0.7	0.9
4,096	+0.2	0.4	0.5	0.6
8,192	+0.2	0.3	0.3	0.4
16,384	+0.2	0.2	0.2	0.3

Table 11 (Line marking the poorest half of people below 100% of the national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	2.6	0.1	97.2	97.3	–92.6
<=9	0.2	2.4	0.5	96.8	97.1	–64.0
<=14	0.6	2.1	1.4	95.9	96.4	–3.7
<=19	1.1	1.6	4.2	93.1	94.2	–58.4
<=24	1.6	1.0	9.0	88.3	89.9	–239.7
<=29	2.0	0.7	16.1	81.2	83.2	–507.4
<=34	2.3	0.4	24.3	73.0	75.3	–814.7
<=39	2.4	0.2	34.9	62.4	64.8	–1,214.3
<=44	2.6	0.1	45.9	51.5	54.1	–1,626.5
<=49	2.6	0.0	56.1	41.2	43.8	–2,012.6
<=54	2.7	0.0	66.0	31.3	34.0	–2,385.5
<=59	2.7	0.0	74.4	22.9	25.6	–2,701.8
<=64	2.7	0.0	81.3	16.1	18.7	–2,959.3
<=69	2.7	0.0	86.6	10.7	13.4	–3,161.5
<=74	2.7	0.0	90.8	6.5	9.2	–3,318.4
<=79	2.7	0.0	93.8	3.6	6.2	–3,430.3
<=84	2.7	0.0	95.6	1.7	4.4	–3,498.8
<=89	2.7	0.0	96.5	0.8	3.5	–3,533.2
<=94	2.7	0.0	96.9	0.5	3.1	–3,547.1
<=100	2.7	0.0	97.3	0.0	2.7	–3,564.2

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

Table 12 (Line marking the poorest half of people below 100% of the national line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	34.5	1.9	0.5:1
<=9	0.7	32.9	8.9	0.5:1
<=14	2.0	27.9	21.0	0.4:1
<=19	5.3	20.7	41.4	0.3:1
<=24	10.7	15.3	61.5	0.2:1
<=29	18.1	10.8	73.9	0.1:1
<=34	26.6	8.5	85.2	0.1:1
<=39	37.3	6.5	91.6	0.1:1
<=44	48.5	5.4	98.1	0.1:1
<=49	58.7	4.5	98.9	0.0:1
<=54	68.7	3.9	99.9	0.0:1
<=59	77.1	3.4	100.0	0.0:1
<=64	83.9	3.2	100.0	0.0:1
<=69	89.3	3.0	100.0	0.0:1
<=74	93.5	2.8	100.0	0.0:1
<=79	96.4	2.8	100.0	0.0:1
<=84	98.3	2.7	100.0	0.0:1
<=89	99.2	2.7	100.0	0.0:1
<=94	99.5	2.7	100.0	0.0:1
<=100	100.0	2.7	100.0	0.0:1

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

Table 4 (First-quintile (20th-percentile) line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	91.5
5–9	85.5
10–14	75.6
15–19	63.8
20–24	57.1
25–29	41.8
30–34	27.4
35–39	21.2
40–44	12.7
45–49	6.6
50–54	3.7
55–59	1.6
60–64	0.2
65–69	0.0
70–74	0.0
75–79	0.0
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 (First-quintile (20th-percentile) line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	–2.9	7.1	8.2	11.0
5–9	+2.3	6.2	7.2	9.3
10–14	+4.3	5.4	6.4	8.1
15–19	–6.9	5.2	5.6	6.0
20–24	+5.1	3.1	3.6	4.6
25–29	+1.7	2.6	3.1	4.0
30–34	–1.2	2.1	2.5	3.3
35–39	+1.5	1.6	1.9	2.6
40–44	–1.6	1.6	1.8	2.3
45–49	+1.0	1.0	1.1	1.4
50–54	0.0	0.8	1.0	1.4
55–59	0.0	0.5	0.6	0.9
60–64	–0.9	0.8	0.8	1.0
65–69	–0.2	0.2	0.2	0.3
70–74	–0.5	0.5	0.6	0.7
75–79	0.0	0.0	0.0	0.0
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (First-quintile (20th-percentile) line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.3	57.2	72.2	80.1
4	0.0	29.6	35.5	46.2
8	+0.1	19.6	23.6	32.7
16	0.0	13.6	16.5	22.2
32	0.0	9.4	11.2	16.0
64	+0.2	6.8	8.4	11.5
128	+0.1	5.0	5.9	8.0
256	0.0	3.5	4.1	5.2
512	+0.1	2.4	2.9	3.9
1,024	+0.1	1.6	2.0	2.6
2,048	+0.1	1.2	1.4	1.8
4,096	+0.1	0.8	1.0	1.3
8,192	+0.1	0.6	0.7	0.9
16,384	+0.1	0.4	0.5	0.7

Table 11 (First-quintile (20th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	16.7	0.0	83.1	83.3	–98.3
<=9	0.6	16.3	0.1	83.0	83.6	–92.2
<=14	1.5	15.4	0.5	82.6	84.1	–79.4
<=19	3.7	13.1	1.6	81.6	85.3	–46.3
<=24	6.5	10.3	4.1	79.0	85.5	+1.9
<=29	9.5	7.4	8.6	74.5	84.0	+48.7
<=34	11.9	5.0	14.7	68.5	80.4	+13.0
<=39	14.1	2.8	23.3	59.9	74.0	–38.1
<=44	15.6	1.2	32.8	50.3	65.9	–94.8
<=49	16.2	0.6	42.5	40.6	56.8	–152.4
<=54	16.6	0.3	52.1	31.0	47.6	–209.2
<=59	16.7	0.1	60.4	22.8	39.5	–258.1
<=64	16.8	0.0	67.1	16.0	32.8	–298.3
<=69	16.8	0.0	72.5	10.7	27.5	–330.1
<=74	16.9	0.0	76.6	6.5	23.4	–354.7
<=79	16.9	0.0	79.6	3.6	20.4	–372.3
<=84	16.9	0.0	81.4	1.7	18.6	–383.1
<=89	16.9	0.0	82.3	0.8	17.7	–388.5
<=94	16.9	0.0	82.7	0.5	17.3	–390.7
<=100	16.9	0.0	83.1	0.0	16.9	–393.4

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

Table 12 (First-quintile (20th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	93.5	0.8	14.4:1
<=9	0.7	82.3	3.5	4.7:1
<=14	2.0	73.8	8.8	2.8:1
<=19	5.3	70.5	22.2	2.4:1
<=24	10.7	61.2	38.7	1.6:1
<=29	18.1	52.3	56.1	1.1:1
<=34	26.6	44.8	70.6	0.8:1
<=39	37.3	37.7	83.6	0.6:1
<=44	48.5	32.3	92.8	0.5:1
<=49	58.7	27.6	96.2	0.4:1
<=54	68.7	24.1	98.4	0.3:1
<=59	77.1	21.7	99.3	0.3:1
<=64	83.9	20.0	99.8	0.3:1
<=69	89.3	18.8	99.9	0.2:1
<=74	93.5	18.0	100.0	0.2:1
<=79	96.4	17.5	100.0	0.2:1
<=84	98.3	17.1	100.0	0.2:1
<=89	99.2	17.0	100.0	0.2:1
<=94	99.5	16.9	100.0	0.2:1
<=100	100.0	16.9	100.0	0.2:1

Tables for
the Second-Quintile (40^{th}-Percentile) Poverty Line

Table 4 (Second-quintile (40th-percentile) line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	99.4
10–14	95.3
15–19	90.6
20–24	83.6
25–29	74.3
30–34	62.0
35–39	50.8
40–44	39.5
45–49	27.6
50–54	16.6
55–59	8.5
60–64	4.3
65–69	2.5
70–74	1.2
75–79	0.4
80–84	0.0
85–89	0.0
90–94	0.0
95–100	0.0

Table 6 (Second-quintile (40th-percentile) line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	–0.3	0.5	0.6	0.7
10–14	+1.3	2.6	3.1	4.0
15–19	–1.8	2.1	2.5	3.3
20–24	–2.2	2.1	2.3	3.3
25–29	+1.7	2.3	2.8	3.8
30–34	+0.8	2.4	2.8	3.4
35–39	+1.3	2.1	2.5	3.5
40–44	+0.5	2.0	2.5	3.0
45–49	+1.8	1.8	2.3	3.0
50–54	–2.1	1.9	2.1	2.4
55–59	–0.1	1.3	1.6	2.0
60–64	–0.6	1.1	1.3	1.9
65–69	+0.3	0.9	1.1	1.5
70–74	–1.0	0.9	1.1	1.4
75–79	0.0	0.4	0.4	0.5
80–84	0.0	0.0	0.0	0.0
85–89	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (Second-quintile (40th-percentile) line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+1.4	61.2	78.9	89.6
4	–0.2	33.7	40.2	49.6
8	–0.3	24.8	28.5	35.8
16	0.0	16.5	19.6	26.6
32	–0.3	12.4	14.9	19.3
64	–0.1	8.5	10.0	14.1
128	0.0	6.1	7.4	9.3
256	+0.1	4.4	5.0	6.7
512	+0.1	3.3	4.0	5.1
1,024	+0.1	2.2	2.5	3.3
2,048	+0.1	1.5	1.8	2.4
4,096	+0.1	1.0	1.2	1.7
8,192	+0.1	0.8	0.9	1.3
16,384	+0.1	0.5	0.6	0.8

Table 11 (Second-quintile (40th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	35.3	0.0	64.6	64.7	–99.2
<=9	0.7	34.7	0.0	64.6	65.3	–96.0
<=14	1.9	33.5	0.1	64.4	66.3	–89.0
<=19	4.9	30.5	0.4	64.2	69.1	–71.2
<=24	9.4	26.0	1.2	63.3	72.7	–43.3
<=29	14.9	20.5	3.2	61.3	76.2	–6.9
<=34	20.0	15.4	6.5	58.0	78.1	+31.5
<=39	25.4	10.0	11.9	52.7	78.1	+66.4
<=44	29.7	5.7	18.7	45.8	75.5	+47.1
<=49	32.3	3.1	26.4	38.1	70.4	+25.4
<=54	34.1	1.3	34.6	30.0	64.1	+2.4
<=59	34.9	0.6	42.2	22.3	57.2	–19.2
<=64	35.2	0.2	48.7	15.8	51.0	–37.5
<=69	35.3	0.1	54.0	10.6	45.9	–52.3
<=74	35.4	0.0	58.0	6.5	41.9	–63.8
<=79	35.4	0.0	61.0	3.6	39.0	–72.2
<=84	35.4	0.0	62.8	1.7	37.2	–77.3
<=89	35.4	0.0	63.7	0.8	36.3	–79.9
<=94	35.4	0.0	64.1	0.5	35.9	–80.9
<=100	35.4	0.0	64.6	0.0	35.4	–82.2

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

Table 12 (Second-quintile (40th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.4	Only poor targeted
<=9	0.7	98.9	2.0	88.1:1
<=14	2.0	94.5	5.3	17.2:1
<=19	5.3	92.3	13.8	12.0:1
<=24	10.7	88.4	26.6	7.6:1
<=29	18.1	82.2	42.0	4.6:1
<=34	26.6	75.4	56.5	3.1:1
<=39	37.3	68.1	71.8	2.1:1
<=44	48.5	61.3	83.8	1.6:1
<=49	58.7	55.0	91.1	1.2:1
<=54	68.7	49.6	96.2	1.0:1
<=59	77.1	45.2	98.4	0.8:1
<=64	83.9	41.9	99.4	0.7:1
<=69	89.3	39.6	99.7	0.7:1
<=74	93.5	37.9	100.0	0.6:1
<=79	96.4	36.7	100.0	0.6:1
<=84	98.3	36.1	100.0	0.6:1
<=89	99.2	35.7	100.0	0.6:1
<=94	99.5	35.6	100.0	0.6:1
<=100	100.0	35.4	100.0	0.5:1

Tables for the Median (50^{th}-Percentile) Poverty Line

Table 4 (Median (50th-percentile) line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	99.7
10–14	98.3
15–19	94.5
20–24	90.9
25–29	84.2
30–34	77.1
35–39	64.9
40–44	53.9
45–49	42.5
50–54	28.6
55–59	17.2
60–64	10.5
65–69	5.2
70–74	3.1
75–79	0.4
80–84	0.3
85–89	0.1
90–94	0.0
95–100	0.0

Table 6 (Median (50th-percentile) line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.5	0.5	0.7
10–14	+2.2	2.1	2.5	3.3
15–19	–1.9	1.6	1.7	2.1
20–24	–1.2	1.6	1.9	2.4
25–29	+1.8	1.9	2.2	3.1
30–34	+3.0	2.1	2.5	3.3
35–39	–0.8	2.0	2.4	3.1
40–44	+2.0	1.9	2.3	3.1
45–49	+0.5	2.0	2.5	3.6
50–54	–0.8	2.0	2.3	3.0
55–59	+0.5	1.6	2.0	2.5
60–64	–2.4	2.1	2.3	3.1
65–69	–0.4	1.3	1.6	2.0
70–74	–0.2	1.2	1.4	1.8
75–79	–0.9	1.0	1.2	1.5
80–84	+0.3	0.0	0.0	0.0
85–89	–1.2	1.4	1.7	2.2
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (Median (50th-percentile) line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.9	68.2	74.3	92.9
4	0.0	34.0	40.1	52.5
8	–0.1	24.1	28.5	37.9
16	+0.4	17.2	19.6	27.4
32	0.0	12.3	14.8	19.3
64	+0.1	8.6	10.2	13.9
128	+0.2	5.9	7.4	9.8
256	+0.2	4.3	5.0	6.5
512	+0.2	3.2	3.9	5.2
1,024	+0.1	2.2	2.6	3.5
2,048	+0.2	1.5	1.8	2.3
4,096	+0.2	1.0	1.2	1.6
8,192	+0.2	0.8	1.0	1.3
16,384	+0.2	0.6	0.6	0.8

Table 11 (Median (50th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	45.0	0.0	54.9	55.0	–99.4
<=9	0.7	44.4	0.0	54.9	55.6	–96.8
<=14	1.9	43.2	0.1	54.8	56.7	–91.3
<=19	5.1	40.0	0.2	54.7	59.7	–77.0
<=24	10.0	35.1	0.7	54.2	64.2	–54.3
<=29	16.1	29.0	2.0	52.9	69.0	–24.2
<=34	22.3	22.8	4.2	50.6	73.0	+8.4
<=39	29.4	15.7	8.0	46.9	76.3	+47.9
<=44	35.1	10.0	13.3	41.6	76.7	+70.5
<=49	39.4	5.7	19.3	35.6	75.0	+57.2
<=54	42.3	2.8	26.4	28.5	70.8	+41.5
<=59	43.7	1.4	33.3	21.5	65.3	+26.1
<=64	44.6	0.5	39.3	15.5	60.1	+12.8
<=69	44.9	0.2	44.4	10.5	55.4	+1.6
<=74	45.1	0.0	48.4	6.5	51.5	–7.3
<=79	45.1	0.0	51.3	3.5	48.6	–13.8
<=84	45.1	0.0	53.1	1.7	46.8	–17.8
<=89	45.1	0.0	54.1	0.8	45.9	–19.8
<=94	45.1	0.0	54.4	0.5	45.6	–20.6
<=100	45.1	0.0	54.9	0.0	45.1	–21.6

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

Table 12 (Median (50th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.3	Only poor targeted
<=9	0.7	99.2	1.6	122.0:1
<=14	2.0	96.5	4.3	27.4:1
<=19	5.3	95.8	11.3	23.0:1
<=24	10.7	93.7	22.1	14.8:1
<=29	18.1	89.0	35.7	8.1:1
<=34	26.6	84.0	49.5	5.3:1
<=39	37.3	78.6	65.1	3.7:1
<=44	48.5	72.5	77.9	2.6:1
<=49	58.7	67.1	87.3	2.0:1
<=54	68.7	61.6	93.7	1.6:1
<=59	77.1	56.7	96.9	1.3:1
<=64	83.9	53.1	98.8	1.1:1
<=69	89.3	50.3	99.6	1.0:1
<=74	93.5	48.2	99.9	0.9:1
<=79	96.4	46.8	100.0	0.9:1
<=84	98.3	45.9	100.0	0.8:1
<=89	99.2	45.5	100.0	0.8:1
<=94	99.5	45.3	100.0	0.8:1
<=100	100.0	45.1	100.0	0.8:1

Tables for
the Third-Quintile (60th-Percentile) Poverty Line

Table 4 (Third-quintile (60th-percentile) line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	99.8
15–19	96.5
20–24	95.9
25–29	91.0
30–34	87.2
35–39	79.8
40–44	67.8
45–49	57.2
50–54	42.6
55–59	29.0
60–64	20.3
65–69	11.2
70–74	8.5
75–79	3.6
80–84	1.1
85–89	0.1
90–94	0.0
95–100	0.0

Table 6 (Third-quintile (60th-percentile) line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+0.3	0.5	0.5	0.7
10–14	+1.9	1.4	1.7	2.1
15–19	–1.1	1.1	1.4	1.8
20–24	–0.3	1.0	1.2	1.7
25–29	–1.0	1.3	1.6	2.1
30–34	+1.7	1.6	1.9	2.4
35–39	+0.7	1.7	2.1	2.7
40–44	+3.0	1.9	2.3	3.1
45–49	–0.6	2.0	2.6	3.4
50–54	–1.6	2.2	2.6	3.3
55–59	–1.1	2.1	2.4	3.3
60–64	–0.2	2.1	2.5	3.5
65–69	–0.8	1.9	2.3	3.1
70–74	+3.2	1.5	1.8	2.4
75–79	+1.4	1.3	1.5	1.9
80–84	+0.3	1.0	1.1	1.3
85–89	–1.1	1.4	1.7	2.2
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

Table 7 (Third-quintile (60th-percentile) line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	–0.3	62.6	75.4	89.9
4	–0.1	32.5	39.8	53.9
8	–0.1	23.0	27.2	38.8
16	+0.3	16.5	20.6	26.3
32	+0.1	11.9	14.7	19.3
64	+0.2	8.3	10.0	14.6
128	+0.3	5.9	7.1	9.4
256	+0.2	4.2	5.1	6.7
512	+0.2	3.0	3.6	4.9
1,024	+0.2	2.0	2.4	3.1
2,048	+0.2	1.5	1.7	2.1
4,096	+0.2	1.0	1.2	1.6
8,192	+0.2	0.8	0.9	1.2
16,384	+0.2	0.6	0.7	0.8

Table 11 (Third-quintile (60th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	54.9	0.0	44.9	45.1	–99.5
<=9	0.7	54.4	0.0	44.9	45.6	–97.4
<=14	2.0	53.1	0.0	44.9	46.8	–92.8
<=19	5.2	49.9	0.1	44.8	49.9	–81.0
<=24	10.3	44.8	0.4	44.5	54.8	–62.0
<=29	17.1	38.0	1.0	43.9	61.0	–36.1
<=34	24.3	30.8	2.3	42.6	66.9	–7.7
<=39	32.7	22.4	4.6	40.3	73.0	+27.2
<=44	40.0	15.1	8.5	36.5	76.5	+60.6
<=49	45.9	9.2	12.8	32.1	78.0	+76.7
<=54	50.2	4.9	18.5	26.4	76.7	+66.5
<=59	52.7	2.4	24.4	20.6	73.3	+55.8
<=64	54.1	1.0	29.8	15.1	69.2	+45.8
<=69	54.8	0.3	34.6	10.4	65.1	+37.3
<=74	55.0	0.1	38.5	6.4	61.4	+30.2
<=79	55.1	0.0	41.4	3.5	58.6	+24.9
<=84	55.1	0.0	43.2	1.7	56.8	+21.6
<=89	55.1	0.0	44.1	0.8	55.9	+20.0
<=94	55.1	0.0	44.5	0.5	55.5	+19.3
<=100	55.1	0.0	44.9	0.0	55.1	+18.5

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

Table 12 (Third-quintile (60th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.3	Only poor targeted
<=9	0.7	99.2	1.3	122.0:1
<=14	2.0	97.6	3.5	41.1:1
<=19	5.3	97.3	9.4	36.7:1
<=24	10.7	96.5	18.7	27.4:1
<=29	18.1	94.5	31.0	17.2:1
<=34	26.6	91.4	44.0	10.6:1
<=39	37.3	87.6	59.4	7.1:1
<=44	48.5	82.6	72.6	4.7:1
<=49	58.7	78.1	83.3	3.6:1
<=54	68.7	73.1	91.2	2.7:1
<=59	77.1	68.4	95.7	2.2:1
<=64	83.9	64.4	98.2	1.8:1
<=69	89.3	61.3	99.4	1.6:1
<=74	93.5	58.8	99.8	1.4:1
<=79	96.4	57.1	100.0	1.3:1
<=84	98.3	56.1	100.0	1.3:1
<=89	99.2	55.5	100.0	1.2:1
<=94	99.5	55.3	100.0	1.2:1
<=100	100.0	55.1	100.0	1.2:1

Tables for
the Fourth-Quintile (80th-Percentile) Poverty Line

Table 4 (Fourth-quintile (80th-percentile) line): Estimated poverty likelihoods associated with scores

If a household's score is . . .	. . . then the likelihood (%) of being below the poverty line is:
0–4	100.0
5–9	100.0
10–14	100.0
15–19	99.1
20–24	98.9
25–29	98.4
30–34	97.5
35–39	96.0
40–44	91.5
45–49	86.1
50–54	77.9
55–59	65.4
60–64	53.7
65–69	42.3
70–74	34.0
75–79	18.7
80–84	6.2
85–89	3.3
90–94	0.9
95–100	0.4

Table 6 (Fourth-quintile (80th-percentile) line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of n = 16,384, 2012/13 scorecard applied to the 2012/13 validation sample

	Difference between estimate and true value			
		Confidence interval (±percentage points)		
Score	Diff.	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+0.2	0.4	0.5	0.7
10–14	+0.5	0.6	0.7	0.9
15–19	–0.6	0.5	0.5	0.5
20–24	–0.1	0.6	0.6	0.8
25–29	+0.2	0.6	0.7	0.9
30–34	+0.5	0.7	0.9	1.2
35–39	+1.9	1.0	1.2	1.6
40–44	+1.7	1.2	1.4	1.9
45–49	–1.1	1.4	1.7	2.2
50–54	–0.9	1.7	2.0	2.6
55–59	–0.9	2.1	2.6	3.6
60–64	+0.6	2.7	3.2	4.4
65–69	–1.2	2.9	3.5	4.5
70–74	+0.9	3.1	3.8	4.9
75–79	+2.1	3.0	3.6	4.8
80–84	–7.1	5.6	6.1	6.7
85–89	–1.4	2.9	3.4	4.6
90–94	–0.2	1.5	1.7	2.1
95–100	+0.1	0.6	0.7	0.9

Table 7 (Fourth-quintile (80th-percentile) line): Errors (average differences between estimated poverty rates and observed rates) for groups at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2012/13 scorecard applied to the 2012/13 validation sample

Sample Size	Difference between estimate and true value			
		Confidence interval (±percentage points)		
n	Diff.	90-percent	95-percent	99-percent
1	+0.6	62.1	71.9	88.6
4	+0.5	28.3	35.2	46.1
8	+0.2	20.1	23.8	32.6
16	+0.3	15.1	17.6	22.8
32	+0.3	10.1	12.6	16.2
64	0.0	7.2	8.6	12.5
128	+0.1	5.3	6.1	8.3
256	+0.1	3.7	4.4	5.7
512	+0.1	2.6	3.1	4.1
1,024	+0.1	1.7	2.1	2.8
2,048	+0.1	1.3	1.6	1.9
4,096	+0.1	0.9	1.1	1.5
8,192	+0.1	0.6	0.8	1.0
16,384	+0.1	0.5	0.6	0.8

Table 11 (Fourth-quintile (80th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	Inclusion: Below poverty line correctly targeted	Undercoverage: Below poverty line mistakenly not targeted	Leakage: Above poverty line mistakenly targeted	Exclusion: Above poverty line correctly not targeted	Hit rate Inclusion + Exclusion	BPAC See text
<=4	0.1	76.3	0.0	23.6	23.7	–99.6
<=9	0.7	75.7	0.0	23.5	24.3	–98.1
<=14	2.0	74.5	0.0	23.5	25.5	–94.8
<=19	5.3	71.2	0.0	23.5	28.8	–86.1
<=24	10.6	65.9	0.1	23.5	34.0	–72.2
<=29	17.8	58.6	0.2	23.3	41.2	–53.0
<=34	26.0	50.4	0.5	23.0	49.0	–31.2
<=39	36.2	40.3	1.2	22.4	58.5	–3.9
<=44	46.1	30.4	2.4	21.2	67.2	+23.7
<=49	55.0	21.4	3.7	19.8	74.8	+48.8
<=54	62.7	13.8	6.0	17.5	80.2	+71.8
<=59	68.2	8.2	8.9	14.7	82.9	+88.4
<=64	72.0	4.5	12.0	11.6	83.6	+84.4
<=69	74.3	2.1	15.0	8.6	82.9	+80.4
<=74	75.7	0.8	17.8	5.8	81.5	+76.7
<=79	76.2	0.3	20.3	3.3	79.5	+73.5
<=84	76.4	0.1	21.9	1.7	78.1	+71.4
<=89	76.4	0.0	22.7	0.8	77.2	+70.2
<=94	76.4	0.0	23.1	0.5	76.9	+69.8
<=100	76.4	0.0	23.6	0.0	76.4	+69.2

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

Table 12 (Fourth-quintile (80th-percentile) line): Share of all households who are targeted (that is, score at or below a cut-off), the share of targeted households who are poor, the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2012/13 scorecard applied to the 2012/13 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
<=4	0.1	100.0	0.2	Only poor targeted
<=9	0.7	99.5	0.9	193.0:1
<=14	2.0	99.4	2.6	170.6:1
<=19	5.3	99.5	6.9	193.9:1
<=24	10.7	99.2	13.8	124.7:1
<=29	18.1	98.6	23.3	71.8:1
<=34	26.6	98.0	34.0	48.6:1
<=39	37.3	96.8	47.3	30.4:1
<=44	48.5	95.1	60.3	19.2:1
<=49	58.7	93.6	71.9	14.7:1
<=54	68.7	91.2	82.0	10.4:1
<=59	77.1	88.5	89.3	7.7:1
<=64	83.9	85.7	94.2	6.0:1
<=69	89.3	83.2	97.2	5.0:1
<=74	93.5	81.0	99.0	4.3:1
<=79	96.4	79.0	99.7	3.8:1
<=84	98.3	77.7	99.9	3.5:1
<=89	99.2	77.1	100.0	3.4:1
<=94	99.5	76.8	100.0	3.3:1
<=100	100.0	76.4	100.0	3.2:1