Simple Poverty Scorecard® Poverty-Assessment Tool Guatemala

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This document in English is at `SimplePovertyScorecard.com`

Abstract

The Simple Poverty Scorecard-brand poverty-assessment tool uses ten low-cost indicators from Guatemala's 2014 Household Living Standards 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 Guatemala to measure poverty rates, track changes in poverty rates over time, and to segment participants for differentiated treatment.

Version note

This paper uses 2014 data, replacing Schreiner and Woller (2010), which uses 2006 data. The new 2014 scorecard should be used from now on. Existing users should *not* estimate change over time with a baseline from the old 2006 scorecard and a follow-up from the new 2014 scorecard, as tests show that such estimates would be very inaccurate. Instead, legacy users can estimate change with both baseline and follow-up from the old 2006 scorecard, looking at changes in the distribution of scores (not in the averages of poverty likelihoods) for an asset-based (not consumption-based) definition of *poverty*. Any user can estimate changes in consumption-based poverty from now on with both a baseline and a follow-up from the new 2014 scorecard.

Acknowledgements

Simple Poverty Scorecard® Poverty-Assessment Tool

Interview ID:			**Name**	**Identifier**
Interview date:		Participant:		
Country:	GTM	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. Eight or more	0	
	B. Seven	6	
	C. Six	11	
	D. Five	15	
	E. Four	19	
	F. Three	28	
	G. Two	35	
	H. One	45	
2. How many rooms does the household use (excluding kitchen, bathrooms, hallways, garages, or rooms used only for business)?	A. One	0	
	B. Two	4	
	C. Three	7	
	D. Four or more	10	
3. What type of toilet arrangement does the household have?	A. Latrine, covered pit, or none	0	
	B. Hand-pour toilet, or toilet connected to septic tank or to sewer system	3	
4. Does the household possess, own, or have access to a stove (gas or electric)?	A. No	0	
	B. Yes	4	
5. Does the household possess, own, or have access to a refrigerator?	A. No	0	
	B. Yes	3	
6. Does the household possess, own, or have access to a blender?	A. No	0	
	B. Yes	3	
7. Does the household possess, own, or have access to an electric iron?	A. No	0	
	B. Yes	4	
8. Does the household have cellular-phone service?	A. No	0	
	B. Yes	5	
9. Does the household possess, own, or have access to a television with cable service?	A. No	0	
	B. Only television (without cable)	3	
	C. Cable (regardless of television)	7	
10. Does the household possess, own, or have access to a bicycle, motorcycle or scooter/moped, or passenger car, pick up, van, minivan, SUV, or truck?	A. No	0	
	B. Only bicycle (without any others)	2	
	C. Motorcycle or scooter/moped (without car etc., and regardless of bicycle)	7	
	D. Car etc. (regardless of any others)	16	

Score:

Back-page Worksheet: Household Members

In the scorecard header, write the interview's unique identifier (if known), the interview date, and the sampling weight of the participant (if known). Then record the names and the unique identification numbers of the participant, of yourself as the field agent, and of the service point that the participant uses. Remember that the scorecard respondent need not be the household member who participates in your program.

Read to the respondent: *What are the first names or nicknames of the members of your household? A* household *is social unit of one or more people—with or without blood or marital relationships—who normally reside in the same residence and who work together to provide food, shelter, and other basic needs.* Household members *are those who normally eat from the same kitchen and who normally sleep under the same roof.*

Include as household members those who are temporarily absent if their total expected absence is less than nine months and if they will return when the reason for their absence ends. People currently staying with the household whose total expected stay is less than three months are not household members if they have another usual residence. Pay attention to children, newborns, the elderly, the ill, domestic servants (and their families), guests, and others who are not related to the household head.

Count the number of household members, and write it in the scorecard header by "Number of household members:". 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.*

Name or nickname
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
12.
Number of household members:

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

Score	Poverty likelihood (%)			
		National		
	Food	100%	150%	200%
0–4	80.8	100.0	100.0	100.0
5–9	71.8	99.7	100.0	100.0
10–14	66.6	99.2	100.0	100.0
15–19	55.8	94.8	99.8	100.0
20–24	38.9	93.4	99.6	99.9
25–29	26.0	87.3	99.3	99.9
30–34	12.2	78.2	98.5	99.9
35–39	8.3	66.0	95.4	99.3
40–44	3.3	46.6	89.0	97.7
45–49	1.2	33.8	76.9	93.2
50–54	0.2	22.7	68.4	90.1
55–59	0.2	15.6	55.2	82.4
60–64	0.0	2.8	29.0	60.9
65–69	0.0	0.7	22.5	43.6
70–74	0.0	0.2	8.6	31.6
75–79	0.0	0.0	2.1	14.9
80–84	0.0	0.0	0.6	7.8
85–89	0.0	0.0	0.0	0.9
90–94	0.0	0.0	0.0	0.0
95–100	0.0	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				Intl. 2011 PPP	
Score	$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
0–4	29.3	71.3	85.3	100.0	20.8	67.1
5–9	19.3	61.8	83.5	100.0	14.5	56.8
10–14	13.5	58.9	79.4	100.0	8.8	54.2
15–19	7.5	48.7	73.8	99.5	4.8	38.7
20–24	3.1	31.5	59.8	98.9	1.1	22.1
25–29	1.4	20.4	38.2	97.3	0.7	15.4
30–34	0.9	9.6	24.9	95.8	0.4	6.6
35–39	0.3	5.6	18.0	90.5	0.1	3.7
40–44	0.0	2.8	7.4	78.3	0.0	1.5
45–49	0.0	0.9	3.7	63.9	0.0	0.8
50–54	0.0	0.2	1.0	49.8	0.0	0.1
55–59	0.0	0.2	0.3	39.7	0.0	0.0
60–64	0.0	0.0	0.1	15.3	0.0	0.0
65–69	0.0	0.0	0.0	11.6	0.0	0.0
70–74	0.0	0.0	0.0	2.9	0.0	0.0
75–79	0.0	0.0	0.0	0.2	0.0	0.0
80–84	0.0	0.0	0.0	0.1	0.0	0.0
85–89	0.0	0.0	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0	0.0	0.0

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

Score	Poorest half < 100% natl.	Percentile-based lines				
		20th	40th	50th	60th	80th
0–4	85.3	71.3	91.7	95.2	100.0	100.0
5–9	82.1	63.0	90.0	95.1	100.0	100.0
10–14	76.4	59.4	86.6	94.8	99.2	100.0
15–19	70.6	49.5	86.1	92.3	95.6	99.8
20–24	55.4	32.1	74.3	88.8	94.3	99.6
25–29	36.9	21.4	54.9	73.7	88.7	99.3
30–34	22.0	9.8	39.8	64.0	79.1	98.5
35–39	14.6	5.7	28.8	46.4	67.0	95.2
40–44	5.9	3.0	12.7	28.2	48.2	89.0
45–49	2.5	1.1	7.1	19.3	34.3	76.7
50–54	0.4	0.2	5.3	11.7	23.7	68.2
55–59	0.2	0.2	1.8	5.9	17.8	55.1
60–64	0.0	0.0	0.3	1.3	2.9	28.6
65–69	0.0	0.0	0.0	0.0	0.8	22.3
70–74	0.0	0.0	0.0	0.0	0.5	8.6
75–79	0.0	0.0	0.0	0.0	0.0	2.1
80–84	0.0	0.0	0.0	0.0	0.0	0.6
85–89	0.0	0.0	0.0	0.0	0.0	0.0
90–94	0.0	0.0	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0	0.0	0.0

The header "Poverty likelihood (%)" spans the data columns.

Note on estimating changes in poverty rates over time using the old 2006 and new 2014 scorecards

This paper uses data from Guatemala's 2014 Household Living Standards Survey (*Encuesta Nacional de Condiciones de Vida*, ENCOVI). It replaces Schreiner and Woller (2010), which uses data from the 2006 ENCOVI. The new 2014 scorecard should be used from now on.

Some pro-poor programs in Guatemala already use the old 2006 scorecard. When these legacy users switch to the new 2014 scorecard, they should be careful not to estimate changes in poverty over time that combines a baseline from the old 2006 scorecard and a follow-up from the new 2014 scorecard, even for poverty lines which are supported for both the old and new scorecards. Such estimates will be very inaccurate because the standard assumptions of the scorecard—that the population is constant and that the relationship between indicators and poverty is constant—do not seem to hold well in Guatemala between 2006 and 2014.

To measure change, users have two options. The first is to use the new 2014 scorecard for a baseline estimate now and then again for a follow-up estimate later. The second option—available only to legacy users—is to measure change with both a baseline and a follow-up from the old 2006 scorecard. In this case, the relevant estimate is the direction of change rather than the magnitude of change. Such analysis looks at changes in the distribution of households' scores (not changes in their average poverty

likelihoods) to estimate an asset-based (not consumption-based) definition of *poverty*. Users should not combine estimates from the old and new scorecards.

If the standard assumptions of the scorecard hold after 2014, then the new 2014 scorecard should be about as accurate as the typical scorecard when used from now on for most common purposes.

In sum, both first-time and legacy users should use the new 2014 scorecard from now on. Looking forward, this establishes the best consumption-based baseline. If legacy users already have a baseline from the old 2006 scorecard (but not a follow-up), and if such legacy users cannot wait to estimate change until they have used the new 2014 scorecard long enough to have both baseline and follow-up estimates from it, then for a while they should apply both the old 2006 scorecard and the new 2014 scorecard, enabling both the estimation of the sign of the change in asset-based poverty (looking backward with the old 2006 scorecard) as well as the estimation of both the sign and the size of the change in consumption-based poverty (looking forward with the new 2014 scorecard).

Simple Poverty Scorecard® Poverty-Assessment Tool Guatemala

1. Introduction

Pro-poor programs in Guatemala 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.

1.1 Caveat on measuring change over time

As discussed in the introductory note, the new scorecard uses data from Guatemala's 2014 Household Living Standards Survey (*Encuesta Nacional de Condiciones de Vida*, ENCOVI). It replaces the old scorecard in Schreiner and Woller (2010) that uses data from the 2006 ENCOVI. Only the new 2014 scorecard should be used from now on, as it is more accurate.

Even though seven of the eight absolute poverty lines that are supported for the old 2006 scorecard are also supported for the new 2014 scorecard, legacy users of the old 2006 scorecard should *not* estimate change over time for those lines by combining a baseline from the old 2006 scorecard with a follow-up from the new 2014 scorecard. Tests with historical data show that such estimates would be very inaccurate.

Estimates from now on that are based only on the new 2014 scorecard are expected to have the usual accuracy (given the standard assumptions of the scorecard). Thus users can wait to estimate change until they have both a baseline and a follow-up from the new 2014 scorecard. If users also have a legacy estimate from the old 2006 scorecard that they want to salvage, then they can apply both the old and new scorecards for a time, providing both a follow-up (looking backward with a baseline from the old 2006 scorecard) and a baseline (looking forward with a follow-up from the new 2014 scorecard). The old 2006 scorecard provides estimates of the direction of change in asset-based poverty based on changes in the distribution of scores. In contrast, the new 2014 scorecard provides estimates of both the direction and magnitude of change in consumption-based poverty based on changes in the averages of poverty likelihoods.

1.2   Why the scorecard?

The direct approach to poverty measurement via consumption surveys is difficult and costly. The 2014 ENCOVI (conducted by Guatemala's *Instituto Nacional de Estadística*, INE) is a case in point. It runs 59 pages and includes about 750 questions, many of which have a series of sub-questions which may be asked multiple times (for example, for each household member, each crop, or each consumption item). Enumerators in the 2014 ENCOVI covered 12 households in an 8-day stretch, visiting each household twice (INE, 2014, p. 21).

In comparison, the indirect approach of the scorecard is quick and low-cost. It uses 10 verifiable indicators drawn from the 2014 ENCOVI (such as "What type of toilet arrangement does the household have?" and "Does the household possess, own, or have access to a refrigerator?") to get a score that is correlated with poverty status as measured by the exhaustive ENCOVI 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-measurement 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, programs, nor periods of time.

The scorecard can be used to measure the share of a program's participants who are below a given poverty line (for example, Guatemala's national line, the *línea de pobreza total*). USAID microenterprise partners in Guatemala can use scoring with the line that marks the poorest half of people below 100% of the national poverty line to

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

report how many 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 accuracy that has been tested to the extent possible. While consumption surveys are costly even for governments, some local pro-poor programs may be able to implement a low-cost poverty-assessment tool 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) only in English and 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).

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[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 (GTQ8.35, Table 1) or the line that marks the poorest half of people below 100% of the national line (GTQ17.77).

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

The scorecard is based on data from the 2014 ENCOVI by Guatemala's INE. Indicators are selected to be:

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

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 that are representative of 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 Guatemala's national poverty line with data from the 2014 ENCOVI. Scores from this one scorecard are calibrated with this same data to poverty likelihoods for 16 poverty lines. Seven of these 16 lines are also supported by the old 2006 scorecard (Schreiner and Woller 2010).[3] Nevertheless, legacy users—after switching to the new 2014 scorecard—should *not* measure change over time by combining an existing estimate from the old 2006 scorecard (baseline) with an estimate from the new 2014 scorecard (follow-up), as tests show that such estimates would be very inaccurate.

The new 2014 scorecard is constructed using data from half of the households in the 2014 ENCOVI. Data from that same half of households is also used to calibrate

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[3] Poverty estimates in the 2000, 2006, and 2014 ENCOVI are comparable because they use the same measure of consumption and the same constant-value poverty lines (INE, 2015, pp. 1, 17).

scores to poverty likelihoods for 16 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 2014 ENCOVI (baseline) and data on all households in the 2000 or 2006 ENCOVI (follow-ups).

Given their assumptions, all three scoring-based estimators (a household's poverty likelihood, a population's poverty rate at a point in time, and a population's annual rate of change in its poverty rate) are *unbiased.* That is, they match the observed value on average in repeated samples when constructed from (and applied to) a single, unchanging population in which the relationship between scorecard indicators and poverty is unchanging. Like all predictive models, the scorecard is constructed from a single sample and so misses the mark when applied (as in this paper) to a validation sample. Furthermore, it makes errors when applied (in practice) to a different population or when applied before or after 2014 (because the relationships between indicators and poverty change over time).[4]

Thus, while the indirect scoring approach is less costly than the direct survey approach, it makes errors when applied in practice. (Observed values from the direct survey approach are taken as-is, ignoring sampling variation and any other sources of

[4] 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, 2007).

error.) Scoring makes errors because it necessarily assumes that future relationships between indicators and poverty in all populations will be the same as in the construction data. Of course, this assumption—inevitable in predictive modeling—holds only partly.

On average across 1,000 bootstraps of $n = 16{,}384$ from the 2014 validation sample, the average error (that is, the difference between the scorecard's estimate of a poverty rate versus the observed rate in the ENCOVI) at a point in time for 100% of the national poverty line is $+0.8$ percentage points. Across all 16 poverty lines, the average absolute error is about 0.6 percentage points, and the maximum average absolute error is 1.4 percentage points. These estimation errors are due to sampling variation, not bias; the average difference would be zero if the whole 2014 ENCOVI were to be repeatedly re-fielded and divided into sub-samples before repeating the entire process of scorecard construction and validation.

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 ± 2.5 percentage points or less.

To check the accuracy of estimates of changes in poverty rates over time, the new 2014 scorecard is applied to data from the 2014 validation sample (as a baseline) and to all data from the 2000 or 2006 ENCOVI (as follow-ups).

With 1,000 bootstraps with $n = 16{,}384$ and across the 20 estimates of change from the ten absolute poverty lines and the two pairs of ENCOVI rounds (2014 to 2000, and 2014 to 2006), the average absolute error is about 10.0 percentage points. For

comparison, the average absolute observed change is about 4.7 percentage points. Thus, the average absolute error is about twice the average absolute observed change.

As an example, the second-largest error is for 100% of the national line. The observed change in the ENCOVI at the household level in the 2014 and 2000 validation samples is 48.6 – 45.8 = +2.8 percentage points, while the scorecard estimates a change of +24.4 percentage points. The resulting error of +21.6 percentage points is about eight times the observed change in the ENCOVI.

The standard errors of estimated changes are ±4.0 percentage points or less ($n = 1,024$). The 90-percent confidence intervals (with $n = 1,024$) of the estimated changes include the observed changes in three of 20 cases. The estimated direction of change matches the observed direction and is "statistically significant" (the confidence interval of the estimate does not include zero) in five of 20 cases.

Overall, the scorecard's estimates of change for Guatemala are highly inaccurate, much worse than in any of the 15 other countries with such tests.

Why is this? Of course, the scorecard is always inaccurate to some extent. As noted above, scoring assumes a constant population and constant relationships between scorecard indicators and poverty. In general, neither assumption holds perfectly, and while the two assumptions may sometimes hold well enough to permit usefully accurate estimates, that is not the case here. The large errors suggest that these assumptions hold less well in Guatemala from 2014 to 2006 and from 2014 to 2000 than they seem to do in other countries.

Guatemala has two unusual factors that reduce accuracy:

- The time between baseline and follow-up is unusually long (8 and 14 years). The longer the time period, the greater the change both in the population and in the relationship between scorecard indicators and poverty (all else constant)
- Poverty rates in the ENCOVI decreased from 2000 to 2006 (from 45.8 to 40.0 percent of households for 100% of the national line) and then increased from 2006 to 2014 (from 40.0 to 48.6 percent)

Observed poverty in the ENCOVI decreased from 2000 to 2006 but then increased from 2006 to 2014, but the scorecard estimates decreases in poverty in both periods. The change of direction in poverty movement in Guatemala's ENCOVI reduces scoring's accuracy because the scorecard is based on household size, residence quality, and asset ownership. These indicators probably have ratchet effects, being more sensitive to increases in consumption than to decreases. That is, when consumption decreases, households are slower to sell off assets (or move to a less-expensive and smaller/lower-quality residence) than they are to acquire assets or to improve their residence when consumption increases. The scorecard estimates reductions in consumption-based poverty because household size, residence quality, and asset ownership all improved from 2000 to 2006 and then also from 2006 to 2014.[5]

It is also possible that some of the scorecard's inaccuracy is due to ENCOVI's measure of consumption-based poverty being off. Scoring assumes that data is collected

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[5] For example, the share of households with "Hand-pour toilet, or toilet connected to a septic tank or to sewer system" grew from 44 to 54 to 56 percent across the three ENCOVI rounds. The share with a refrigerator likewise grew from 28 to 39 to 42 percent. Household size fell from 5.2 to 4.9 to 4.8 people. The only exceptions are that fewer households had bicycles and stoves in 2014 than in 2006.

consistently across rounds, that samples are representative, and that poverty lines are perfectly adjusted for changes in prices.

In any case, scorecard users in Guatemala should not estimate change with a baseline from the old 2006 scorecard and a follow-up from the new 2014 scorecard. Such estimates would likely be very inaccurate because it is apparent that the indicator/poverty relationships represented in the old 2006 scorecard differ greatly from those represented in the new 2014 scorecard.

Of course, new users starting with the new 2014 scorecard can estimate change once they have both a baseline and a follow-up from the new scorecard.

Existing legacy users can also switch to the new 2014 scorecard and then wait to estimate change until they have both a baseline and follow-up from the new scorecard. If desired, legacy users can also apply both the old and new scorecards for a time,[6] creating a follow-up to compare with an existing baseline from the old 2006 scorecard (looking backward) as well as a baseline to compare with a future follow-up from the new 2014 scorecard (looking forward).

The extreme inaccuracy of the new 2014 scorecard when applied between 2006 and 2014 probably stems mostly from large changes—due to ratchet effects—in the relationship between indicators and poverty before 2014. Tests that apply the old 2006

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[6] The easiest way to do this is to apply both the old and new scorecards to each household in a given sample. Three indicators are in both scorecards, so this means asking 17 questions. There is no need to inform an interviewed household that its responses will be used with two scorecards.

scorecard with a 2006 validation sample (baseline) and all data from the 2014 ENCOVI (follow-up) show that these same changes in indicator/poverty relationships also severely damage the accuracy of the old 2006 scorecard as it has been applied after 2006. To estimate changes in poverty in spite of these inaccuracies, legacy users who have both a baseline and a follow-up from the old 2006 scorecard should use an alternate approach to estimate the *sign* of change (whether estimated poverty increased or decreased) under an asset-based definition of *poverty* by looking at changes in the distributions of scores.[7] This stands in contrast to the scorecard's standard approach of estimating the sign and size of change under a consumption-based definition of *poverty* by looking at changes in the averages of poverty likelihoods. The alternate approach is less satisfactory than the standard approach, but it the best way to control the risk of a program's fooling itself.

Are estimates based on the new 2014 scorecard from now on likely to be unusually inaccurate? Probably not. Out-of-sample/in-time tests of the new 2014 scorecard applied to 2014 data that was not used to construct the new 2014 scorecard show only the small errors that are typical of the scorecard across countries. While errors will grow as time passes, extreme inaccuracy probably will reappear only if the scorecard for Guatemala is not updated after a long time or if residence quality and

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[7] Schreiner (2012a) discusses how to analyze distributions of scores.

asset ownership continue to move out-of-step with consumption-based poverty.[8]

Furthermore, scorecard accuracy is—on average—a lot better in the other 15 countries

that have similar backward-looking tests for change over time, and that evidence should

be a good predictor of the accuracy of the new 2014 scorecard from now on in

Guatemala.

Section 2 below documents data and poverty lines. Sections 3 and 4 describe

scorecard construction and offer guidelines for implementation. Sections 5 and 6 tell

how to estimate households' poverty likelihoods and populations' poverty rates at a

point in time. Section 7 discusses estimating changes in poverty rates over time. Section

8 covers targeting. Section 9 places the scorecard here in the context of related exercises

for Guatemala. 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 INE's practice in Guatemala's 2014 ENCOVI as closely as possible. These

"Guidelines" (and the "Back-page Worksheet") are integral parts of the scorecard.

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[8] The World Bank (`worldbank.org/en/country/guatemala/overview`, retrieved 18 October 2016) notes that Guatemala's poverty rate decreased from 2000 to 2006 then increased from 2006 to 2014 but also says that "Guatemala has been one of the strongest economic performers in Latin America in recent years, with a GDP growth rate of 3.0 percent since 2012, and 4.1 percent in 2015".

2. Data and poverty lines

This section presents the data used to construct and validate the scorecard. It also documents the 16 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 11,536 households in the 2014 ENCOVI, Guatemala's most-recent national consumption survey.

The data from the half of households from the 2014 ENCOVI that is used to construct the scorecard is also used to associate (*calibrate*) scores to poverty likelihoods for all poverty lines.

Data from the other half of households in the 2014 ENCOVI 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 2014 validation sample is also used—along with data from all 7,276 households in the 2000 ENCOVI or data from all 13,686 households in the 2006 ENCOVI—to test scorecard accuracy for estimates of changes in poverty rates between 2014 to 2000 and between 2014 to 2006. These tests are *out-of-sample* and *out-of-time* because they use data not used in construction/calibration that also comes from a different time period than did the data used in construction/calibration.

Field work for the 2014 ENCOVI ran from 9 August 2014 to 21 February 2015. The 2006 ENCOVI ran from March to September of 2006, and the 2000 ENCOVI ran from July to November of 2000.

Consumption is in units of GTQ per person per day in average prices for Guatemala as a whole during a given ENCOVI's fieldwork.

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[9] average of poverty statuses (or estimated

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

poverty likelihoods) across households with participants. This is

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

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[10] average of poverty statuses (or

estimated poverty likelihoods) for households with participants, or

$$\frac{3 \cdot 1 + 4 \cdot 0}{3 + 4} = \frac{3}{7} = 0.43 = 43 \text{ percent.}$$ In the "$3 \cdot 1$" term in the numerator, the "3" is the

first household's weight because it has three members, and the "1" represents its

poverty status (poor) or its estimated poverty likelihood. In the "$4 \cdot 0$" term in the

numerator, the "4" is the second household's weight because it has four members, and

the zero represents its poverty status (non-poor) or its estimated poverty likelihood.

The "$3 + 4$" in the denominator is the sum of the weights of the two households. A

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

household's weight is its number of members because the unit of analysis is the household member.

As a final example, a program might count as *participants* only those household members who directly participate in the program. For the example here, this means that some—but not all—household members are counted. The person-level rate is now the participant-weighted average[11] 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, programs should clearly state the unit of analysis (household, household member, or participant) as well as explain why that unit is relevant.

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

Table 1 reports poverty lines and poverty rates for households and people in the 2000, 2006, and 2014 ENCOVI for Guatemala as a whole, for the 2014 construction/calibration sample, and for the 2000, 2006, and 2014 validation samples. For all of Guatemala and for each of Guatemala's 22 departments, Table 2 reports poverty lines and poverty rates for households and for people by urban/rural/all.

Household-level poverty rates are reported because—as shown above—household-level poverty likelihoods can be straightforwardly converted into poverty rates for other units of analysis and because sampling is almost always done at the level of households. This is also why the scorecard is constructed, calibrated, and validated with household weights. Person-level poverty rates are also included in Tables 1 and 2 because these are the rates reported by the government of Guatemala. 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* has two parts: a poverty line, and a measure of consumption.

Poverty-rate estimates from the 2000, 2006, and 2014 ENCOVI are comparable (INE, 2015). These three rounds use the same definition of *poverty* (that is, the same constant-price poverty lines and the same measure of consumption).[12]

The derivation of Guatemala's official poverty lines begins with a food basket that provides a minimum daily requirement for Calories (2,731 for 2000, World Bank, 2009 and 2003). The food line (*línea de pobreza extrema*) is defined as the cost—based on data in the relevant ENCOVI round—of this food basket by urban/rural area and by department. On average for Guatemala as a whole, the food line in 2014 is GTQ15.78 per person per day, giving a poverty rate of 16.2 percent at the household level and 23.4 percent at the person level (Table 1).

The national poverty line (usually called here "100% of the national line", corresponding to *la línea de pobreza general*) is the food line in a given urban/rural area and department, divided by food's average share in total consumption among households in Guatemala whose food consumption falls within ±5 percent of the food line (Ravallion, 1994). In 2014, the average national poverty line for Guatemala as a whole is GTQ28.05 per person per day, giving a poverty rate of 48.6 percent for households and 59.3 percent for people (Table 1).[13]

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[12] Estimates from the 2011 ENCOVI are *not* comparable with the other three rounds (INE, 2015 and 2011).

[13] The person-level poverty rates for 2014 in Table 1 match INE (2015, pp. 3 and 8). This suggests that this paper most likely uses the same data as INE for 2014 and has not made gross errors. There are small mismatches for 2006 (51.0 percent here versus 51.2 in INE for the national line, and 15.2 percent here versus 15.3 percent in INE for

2.4 Supported poverty lines

Because pro-poor programs in Guatemala may want to use different or various poverty lines, this paper calibrates scores from its single new 2014 scorecard to poverty likelihoods for 16 lines:

- Food
- 100% of national
- 150% of national
- 200% of national
- $1.25/day 2005 PPP
- $2.00/day 2005 PPP
- $2.50/day 2005 PPP
- $5.00/day 2005 PPP
- $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 (20th-percentile) line
- Second-quintile (40th-percentile) line
- Median (50th-percentile) line
- Third-quintile (60th-percentile) line
- Fourth-quintile (80th-percentile) line

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the food line) and for 2000 (56.1 percent here versus 56.4 percent in INE for the national line). Thus, the data for 2000 and 2006 used here appears to differ slightly from that used by INE (2015). The data used here also differs slightly from that used by Schreiner and Woller (2010), which is why there are small differences for the seven poverty lines that appear both in Table 1 here and in Figure 3a there.

Seven of these lines are also supported for the old 2006 scorecard (even though estimates of change over time should *not* combine a baseline from the old 2006 scorecard with a follow-up from the new 2014 scorecard):

- Food
- 100% of national
- 150% of national
- 200% of national
- $1.25/day 2005 PPP
- $2.50/day 2005 PPP
- $5.00/day 2005 PPP

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 Guatemala for "individual consumption expenditure by households":
  — 2005:[14] GTQ4.540 per $1.00
  — 2011:[15] GTQ3.87324 per $1.00
- Average Consumer Price Index (CPI) for all of Guatemala:[16]
  — Average March to September 2000:   98.2109
  — 2005 calendar-year: 140.7083
  — Average July to November 2006:   149.9143
  — 2011 calendar-year: 200.1442
  — Average 9 August 2014 to 21 February 2015: 227.0009
- Price deflators by urban/rural within each department from INE for the national poverty line in all three ENCOVI rounds
- Person-level average price deflators for all of Guatemala:[17]
  — 2000: 1.0176863
  — 2006: 1.0030680
  — 2014: 1.0019239

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[14] World Bank, 2008.

[15] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&CO=GTM_3&PPPO=3.87324&PLO=1.90&YO=2014&NumOfCountries=1`, retrieved 18 October 2016.

[16] The CPI has a base of 100 for calendar-year 2000. It splices a series with this same base (`www.ine.gob.gt/descargas/EstadisticasDePrecios/IPC_EmpalmadoBase1983/IPC_EmpalmadoBase1983_sep_09.xls`, retrieved 26 December 2009) with a series with a base of 100 for calendar-year 2010 (`www.ine.gob.gt/index.php/estadisticas-continuas/indice-de-precio-al-consumidos`, retrieved 18 October 2016, and `www.ine.gob.gt/sistema/uploads/2016/01/07/zxQ5DvxcFSkuUWSUXVOrYSfQ4BlCZNDQ.pdf`, retrieved 18 October 2016).

[17] Schreiner and Woller (2010) mistakenly use an average deflator of 1.000 in 2000 and 2006. This is corrected here, so 2005 PPP poverty lines and rates for 2000 and 2006 in Table 1 here differ from those in Table 3a of Schreiner and Woller (2010). This mistake increases the bias of estimates of change with a baseline from the old 2006 scorecard by less than 1 percentage point.

A given area and department's \$1.25/day 2005 PPP line in prices in Guatemala as a whole during the 2014 ENCOVI fieldwork is

$$\frac{\text{GTQ4.540} \cdot 1.25 \cdot \left(\dfrac{\text{CPI}_{2014}}{\text{CPI}_{2005}}\right) \cdot \text{Regional price deflator in 2014}}{\text{Average regional price deflator in 2014}}.$$

For the example of rural areas in the department of El Progreso in 2014, the price deflator is 1.0272751, so the \$1.25/day 2005 PPP line there is:

$$\frac{\text{GTQ4.540} \cdot 1.25 \cdot \left(\dfrac{227.0009}{140.7083}\right) \cdot 1.0272751}{1.0019239} = \text{GTQ9.39 (Table 2)}.$$

The all-Guatemala \$1.25/day 2005 PPP line is the person-weighted average of the regional \$1.25/day lines. For 2014, this is GTQ9.16 per person per day, giving a household-level poverty rate of 2.7 percent and a person-level poverty rate of 4.4 percent (Table 1).

The World Bank's PovcalNet[18] does not report 2005 PPP figures for Guatemala in 2014. For 2006, PovcalNet's \$1.25/day line is GTQ6.09,[19] very close to the GTQ6.05 here (Table 1). PovcalNet's line for 2000 matches that in Table 1 here (GTQ3.96).[20] But PovcalNet's person-level poverty rates (13.5 percent in 2006 and 11.8 percent in 2000) are much higher than those here (3.9 and 6.2 percent). The most likely reason is that PovcalNet—unlike this paper—does not adjust for regional price differences. These

[18] `iresearch.worldbank.org/PovcalNetPPP2005/`, retrieved 18 October 2016.

[19] `iresearch.worldbank.org/PovcalNetPPP2005/Detail.aspx?Format=Detail&CO=` `GTM_3&PPP0=4.54&PL0=1.25&Y0=2006&NumOfCountries=1`, retrieved 18 October 2016.

[20] `iresearch.worldbank.org/PovcalNetPPP2005/Detail.aspx?Format=Detail&CO=` `GTM_3&PPP0=4.54&PL0=1.25&Y0=2000&NumOfCountries=1`, retrieved 18 October 2016.

adustments almost always reduce poverty lines (and thus reduce poverty rates) in

poorer places and raise poverty lines (and thus raise poverty rates) in less-poor places.

The usual net effect—especially in poorer countries with large rural populations, such as

Guatemala—is to decrease the overall poverty rate. Of course, such regional price

adjustments make sense; after all, regional price adjustments are the reason for using

international PPP lines in the first place. This paper's $1.25/day 2005 PPP figures (and

$1.90/day 2011 PPP figures) are to be preferred (Schreiner, 2014b) because PovcalNet

does not report:

- How (or whether) it adjusts for regional price differences
- The time and place of its price units
- How it deflates PPP factors over time

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

Guatemala's $1.90/day 2011 PPP line is derived analogously to its $1.25/day

2005 PPP line. In 2014, the $1.90/day 2011 PPP line in a given urban or rural area of a

given department in prices for Guatemala as a whole during the 2014 ENCOVI

fieldwork is

$$\frac{2011\,\text{PPP} \cdot 1.90 \cdot \left(\dfrac{\text{CPI}_{2014}}{\text{CPI}_{2011}}\right) \cdot \text{Regional price deflator in 2014}}{\text{Average regional price deflator in 2014}}\,.$$

For the example of rural areas in El Progreso in 2014, this is

$$\frac{3.87324 \cdot \$1.90 \cdot \left(\dfrac{227.0009}{200.1442}\right) \cdot 1.0272751}{1.0019239} = \text{GTQ8.56 (Table 2).}$$

The all-Guatemala $1.90/day 2011 PPP line is the person-weighted average of the regional $1.90/day lines. For 2014, this is GTQ8.35 per person per day, giving a household-level poverty rate of 1.8 percent and a person-level poverty rate of 3.0 percent (Table 1).

For 2014, PovcalNet reports a $1.90/day 2011 PPP line for Guatemala of GTQ8.28 (versus 8.35 here, Table 1) with a person-level poverty rate of 9.3 percent (versus 3.0 here).[21] PovcalNet's $1.90/day 2011 PPP lines for 2006 and 2000 are also close to those here, while its poverty rates for those years are—as for 2014—much higher than those here.[22] This is consistent with PovcalNet's not adjusting for regional price differences. For the reasons noted above, the $1.90/day 2011 PPP estimates here are to be preferred.

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

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[21] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=GTM_3 &PPP0=3.87324&PL0=1.90&Y0=2014&NumOfCountries=1`, retrieved 18 October 2016.
[22] `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=GTM_3& PPP0=3.87324&PL0=1.90&Y0=2006&NumOfCountries=1`, and `iresearch.worldbank.org/PovcalNet/Detail.aspx?Format=Detail&C0=GTM_3& PPP0=3.87324&PL0=1.90&Y0=2000&NumOfCountries=1`, retrieved 18 October 2016.

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 regional price adjustments in the measure of consumption rather than in the poverty line
- Deriving a single line for all of Guatemala
- Taking all price adjustments out of consumption and putting them back in the regional lines[23]

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[23] This corrects how the scorecard derived this line prior to 2016 (in particular, in Schreiner and Woller, 2010). Formerly, price adjustments were left in the poverty lines. Each region's poverty line was 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 an all-country person-level poverty rate that is half that of 100% of the national line, but the set of people who are identified as *poor* differs. Unlike the former approach, the current approach correctly identifies as *poor* the poorest half of all people in the country whose price-adjusted consumption is below the single, all-country national line. This implies that the correction in Schreiner (2014b) of the derivation used for this line by IRIS Center for its Poverty-Assessment Tool is itself wrong, and IRIS Center's approach (the one now used here) is correct (although IRIS Center still incorrectly derives this line based on households instead of people).

Microenterprise programs in Guatemala 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 a given ENCOVI round:

- The line that marks the poorest half of people below 100% of the national line (GTQ17.77, with a person-level poverty rate of 29.6 percent, Table 1)
- $1.90/day 2011 PPP (GTQ8.35, with a person-level poverty rate of 3.0 percent)

The scorecard also supports percentile-based poverty lines for Guatemala. This facilitates a number of types of analyses. For example, the second-quintile (40th-percentile) line might be used to help track Guatemala's progress towards 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.

Of course, analysts could always do (and can still do) asset-based, 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, asset-based wealth indexes only serve to analyze relative wealth. Furthermore, the scorecard—unlike wealth indexes based on Principal Component Analysis or similar approaches—uses a straightforward, well-understood standard whose definition is external to the scorecard itself (consumption related to a poverty line defined in monetary terms).

In contrast, a wealth index opaquely defines *poverty* in terms of its own indicators and points, without reference to an external standard (Ravaillon, 2012). 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 consumption-based *poverty*.

3. Scorecard construction

For Guatemala, about 100 candidate indicators are initially prepared in the

areas of:

- Household composition (such as the number of members)
- Education (such as whether the female head/spouse knows how to read and write)
- Housing (such as the number of rooms that the household uses)
- Ownership of durable assets (such as refrigerators or blenders)
- 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.[24]

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 a blender 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 constructed using 100% 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).

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[24] 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.[25]

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).

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[25] For Guatamela, indicator selection was also informed by feedback from field tests by AGUDESA and Friendship Bridge.

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[26] and non-statistical criteria. The use of non-statistical criteria can improve robustness through time and across non-nationally representative groups. It also helps ensure that indicators are simple, common-sense, and acceptable to users.

The single scorecard here applies to all of Guatemala. Tests for Indonesia (World Bank, 2012), Bangladesh (Sharif, 2009), India and Mexico (Schreiner, 2006 and 2005a), Sri Lanka (Narayan and Yoshida, 2005), and Jamaica (Grosh and Baker, 1995) suggest that segmenting poverty-assessment tools by urban/rural does not improve targeting accuracy much. In general, segmentation may improve the accuracy of estimates of poverty rates (Diamond *et al.*, 2016; Tarozzi and Deaton, 2007), but it may also increase the risk of overfitting (Haslett, 2012).

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[26] 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. Guidelines for scorecard use in practice

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 a program 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, Guatemala'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 new 2014 scorecard in Guatemala would:

- Record the interview identifier, interview date, country code ("GTM"), 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 the number of household members in the scorecard header next to the heading "Number of household members:"
- Based on what has already been recorded on the "Back-page Worksheet", mark the response to the first scorecard indicator ("How many members does the household have?") based on the number of household members
- Read the rest of the scorecard indicators to the respondent one-by-one
- Draw circles around the relevant responses and their points. Then write each point value in the far right-hand column
- Add up the points to get a total 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 programs 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).[27] Schreiner (2014a), 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 indicators for a scorecard 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

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[27] 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 scorecard.[28]

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 Mexico does 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 programs who use scoring for targeting in Guatemala.

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[28] 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 Guatemala's INE did in the ENCOVI.

In terms of implementation and sampling design, a program 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 program'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 program.

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

- Employees of the program
- 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 the best chance to meaningfully inform questions that matter to the program, 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 scorecard (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. Responses will be recorded on paper in the field before the completed forms are sent 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 Guatemala, 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 40–44 have a poverty likelihood of 46.6 percent, and scores of 45–49 have a poverty likelihood of 33.8 percent (Table 4).

The poverty likelihood associated with a score varies by poverty line. For example, scores of 40–44 are associated with a poverty likelihood of 46.6 percent for 100% of the national line but 78.3 percent for the \$5.00/day 2005 PPP line.[29]

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[29] From Table 4 on, many tables have 16 versions, one for each of the 16 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 8,763 (normalized) households in the calibration sub-sample with a score of 40–44. Of these, 4,088 (normalized) are below the poverty line. The estimated poverty likelihood associated with a score of 40–44 is then 46.6 percent, because 4,088 ÷ 8,763 = 46.6 percent.

To illustrate with 100% of the national line and a score of 45–49, there are 10,199 (normalized) households in the calibration sub-sample, of whom 3,449 (normalized) are below the line (Table 5). The poverty likelihood for this score range is then 3,449 ÷ 10,199 = 33.8 percent.

The same method is used to calibrate scores with estimated poverty likelihoods for all 16 poverty lines.[30]

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

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

Although the points in the Guatemala scorecard are transformed coefficients from a Logit regression, (untransformed) scores are not converted to poverty likelihoods via the Logit formula of $2.718281828^{\text{score}}$ 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.[31]

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 Guatemala's population. Thus, the scorecard will generally be biased when applied after February 2015 (the last month of fieldwork for the 2014 ENCOVI) or when applied with sub-groups that are not nationally representative.

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[31] 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 Guatemala as a whole? To find

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

2014 validation sample. Bootstrapping means to:

- Score each household in a validation sample
- Draw a bootstrap sample *with replacement* from a 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 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 40–44 in the 2014 validation sample is too low by 7.2 percentage

points. For scores of 45–49, the estimate is too high by 3.1 percentage points.[32]

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

The 90-percent confidence interval for the differences for scores of 40–44 is ±5.0 percentage points (Table 6). This means that in 900 of 1,000 bootstraps, the average difference between the estimate and the observed value for households in this score range is between –12.2 and –2.2 percentage points (because –7.2 – 5.0 = –12.2, and –7.2 + 5.0 = –2.2). In 950 of 1,000 bootstraps (95 percent), the difference is –7.2 ± 5.2 percentage points, and in 990 of 1,000 bootstraps (99 percent), the difference is –7.2 ± 5.9 percentage points.

A few 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 2014 validation sample is a single sample that—thanks to sampling variation—differs in distribution from the construction/calibration sub-sample and from Guatemala'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 samples in 2014, although it holds less well for samples from sub-national populations or in other time periods.

Another possible source of differences between estimates and observed values is overfitting. The scorecard here is unbiased, but it may still be *overfit* when applied after the end of the ENCOVI fieldwork in February 2015. That is, the scorecard may fit the construction/calibration data from 2014 so closely that it captures not only some real patterns but also some random patterns that, due to sampling variation, show up only in the 2014 ENCOVI construction/calibration data but not in the overall population of Guatemala. 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 households in a representative sample from the population.

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 93.4, 78.2, and 46.6 percent (100% of the national line, Table 4). The group's estimated poverty rate is the households' average poverty likelihood of $(93.4 + 78.2 + 46.6) \div 3 = 72.7$ 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 78.2 percent. This differs from the 72.7 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 contexts in which the

analysis of scores is appropriate,[33] but, in general, the safest rule to follow is: If you are not completely sure what to do, then use poverty likelihoods, not scores.

Scores from the new 2014 scorecard are calibrated with data from the 2014 ENCOVI for all 16 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.

6.1   Accuracy of estimated poverty rates at a point in time

For the new 2014 scorecard applied to 1,000 bootstraps of $n = 16{,}384$ from the 2014 validation sample and 100% of the national poverty line, the average error (differences between estimates and observed values in the 2014 validation sample) for a poverty rate at a point in time is +0.8 percentage points (Table 8, summarizing Table 7 across all poverty lines). Across all 16 poverty lines in the 2014 validation sample, the maximum average absolute error is 1.4 percentage points, and the average absolute error is about 0.6 percentage points. At least part of these differences is due to sampling variation in the division of the 2014 ENCOVI into sub-samples.

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[33] As discussed elsewhere in this paper, the analysis of scores is appropriate when estimating the direction of change over time with a baseline and a follow-up from the old 2006 scorecard.

When estimating poverty rates at a point in time for a given poverty line, the average error reported in Table 8 should be subtracted from the average poverty likelihood to give a corrected estimate. For the example of the new 2014 scorecard and 100% of the national line in the 2014 validation sample, the error is +0.8 percentage points, so the corrected estimate in the three-household example above is 72.7 − (+0.8) = 71.9 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 2014 scorecard and 100% of the national line is 72.7 percent. Then estimates in 90 percent of such samples would be expected to fall in the range of 72.7 − (+0.8) − 0.6 = 71.3 percent to 72.7 − (+0.8) + 0.6 = 72.5 percent, with the most likely observed value being the corrected estimate in the middle of this range, that is, 72.7 − (+0.8) = 71.9 percent. This is because the original (uncorrected) estimate is 72.7 percent, the average error is +0.8 percentage points, and the 90-percent confidence interval for 100% of the national line in the 2014 validation sample with this sample size is ±0.6 percentage points (Table 8).

6.2 Formula for standard errors for estimates of poverty rates

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

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

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

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

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

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

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

N is the population size, and

n is the sample size.

For example, Guatemala's 2014 ENCOVI gives a direct-measurement estimate of the household-level poverty rate for 100% of the national line in the 2014 validation sample of $\hat{p}$ = 48.6 percent (Table 1).[34] If this estimate came from a sample of $n =$ 16,384 households from a population N of 3,353,483 (the number of households in Guatemala in 2014 according to the ENCOVI sampling weights), then the finite population correction ϕ is $\sqrt{\dfrac{3{,}353{,}483 - 16{,}384}{3{,}353{,}483 - 1}} = 0.9976$, which close to $\phi = 1$. If the desired confidence level is 90-percent ($z = 1.64$), then the confidence interval $\pm c$ is

$$\pm z \cdot \sqrt{\frac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\frac{N - n}{N - 1}} = \pm 1.64 \cdot \sqrt{\frac{0.486 \cdot (1 - 0.486)}{16{,}384}} \cdot \sqrt{\frac{3{,}353{,}483 - 16{,}384}{3{,}353{,}483 - 1}} = \pm 0.639$$

percentage points. If ϕ were taken as 1, then the interval is ± 0.640 percentage points.

Unlike the 2014 ENCOVI, however, the scorecard does not measure poverty directly, so this formula is not applicable. To derive a formula for the new 2014 scorecard, consider Table 7, which reports empirical confidence intervals $\pm c$ for the errors for the scorecard applied to 1,000 bootstrap samples of various sizes from the 2014 validation sample. For example, with $n = 16{,}384$ and 100% of the national line in the 2014 validation sample, the 90-percent confidence interval is ± 0.607 percentage points.[35]

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[34] The analysis here ignores that poverty-rate estimates from the ENCOVI are themselves based on samples and so have their own sampling distribution.
[35] Due to rounding, Table 7 displays 0.6, not 0.607.

Thus, the 90-percent confidence interval with $n = 16{,}384$ is ± 0.607 percentage points for the new 2014 scorecard and ± 0.639 percentage points for direct measurement. The ratio of the two intervals is $0.607 \div 0.639 = 0.95$.

Now repeat with exercise with $n = 8{,}192$. The confidence interval under direct measurement and 100% of the national line in the 2014 validation sample is

$$\pm\, 1.64 \cdot \sqrt{\frac{0.486 \cdot (1 - 0.486)}{8{,}192}} \cdot \sqrt{\frac{3{,}353{,}483 - 8{,}192}{3{,}353{,}483 - 1}} \;=\; \pm 0.905 \text{ percentage points. The}$$

empirical confidence interval with the new 2014 scorecard (Table 7) is ± 0.856 percentage points. Thus for $n = 8{,}192$, the ratio of the two intervals is $0.856 \div 0.905 = 0.95$.

This ratio of 0.95 for $n = 8{,}192$ is the same as the ratio for $n = 16{,}384$. Across all sample sizes of 256 or more in Table 7, these ratios are generally close to each other, and the average of these ratios in the 2014 validation sample turns out to be 0.93, implying that confidence intervals for indirect estimates of poverty rates via Guatemala's new 2014 scorecard and 100% of the national line are—for a given sample size—about 7-percent narrower than confidence intervals for direct estimates via the 2014 ENCOVI. This 0.93 appears in Table 8 as the "α factor for precision" because if $\alpha = 0.93$, then the formula for confidence intervals c for the new 2014 scorecard is $\pm c = \pm z \cdot \alpha \cdot \sigma$. That is, the formula for the standard error σ for point-in-time estimates of poverty rates via scoring is $\alpha \cdot \sqrt{\dfrac{\hat{p} \cdot (1 - \hat{p})}{n}} \cdot \sqrt{\dfrac{N - n}{N - 1}}$.

In general, α can be more or less than 1.00. When α is less than 1.00, it means that the scorecard is has smaller standard errors than direct measurement. It turns out that α is less than 1.00 for nine of the 16 poverty lines in Table 8, with a range from 0.93 to 1.40.

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

To illustrate how to use this, suppose the population N is 3,353,483 (the number of households in Guatemala in 2014), suppose $c = 0.04645$, $z = 1.64$ (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 Guatemala's overall poverty rate for that line in 2014 (48.6 percent at the household level, Table 1). The α factor is 0.93 (Table 8). Then the sample-size formula gives

$$n = 3{,}353{,}483 \cdot \left(\frac{1.64^2 \cdot 0.93^2 \cdot 0.486 \cdot (1 - 0.486)}{1.64^2 \cdot 0.93^2 \cdot 0.486 \cdot (1 - 0.486) + 0.04645^2 \cdot (3{,}353{,}483 - 1)} \right) = 270, \text{ which}$$

is not far from 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 $n = \left(\dfrac{0.93 \cdot 1.64}{0.04645} \right)^2 \cdot 0.486 \cdot (1 - 0.486) = 270.$[36]

Of course, the α factors in Table 8 are specific to Guatemala, its poverty lines,

its poverty rates, and the new 2014 scorecard. The derivation of the formulas for

standard errors using the α factors, however, is valid for any poverty-measurement tool

following the approach in this paper.

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[36] 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 Guatemala should report using the poverty line
that marks the poorest half of people below 100% of the national line. Given the α
factor of 0.97 for this line (Table 8), an expected before-measurement household-level
poverty rate of 21.3 percent (the all-Guatemala rate for this line in 2014, Table 1), and
a confidence level of 90 percent ($z = 1.64$), then $n = 300$ implies a confidence interval of

$\pm\, 1.64 \cdot 0.97 \cdot \sqrt{\dfrac{0.213 \cdot (1 - 0.213)}{300}} = \pm 3.8$ percentage points.

In practice after the end of ENCOVI fieldwork in February 2015, a program would select a poverty line (say, 100% of the national line), note its participants' population size (for example, $N = 10{,}000$ participants), select a desired confidence level (say, 90 percent, or $z = 1.64$), select a desired confidence interval (say, ± 2.0 percentage points, or $c = \pm 0.02$), make an assumption about $\tilde{p}$ (perhaps based on a previous measurement such as the household-level poverty rate for 100% of the national line for Guatemala of 48.6 percent in the 2014 ENCOVI in Table 1), look up α (here, 0.93 in Table 8), assume that the scorecard will still work in the future and for sub-groups that are not nationally representative,[37] and then compute the required sample size. In this illustration, $n = 10{,}000 \cdot \left(\dfrac{1.64^2 \cdot 0.93^2 \cdot 0.486 \cdot (1 - 0.486)}{1.64^2 \cdot 0.93^2 \cdot 0.486 \cdot (1 - 0.486) + 0.02^2 \cdot (10{,}000 - 1)} \right) = 1{,}269.$

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[37] This paper reports accuracy for the scorecard applied to its validation sample, but it does not test accuracy for later years nor for sub-populations that are not nationally representative. Performance after February 2015 will resemble that in the 2014 ENCOVI 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.

To give an idea of how accurate the new 2014 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 from the 2014 validation sample and follow-ups from the 2000 or 2006 validation samples.[38]

The tests here are stringent because:

- They compare scorecard estimates with observed values from the ENCOVI
- The long time frame (eight and 14 years) increases the risk of inaccuracy due to greater changes in the relationships between indicators and poverty as well as greater changes in the population of Guatemala
- The tests are *out-of-sample* in that they use—in both baseline and follow-up—only ENCOVI data from households that is not used in construction nor calibration of the new 2014 scorecard
- The tests are *out-of-time* in that the follow-up is from a different time (2000 or 2006) than the data used to construct the scorecard (2014)

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. The issue of the

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[38] In actual use, of course, the baseline comes before the follow-up. The 2014 baseline for the tests here is after the 2000 or 2006 follow-ups because the old 2006 scorecard will not be used from now on to estimate consumption-based poverty. In any case, such tests are merely indicative—not definitive—as there is no way to know for certain how well the new 2014 scorecard will work in, say, 2018.

expected accuracy of the old 2006 scorecard (in the past) and the new 2014 scorecard (in the future) is discussed more below.

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 a pair of ENCOVI rounds must be due to some combination of:

- Sampling variation
- Inconsistent data quality
- Inconstant definitions of *poverty*
- 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 Guatemala'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. Making judgments or drawing conclusions about causality requires either strong assumptions or a control group that resembles participants in all ways except participation. To belabor the point, the scorecard can help estimate the impact of participation only if there is some way to know—or explicit assumptions about—what would have happened in the absence of participation. And that information must come from beyond the scorecard.

7.2 Warning: Estimate change over time only with a baseline and a follow-up from the same scorecard

In the case of Guatemala, the same scorecard should be used at both baseline and follow-up. This is because there are large errors when the new 2014 scorecard is applied to estimate change over time with the validation samples from 2014, 2006, and 2000. Most of the errors probably stem from large changes in the relationship between indicators and poverty, especially between 2006 and 2014. This sub-section discusses the implications for estimating change over time with the scorecard in Guatemala.

As noted in the introduction, the assumptions of the scorecard do not hold well in Guatemala across the past three ENCOVIs. In particular, tests with historical data (discussed below) show that the new 2014 scorecard is very inaccurate when measuring change in Guatemala between 2014 and 2006 and between 2014 and 2000.

For 2014 to 2006, the inaccuracy is probably mostly due to the fact that residence quality and asset ownership—accounting for nine of 10 scorecard indicators—

is quicker to ratchet up when consumption increases than it is to slip down when consumption decreases. From 2000 to 2014, households' quality of residence and ownership of assets steadily improved in Guatemala. In contrast, consumption-based poverty as observed in the ENCOVI increased from 2000 to 2006 but then decreased from 2006 to 2014.

For 2014 to 2000, the scorecard's inaccuracy is due both to the "stickiness" of residence quality and asset ownership in the face of falling consumption (between 2014 and 2006) as well as to the longer time period (14 years between 2014 and 2000). All else constant, a longer time period causes larger changes in the relationships between indicators and poverty and in the composition of Guatemala's population. The additional inaccuracy for the new 2014 scorecard when estimating back to 2000 (vis-à-vis its inaccuracy when estimating back to 2006) is probably mostly due to changes in the relationships between indicators and poverty. This follows because the accuracy of the old 2006 scorecard for measuring change between 2006 (baseline) and 2000 (follow-up) compares well with accuracy in the other 15 countries for whom similar tests have been done. In particular, the average absolute error for the old 2006 scorecard looking back from 2006 to 2000 is about 1.2 percentage points across the eight absolute lines in Schreiner and Woller (2010, p. 106). This is much better than the average of about 3.1 percentage points across the other 15 countries for which such tests have been done (Schreiner, 2016a, 2016b, 2016c, 2015a, 2015b, 2015c, 2015d, 2013a, 2013b, 2012c, 2010, 2009a, 2009b, 2009c; and Chen and Schreiner, 2009).

Tests that apply the old 2006 scorecard out-of-sample/out-of-time with a 2006 validation sample (baseline) and all of the data from the 2014 ENCOVI (follow-up) reveal that the average absolute errors across the eight absolute poverty lines supported for the old 2006 scorecard is about 9.7 percentage points. Thus, the old 2006 scorecard is as grossly inaccurate for estimating change over time looking forward between 2006 and 2014 as is the new 2014 scorecard looking backward.

In sum, the extreme inaccuracy of the new 2014 scorecard when applied to historical data is probably mostly due to the long time between 2000 and 2014 and to the fact that the worsening of consumption-based poverty between 2006 and 2014 was not accompanied by a reduction in residence quality and asset ownership.[39]

For the same reasons, the old 2006 scorecard is similiarly inaccurate for measuring change in consumption-based poverty between 2006 and 2014. Given that estimates of change in consumption-based poverty (for both the old and new scorecards between 2006 and 2014) have large errors, legacy users who want to salvage baseline data from the old 2006 scorecard should pair it only with follow-up data from the old 2006 scorecard, analyzing only changes in the distribution of scores (not changes in the averages of poverty likelihoods) to estimate the direction (but not the magnitude) of changes in an asset-based definition of *poverty* (as opposed to a consumption-based definition). In essence, this changes the relevant definition of *poverty* from one known to be estimated with much inaccuracy to one that—by defining poverty in terms of its own

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[39] These two factors that may not be as relevant after 2014 .

indicators and points, rather than in terms of a consumption-based poverty line outside of the scorecard—is much more accurate.

What about the accuracy of the new 2014 scorecard from now on? If poverty in Guatemala falls after 2014 and if the new 2014 scorecard is used to estimate change over short periods (say, in the two-to-five years until the next ENCOVI is complete and the scorecard can be updated again), then the new 2014 scorecard should be about as accurate from now on as is typical among the 15 other countries for which there are similar tests. Under these assumptions, users from now on can estimate consumption-based changes over time with both a baseline and a follow-up from the new 2014 scorecard without expecting unusual inaccuracy.

7.3   Estimating changes in poverty rates over time

The rest of this section documents the out-of-sample/out-of-time tests of the accuracy of scorecard estimates of change over time.

Consider the illustration begun in the previous section. On 1 January 2017, a program samples three households who score 20, 30, and 40 and so have poverty likelihoods of 93.4, 78.2, and 46.6 percent (100% of the national line, Table 4). Correcting for the known average error for this line in the 2014 validation sample of +0.8 percentage points (Table 8), the corrected baseline estimated poverty rate is the households' average poverty likelihood of $[(93.4 + 78.2 + 46.6) \div 3] - (+0.8) = 71.9$ percent.

After baseline, two sampling approaches are possible at follow-up:

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

By way of illustration, suppose that three years later on 1 January 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 87.3, 66.0, and 33.8 percent, 100% of the national line, Table 4). Adjusting for the known average error, the average poverty likelihood at follow-up is $[(87.3 + 66.0 + 33.8) \div 3] - (+0.8) = 61.6$ percent, an improvement of $71.9 - 61.6 = 10.3$ percentage points.[40] Supposing that exactly three years passed between the average baseline interview and the average follow-up interview, the estimated annual rate of decrease in poverty is $10.3 \div 3 = 3.4$ percentage points per year. About one in ten participants in this hypothetical example cross the poverty line between 2017 and 2020.[41] Among those who start below the line, about one in seven ($10.3 \div 71.9 = 14.3$ percent) on net end up above the line.[42]

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 87.3, 66.0, and 33.8 percent. The average across households of the difference in each given household's baseline poverty likelihood and its

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

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

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

follow-up poverty likelihood is $[(93.4 - 87.3) + (78.2 - 66.0) + (46.6 - 33.8)] \div 3 = 10.4$ percentage points.[43] Assuming in this example that there are exactly three years between each household's interviews, the estimated annual decrease in poverty is $10.4 \div 3 = 3.5$ percentage points per year.

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

7.4   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 2000, 2006, and 2014 ENCOVI. 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 2014 (baseline) and 2000 or 2006 (follow-ups) can be estimated for the 10 non-relative poverty lines supported for the new 2014 scorecard.[44] The

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[43] In this second approach, the error for this line in Table 8 should *not* be subtracted off. The 10.4 percentage points here differs from the 10.3 percentage points in the first approach because rounding takes place at different stages in the two calculations.

[44] Change cannot be estimated for relative lines, as their real value is not constant over time. These are the five percentile-based lines and the line that marks the poorest half of people below 100% of the national line.

average absolute error across the 20 estimates of change (ten for 2014 to 2006, and ten for 2014 to 2000) is about 10.0 percentage points (Table 9), while the average absolute change observed in the ENCOVI is about 4.7 percentage points. Thus, the average absolute error is more than twice of the average absolute observed change. This is not good enough, even for government work.

For the example of 100% of the national line, the error from 2014 to 2006 is +10.2 percentage points, and the error from 2014 to 2000 is +21.6 percentage points. The observed change from 2014 to 2006 was –8.6 percentage points (poverty increased from 2006 to 2014), while the scorecard estimates a decrease in poverty of +10.2 – 8.6 = 1.6 percentage points. For 2014 to 2000, the observed change was –2.8 percentage points (poverty increased from 2000 to 2014), while the scorecard estimates a decrease of +21.6 – 2.8 = 18.8 percentage points.

For three of the 20 cases, the observed value is in the estimate's 90-percent confidence interval (given $n = 1,024$). Of course, if scoring's assumptions held, then more or less 18 of the 20 90-percent confidence intervals would contain the observed value. This is again very inadequate performance.

The estimated direction of change (that is, whether poverty increased or decreased) matches the observed direction of change for six of 20 cases. Five of these six cases are "statistically significant" in that the estimated direction of change matches the observed direction of change and in that zero is not in the estimate's 90-percent confidence interval (given $n = 1,024$). Even for this lowest of hurdles, accuracy for

Guatemala is much worse than in any of the other 15 countries with similar tests. The results are not encouraging for the hope that the scorecard can usefully estimate change over time in Guatemala, at least when the baseline or follow-up estimate is taken between 2006 and 2014. Of course, accuracy might be better (or worse) from now on with the new 2014 scorecard.

In sum, the new 2014 scorecard for Guatemala is very inaccurate for estimating change between 2014 (baseline) and 2000 or 2006 (follow-ups). As discussed above, users should therefore avoid estimating changes in consumption-based poverty that involve a baseline or follow-up from the old 2006 scorecard. From now on, it is reasonable to assume that estimates of change that use only the new 2014 scorecard will be about as accurate as they typically are in other countries.

7.5 Precision for estimates of change in two samples

For two equal-sized independent samples (and maintaining the standard assumptions of the scorecard), 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,[45] 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.

For Guatemala, the average α across the 20 cases of estimated change with historical data is about 1.04 (Table 9). For $n = 16{,}384$, the 90-percent confidence intervals are ± 0.9 percentage points or better.

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:

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

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

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, $\alpha = 0.97$ (Table 9 for 2014 to 2006), $\hat{p} = 0.486$ (the household-level poverty rate in 2014 for

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[45] 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.

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 $n = 2 \cdot \left(\dfrac{0.97 \cdot 1.64}{0.02} \right)^2 \cdot 0.486 \cdot (1 - 0.486) \cdot 1 = 3{,}161$, and the follow-up sample size is also 3,161.

7.6 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:[46]

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

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 Guatemala, 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

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

poverty line $\widetilde{p}_{12}$ and $\widetilde{p}_{21}$. Before measurement, an agnostic assumption is that the change in the poverty rate will be zero, which implies $\widetilde{p}_{12} = \widetilde{p}_{21} = \widetilde{p}_*$, giving:

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

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 2014 scorecard is applied twice (once after February 2015 and then again later) is

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

In Peru (the only source of a data-based estimate, Schreiner, 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 poverty rate p_{2017} is taken as 48.6 percent (Table 1), and α is assumed to be 1.30. Then the baseline sample size is

$$n = 2 \cdot \left(\frac{1.30 \cdot 1.64}{0.02} \right)^2 \cdot [-0.02 + 0.016 \cdot 3 + 0.47 \cdot 0.486 \cdot (1 - 0.486)] \cdot 1 = 3{,}305.$$ The same group of 3,305 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*,[47] 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.

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

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[47] Other 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.*

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

Guatemala. For an example cut-off of 44 or less, outcomes for 100% of the national line

in the 2014 validation sample are:

- Inclusion: 42.5 percent are below the line and correctly targeted
- Undercoverage: 6.1 percent are below the line and mistakenly not targeted
- Leakage: 10.1 percent are above the line and mistakenly targeted
- Exclusion: 41.3 percent are above the line and correctly not targeted

Increasing the cut-off to 49 or less improves inclusion and undercoverage but

worsens leakage and exclusion:

- Inclusion: 46.0 percent are below the line and correctly targeted
- Undercoverage: 2.6 percent are below the line and mistakenly not targeted
- Leakage: 16.8 percent are above the line and mistakenly targeted
- Exclusion: 34.6 percent are above the line and correctly not targeted

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

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

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

- Assign benefits and costs to possible outcomes, based on its values and mission
- Tally total net benefits for each cut-off using Table 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 2014 scorecard. For 100% of the national line in the 2014 validation sample, total net benefit—under the hit rate—is greatest (83.8) for a cut-off of 44 or less, with about six in seven households in Guatemala 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).[48]

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 2014 scorecard applied to the 2014 validation sample, the expected poverty rate among households who score at or below a given cut-off. For the example of 100% of the national line, targeting households in the 2014 validation sample who score 44 or less would target 52.6 percent of all households (second column) and would be associated with an expected poverty rate among those targeted of 80.8 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

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[48] 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.

national line with the 2014 validation sample and a cut-off of 44 or less, 87.4 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 2014 validation sample and a cut-off of 44 or less, covering 4.2 poor households means leaking to 1 non-poor household.

9. Context of poverty-measurement tools in Guatemala

This section discusses three[49] poverty-measurement tools for Guatemala 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
- Using a consumption-based definition of *poverty* that is widely understood and that is used by the government of Guatemala
- 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
- Reporting targeting accuracy, and having targeting accuracy that is likely similar to that of alternative approaches
- Being feasible for pro-poor programs in Guatemala, due to its low cost and transparency

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[49] Schreiner and Woller (2010) also discuss IRIS Center (2009), an out-dated poverty-assessment tool based on the 2000 ENCOVI. They note that accuracy comparisons between the IRIS tool and the old 2006 scorecard (applied to the 2000 ENCOVI) are difficult because the IRIS tests are not out-of-sample, let alone out-of-time.

9.1   Gwatkin *et al.*

Gwatkin *et al.* (2007) construct a poverty-assessment tool for Guatemala with an approach that they use in 56 countries with Demographic and Health Surveys (Rutstein and Johnson, 2004). They use Principal Component Analysis to make an asset index from low-cost indicators available for the 5,587 households in Guatemala's 1998/9 DHS.[50] The PCA index is like the scorecard here except that, because the DHS does not collect data on consumption, the index is based on a different (asset-based) conception of *poverty*, its accuracy vis-à-vis consumption-based poverty is unknown, and it can only be assumed to be a proxy for long-term wealth/economic status.[51] Well-known examples of the PCA asset-index approach include Stifel and Christiaensen (2007), Zeller *et al.* (2006), Sahn and Stifel (2003 and 2000), Henry *et al.* (2003), and Filmer and Pritchett (2001).

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[50] All DHS data for Guatemala since 1995 include each household's asset-index score (`dhsprogram.com/topics/wealth-index/Wealth-Index-Construction.cfm`, retrieved 18 October 2016).

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

The 24 indicators in Gwatkin *et al.* are similar to those in the scorecard in terms of their low cost and verifiability:

- Characteristics of the residence:
  — Tenancy status
  — Presence of an electrical connection
  — Type of floor
  — Type of wall
  — Type of roof
  — Type of kitchen
  — Presence of a chimney
  — Type of cooking fuel
  — Source of drinking water
  — Type of toilet arrangement
  — Means of trash removal
- Ownership of consumer durables:
  — Radios
  — Televisions
  — Refrigerators
  — Telephones
  — Bicycles
  — Motorcycles
  — Cars
- Ownership of agricultural assets:
  — Horses or mules
  — Crop land
  — Tractors
- Number of people per sleeping room
- Area of land owned
- Whether any household members work agricultural land

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

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

The first goal is segmentation, and the last two goals deal with performance monitoring, so the asset index would be used much like the scorecard here. In particular, the scorecard's support for relative (percentile-based) poverty lines allows the segmentation of households by quintile to see how health (or other things) vary with consumption. Of course, it is also possible to segment households by quintiles based on scores from the scorecard to see how health (or other things) vary with wealth.

The Gwatkin *et al.* index is more costly and difficult-to-use than the scorecard. The index has 24 indicators (versus 10), and while the scorecard requires adding up 10 integers (some of them usually zeroes), Gwatkin *et al.*'s index requires adding up 138 numbers, each with five decimal places and about half with negative signs.

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

In essence, Gwatkin *et al.*—like all asset indexes—define *poverty* in terms of the indicators and points in the index itself. Thus, the index is not a proxy standing in for

something else (such as consumption). Rather, it is a direct measure of an asset-based (non-consumption-based) definition of *poverty.* There is nothing wrong—and a lot right—about defining *poverty* in this way, but it is not as common as a consumption-based definition. It also means that ranks are not comparable across different asset indexes because the definition of *poverty* varies with a given index's indicators and points. And estimates of change over time from an asset index can only address the direction of change, not the magnitude.

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

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

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

9.2   SEGEPLAN

Secretaria de Planificación y Programación de la Presidencia (SEGEPLAN, 2002) uses poverty-assessment tools to construct a "poverty map" (Elbers, Lanjouw, and Lanjouw, 2003; Hentschel *et al.*, 2000) of estimated poverty rates for each of Guatemala's 22 departments and 330 municipalities. The goal of the poverty map is to improve the targeting of policies and to draw attention to poverty.[52]

SEGEPLAN builds 15 poverty-assessment tools (urban and rural for seven regions, plus the capital) using least-squares regression on the logarithm of per-capita consumption for households in the 2000 ENCOVI, using only indicators found also in the 2002 National Census of Population and Housing.

The tools are applied to households in the 2002 census to estimate poverty rates using the food line and 100% of the national poverty line. The poverty-map estimates have smaller standard errors than direct estimates based solely on ENCOVI data.[53] The

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[52] INE (2013) is a poverty map for rural areas based on data from the 2011 ENCOVI and the Rural Censuses of 2008 through 2011. It seeks to inform the targeting of the *Mi Familia Progresa* conditional cash-transfer program. The 2011 ENCOVI uses distinct urban and rural food baskets (INE, 2011), so its poverty estimates are not comparable with those from the 2000, 2006, and 2014 ENCOVI which use a single, all-Guatemala food basket (INE, 2015).

[53] As pointed out by Tarozzi and Deaton (2007) and as illustrated by the high-error/low-standard-error estimates of change over time in this paper, the standard error is only one aspect of the accuracy of a poverty-assessment tool. SEGEPLAN reports confidence intervals (equivalent to standard errors) for its poverty-rate estimates, but it does not report sample sizes, so its precision cannot be compared with a benchmark. SEGEPLAN also reports person-level poverty-rate estimates from the poverty map for 100% of the national line as well as observed values from the 2000 ENCOVI. These

results are displayed in "poverty maps" that quickly make clear to non-specialists how poverty rates vary across departments and municipalities.

Poverty mapping in SEGEPLAN and the scorecard in this paper are similar in that they both:

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

Strengths of poverty mapping include that it:

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

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show an error for Guatemala as a whole of –1.9 percentage points and an average absolute error across the 15 regions of 3.7 percentage points.

Strengths of the scorecard include that it:

- Is simpler in terms of both construction and application
- Tests accuracy out-of-sample and out-of-time
- Associates poverty likelihoods with scores non-parametrically
- Reduces overfitting by selecting indicators with statistical and non-statistical criteria and by having only a single, all-Guatemala scorecard[54]
- Surfaces estimates of poverty likelihoods for individual households
- Reports errors and standard errors (and straightforward formulas for standard errors)

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

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

In terms of targeting, the developers of poverty mapping say that the poverty-assessment tools behind poverty maps are too inaccurate for targeting individual households (Elbers, Lanjouw, and Lanjouw, 2003; Demombynes *et al.*, 2004). In contrast, Schreiner (2015e) supports targeting as a legitimate, potentially useful

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[54] 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 [tools] to predict household consumption." Multiple tools can be "problematic since the number of observations for each area becomes small and, as a result, the regression coefficients become less stable." To reduce overfitting, Haslett (2012) recommends that poverty maps use a single, all-country scorecard.

application of the scorecard. In Elbers *et al.* (2007), the developers of poverty mapping seem to take a small step away from their original opposition to targeting individual households with poverty-assessment tools.

SEGEPLAN's 15 tools use 8 to 19 indicators selected from 77 candidate indicators, 31 of which are municipal-level indicators from sources other than the 2000 ENCOVI or the 2002 census. SEGEPLAN does not report what indicators are in what tools, nor does it report points. In the absence of more information, this means that local pro-poor programs cannot use the tools on their own for their own purposes.

9.3   Fruttero

Fruttero (Chapter 5 of World Bank, 2009) uses data from the 2006 ENCOVI to construct two poverty-assessment tools[55] (urban and rural), showing how their use could improve the targeting of Guatemala's *Mi Familia Progresa* conditional cash-transfer program.[56] Simulations show that the tools would reduce leakage and thus enable greater transfers to the target group for a given budget.

As in this paper, Fruttero begins by identifying candidate indicators that are highly correlated with consumption "yet easy to measure, observe, and verify—and relatively hard to manipulate by the household" (p. 69). The tools are constructed using stepwise regression on the logarithm of per-capita consumption. Scores are converted

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[55] Fruttero use the term *proxy means tests.*
[56] The target group is households under the food line with children younger than 12.

into poverty likelihoods as in Hentschel *et al.* (2000). Both the urban and the rural tools

use the same set of 15 indicators:

- Household demographics:
    — Sex of head
    — Age of head
    — Ethnicity of head
    — Dependency rate
- Education of head
- Characteristics of the residence:
    — Type of walls
    — Source of drinking water
    — Type of toilet arrangement
    — Means of disposal of garbage
    — Number of rooms
    — Number of household members per room
- Ownership of consumer durables:
    — Televisions
    — Refrigerators
    — Washing machines
    — Vehicles

These resemble the indicators for the scorecard, although the dependency rate

and the number of people per room are more difficult to calculate. The points are also

more complex, including negative numbers and four decimal places, so Fruttero's tool

would be more difficult to apply by hand in the field.

How does the scorecard compare with Fruttero's two poverty-assessment tools in terms of targeting accuracy? The old 2006 scorecard is at a disadvantage in two ways.[57] First, Fruttero tests accuracy in-sample, while this paper tests it out-of-sample. Second, Fruttero uses two tools (urban and rural), while this paper uses a single, all-Guatemala scorecard.

Among the lowest-scoring 17.1 percent of households in the 2006 ENCOVI by Fruttero' tool, 66.1 percent are below the food line (p. 79). Among the lowest-scoring 17.0 percent of households in a 2006 validation sample by the old 2006 scorecard, 66.2 percent are below the food line.

Thus, the single scorecard here (tested out-of-sample) targets as well as Fruttero's two tools (tested in-sample), even though the scorecard uses fewer and simpler indicators, can be computed by hand in the field, and is easier for policymakers to understand.

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[57] The old 2006 scorecard is relevant because Fruttero constructs and validates her tool with data from the 2006 ENCOVI.

10. Conclusion

Pro-poor programs in Guatemala 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
- A population's poverty rate at a point in time
- The change in a population's poverty rate 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 Guatemala that want to improve how they monitor and manage their social performance.

The new 2014 scorecard is constructed with data from half of the households in Guatemala's 2014 ENCOVI. Those households' scores are then calibrated to poverty likelihoods for 16 poverty lines. The accuracy (errors and precision) of the new 2014 scorecard is tested out-of-sample on data that is not used in scorecard construction for targeting, for estimates of household's poverty likelihoods at a point in time, and for estimates of a population's poverty rates a point in time.

When the scorecard is applied to the 16 poverty lines in the 2014 validation sample, the maximum absolute error for point-in-time estimates of poverty rates is 1.4 percentage points, and the average absolute error across poverty lines is about 0.6 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 ± 2.5 percentage points or better.

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. It turns out that the errors of estimates of change over time for the new 2014 scorecard applied with the 2014 validation sample (baseline) and with all households from the 2000 or 2006 ENCOVI (follow-ups) are very large (averaging about 10 percentage points in absolute value). The factors driving these large errors also affect the accuracy of estimates of change over time based on the old 2006 scorecard.

Users can avoid these inaccuracies when estimating change in two ways. First, all users should switch to the new 2014 scorecard from now on. As long as consumption in Guatemala does not continue to fall while housing quality and asset ownership continue to improve, and as long as the new 2014 scorecard is like those in the other 15 countries for which the accuracy of change over time has been tested, and as long as the new 2014 scorecard is succeeded by an update as soon as there is newer ENCOVI data available, then the new 2014 scorecard should not be expected to suffer from unusually large inaccuracies.

Second, users should not combine a baseline from the old 2006 scorecard with a follow-up from the new 2014 scorecard. If legacy users insist, they can estimate change

over time with both a baseline and a follow-up from the old 2006 scorecard (but not

with a follow-up from the new 2014 scorecard, whose scores and poverty likelihoods are

not comparable with scores from the old 2006 scorecard).[58] They would estimate the

direction of change in asset-based poverty based on changes in the distribution of scores

(rather than estimating the sign and size of the change in consumption-based poverty

based on changes in the averages of poverty likelihoods). Such an asset-based approach

is perfectly valid—and it has some advantages over a consumption-based approach—

but asset-based estimates of poverty are more difficult to communicate, and they are

not comparable with consumption-based estimates nor with asset-based estimates from

other poverty-assessment tools. Nevertheless, the approach allows legacy users to

salvage information on the direction of change from existing baseline estimates from the

old 2006 scorecard.

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 a program's managers feel so daunted by a scorecard's

complexity or its cost that they do not even try to use it.

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[58] For a time, such legacy users would apply both the old and new scorecards, creating a
follow-up corresponding to a past baseline from the old 2006 scorecard as well as a
baseline corresponding to a future follow-up from a new 2014 scorecard.

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 Guatemala to estimate consumption-based poverty rates, to track changes in poverty rates over time, and to 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 excerpts quoted below come from:

Instituto Nacional de Estadística. (2006) "Encuesta Nacional de Condiciones de Vida, ENCOVI 2006: Manual de Procedimientos Técnicos del Encuestador", [the *Manual*].

and

Instituto Nacional de Estadística. (2014) "Boleta de la Encuesta Nacional de Condiciones de Vida, ENCOVI 2014", [the *Questionnaire*].

When an issue comes up that is not addressed here, its resolution should be left to the unaided judgment of the enumerator, as that seems to be what Guatemala's INE did in the 2014 ENCOVI. That is, a program using the scorecard should not promulgate any definitions nor 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 the individual enumerator.

General guidelines for asking scorecard questions

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

Do not ask the first scorecard indicator directly ("How many members does the household have?"). Instead, use the information recorded on the "Back-page Worksheet" to determine the response to mark. You must also record the number of household members in the scorecard header next to "Number of household members:".

Do not read the response options to the respondent. Just 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 happen to 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, your application of the scorecard should mimic as closely as possible INE's application of the 2014 ENCOVI. For example, poverty-scoring interviews should take place in respondents' homesteads because the 2014 ENCOVI took place in respondents' homesteads.

Questionnaire translation:

The 2014 ENCOVI left translation of the survey instrument to languages other than Spanish to each individual enumerator (perhaps with the help of local translators). When translation was needed, it was done on the fly.

    While the application of the scorecard should, in general, mimic the application of the 2014 ENCOVI, it nevertheless makes sense to have a standard, well-done, checked translation to languages that are common in Guatemala (such as K'iche', Q'eqchi', Kaqchikel, and Mam, among others).

    Without a standard translation, the variation in translations and interpretations across enumerators could greatly harm consistency and thus harm data quality. Of course, any translation should reflect the meaning in the original Spanish ENCOVI survey instrument as closely as possible. In particular, any translations should be based on the scorecard and documentation in Spanish, not on this documentation in English. Ideally, all programs using the scorecard in a given dialect or language in Guatemala would coordinate and use a single translation.

Confidentiality:

According to p. 22 of the *Manual*, "All data provided by respondents will be kept strictly confidential and used only for statistical purposes."

Who should be the respondent?

According to p. 22 of the *Manual*, the respondent should be the head of the household or his/her spouse/conjugal partner. "If neither the head nor his/her spouse/conjugal partner is available, then ask to speak with a capable, adult member of the household. Do not record responses from domestic servants, children, or members of other households."

According to p. 30 of the *Manual*, "The respondent should be the household member who knows the most about the subject. In general, this will be the head of the household or his/her spouse/conjugal partner."

According to p. 69 of the *Manual*, the *head of the household* is "that household member whom the other household members recognize as the head. They may base their attribution on the head's responsabilities, decision-making position, prestige, family relationship, or on economic, social, or cultural factors."

According to p. 72 of the *Manual*, the *head of the household* is "the member of the household—male or female—recognized by the other household members as the head and who has the final say in household decisions. Headship may be based on age or on status as the household's main bread-winner."

Additional general guidelines:

Study these "Guidelines" carefully, and carry them with you in the interviews.

According to pp. 7–10 of the *Manual*, "You should:

- Study these "Guidelines" intently until you master them
- Be friendly and cordial—yet formal—while interviewing
- Find and interview the sampled households in their residences, asking the appropriate respondent the questions as they are written in the questionnaire
- Do the full interview with the sampled household in-person
- Re-visit sampled households to correct any errors or omissions
- Meet households appropriately dressed and groomed. Always wear your ID badge. Besides improving your personal safety, this helps to gain the household's cooperation, which in turn drives of the success of the interview and data quality
- Do an honest day's work

"Do not:

- Delegate your work
- Misrepresent the responses that you receive
- Reveal, repeat, or discuss a household's responses—nor show completed questionnaires—to anyone outside of the project team
- Fail to keep a household's responses strictly confidential
- Bring third parties to the interview who have no business being there
- Pressure respondents to cooperate nor offer them false promises or gifts
- Interview another household in the place of a sampled household"

In addition to these "Guidelines", you should always carry with you:

- "Your ID badge that shows that you work for [your program]
- Letter of introduction asking for the sampled household's cooperation
- Paper questionnaires"

<u>Art of interviewing</u>:
According to pp. 21–27 of the *Manual*:

"Respondents come from a variety of cultural backgrounds, and they will react to the survey differently and have a range of attitudes and behaviors related to it. As an enumerator, you will work with people who are different than you in terms of socio-economic status, educational attainment, employment, customs, religion, race/ethnicity, and so on. To overcome the challenges of surveying, you must learn to interact with and understand a wide variety of people. You must also create an atmosphere of trust so that the respondent takes positive view of the interview and provides high-quality data.

<u>Reaching the respondent</u>
"The first meeting between you as the enumerator and the respondent is a key moment in the quest to collect high-quality data. Follow these guidelines:

First meeting: "The respondent gets his/her first impression of you in the moment that the two of you meet. Thus, your first words and actions are the foundation of upon which trust is built.

"If the first meeting is appropriate and positive, then the respondent will almost always cooperate. In contrast, an inappropriate or negative first impression will open the door to resistance, grudging responses, and—in extreme cases—flat-out refusal to do the survey, wasting your time and destroying the project's chance to learn from the household.

Physical appearance: Arrive for the interview appropriately dressed and looking your best. Your appearance is a driver of the survey's success, so take care not to elicit disgust or distrust in the respondent. Of course, you also want to look professional because it reflects on the seriousness of [your program].

"So dress appropriately for the area where you are working.

Identifying the respondent: Once you find the sampled household's residence, ask to see the head or his/her spouse/conjugal partner. "If the head nor his/her spouse/conjugal partner are available, then ask to speak with a capable, adult member of the household. Do not interview servants, children, or people who are not members of the sampled household.

"Greet the prospective respondent warmly, and introduce yourself. Present your letter of introduction, and explain—clearly and concisely—the purpose of your visit and of the survey. Emphasize the importance (and the necessity) of the household's providing its responses for the survey on [how participants of your program live].

"For example, you might introduce yourself and the survey with this script:

Good morning/afternoon/evening. My name is [your name], and I work with [your program]. Here is my ID badge. We are doing a survey to [learn about the living conditions of the participants in your program]. Your household was one of the lucky few selected at random to respond, and I look forward to your gracious cooperation, which is very important to [your program].

Please rest assured that all information that you provide will be kept strictly confidential and will be used only for statistical purposes.

"The survey depends on how you act and impression that you make. In your introduction, be sure to:

- Highlight the goals of the survey
- Give assurances of confidentiality
- Ask for the household's cooperation

"This introduction will usually be enough to convince the household to participate. In some cases, however, the household will hesitate or have its doubts. Assure them that their responses will be kept strictly confidential and that they will not be published in a way that can be linked back to the household.

"If the respondent asks other questions, give an answer only if you know the correct/true response. Explain that the survey is representative of all participants of [your program] and that it seeks to learn about they live. Provide the phone number of the project office where the household can call to verify that the survey is legitimate.

"If the household refuses to cooperate, then read a few example questions, as this may help them to come around.

"If the household asks how and why it was selected, then explain that [your program] selected a random sample from among all [of its current participants]. Say that a taking a random sample is like checking the quality of a sack of rice by checking just a few grains.

"Some households will try to wriggle out of the interview, suggesting, for example, that a neighbor would be a better choice. In this case, gently explain that you are required to interview [the households of sampled participants] as assigned by [your program] and that if you interview other households instead, then your work will be rejected.

"Then ask whether the household would be so kind as to answer your questions. Explain again the purpose of the survey, and ask for their cooperation.

"Radiate good will and self-confidence; it will rub off on the respondent. If you seem nervous or insecure, then the household will be reluctant to cooperate or—if it does cooperate—it may not make a sincere effort to give careful, accurate responses.

"Keep an even keel. If you notice that you feel agitated as you approach a household, then pause for a few minutes to calm down and to pull yourself together so that you can start your work in a positive state of mind.

Communication
Kind, confident communication is the key for winning the household's good will and its cooperation.

"Establish a good rapport with the household in the time between your first greeting and the moment in which you dig the questionnaire out of your pack, find a pencil, and ask the first question. In this brief lapse, you must explain that you would like them to cooperate with a survey [of randomly selected participants in your program], that the survey is meant to help [your program] learn about [how its participants live], and that the household can rest assured that its responses will be kept strictly confidential and used only for statistical purposes.

"Keep in mind that a respondent's attention, cooperation, and trust is lowest at the start of the interview. Your job is to steadily increase the respondent's interest, effort, and commitment and then to maintain it at a high level for the whole interview. Factors that help to do this include:

- The rhythm of the questions
- Your tone when you ask questions
- An appropriate speed of questioning
- How you manage the interview dynamic
- How well you know the questions and their sequencing

"If you are monotonous, unsure of yourself, and lack rhythm, then the respondent may lose interest and make less effort to cooperate, harming data quality.

   "Do not act full of yourself just because you work for [your program]. Be friendly, frank, and forthright. Show that you know your job. Do not be aggressive or bullying. Communication is best when the respondent sees you as an honest person who knows his/her job. You inspire trust and confidence by mastering the survey's concepts and by skillfully marching through the questions in the proper order.

The interview
"Your work as an enumerator is not easy. You must have basic knowledge of sampling, interviewing, field work, and so on. You must also know how to ask questions, handle the paper questionnaire, and record responses. In addition, you must employ various techniques to build and maintain communication and good will with the respondent.
   "Always:

- Plan enough time for the interview
- Do not act nervous or frightened; it will make a bad impression on the respondent. Approach the household with the confidence that it will cooperate. Control your fear of rejection, and avoid a defeated, pessimistic attitude
- Be sensitive to the respondent's needs. Show interest and empathy with him/her
- Use a style and words that mirror the respondent's speech and vocabulary
- Be on your best behavior for the entire interview. Establish an atmosphere of friendly trust and professional cordiality
- Create a comfortable setting, be aware of others' feelings, and do what you can keep them in good spirits
- Do not talk about things that you do not know about. It is better to honestly say "I do not know" than to say something that later turns out to be incorrect or false.
- Avoid topics or attitudes that might spark an argument with the respondent. Discuss only items in the survey
- Do not mislead the respondent nor create false expectations by offering something in exchange for his/her cooperation
- Avoid—to the extent possible—doing the interview in ear-shot of people who are not members of the responding household. The presence of third parties can lead to non-response or inaccurate answers
- If a child or someone else interrupts, or if the respondent must take a break to attend to something else for a moment, do not act surprised nor offended, and do not gripe about the inconvenience
- Accept responses non-judgmentally, without comparing them with your preconceptions. Do not act surprised by any response, whether by your tone of voice, the look on your face, the words that you speak, nor your body language. Rather, show interest in whatever the respondent says

"When a response is incomplete or unclear, probe using neutral questions. For example, you might repeat back what the respondent said ('If I understand correctly, you are saying that . . .'). Do not assume that you can infer what the respondent means. If a response is unclear or off-topic, do not try to figure out on your own what the respondent means to say. Instead, probe until the respondent understands the question. Listen carefully, and record responses faithfully.

"Strictly follow the sequencing and wording of the questions as they are in the questionnaire. Do not stray from the instructions [including this one].

"Ask all the questions in the questionnaire; do not skip or omit any. If the respondent happens to say something that may address a question that you have yet to ask, then keep going and ask that question anyway when you come to it later, even though it may seem like it has already been covered. When this happens, let the respondent know that you realize that it may seem like he/she has already answered but that you will still like to ask the question anyway so that you can be completely sure that you have the appropriate response marked.

"Straying from the established process will affect that consistency of the data, perhaps leading to:

- Missing data (if you assume that the respondent will not answer a question)
- Tainted responses (due to how the question was asked)

Instead:

- Follow the sequence of questions
- Ask questions without suggesting that you expect a certain answer. For example, do not say things like, 'You don't know how to read or write, do you?' nor 'You don't work, do you?'
- Be disciplined in your application of the questionnaire. Carefully read the questions correctly and unbiasedly, without suggesting an answer
- Avoid verbal or non-verbal signals that might influence responses
- Keep in mind that an interview has questions, responses, moments of silence, and pauses. When you read a question, keep a constant rhythm. Do not start fast and finish slow, nor vice versa. Be sensitive to how well the respondent understands, adjusting how you read the questions. Pronounce each word that you read clearly
- Remember that the respondent is not a question-answering machine. To make the survey flow, memorize the sequence of questions. Make sure you know the questionnaire [and these 'Guidelines'] as well as the concepts behind each question

- Always read each question word-for-word as it is in the questionnaire. If the respondent does not respond, or if the response does not make sense, then ask the question a second time. If you sense that the respondent does not understand what the question is asking, then explain it, being careful not to suggest a particular answer. If necessary (and only if necessary), you can re-word the question in terms that the respondent can grasp, being careful not to change its meaning
- Ask the questions exactly as they have been written by the authors of the questionnaire. The wording has been carefully crafted; do not change it. Adding to, subtracting from, or changing even a single word harms the consistency of the data
- If you must re-word a question when probing, be careful not to change its meaning
- Do not suggest responses; let the respondent speak for him/herself. If the respondent is not sure how to answer, or if the respondent just mumbles or does not speak clearly, then gently help him/her with neutral or indirect comments
- Let the respondent take his/her time to respond. If he or she digresses from the survey, gently bring him/her back on-topic
- Establish and maintain an atmosphere of interest and trust so that you can direct and control the communication process. Encourage the respondent with concrete statements of enthusiasm, understanding, and empathy
- If you see that it is not a good time for an interview—for example, because the household has visitors or because someone is ill—then return at another time
- If the respondent decides to postpone the interview, politely ask when would be a better time, and make an appointment to return then
- If the respondent is tired or annoyed, assure him/her that the interview is almost over. Keep a steady rhythm, without long breaks. If necessary, have short pauses
- After you ask the last question, carefully review the questionnaire for errors or omissions. If you find any, correct them right away while you are still with the respondent. This is better than having to come back later to fix an error or fill in a blank
- End the interview by graciously and profusely thanking the household. Be polite, and leave the household on a high note. Remember that someone—perhaps you— may have to come back again later
- Do not offer to leave a copy of the questionnaire (nor anything else) with the household unless you have received authorization to do so. Take your leave by thanking the household for its generosity in giving of its time and information

"The essence of your work is:

- Read the questions word-for-word as written in the questionnaire, in the given order, to the appropriate respondent, so that they can be understood as intended
- Listen to the responses and record them accurately, following [these] guidelines"

According to p. 29 of the *Manual*, "All the questions have been carefully crafted, and you should read them exactly as written. You are not free to re-word them as you see fit. On the contrary, you must stick strictly to the given wording. You can re-state them in your own words only if the respondent does not understand the question or if you are probing in order to understand better what the respondent is trying to say."

Guidelines for specific scorecard indicators

1. How many members does the household have?
   A. Eight or more
   B. Seven
   C. Six
   D. Five
   E. Four
   F. Three
   G. Two
   H. One

According to p. 37 of the *Manual*, a *household* is "a social unit of one or more people—with or without blood or marital relationships—who normally reside in the same residence and who work together to provide food, shelter, and other basic needs. The defining characteristic is eating from the same kitchen and sleeping under the same roof.

   "Domestic servants and their family members who do not have another usual residence are part of the household if they meet the criteria of normally eating from the same kitchen and normally sleeping under the same roof.

   "If more than one group of people live in the same residence but eat separately, then each group is its own distinct household.

According to p. 39 of the *Manual*, a *household member* is a usual resident, regardless of whether he/she is "present or temporarily absent on the day of the interview".

According to p. 68 of the *Manual*, a *usual resident* is someone established in a household because he/she "eats and sleeps on a permanent basis in the household's residence, which is the primary location of his/her business, work, study, social, and economic activities.

   "On the day of the interview, some household members may be temporarily absent due to school, work, illness, and so on. These people count as usual residents if their total expected absence is less than nine consecutive months and if they will return to the household when the reason for their absence ends.

   "Guests, lodgers, friends, and visitors are not usual residents—even if they have stayed with the household for three months or more—if they have another usual residence to which they plan to return once the purpose of their stay is completed.

   "Do count as usual residents [and thus as household members] those who currently live [and eat] with the household—even if they have not been there for at least three months—if they do not have some other usual residence, that is, if they consider the residence of the interviewed household to be their usual residence.

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Page 69 of the *Manual* has examples of cases in which people are or are not household members.

"The following are household members:

- Usual residents who are present on the day of the interview
- Usual residents who are temporarily absent on the day of the interview due to illness, school, work, or vacation (if their total expected absence is less than nine months)
- Domestic servants (and their families) who normally eat with the household and sleep in the household's residence
- Lodgers who do not have some other usual residence. (*Lodgers* pay to live in part of the residence and to share meals with the household)
- Guests and others unrelated to the household head whose total expected stay with the household is at least three months [and who have no other usual residence that they expect to return to]

"The following are *not* household members:

- People whose total expected absence is nine months or more or who have another usual residence. This includes people in the armed forces, in military school, and prisoners
- People who are usual residents in some other household. This includes visitors or tourists whose total expected stay with the household is less than three months
- People who eat with the household but who do not normally sleep in the residence
- People who sleep under the same roof but do not normally eat from the same kitchen

"People who are the head of two or more households are counted as members of the household in which they normally spend the most time."

To sum up, *household members* are those people who "normally live in the same residence and who eat from the same kitchen. This may include children, newborns, the elderly, the sick, those who are temporarily absent (less than nine months), domestic servants and their families (if they eat with the household and sleep in its residence), and guests or other people without a blood or marital relationship with the household who—consistent with the definition of *usual resident*—normally eat with the household and sleep in its residence [and who do not have another usual residence to which they expect to return]."

Page 70 of the *Manual* has additional examples to help determine whether a person is a household member:

- The respondent Ramiro Pérez says that his brother Antonio currently eats and sleeps every day in Mr. Pérez's household because he is helping with the corn harvest, but that when allthe corn is in, Antonio will return to his house in another county. Antonio is not a member of the household because he is not a usual resident
- Carmen, the wife of Raúl, says that Raúl is absent because he works weekdays in the capital and comes home only on weekends. Raúl is a member of the household with Carmen because his main base is the residence where his wife and children live and because that is where he returns when his work is finished
- When listing the members of her household, Mrs. Rosa includes her daughter who left to work in the United States, explaining that her daughter is single and will return in three years. Mrs. Rosa's daughter is not a household member because she is not a usual resident, as she now normally lives in the United States

"Important considerations:

- Police, travelling salesmen, doctors who work in various places, promoters, enumerators, and so on count as members of the households to which they normally return when their work is done or when they get a break from work
- People who work or study in some place away from the household's residence but who return to the household's residence on weekends or during other breaks count as members of the household to which they return
- People who have left to work abroad and whose total expected absence is nine months or more do not count as household members

According to p. 70 of the *Manual*, "Make a well-ordered list of household members by following the instructions [on pages 58–59 of the *Questionnaire*]. Read the introductory text to the respondent and each of the line-items in order, recording household members as you go. Compile the list of household members as you read of each line item."

According to p. 58 of the *Questionnaire*, "Record the name of each person who normally eats with the household and who normally sleeps in the household's residence. Do not forget newborns and the elderly."

According to p. 58 of the *Questionnaire*, prompt the respondent to list household members by reading this script:

"Sir/madam, I would like to make a list of the names of every one of the people who normally eat with your household and who normally sleep in your household's residence, regardless of whether they are related to the head by blood or marriage. Do not include people who, for whatever reason, have an expected or actual total absence of nine months or more.

- Please give me the first name of the person who the rest of the household members recognize as the head and who normally eats with the household and sleeps in the household's residence
- Now please tell me the first name of the head's spouse/conjugal partner who normally eats and sleeps in this household
- Please tell me the first names of each one of the single children or step-children of the head (or of the head's spouse/conjugal partner) who are single, never-married, and childless. Please start with the oldest child who normally eats and sleeps in this household. Be sure to include newborns and all other relevant children
- Please tell me the first names of each of the married or cohabiting children and step-children of the head (or of the head's spouse/conjugal partner), the first names of their spouses/conjugal partners, and the names of their children who normally eat and sleep in this household
- Please tell me the first names of each of the divorced, separated, or widowed children and step-children of the head (or of the head's spouse/conjugal partner) and the names of their children who normally eat and sleep in this household
- If there are any other relatives of the head (or of the head's spouse/conjugal partner) who normally eat and sleep in this household, then please tell me their first names
- If there are any domestic servants who normally eat and sleep in this household, then please give me their first names (and those of their family members)
- Now please tell me the first names of any non-relatives of the head who normally eat and sleep in the household
- If there is anyone who is not related to the head (or his/her spouse/conjugal partner) who has normally eaten and slept in the household for at least three months, then please tell me their names
- Please tell me the first names of anyone else that you have not already mentioned and who is now temporarily absent from the household (for less than nine months) due to health issues, studies, work, vacation, and so on. Do not forget to include children, the elderly, the sick, and the handicapped, if there are any in the household"

2. How many rooms does the household use (excluding kitchen, bathrooms, hallways, garages, or rooms used only for business)?
    A. One
    B. Two
    C. Three
    D. Four or more

According to p. 51 of the *Manual*, this question "refers only to rooms occupied by the household. If there is only one household living in the residence, then it refers to all rooms in the residence."

"If more than one household lives in the residence, then the number of rooms occupied by any one of the households must be smaller than the total number of rooms in the residence.

"Do not count garages, kitchens, and so on. Also, do not count rooms that are used only for business purposes, for example, a store that is in an area that is separate from the rooms used for day-to-day household activities.

"If the household uses a single space for sleeping, eating, and cooking, then count it as a single room, even if it has non-permanent dividers made of flimsy materials such as curtains, screens, pieces of cardboard, plastic, or other such materials

According to p. 48 of the *Manual*, a *room* is "a space in a residence or inhabited shelter enclosed by immovable, permanent walls that run from the floor to the ceiling (or at least to a height of two meters above the floor) and that enclose an area large enough to fit a bed where an adult can sleep, that is, at least about four square meters."

According to p. 48 of the *Manual*, the *total number of rooms in a residence* (regardless of the number of households who live in the residence) "refers to all the rooms in the residence on the day of the interview. The count should exclude those rooms used only as kitchens, bathrooms, hallways, garages, and those used only for business purposes.

"Do not count as separate rooms those areas that are separated from other areas by temporary, flimsy dividers such as folding dressing/privacy screens, nylon, pieces of cardboard, and so on."

According to p. 37 of the *Manual*, a *residence* is "any shelter (whether fixed or mobile) that has been constructed or converted to be inhabited by people.

A *private residence* is "any shelter demarcated by roof and walls that is structurally separate and independent, designed to lodge one or more households, or such buildings that are not designed as living spaces but that are being used as such.

"Private residences have two defining characteristics:

- *Separation*: A locale is *separate* if it is enclosed by walls and covered by a roof such that the people who live there have privacy and security from other people in the community in the place where they cook, sleep, and take shelter from inclement weather (rain, sun, and so on)
- *Independence*: A locale is *independent* if it has direct access to a street, stairway, yard, or hallway such that the occupants can enter and exit from where they live without having to first pass through places where other people live"

3. What type of toilet arrangement does the household have?
   A. Latrine, covered pit, or none
   B. Hand-pour toilet, or toilet connected to septic tank or to sewer system

According to p. 56 of the *Manual*, the *toilet arrangement* is defined as "a facility designed for the elimination of excreta.

"Read the question and wait for a response. Keep in mind that, as always, you can only mark a single response option. You should mark the one that best corresponds to the main type of toilet arrangement. If the household uses more than one type of toilet arrangement, then mark the higher-quality/more-desirable one that implies a higher standard of living.

"If necessary, provide the following clarifications to the respondent:

- *Latrine or covered pit*: A hole dug in the ground for the elimination of excreta. For hygiene, it is covered with a wooden floor or concrete slab. This response option includes composting latrines
- *Hand-pour toilet*: A facility for the elimination of excreta that is not connected to a piped water supply. To wash away waste, it uses water that has been carried to the toilet in a container and then poured in. Hand-pour toilets have a drainage pipe that conducts waste away to a sewer system, river, or similar destination
- *Flush toilet connected to septic tank*: A facility for the elimination of excreta that may or may not be connected to a piped-and-pressurized water supply and that deposits waste directly into a septic tank. A *septic tank* is a hole dug in the ground with walls and a concrete covering. The tank receives the waste and holds it as it slowly decomposes
- *Flush toilet connected to sewer system*: A facility for the elimination of excreta that has a piped-and-pressurized water supply and that drains to a sewer system

"If the residence does not have any toilet arrangement, then mark 'A' for 'none'."

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4. Does the household possess, own, or have access to a stove (gas or electric)?
   A. No
   B. Yes

According to p. 222 of the *Manual*, "The rubric *stove (gas or electric)* includes all variations of this type of consumer durable, including, for example, those stoves:

- With ovens
- Without ovens
- Using LPG
- Using propane
- Using electricity
- With four burners
- With three burners (and so on)

To count for the response option "B. Yes", "The stove must use gas or electricity. That is, wood-burning stoves do not count."

According to p. 220 of the *Manual*, "Count only stoves (gas or electric) that are owned by the household, regardless of whether they are used.

- Do not count stoves (gas or electric) that the household is borrowing or renting and that, on the day of the interview, are only being used temporarily
- Do not count stoves (gas or electric) that are completely broken and unusable
- Do count stoves (gas or electric) that, as of the day of the interview, are in need of repair if the respondent says that he/she intends to have them repaired soon"

5. Does the household possess, own, or have access to a refrigerator?
    A. No
    B. Yes

According to p. 222 of the *Manual*, "Count both gas and electric refrigerators, regardless of size or brand. Count also coolers (that do not freeze or make ice) as well as freezers."

According to p. 220 of the *Manual*, "Count only refrigerators that are owned by the household, regardless of whether they are used.

*   Do not count refrigerators that the household is borrowing or renting and that, on the day of the interview, are only being used temporarily
*   Do not count refrigerators that are completely broken and unusable
*   Do count refrigerators that, as of the day of the interview, are in need of repair if the respondent says that he/she intends to have them repaired soon"

6. Does the household possess, own, or have access to a blender?
    A. No
    B. Yes

According to p. 220 of the *Manual*, "Count only blenders that are owned by the household, regardless of whether they are used.

- Do not count blenders that the household is borrowing or renting and that, on the day of the interview, are only being used temporarily
- Do not count blenders that are completely broken and unusable
- Do count blenders that, as of the day of the interview, are in need of repair if the respondent says that he/she intends to have them repaired soon"

7. Does the household possess, own, or have access to an electric iron?
   A. No
   B. Yes

According to p. 220 of the *Manual*, "Count only electric irons that are owned by the household, regardless of whether they are used.

- Do not count electric irons that the household is borrowing or renting and that, on the day of the interview, are only being used temporarily
- Do not count electric irons that are completely broken and unusable
- Do count electric irons that, as of the day of the interview, are in need of repair if the respondent says that he/she intends to have them repaired soon"

8. Does the household have cellular-phone service?
    A. No
    B. Yes

According to p. 53 of the *Manual*, "a *cellular phone* is a mobile telephone that the household possesses".

According to Marvin Reyes of INE, count cell phones as long as they are being used and can receive calls. It does not matter whether the phone can place calls.

9. Does the household possess, own, or have access to a television with cable service?
   A. No
   B. Only television (without cable)
   C. Cable (regardless of television)

According to p. 220 of the *Manual*, "Count only televisions that are owned by the household, regardless of whether they are used.

- Do not count televisions that the household is borrowing or renting and that, on the day of the interview, are only being used temporarily
- Do not count televisions that are completely broken and unusable
- Do count televisions that, as of the day of the interview, are in need of repair if the respondent says that he/she intends to have them repaired soon"

Mark the appropriate response option based on the combination of television ownership and the presence of cable service:

Television	Cable service	Response option
No	No	A
No	Yes	C
Yes	No	B
Yes	Yes	C

10. Does the household possess, own, or have access to a bicycle, motorcycle or scooter/moped, or passenger car, pick up, van, minivan, SUV, or truck?
   A. No
   B. Only bicycle (without any others)
   C. Motorcycle or scooter/moped (without car etc., and regardless of bicycle)
   D. Car etc. (regardless of any others)

According to p. 220 of the *Manual*, "Count only bicycles, motorcycles or scooters/mopeds, or passenger cars, pick ups, vans, minivans, SUVs, or trucks that are owned by the household, regardless of whether they are used.

- Do not count bicycles, motorcycles or scooters/mopeds, or passenger cars, pick ups, vans, minivans, SUVs, or trucks that the household is borrowing or renting and that, on the day of the interview, are only being used temporarily
- Do not count bicycles, motorcycles or scooters/mopeds, or passenger cars, pick ups, vans, minivans, SUVs, or trucks that are completely broken and unusable
- Do count bicycles, motorcycles or scooters/mopeds, or passenger cars, pick ups, vans, minivans, SUVs, or trucks that, as of the day of the interview, are in need of repair if the respondent says that he/she intends to have them repaired soon"

Mark the appropriate response option based on the highest-quality/most-desirable type of transport vehicle owned:

Bicycle	Motorcycle or scooter/moped	Passenger car, pick up, van, mini-van, or truck	Response option
No	No	No	A
No	No	Yes	D
No	Yes	No	C
No	Yes	Yes	D
Yes	No	No	B
Yes	No	Yes	D
Yes	Yes	No	C
Yes	Yes	Yes	D

Table 1: National poverty lines, poverty rates, and sample sizes for all of Guatemala and for the construction and validation samples, by households and people for 2000, 2006, and 2014

Year	Line or Rate	HHs or people	HHs Surveyed	% with consumption below a poverty line			
				National			
				Food	100%	150%	200%
All of Guatemala							
2000	Line			5.33	12.04	18.06	24.08
	Rate	HHs	7,276	10.8	45.8	63.9	74.3
	Rate	People		15.7	56.1	73.0	81.7
2006	Line			8.81	18.07	27.10	36.13
	Rate	HHs	13,686	10.1	40.0	59.2	72.6
	Rate	People		15.2	51.0	69.8	81.1
2014	Line			15.78	28.05	42.07	56.10
	Rate	HHs	11,536	16.2	48.6	71.7	83.1
	Rate	People		23.4	59.3	80.1	89.2
Construction and calibration (Selecting indicators and points, and associating scores with likelihoods)							
2014	Rate	HHs	5,768	16.1	48.5	71.9	83.4
Validation (Measuring accuracy)							
2000	Rate	HHs	7,276	10.8	45.8	63.9	74.3
2006	Rate	HHs	13,686	10.1	40.0	59.2	72.6
2014	Rate	HHs	5,768	16.4	48.6	71.4	82.9

Source: 2000, 2006, and 2014 *Encuesta Nacional de Condiciones de Vida*

Poverty lines are in daily per-capita GTQ in average prices during the ENCOVI fieldwork.

Table 1: International 2005 and 2011 PPP poverty lines, poverty rates, and sample sizes for all of Guatemala and for the construction and validation samples, by households and people for 2000, 2006, and 2014

Year	Line or Rate	HHs or people	HHs Surveyed	% with consumption below a poverty line					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
All of Guatemala									
2000	Line			3.96	6.34	7.92	15.84	3.61	5.89
	Rate	HHs		4.1	16.7	25.6	58.7	3.0	13.8
	Rate	People	7,276	6.2	23.4	34.0	68.5	4.6	19.7
2006	Line			6.05	9.67	12.09	24.18	5.51	8.99
	Rate	HHs		2.4	13.0	21.8	53.6	1.6	10.7
	Rate	People	13,686	3.9	19.2	30.4	64.7	2.6	16.2
2014	Line			9.16	14.65	18.31	36.62	8.35	13.62
	Rate	HHs		2.7	13.4	23.0	64.6	1.8	10.8
	Rate	People	11,536	4.4	19.5	31.7	74.0	3.0	16.1
Construction and calibration (Selecting indicators and points, and associating scores with likelihoods)									
2014	Rate	HHs	5,768	2.5	13.5	22.9	64.4	1.6	11.0
Validation (Measuring accuracy)									
2000	Rate	HHs	7,276	4.1	16.7	25.6	58.7	3.0	13.8
2006	Rate	HHs	13,686	2.4	13.0	21.8	53.6	1.6	10.7
2014	Rate	HHs	5,768	2.8	13.2	23.1	64.8	2.0	10.6

Source: 2000, 2006, and 2014 Encuesta Nacional de Condiciones de Vida

Poverty lines are in daily per-capita GTQ in average prices during the ENCOVI fieldwork.

Table 1: Relative and percentile-based poverty lines, poverty rates, and sample sizes for all of Guatemala and for the construction and validation samples, by households and people for 2000, 2006, and 2014

Year	Line or Rate	HHs or people	HHs Surveyed	Poorest half < 100% natl.	20th	40th	50th	60th	80th
							Percentile-based lines		
All of Guatemala									
2000	Line			6.94	5.83	8.84	10.64	12.77	22.11
	Rate	HHs	7,276	20.5	14.1	31.3	40.1	49.7	72.1
	Rate	People		28.1	20.0	40.0	50.0	60.0	80.0
2006	Line			10.95	9.86	14.53	17.69	21.73	34.86
	Rate	HHs	13,686	17.7	13.6	29.7	39.0	48.8	71.3
	Rate	People		25.5	20.0	40.0	50.0	60.0	80.0
2014	Line			17.77	14.77	20.68	24.22	28.33	41.89
	Rate	HHs	11,536	21.3	13.7	30.0	39.4	49.3	71.6
	Rate	People		29.6	20.0	40.0	50.0	60.0	80.0
Construction and calibration (Selecting indicators and points, and associating scores with likelihoods)									
2014	Rate	HHs	5,768	21.3	13.8	29.6	39.4	49.4	71.8
Validation (Measuring accuracy)									
2000	Rate	HHs	7,276	20.5	14.1	31.3	40.1	49.7	72.1
2006	Rate	HHs	13,686	17.7	13.6	29.7	39.0	48.8	71.3
2014	Rate	HHs	5,768	21.3	13.6	30.4	39.4	49.3	71.4

Source: 2000, 2006, and 2014 Encuesta Nacional de Condiciones de Vida

Poverty lines are in daily per-capita GTQ in average prices during the ENCOVI fieldwork.

Table 2 (All-Guatemala): National poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)			
				National			
				Food	100%	150%	200%
Urban	2000	Line		5.27	11.91	17.86	23.82
		Rate (HHs)	3,424	1.7	20.0	37.6	52.3
		Rate (people)		2.8	27.1	46.8	61.3
	2006	Line		8.97	18.39	27.59	36.78
		Rate (HHs)	5,808	3.2	22.0	41.0	57.5
		Rate (people)		5.3	30.0	51.2	67.0
	2014	Line		16.05	28.53	42.79	57.05
		Rate (HHs)	5,246	7.3	33.2	58.3	73.6
		Rate (people)		11.2	42.1	67.5	81.2
Rural	2000	Line		5.37	12.13	18.19	24.25
		Rate (HHs)	3,852	17.8	65.6	84.1	91.1
		Rate (people)		23.8	74.5	89.7	94.6
	2006	Line		8.66	17.76	26.65	35.53
		Rate (HHs)	7,878	18.0	60.9	80.4	90.1
		Rate (people)		24.4	70.5	87.0	94.1
	2014	Line		15.52	27.58	41.37	55.16
		Rate (HHs)	6,290	26.9	67.0	87.7	94.5
		Rate (people)		35.3	76.1	92.4	97.0
All	2000	Line		5.33	12.04	18.06	24.08
		Rate (HHs)	7,276	10.8	45.8	63.9	74.3
		Rate (people)		15.7	56.1	73.0	81.7
	2006	Line		8.81	18.07	27.10	36.13
		Rate (HHs)	13,686	10.1	40.0	59.2	72.6
		Rate (people)		15.2	51.0	69.8	81.1
	2014	Line		15.78	28.05	42.07	56.10
		Rate (HHs)	11,536	16.2	48.6	71.7	83.1
		Rate (people)		23.4	59.3	80.1	89.2

Source and definitions: See Figure 1 and text.

Table 2 (All-Guatemala): International 2005 and 2011 PPP poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.92	6.27	7.83	15.67	3.57	5.83
		Rate (HHs)	3,424	0.5	3.3	7.2	32.0	0.4	2.6
		Rate (people)		0.9	5.3	10.4	41.1	0.7	4.1
	2006	Line		6.16	9.85	12.31	24.62	5.61	9.16
		Rate (HHs)	5,808	0.6	4.6	8.6	34.9	0.3	3.4
		Rate (people)		1.1	7.3	13.2	44.7	0.6	5.6
	2014	Line		9.31	14.90	18.62	37.25	8.49	13.85
		Rate (HHs)	5,246	1.1	5.5	11.8	49.6	0.8	4.4
		Rate (people)		2.2	8.6	17.1	59.2	1.7	6.9
Rural	2000	Line		3.99	6.38	7.98	15.95	3.64	5.93
		Rate (HHs)	3,852	6.9	27.0	39.8	79.1	5.1	22.4
		Rate (people)		9.6	34.8	48.9	85.9	7.1	29.6
	2006	Line		5.95	9.51	11.89	23.78	5.42	8.84
		Rate (HHs)	7,878	4.5	22.8	37.0	75.3	3.1	19.2
		Rate (people)		6.5	30.3	46.4	83.2	4.4	26.0
	2014	Line		9.00	14.40	18.00	36.01	8.21	13.39
		Rate (HHs)	6,290	4.5	22.7	36.2	82.4	3.0	18.5
		Rate (people)		6.7	30.1	46.0	88.6	4.3	25.1
All	2000	Line		3.96	6.34	7.92	15.84	3.61	5.89
		Rate (HHs)	7,276	4.1	16.7	25.6	58.7	3.0	13.8
		Rate (people)		6.2	23.4	34.0	68.5	4.6	19.7
	2006	Line		6.05	9.67	12.09	24.19	5.51	8.99
		Rate (HHs)	13,686	2.4	13.0	21.8	53.6	1.6	10.7
		Rate (people)		3.9	19.2	30.4	64.7	2.6	16.2
	2014	Line		9.16	14.65	18.31	36.62	8.35	13.62
		Rate (HHs)	11,536	2.7	13.4	23.0	64.6	1.8	10.8
		Rate (people)		4.4	19.5	31.7	74.0	3.0	16.1

Source and definitions: See Figure 1 and text.

Table 2 (All-Guatemala): Relative and percentile-based poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2000	Line		6.87	5.77	8.74	10.52	12.63	21.87
		Rate (HHs)	3,424	4.9	2.6	9.2	15.3	22.7	49.0
		Rate (people)		7.6	4.2	13.1	20.9	30.1	58.3
	2006	Line		11.15	10.04	14.79	18.01	22.12	35.49
		Rate (HHs)	5,808	6.7	4.8	13.7	20.9	30.0	56.1
		Rate (people)		10.3	7.6	20.2	28.8	39.3	65.8
	2014	Line		18.07	15.03	21.04	24.64	28.82	42.61
		Rate (HHs)	5,246	10.7	5.7	17.2	25.0	34.0	58.2
		Rate (people)		15.7	9.0	24.1	32.9	43.0	67.4
Rural	2000	Line		6.99	5.87	8.90	10.71	12.86	22.26
		Rate (HHs)	3,852	32.5	22.8	48.2	59.2	70.4	89.8
		Rate (people)		41.0	30.0	57.1	68.5	78.9	93.8
	2006	Line		10.77	9.70	14.29	17.40	21.36	34.28
		Rate (HHs)	7,878	30.5	23.9	48.2	60.0	70.5	89.0
		Rate (people)		39.6	31.5	58.4	69.7	79.2	93.2
	2014	Line		17.47	14.53	20.34	23.82	27.86	41.19
		Rate (HHs)	6,290	33.9	23.2	45.3	56.7	67.6	87.6
		Rate (people)		43.3	30.8	55.6	66.8	76.7	92.4
All	2000	Line		6.94	5.83	8.84	10.64	12.77	22.11
		Rate (HHs)	7,276	20.5	14.1	31.3	40.1	49.7	72.1
		Rate (people)		28.1	20.0	40.0	50.0	60.0	80.0
	2006	Line		10.95	9.86	14.53	17.69	21.73	34.86
		Rate (HHs)	13,686	17.7	13.6	29.7	39.0	48.8	71.3
		Rate (people)		25.5	20.0	40.0	50.0	60.0	80.0
	2014	Line		17.77	14.77	20.68	24.22	28.34	41.90
		Rate (HHs)	11,536	21.3	13.7	30.0	39.4	49.3	71.6
		Rate (people)		29.6	20.0	40.0	50.0	60.0	80.0

Source and definitions: See Figure 1 and text.

Table 2 (Department of Guatemala): National poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	100%	150%	200%
Urban	2000	Line		5.24	11.83	17.75	23.66
		Rate (HHs)	807	0.2	9.5	24.8	39.2
		Rate (people)		0.3	14.2	32.5	47.9
	2006	Line		9.19	18.85	28.28	37.70
		Rate (HHs)	877	0.4	9.5	25.9	43.4
		Rate (people)		0.4	13.6	34.1	52.4
	2014	Line		16.49	29.30	43.95	58.60
		Rate (HHs)	917	3.2	23.6	47.7	65.9
		Rate (people)		5.2	31.0	57.3	75.1
Rural	2000	Line		4.99	11.27	16.91	22.55
		Rate (HHs)	119	2.4	35.1	68.2	83.4
		Rate (people)		2.2	39.9	74.4	87.8
	2006	Line		8.71	17.87	26.80	35.73
		Rate (HHs)	164	0.5	24.1	53.1	74.0
		Rate (people)		0.5	34.8	65.6	83.8
	2014	Line		15.63	27.77	41.66	55.54
		Rate (HHs)	127	5.8	41.1	69.2	81.6
		Rate (people)		6.6	49.2	78.2	89.2
All	2000	Line		5.20	11.75	17.62	23.49
		Rate (HHs)	926	0.5	12.8	30.4	44.9
		Rate (people)		0.6	18.1	39.0	54.1
	2006	Line		9.13	18.72	28.08	37.45
		Rate (HHs)	1,041	0.4	11.1	28.8	46.7
		Rate (people)		0.5	16.3	38.2	56.4
	2014	Line		16.38	29.10	43.66	58.21
		Rate (HHs)	1,044	3.5	25.6	50.1	67.7
		Rate (people)		5.4	33.3	60.0	76.9

Source and definitions: See Figure 1 and text.

Table 2 (Department of Guatemala): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.89	6.23	7.78	15.57	3.55	5.79
		Rate (HHs)	807	0.0	0.2	1.6	19.4	0.0	0.2
		Rate (people)		0.0	0.3	2.0	26.7	0.0	0.3
	2006	Line		6.31	10.09	12.62	25.24	5.75	9.38
		Rate (HHs)	877	0.0	0.8	2.2	20.2	0.0	0.4
		Rate (people)		0.0	1.0	3.5	27.3	0.0	0.4
	2014	Line		9.56	15.30	19.13	38.25	8.72	14.23
		Rate (HHs)	917	0.4	1.9	5.7	38.1	0.3	1.7
		Rate (people)		0.9	3.3	8.5	47.4	0.7	2.8
Rural	2000	Line		3.71	5.93	7.42	14.84	3.38	5.52
		Rate (HHs)	119	1.2	5.8	11.6	59.0	1.2	3.6
		Rate (people)		1.3	5.3	11.7	66.6	1.3	2.8
	2006	Line		5.98	9.57	11.96	23.92	5.45	8.89
		Rate (HHs)	164	0.0	2.1	6.4	43.7	0.0	1.0
		Rate (people)		0.0	2.9	11.8	55.5	0.0	1.4
	2014	Line		9.06	14.50	18.13	36.26	8.26	13.48
		Rate (HHs)	127	0.5	3.9	9.3	60.4	0.5	3.4
		Rate (people)		0.7	5.5	11.4	68.9	0.7	4.9
All	2000	Line		3.86	6.18	7.73	15.46	3.52	5.75
		Rate (HHs)	926	0.2	0.9	2.9	24.5	0.2	0.7
		Rate (people)		0.2	1.1	3.5	32.9	0.2	0.7
	2006	Line		6.27	10.03	12.53	25.06	5.71	9.32
		Rate (HHs)	1,041	0.0	0.9	2.6	22.7	0.0	0.5
		Rate (people)		0.0	1.3	4.6	31.0	0.0	0.6
	2014	Line		9.50	15.20	19.00	38.00	8.66	14.13
		Rate (HHs)	1,044	0.4	2.2	6.1	40.6	0.3	1.9
		Rate (people)		0.8	3.6	8.9	50.1	0.7	3.1

Source and definitions: See Figure 1 and text.

Table 2 (Department of Guatemala): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poorest half < 100% natl. | Percentile-based lines | | | | |
					20th	40th	50th	60th	80th
Urban	2000	Line		6.82	5.73	8.69	10.45	12.55	21.73
		Rate (HHs)	807	0.3	0.2	1.9	4.9	11.4	36.7
		Rate (people)		0.4	0.3	2.4	7.2	16.5	45.2
	2006	Line		11.42	10.29	15.16	18.46	22.67	36.38
		Rate (HHs)	877	1.4	0.9	4.1	8.2	15.6	42.2
		Rate (people)		2.2	1.1	6.5	12.0	21.4	51.3
	2014	Line		18.56	15.43	21.61	25.31	29.60	43.76
		Rate (HHs)	917	5.2	2.4	10.3	16.0	24.0	47.6
		Rate (people)		8.1	3.9	14.9	21.4	31.5	57.3
Rural	2000	Line		6.50	5.46	8.28	9.96	11.96	20.70
		Rate (HHs)	119	7.9	3.6	15.3	26.3	40.1	82.9
		Rate (people)		7.3	2.8	14.7	28.7	45.6	87.6
	2006	Line		10.83	9.75	14.37	17.50	21.49	34.48
		Rate (HHs)	164	4.4	2.1	13.4	23.3	36.9	72.7
		Rate (people)		8.3	2.9	21.9	33.4	49.1	82.9
	2014	Line		17.59	14.63	20.48	23.99	28.06	41.48
		Rate (HHs)	127	6.3	3.9	15.1	28.2	41.1	69.2
		Rate (people)		7.2	5.5	19.3	35.3	49.2	78.2
All	2000	Line		6.77	5.69	8.62	10.38	12.46	21.57
		Rate (HHs)	926	1.2	0.7	3.6	7.7	15.1	42.6
		Rate (people)		1.5	0.7	4.3	10.6	21.0	51.8
	2006	Line		11.35	10.22	15.06	18.34	22.51	36.13
		Rate (HHs)	1,041	1.7	1.0	5.1	9.8	17.9	45.5
		Rate (people)		3.0	1.3	8.5	14.8	25.0	55.4
	2014	Line		18.44	15.33	21.46	25.14	29.40	43.47
		Rate (HHs)	1,044	5.4	2.5	10.9	17.3	25.9	50.0
		Rate (people)		8.0	4.1	15.5	23.2	33.7	59.9

Source and definitions: See Figure 1 and text.

Table 2 (El Progeso): National poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | *n* | Poverty lines (GTQ/person/day) and poverty rates (%) National | | | |
				Food	100%	150%	200%
Urban	2000	Line		5.50	12.42	18.63	24.84
		Rate (HHs)	24	0.0	19.3	31.1	52.8
		Rate (people)		0.0	22.9	33.2	53.9
	2006	Line		8.96	18.37	27.56	36.74
		Rate (HHs)	372	1.7	24.2	48.6	68.0
		Rate (people)		3.3	31.7	56.6	75.8
	2014	Line		16.07	28.56	42.83	57.11
		Rate (HHs)	195	4.3	37.6	64.2	80.4
		Rate (people)		6.2	45.8	72.8	86.4
Rural	2000	Line		5.49	12.40	18.59	24.79
		Rate (HHs)	37	0.0	46.1	76.3	90.3
		Rate (people)		0.0	58.2	85.9	93.1
	2006	Line		9.02	18.50	27.75	37.00
		Rate (HHs)	513	8.1	39.4	65.8	80.2
		Rate (people)		11.1	48.0	74.0	87.0
	2014	Line		16.18	28.76	43.14	57.52
		Rate (HHs)	291	12.7	47.4	77.1	87.5
		Rate (people)		18.2	58.4	84.1	92.2
All	2000	Line		5.49	12.40	18.60	24.80
		Rate (HHs)	61	0.0	39.9	65.9	81.6
		Rate (people)		0.0	50.0	73.6	84.0
	2006	Line		9.00	18.45	27.68	36.91
		Rate (HHs)	885	5.6	33.3	59.0	75.4
		Rate (people)		8.1	41.8	67.4	82.7
	2014	Line		16.14	28.67	43.01	57.35
		Rate (HHs)	486	9.0	43.1	71.4	84.3
		Rate (people)		13.2	53.2	79.5	89.8

Source and definitions: See Table 1 and text.

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Table 2 (El Progeso): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		4.09	6.54	8.17	16.34	3.72	6.08
		Rate (HHs)	24	0.0	0.0	0.0	28.8	0.0	0.0
		Rate (people)		0.0	0.0	0.0	32.7	0.0	0.0
	2006	Line		6.15	9.84	12.30	24.59	5.61	9.15
		Rate (HHs)	372	0.5	2.9	6.9	41.3	0.3	2.0
		Rate (people)		0.6	4.8	10.6	49.4	0.1	3.4
	2014	Line		9.32	14.91	18.64	37.28	8.50	13.86
		Rate (HHs)	195	0.0	2.6	9.7	55.6	0.0	0.6
		Rate (people)		0.0	3.4	14.2	64.4	0.0	0.6
Rural	2000	Line		4.08	6.52	8.16	16.31	3.72	6.07
		Rate (HHs)	37	0.0	9.1	19.5	72.4	0.0	2.6
		Rate (people)		0.0	10.5	22.8	82.0	0.0	4.2
	2006	Line		6.19	9.91	12.38	24.77	5.65	9.21
		Rate (HHs)	513	2.5	10.3	18.5	57.8	1.8	8.4
		Rate (people)		3.9	14.0	24.1	66.5	2.9	11.3
	2014	Line		9.39	15.02	18.77	37.55	8.56	13.96
		Rate (HHs)	291	0.8	10.4	20.5	66.6	0.8	7.7
		Rate (people)		1.7	15.1	28.0	75.5	1.7	11.7
All	2000	Line		4.08	6.53	8.16	16.32	3.72	6.07
		Rate (HHs)	61	0.0	7.0	15.0	62.3	0.0	2.0
		Rate (people)		0.0	8.0	17.5	70.5	0.0	3.2
	2006	Line		6.18	9.88	12.35	24.70	5.63	9.19
		Rate (HHs)	885	1.7	7.4	13.9	51.3	1.2	5.9
		Rate (people)		2.7	10.5	19.0	60.0	1.8	8.3
	2014	Line		9.36	14.98	18.72	37.44	8.53	13.92
		Rate (HHs)	486	0.4	7.0	15.7	61.7	0.4	4.6
		Rate (people)		1.0	10.3	22.3	70.9	1.0	7.1

Source and definitions: See Table 1 and text.

Table 2 (El Progeso): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2000	Line		7.16	6.01	9.12	10.97	13.17	22.81
		Rate (HHs)	24	0.0	0.0	0.0	12.2	21.6	52.8
		Rate (people)		0.0	0.0	0.0	14.9	25.5	53.9
	2006	Line		11.13	10.03	14.78	17.99	22.09	35.45
		Rate (HHs)	372	4.4	2.9	14.1	23.6	34.8	66.6
		Rate (people)		7.1	4.8	19.2	31.3	43.2	74.6
	2014	Line		18.09	15.04	21.06	24.66	28.85	42.65
		Rate (HHs)	195	8.5	3.1	13.3	23.6	38.6	64.2
		Rate (people)		13.0	4.4	17.9	30.3	47.1	72.8
Rural	2000	Line		7.15	6.00	9.10	10.95	13.15	22.76
		Rate (HHs)	37	11.7	2.6	36.3	43.4	60.8	83.6
		Rate (people)		14.7	4.2	47.6	55.8	75.6	90.1
	2006	Line		11.21	10.10	14.88	18.12	22.25	35.70
		Rate (HHs)	513	15.5	11.0	27.5	38.7	50.7	78.5
		Rate (people)		20.0	14.8	35.3	47.3	60.1	85.8
	2014	Line		18.22	15.15	21.21	24.84	29.05	42.96
		Rate (HHs)	291	19.9	10.4	26.0	39.3	48.0	77.1
		Rate (people)		27.7	15.1	34.0	49.8	58.9	84.1
All	2000	Line		7.15	6.01	9.10	10.96	13.15	22.77
		Rate (HHs)	61	9.0	2.0	28.0	36.2	51.8	76.5
		Rate (people)		11.3	3.2	36.5	46.3	63.9	81.6
	2006	Line		11.18	10.07	14.84	18.07	22.19	35.61
		Rate (HHs)	885	11.1	7.8	22.2	32.7	44.4	73.8
		Rate (people)		15.1	11.0	29.2	41.2	53.7	81.5
	2014	Line		18.17	15.10	21.15	24.77	28.97	42.83
		Rate (HHs)	486	14.9	7.2	20.4	32.3	43.8	71.4
		Rate (people)		21.6	10.7	27.4	41.7	54.1	79.5

Source and definitions: See Table 1 and text.

Table 2 (Sacatepéquez): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | *n* | Poverty lines (GTQ/person/day) and poverty rates (%) | | | |
| | | | | National | | | |
				Food	100%	150%	200%
Urban	2000	Line		5.26	11.89	17.84	23.78
		Rate (HHs)	138	1.5	27.8	44.9	56.9
		Rate (people)		2.1	34.5	54.2	64.2
	2006	Line		8.78	18.01	27.01	36.01
		Rate (HHs)	828	2.4	25.5	51.6	69.1
		Rate (people)		3.9	33.3	61.1	76.4
	2014	Line		15.75	27.99	41.98	55.98
		Rate (HHs)	728	4.1	31.1	60.8	76.7
		Rate (people)		6.6	39.5	69.2	84.0
Rural	2000	Line		5.31	11.99	17.99	23.99
		Rate (HHs)	72	2.2	18.0	46.5	58.2
		Rate (people)		2.8	20.8	54.5	64.1
	2006	Line		8.64	17.72	26.59	35.45
		Rate (HHs)	158	6.3	45.8	67.7	84.8
		Rate (people)		9.5	55.5	75.9	90.0
	2014	Line		15.50	27.55	41.32	55.10
		Rate (HHs)	120	10.3	36.9	80.0	92.4
		Rate (people)		17.3	49.1	86.3	96.2
All	2000	Line		5.27	11.91	17.86	23.81
		Rate (HHs)	210	1.6	26.3	45.2	57.1
		Rate (people)		2.2	32.4	54.2	64.2
	2006	Line		8.76	17.97	26.95	35.93
		Rate (HHs)	986	3.0	28.2	53.7	71.2
		Rate (people)		4.7	36.5	63.3	78.4
	2014	Line		15.71	27.91	41.87	55.83
		Rate (HHs)	848	5.1	32.0	63.9	79.2
		Rate (people)		8.4	41.1	72.2	86.1

Source and definitions: See Figure 1 and text.

Table 2 (Sacatepéquez): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.91	6.26	7.82	15.65	3.57	5.82
		Rate (HHs)	138	0.9	4.6	11.8	38.4	0.9	3.6
		Rate (people)		1.2	5.8	14.4	47.2	1.2	4.9
	2006	Line		6.03	9.64	12.05	24.11	5.49	8.96
		Rate (HHs)	828	0.3	2.9	7.6	44.5	0.2	2.4
		Rate (people)		0.6	4.5	10.2	54.2	0.4	3.9
	2014	Line		9.14	14.62	18.27	36.54	8.33	13.59
		Rate (HHs)	728	0.1	2.1	7.9	53.4	0.0	1.0
		Rate (people)		0.1	3.3	11.5	61.9	0.0	1.5
Rural	2000	Line		3.95	6.31	7.89	15.78	3.60	5.87
		Rate (HHs)	72	2.2	2.2	3.2	39.5	2.2	2.2
		Rate (people)		2.8	2.8	3.7	45.8	2.8	2.8
	2006	Line		5.93	9.49	11.86	23.73	5.41	8.82
		Rate (HHs)	158	0.0	9.5	19.2	62.9	0.0	7.6
		Rate (people)		0.0	13.3	26.8	73.0	0.0	10.7
	2014	Line		8.99	14.39	17.99	35.97	8.20	13.38
		Rate (HHs)	120	0.0	8.1	16.2	68.1	0.0	3.6
		Rate (people)		0.0	14.8	24.9	77.4	0.0	7.4
All	2000	Line		3.92	6.27	7.83	15.67	3.57	5.83
		Rate (HHs)	210	1.1	4.3	10.5	38.6	1.1	3.4
		Rate (people)		1.4	5.3	12.7	47.0	1.4	4.6
	2006	Line		6.01	9.62	12.03	24.05	5.48	8.94
		Rate (HHs)	986	0.3	3.8	9.1	46.9	0.2	3.1
		Rate (people)		0.5	5.8	12.7	57.0	0.3	4.9
	2014	Line		9.11	14.58	18.22	36.44	8.31	13.55
		Rate (HHs)	848	0.1	3.1	9.2	55.7	0.0	1.4
		Rate (people)		0.1	5.3	13.8	64.6	0.0	2.5

Source and definitions: See Figure 1 and text.

Table 2 (Sacatepéquez): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2000	Line		6.86	5.76	8.73	10.51	12.61	21.84
		Rate (HHs)	138	8.8	3.6	14.6	23.8	30.1	53.8
		Rate (people)		12.4	4.9	17.2	29.6	37.4	62.0
	2006	Line		10.91	9.83	14.48	17.64	21.65	34.75
		Rate (HHs)	828	4.8	3.2	14.1	24.4	36.2	67.5
		Rate (people)		6.8	4.7	19.5	32.0	45.8	75.0
	2014	Line		17.73	14.74	20.64	24.17	28.27	41.81
		Rate (HHs)	728	7.5	2.1	11.9	19.7	32.5	60.8
		Rate (people)		11.0	3.3	16.7	25.8	40.8	69.2
Rural	2000	Line		6.92	5.81	8.80	10.60	12.72	22.02
		Rate (HHs)	72	2.2	2.2	8.6	13.8	22.2	55.5
		Rate (people)		2.8	2.8	9.1	15.6	26.8	60.7
	2006	Line		10.74	9.67	14.26	17.36	21.31	34.20
		Rate (HHs)	158	16.5	10.9	32.1	44.3	54.9	79.4
		Rate (people)		23.9	16.0	41.0	54.6	63.3	85.3
	2014	Line		17.45	14.51	20.32	23.79	27.83	41.15
		Rate (HHs)	120	14.3	8.1	24.1	28.9	39.6	80.0
		Rate (people)		23.0	14.8	34.9	41.4	52.4	86.3
All	2000	Line		6.87	5.77	8.74	10.52	12.63	21.87
		Rate (HHs)	210	7.8	3.4	13.7	22.3	28.9	54.1
		Rate (people)		10.9	4.6	15.9	27.4	35.7	61.8
	2006	Line		10.89	9.81	14.45	17.60	21.60	34.67
		Rate (HHs)	986	6.3	4.2	16.5	27.1	38.7	69.1
		Rate (people)		9.3	6.4	22.7	35.4	48.4	76.5
	2014	Line		17.68	14.70	20.58	24.11	28.20	41.69
		Rate (HHs)	848	8.6	3.1	13.8	21.1	33.6	63.9
		Rate (people)		13.1	5.3	19.9	28.5	42.8	72.2

Source and definitions: See Figure 1 and text.

Table 2 (Chimaltenango): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	100%	150%	200%
Urban	2000	Line		5.24	11.83	17.74	23.66
		Rate (HHs)	208	3.5	31.8	56.1	69.4
		Rate (people)		4.8	38.5	64.1	75.7
	2006	Line		8.59	17.61	26.42	35.23
		Rate (HHs)	283	5.5	36.1	58.5	74.7
		Rate (people)		7.9	43.3	65.7	80.9
	2014	Line		15.41	27.38	41.07	54.75
		Rate (HHs)	274	11.4	45.1	72.2	80.7
		Rate (people)		15.8	54.6	78.7	85.6
Rural	2000	Line		5.23	11.81	17.71	23.62
		Rate (HHs)	378	16.7	68.9	88.5	94.3
		Rate (people)		21.8	79.0	94.0	97.1
	2006	Line		8.46	17.36	26.03	34.71
		Rate (HHs)	283	22.6	70.5	90.1	98.2
		Rate (people)		30.7	77.5	92.7	98.7
	2014	Line		15.18	26.98	40.46	53.95
		Rate (HHs)	249	23.2	70.3	91.7	96.7
		Rate (people)		31.7	78.5	94.0	98.5
All	2000	Line		5.23	11.82	17.73	23.64
		Rate (HHs)	586	10.6	51.7	73.5	82.8
		Rate (people)		14.3	61.1	80.8	87.6
	2006	Line		8.53	17.48	26.23	34.97
		Rate (HHs)	566	13.7	52.7	73.7	86.0
		Rate (people)		19.3	60.5	79.3	89.8
	2014	Line		15.30	27.18	40.78	54.37
		Rate (HHs)	523	16.6	56.2	80.8	87.7
		Rate (people)		23.4	66.1	86.0	91.8

Source and definitions: See Figure 1 and text.

Table 2 (Chimaltenango): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.89	6.23	7.78	15.57	3.55	5.79
		Rate (HHs)	208	0.7	5.5	10.7	51.3	0.0	5.5
		Rate (people)		1.3	7.8	13.3	59.8	0.0	7.8
	2006	Line		5.89	9.43	11.79	23.58	5.37	8.77
		Rate (HHs)	283	1.6	6.6	12.5	52.9	0.7	5.5
		Rate (people)		2.5	9.4	16.5	61.2	1.4	7.9
	2014	Line		8.94	14.30	17.87	35.74	8.15	13.29
		Rate (HHs)	274	1.6	7.4	18.0	63.1	1.2	7.3
		Rate (people)		3.1	10.5	23.1	70.8	2.5	10.2
Rural	2000	Line		3.88	6.22	7.77	15.54	3.54	5.78
		Rate (HHs)	378	2.9	28.8	44.9	85.7	2.0	24.4
		Rate (people)		3.8	37.3	55.2	92.3	2.5	31.9
	2006	Line		5.81	9.29	11.62	23.23	5.30	8.64
		Rate (HHs)	283	4.9	30.7	45.1	85.7	3.2	23.8
		Rate (people)		7.0	40.9	54.0	89.5	4.8	32.2
	2014	Line		8.81	14.09	17.61	35.22	8.03	13.10
		Rate (HHs)	249	1.0	17.9	35.5	87.9	0.3	11.8
		Rate (people)		1.6	25.3	46.2	91.2	0.4	17.7
All	2000	Line		3.89	6.22	7.78	15.55	3.54	5.78
		Rate (HHs)	586	1.9	18.0	29.0	69.8	1.0	15.6
		Rate (people)		2.7	24.3	36.7	78.0	1.4	21.2
	2006	Line		5.85	9.36	11.70	23.41	5.33	8.70
		Rate (HHs)	566	3.2	18.2	28.2	68.7	1.9	14.3
		Rate (people)		4.8	25.2	35.4	75.4	3.1	20.1
	2014	Line		8.87	14.20	17.75	35.49	8.09	13.20
		Rate (HHs)	523	1.3	12.0	25.7	74.0	0.8	9.3
		Rate (people)		2.4	17.6	34.2	80.6	1.5	13.8

Source and definitions: See Figure 1 and text.

Table 2 (Chimaltenango): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Poorest half < 100% natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2000	Line		6.82	5.73	8.68	10.45	12.55	21.72
		Rate (HHs)	208	8.5	5.5	16.3	26.9	35.7	64.9
		Rate (people)		11.5	7.8	18.9	32.2	42.4	71.8
	2006	Line		10.67	9.61	14.17	17.25	21.18	33.99
		Rate (HHs)	283	9.1	6.6	21.0	34.6	48.2	73.3
		Rate (people)		12.7	9.4	28.4	41.7	56.6	79.3
	2014	Line		17.34	14.42	20.19	23.65	27.66	40.89
		Rate (HHs)	274	14.5	8.8	23.8	36.6	46.6	72.2
		Rate (people)		19.4	11.9	30.6	45.5	56.0	78.7
Rural	2000	Line		6.81	5.72	8.67	10.43	12.53	21.69
		Rate (HHs)	378	38.0	25.2	50.6	64.6	74.7	93.2
		Rate (people)		47.7	32.8	60.9	75.5	84.4	96.7
	2006	Line		10.52	9.47	13.96	17.00	20.87	33.49
		Rate (HHs)	283	37.1	31.8	58.2	69.4	81.5	96.6
		Rate (people)		46.7	41.5	67.0	76.7	86.9	97.5
	2014	Line		17.09	14.21	19.89	23.30	27.25	40.29
		Rate (HHs)	249	32.9	18.6	47.5	62.2	71.7	91.7
		Rate (people)		43.5	26.3	59.5	73.1	79.7	94.0
All	2000	Line		6.81	5.72	8.68	10.44	12.54	21.70
		Rate (HHs)	586	24.3	16.1	34.7	47.1	56.7	80.1
		Rate (people)		31.7	21.7	42.3	56.4	65.8	85.7
	2006	Line		10.60	9.54	14.06	17.12	21.02	33.74
		Rate (HHs)	566	22.6	18.7	38.9	51.4	64.3	84.5
		Rate (people)		29.8	25.6	47.8	59.3	71.8	88.4
	2014	Line		17.22	14.32	20.05	23.48	27.46	40.61
		Rate (HHs)	523	22.6	13.1	34.3	47.9	57.7	80.8
		Rate (people)		30.9	18.8	44.4	58.7	67.3	86.0

Source and definitions: See Figure 1 and text.

Table 2 (Escuintla): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	*n*	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	**100%**	**150%**	**200%**
Urban	2000	Line		5.21	11.78	17.66	23.55
		Rate (HHs)	81	4.8	31.4	49.4	67.6
		Rate (people)		10.1	43.8	62.8	78.5
	2006	Line		8.78	18.01	27.01	36.02
		Rate (HHs)	306	1.0	25.2	52.2	73.5
		Rate (people)		1.8	33.5	61.8	79.4
	2014	Line		15.75	27.99	41.99	55.99
		Rate (HHs)	355	3.6	38.5	74.0	88.1
		Rate (people)		4.9	45.2	79.9	91.8
Rural	2000	Line		5.26	11.87	17.81	23.75
		Rate (HHs)	374	2.1	40.8	69.5	85.1
		Rate (people)		3.1	50.9	78.0	90.3
	2006	Line		8.80	18.05	27.08	36.11
		Rate (HHs)	328	6.1	37.9	72.0	84.6
		Rate (people)		8.9	49.2	82.9	91.9
	2014	Line		15.79	28.06	42.09	56.12
		Rate (HHs)	378	12.5	50.2	80.5	92.1
		Rate (people)		18.0	61.2	86.5	94.9
All	2000	Line		5.25	11.85	17.78	23.70
		Rate (HHs)	455	2.8	38.4	64.4	80.7
		Rate (people)		4.8	49.2	74.4	87.5
	2006	Line		8.79	18.03	27.05	36.06
		Rate (HHs)	634	3.5	31.5	62.0	79.0
		Rate (people)		5.4	41.4	72.4	85.7
	2014	Line		15.77	28.03	42.04	56.05
		Rate (HHs)	733	7.6	43.8	76.9	89.9
		Rate (people)		11.2	52.9	83.1	93.3

Source and definitions: See Figure 1 and text.

Table 2 (Escuintla): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.87	6.20	7.75	15.50	3.53	5.76
		Rate (HHs)	81	0.0	8.2	10.0	48.4	0.0	8.2
		Rate (people)		0.0	14.1	16.0	62.2	0.0	14.1
	2006	Line		6.03	9.64	12.05	24.11	5.49	8.97
		Rate (HHs)	306	0.4	2.4	4.8	43.4	0.4	1.0
		Rate (people)		0.6	4.3	7.2	53.9	0.6	1.8
	2014	Line		9.14	14.62	18.27	36.55	8.33	13.59
		Rate (HHs)	355	0.0	2.3	9.8	62.0	0.0	1.5
		Rate (people)		0.0	3.7	12.8	69.6	0.0	2.0
Rural	2000	Line		3.91	6.25	7.81	15.62	3.56	5.81
		Rate (HHs)	374	1.0	5.7	10.8	60.4	0.6	3.8
		Rate (people)		1.4	9.4	16.3	70.1	0.7	6.3
	2006	Line		6.04	9.67	12.08	24.17	5.51	8.99
		Rate (HHs)	328	2.7	8.0	16.0	63.1	2.3	6.1
		Rate (people)		3.2	11.7	21.7	74.2	2.6	8.9
	2014	Line		9.16	14.66	18.32	36.64	8.35	13.62
		Rate (HHs)	378	0.9	9.3	19.8	72.9	0.3	6.5
		Rate (people)		1.7	13.9	27.3	81.2	0.6	9.6
All	2000	Line		3.90	6.24	7.80	15.59	3.55	5.80
		Rate (HHs)	455	0.7	6.4	10.6	57.4	0.4	4.9
		Rate (people)		1.1	10.5	16.3	68.2	0.6	8.1
	2006	Line		6.03	9.66	12.07	24.14	5.50	8.98
		Rate (HHs)	634	1.5	5.2	10.3	53.2	1.3	3.5
		Rate (people)		1.9	8.0	14.4	64.1	1.6	5.4
	2014	Line		9.15	14.64	18.30	36.59	8.34	13.61
		Rate (HHs)	733	0.4	5.5	14.4	67.0	0.1	3.8
		Rate (people)		0.8	8.6	19.8	75.2	0.3	5.7

Source and definitions: See Figure 1 and text.

Table 2 (Escuintla): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2000 Line			6.79	5.70	8.64	10.41	12.49	21.62
		Rate (HHs)	81	10.0	8.2	13.5	25.8	38.2	58.1
		Rate (people)		16.0	14.1	20.8	36.8	51.8	71.4
	2006 Line			10.91	9.83	14.49	17.64	21.66	34.75
		Rate (HHs)	306	3.9	2.4	12.5	23.4	37.1	72.2
		Rate (people)		6.1	4.3	18.4	31.7	47.9	78.4
	2014 Line			17.73	14.74	20.64	24.18	28.28	41.81
		Rate (HHs)	355	7.1	2.3	14.4	24.6	40.3	73.8
		Rate (people)		8.7	3.7	19.0	29.7	47.6	79.8
Rural	2000 Line			6.85	5.75	8.72	10.49	12.59	21.80
		Rate (HHs)	374	8.2	4.4	18.8	30.5	46.0	81.2
		Rate (people)		12.9	6.8	26.5	40.2	56.7	87.3
	2006 Line			10.94	9.85	14.52	17.68	21.71	34.84
		Rate (HHs)	328	13.5	9.4	26.3	37.0	54.2	82.1
		Rate (people)		18.3	13.5	35.0	47.3	65.8	90.8
	2014 Line			17.78	14.78	20.70	24.24	28.35	41.92
		Rate (HHs)	378	18.0	9.4	27.0	37.4	50.6	80.3
		Rate (people)		25.0	14.1	36.4	48.3	61.5	86.4
All	2000 Line			6.83	5.74	8.70	10.47	12.57	21.76
		Rate (HHs)	455	8.7	5.4	17.4	29.3	44.0	75.4
		Rate (people)		13.7	8.6	25.2	39.4	55.6	83.6
	2006 Line			10.93	9.84	14.50	17.66	21.68	34.80
		Rate (HHs)	634	8.6	5.9	19.3	30.1	45.5	77.1
		Rate (people)		12.2	8.9	26.8	39.5	56.9	84.6
	2014 Line			17.76	14.76	20.67	24.21	28.31	41.86
		Rate (HHs)	733	12.1	5.5	20.1	30.5	45.0	76.7
		Rate (people)		16.6	8.7	27.4	38.7	54.3	83.0

Source and definitions: See Figure 1 and text.

Table 2 (Santa Rosa): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	100%	150%	200%
Urban	2000	Line		5.28	11.93	17.89	23.85
		Rate (HHs)	125	0.0	42.2	66.6	82.5
		Rate (people)		0.0	49.1	72.4	87.0
	2006	Line		8.72	17.88	26.82	35.76
		Rate (HHs)	181	3.3	34.7	56.8	78.0
		Rate (people)		5.6	44.2	65.5	83.7
	2014	Line		15.64	27.79	41.69	55.58
		Rate (HHs)	151	6.0	43.2	71.2	78.7
		Rate (people)		6.9	52.5	79.5	86.6
Rural	2000	Line		5.41	12.22	18.33	24.44
		Rate (HHs)	212	15.9	59.5	75.9	87.9
		Rate (people)		19.9	70.2	85.9	92.5
	2006	Line		8.60	17.64	26.46	35.28
		Rate (HHs)	263	7.8	53.9	76.8	89.4
		Rate (people)		13.0	66.2	84.6	93.3
	2014	Line		15.43	27.41	41.12	54.83
		Rate (HHs)	251	12.6	44.7	74.7	87.2
		Rate (people)		17.3	55.6	83.3	92.6
All	2000	Line		5.38	12.15	18.22	24.29
		Rate (HHs)	337	11.7	54.9	73.5	86.5
		Rate (people)		14.9	64.9	82.5	91.1
	2006	Line		8.65	17.73	26.59	35.46
		Rate (HHs)	444	6.0	46.1	68.8	84.8
		Rate (people)		10.2	57.9	77.5	89.7
	2014	Line		15.52	27.57	41.36	55.14
		Rate (HHs)	402	9.8	44.1	73.2	83.7
		Rate (people)		12.9	54.3	81.7	90.1

Source and definitions: See Figure 1 and text.

Table 2 (Santa Rosa): International 2005 and 2011 PPP poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.92	6.28	7.85	15.69	3.58	5.84
		Rate (HHs)	125	0.0	5.4	13.7	59.0	0.0	1.6
		Rate (people)		0.0	6.9	15.9	64.6	0.0	2.6
	2006	Line		5.98	9.57	11.97	23.94	5.46	8.90
		Rate (HHs)	181	1.5	3.9	8.9	48.8	1.5	3.9
		Rate (people)		3.2	6.1	11.8	59.3	3.2	6.1
	2014	Line		9.07	14.51	18.14	36.28	8.27	13.49
		Rate (HHs)	151	0.0	3.5	12.8	64.0	0.0	2.3
		Rate (people)		0.0	4.3	15.5	72.0	0.0	2.9
Rural	2000	Line		4.02	6.43	8.04	16.08	3.67	5.98
		Rate (HHs)	212	6.9	21.7	33.8	72.5	3.5	17.5
		Rate (people)		9.1	26.9	41.3	83.2	4.6	21.1
	2006	Line		5.90	9.44	11.81	23.61	5.38	8.78
		Rate (HHs)	263	0.5	13.5	27.4	69.7	0.3	9.2
		Rate (people)		0.8	20.7	38.1	79.7	0.4	15.1
	2014	Line		8.95	14.32	17.90	35.79	8.16	13.31
		Rate (HHs)	251	1.5	8.0	17.7	68.3	0.7	6.0
		Rate (people)		2.8	11.8	24.3	78.0	2.2	9.4
All	2000	Line		4.00	6.39	7.99	15.98	3.64	5.94
		Rate (HHs)	337	5.1	17.4	28.4	69.0	2.6	13.3
		Rate (people)		6.8	21.9	34.9	78.5	3.4	16.4
	2006	Line		5.93	9.49	11.87	23.73	5.41	8.83
		Rate (HHs)	444	0.9	9.6	19.9	61.2	0.7	7.1
		Rate (people)		1.7	15.2	28.2	72.1	1.4	11.7
	2014	Line		9.00	14.40	18.00	36.00	8.20	13.39
		Rate (HHs)	402	0.8	6.1	15.6	66.5	0.4	4.5
		Rate (people)		1.7	8.7	20.6	75.5	1.3	6.6

Source and definitions: See Figure 1 and text.

Table 2 (Santa Rosa): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	20th	40th	50th	60th	80th
					Percentile-based lines				
Urban	2000	Line		6.88	5.77	8.75	10.54	12.65	21.90
		Rate (HHs)	125	9.1	1.6	17.7	34.7	48.5	76.8
		Rate (people)		10.9	2.6	20.2	41.8	53.9	81.6
	2006	Line		10.84	9.76	14.38	17.51	21.50	34.50
		Rate (HHs)	181	5.9	3.9	20.0	32.7	42.5	76.3
		Rate (people)		8.5	6.1	27.3	42.1	52.8	82.0
	2014	Line		17.61	14.64	20.49	24.00	28.07	41.51
		Rate (HHs)	151	12.3	4.0	20.5	33.9	44.6	71.2
		Rate (people)		14.8	5.3	25.3	41.8	53.5	79.5
Rural	2000	Line		7.05	5.92	8.97	10.80	12.96	22.44
		Rate (HHs)	212	26.3	17.9	41.0	49.9	62.6	85.3
		Rate (people)		31.9	21.3	49.2	60.7	73.3	91.1
	2006	Line		10.69	9.63	14.19	17.27	21.21	34.04
		Rate (HHs)	263	20.7	13.7	38.5	53.2	64.7	88.0
		Rate (people)		29.8	20.9	51.9	65.6	75.8	92.6
	2014	Line		17.37	14.44	20.22	23.68	27.69	40.95
		Rate (HHs)	251	16.0	8.0	25.0	33.8	46.7	74.1
		Rate (people)		22.0	11.8	33.9	44.0	57.7	82.8
All	2000	Line		7.00	5.88	8.92	10.73	12.88	22.30
		Rate (HHs)	337	21.8	13.6	34.8	45.9	58.9	83.0
		Rate (people)		26.6	16.6	41.9	55.9	68.4	88.7
	2006	Line		10.74	9.68	14.26	17.36	21.32	34.21
		Rate (HHs)	444	14.7	9.7	31.0	44.9	55.7	83.3
		Rate (people)		21.8	15.3	42.7	56.8	67.2	88.6
	2014	Line		17.47	14.52	20.33	23.81	27.85	41.18
		Rate (HHs)	402	14.4	6.3	23.1	33.8	45.9	72.9
		Rate (people)		18.9	9.1	30.3	43.1	55.9	81.4

Source and definitions: See Figure 1 and text.

Table 2 (Sololá): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Food	100%	150%	200%
				Poverty lines (GTQ/person/day) and poverty rates (%) National			
Urban	2000	Line		5.26	11.89	17.83	23.77
		Rate (HHs)	10	0.0	80.0	100.0	100.0
		Rate (people)		0.0	83.3	100.0	100.0
	2006	Line		8.77	17.99	26.98	35.97
		Rate (HHs)	252	13.1	51.0	70.4	82.8
		Rate (people)		18.0	60.0	78.2	88.0
	2014	Line		15.73	27.96	41.94	55.91
		Rate (HHs)	203	21.7	63.6	82.0	89.3
		Rate (people)		30.9	73.6	88.7	94.2
Rural	2000	Line		5.28	11.93	17.90	23.86
		Rate (HHs)	25	31.0	91.6	100.0	100.0
		Rate (people)		38.1	94.8	100.0	100.0
	2006	Line		8.81	18.06	27.09	36.12
		Rate (HHs)	239	32.9	85.2	97.6	99.2
		Rate (people)		41.3	90.0	98.3	99.5
	2014	Line		15.80	28.07	42.11	56.14
		Rate (HHs)	227	37.0	81.5	97.6	99.2
		Rate (people)		50.4	89.6	99.1	99.9
All	2000	Line		5.28	11.92	17.88	23.85
		Rate (HHs)	35	24.5	89.2	100.0	100.0
		Rate (people)		31.2	92.7	100.0	100.0
	2006	Line		8.79	18.02	27.03	36.05
		Rate (HHs)	491	22.1	66.5	82.7	90.2
		Rate (people)		29.3	74.6	88.0	93.6
	2014	Line		15.76	28.01	42.01	56.02
		Rate (HHs)	430	28.3	71.3	88.7	93.6
		Rate (people)		39.9	80.9	93.5	96.8

Source and definitions: See Figure 1 and text.

Table 2 (Sololá): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.91	6.26	7.82	15.64	3.56	5.82
		Rate (HHs)	10	0.0	20.0	40.0	100.0	0.0	10.0
		Rate (people)		0.0	24.1	44.4	100.0	0.0	11.1
	2006	Line		6.02	9.63	12.04	24.08	5.49	8.95
		Rate (HHs)	252	2.2	17.6	26.5	64.9	1.2	14.0
		Rate (people)		2.4	23.2	33.7	72.1	1.0	18.8
	2014	Line		9.13	14.60	18.25	36.50	8.32	13.57
		Rate (HHs)	203	3.3	16.5	33.2	77.7	2.7	10.4
		Rate (people)		5.4	24.5	45.1	85.1	4.7	16.0
Rural	2000	Line		3.92	6.28	7.85	15.70	3.58	5.84
		Rate (HHs)	25	7.4	43.1	51.0	95.8	7.4	31.0
		Rate (people)		10.3	50.6	60.7	98.0	10.3	38.1
	2006	Line		6.04	9.67	12.09	24.18	5.51	8.99
		Rate (HHs)	239	3.4	37.2	53.9	95.4	1.0	33.9
		Rate (people)		4.6	46.4	61.9	96.5	1.3	42.3
	2014	Line		9.16	14.66	18.33	36.65	8.35	13.63
		Rate (HHs)	227	4.3	33.1	42.2	94.5	3.6	26.0
		Rate (people)		5.7	46.3	56.4	97.1	4.9	37.1
All	2000	Line		3.92	6.28	7.84	15.69	3.58	5.83
		Rate (HHs)	35	5.8	38.3	48.7	96.7	5.8	26.6
		Rate (people)		8.4	45.8	57.8	98.4	8.4	33.2
	2006	Line		6.03	9.65	12.06	24.13	5.50	8.97
		Rate (HHs)	491	2.8	26.5	38.9	78.8	1.1	23.0
		Rate (people)		3.5	34.5	47.5	84.0	1.1	30.2
	2014	Line		9.14	14.63	18.29	36.57	8.34	13.60
		Rate (HHs)	430	3.7	23.6	37.1	84.9	3.1	17.1
		Rate (people)		5.5	34.5	50.3	90.6	4.8	25.8

Source and definitions: See Figure 1 and text.

Table 2 (Sololá): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	20th	40th	50th	60th	80th
					Percentile-based lines				
Urban	2000	Line		6.85	5.76	8.73	10.50	12.61	21.83
		Rate (HHs)	10	40.0	10.0	50.0	80.0	100.0	100.0
		Rate (people)		44.4	11.1	51.9	83.3	100.0	100.0
	2006	Line		10.90	9.82	14.47	17.62	21.63	34.71
		Rate (HHs)	252	22.3	18.3	41.0	50.7	58.4	80.8
		Rate (people)		29.1	24.4	48.5	59.6	66.4	86.4
	2014	Line		17.71	14.73	20.62	24.15	28.24	41.76
		Rate (HHs)	203	31.2	16.5	45.4	54.1	63.6	81.7
		Rate (people)		42.6	24.5	57.3	65.8	73.6	88.2
Rural	2000	Line		6.88	5.78	8.76	10.54	12.66	21.91
		Rate (HHs)	25	47.4	31.0	54.7	78.4	95.8	100.0
		Rate (people)		58.5	38.1	63.0	82.2	98.0	100.0
	2006	Line		10.94	9.86	14.53	17.69	21.72	34.85
		Rate (HHs)	239	47.7	39.3	66.7	84.3	93.1	99.0
		Rate (people)		57.0	49.1	74.6	89.1	95.0	99.5
	2014	Line		17.78	14.79	20.70	24.24	28.36	41.93
		Rate (HHs)	227	40.2	33.7	54.3	70.2	82.1	97.1
		Rate (people)		53.6	47.0	68.9	81.6	89.9	98.9
All	2000	Line		6.87	5.77	8.75	10.53	12.65	21.89
		Rate (HHs)	35	45.8	26.6	53.7	78.8	96.7	100.0
		Rate (people)		55.9	33.2	61.0	82.4	98.4	100.0
	2006	Line		10.92	9.84	14.50	17.65	21.67	34.78
		Rate (HHs)	491	33.8	27.8	52.7	66.0	74.2	89.0
		Rate (people)		42.7	36.5	61.2	74.0	80.4	92.8
	2014	Line		17.75	14.75	20.66	24.19	28.30	41.84
		Rate (HHs)	430	35.0	23.9	49.2	61.0	71.5	88.3
		Rate (people)		47.7	34.9	62.7	73.1	81.1	93.1

Source and definitions: See Figure 1 and text.

Table 2 (Totonicapán): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)			
				National			
				Food	100%	150%	200%
Urban	2000	Line		5.31	12.00	18.01	24.01
		Rate (HHs)	51	10.4	44.3	69.9	83.5
		Rate (people)		14.8	56.4	76.0	85.4
	2006	Line		8.75	17.93	26.90	35.87
		Rate (HHs)	161	11.1	52.0	77.6	89.1
		Rate (people)		15.4	60.5	84.3	91.8
	2014	Line		15.69	27.87	41.81	55.75
		Rate (HHs)	161	20.7	56.6	78.0	87.4
		Rate (people)		28.3	68.8	85.6	92.5
Rural	2000	Line		5.30	11.98	17.98	23.97
		Rate (HHs)	58	25.1	76.0	95.7	98.6
		Rate (people)		34.2	83.2	97.3	98.9
	2006	Line		8.83	18.10	27.15	36.20
		Rate (HHs)	298	19.0	73.0	91.6	96.8
		Rate (people)		23.7	80.7	94.0	98.1
	2014	Line		15.83	28.14	42.21	56.27
		Rate (HHs)	264	40.9	79.2	94.0	99.8
		Rate (people)		52.9	85.5	95.7	99.9
All	2000	Line		5.31	11.99	17.99	23.98
		Rate (HHs)	109	19.8	64.5	86.4	93.1
		Rate (people)		27.7	74.3	90.2	94.3
	2006	Line		8.79	18.03	27.04	36.06
		Rate (HHs)	459	15.3	63.2	85.1	93.2
		Rate (people)		20.0	71.9	89.8	95.3
	2014	Line		15.76	28.01	42.02	56.02
		Rate (HHs)	425	30.1	67.2	85.5	93.2
		Rate (people)		41.1	77.5	90.8	96.3

Source and definitions: See Figure 1 and text.

Table 2 (Totonicapán): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.95	6.32	7.90	15.80	3.60	5.87
		Rate (HHs)	51	1.8	15.3	33.6	64.7	1.8	12.0
		Rate (people)		3.5	20.7	45.2	73.9	3.5	16.3
	2006	Line		6.00	9.60	12.00	24.01	5.47	8.93
		Rate (HHs)	161	1.4	13.8	27.3	69.7	0.7	11.7
		Rate (people)		2.8	18.1	32.9	77.3	1.3	16.2
	2014	Line		9.10	14.56	18.20	36.39	8.29	13.53
		Rate (HHs)	161	3.7	18.0	30.7	71.3	3.7	15.3
		Rate (people)		5.5	26.0	42.1	80.5	5.5	21.6
Rural	2000	Line		3.94	6.31	7.88	15.77	3.59	5.86
		Rate (HHs)	58	8.7	38.6	50.8	90.2	5.9	31.4
		Rate (people)		12.4	47.8	63.1	92.9	7.5	41.3
	2006	Line		6.06	9.69	12.12	24.23	5.52	9.01
		Rate (HHs)	298	4.1	28.4	44.8	89.7	3.1	22.2
		Rate (people)		6.4	35.6	55.0	93.1	5.2	27.7
	2014	Line		9.18	14.69	18.37	36.74	8.37	13.66
		Rate (HHs)	264	5.2	36.6	52.3	91.0	2.5	32.7
		Rate (people)		9.3	47.6	65.1	93.7	3.6	43.0
All	2000	Line		3.94	6.31	7.89	15.78	3.60	5.87
		Rate (HHs)	109	6.2	30.2	44.6	81.0	4.4	24.4
		Rate (people)		9.4	38.7	57.1	86.5	6.2	32.9
	2006	Line		6.03	9.65	12.07	24.13	5.50	8.97
		Rate (HHs)	459	2.8	21.6	36.7	80.4	2.0	17.3
		Rate (people)		4.8	27.9	45.3	86.2	3.5	22.6
	2014	Line		9.14	14.63	18.29	36.57	8.34	13.60
		Rate (HHs)	425	4.4	26.7	40.8	80.5	3.1	23.5
		Rate (people)		7.5	37.2	54.1	87.4	4.5	32.7

Source and definitions: See Figure 1 and text.

Table 2 (Totonicapán): Relative poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	20th	40th	50th	60th	80th
						Percentile-based lines			
Urban	2000 Line			6.92	5.81	8.81	10.61	12.73	22.04
		Rate (HHs)	51	30.1	13.7	37.0	38.8	55.1	77.2
		Rate (people)		40.8	17.8	48.9	49.5	65.3	80.1
	2006 Line			10.87	9.79	14.42	17.56	21.57	34.61
		Rate (HHs)	161	22.1	15.2	36.6	51.0	65.9	88.5
		Rate (people)		26.9	19.5	45.8	59.5	74.7	91.6
	2014 Line			17.66	14.68	20.56	24.07	28.16	41.63
		Rate (HHs)	161	28.1	18.0	38.6	48.7	56.6	78.0
		Rate (people)		38.4	26.0	50.0	61.3	68.8	85.6
Rural	2000 Line			6.91	5.80	8.80	10.59	12.71	22.01
		Rate (HHs)	58	46.8	33.2	58.5	67.9	81.1	98.6
		Rate (people)		58.1	43.6	68.7	74.4	87.6	98.9
	2006 Line			10.97	9.88	14.56	17.73	21.77	34.93
		Rate (HHs)	298	36.7	28.9	57.7	73.0	85.7	96.5
		Rate (people)		45.7	36.4	66.8	80.7	90.2	97.8
	2014 Line			17.83	14.82	20.75	24.30	28.42	42.03
		Rate (HHs)	264	48.9	37.5	60.5	70.9	79.2	93.8
		Rate (people)		61.4	49.0	72.2	80.0	85.5	95.5
All	2000 Line			6.91	5.81	8.80	10.60	12.72	22.02
		Rate (HHs)	109	40.8	26.2	50.7	57.3	71.7	90.9
		Rate (people)		52.3	34.9	62.1	66.1	80.1	92.6
	2006 Line			10.93	9.84	14.50	17.66	21.68	34.79
		Rate (HHs)	459	29.9	22.6	47.9	62.8	76.5	92.8
		Rate (people)		37.4	29.0	57.5	71.4	83.4	95.1
	2014 Line			17.75	14.75	20.66	24.19	28.30	41.84
		Rate (HHs)	425	37.8	27.1	48.9	59.1	67.2	85.4
		Rate (people)		50.3	37.9	61.5	71.0	77.5	90.7

Source and definitions: See Figure 1 and text.

Table 2 (Quetzaltenango): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) National | | | |
				Food	100%	150%	200%
Urban	2000	Line		5.24	11.83	17.74	23.65
		Rate (HHs)	250	2.0	30.6	50.1	61.6
		Rate (people)		3.3	38.4	57.7	68.9
	2006	Line		8.83	18.10	27.16	36.21
		Rate (HHs)	364	4.0	28.2	49.7	68.1
		Rate (people)		6.1	37.0	59.9	77.6
	2014	Line		15.83	28.14	42.21	56.28
		Rate (HHs)	388	7.5	31.1	53.0	66.9
		Rate (people)		12.0	41.5	62.6	74.8
Rural	2000	Line		5.30	11.97	17.96	23.94
		Rate (HHs)	177	11.0	55.5	81.5	90.1
		Rate (people)		13.6	65.2	85.8	91.3
	2006	Line		8.97	18.39	27.58	36.77
		Rate (HHs)	334	10.2	42.7	68.7	82.7
		Rate (people)		15.4	53.4	77.1	87.7
	2014	Line		16.08	28.58	42.87	57.15
		Rate (HHs)	314	19.0	70.9	90.6	94.6
		Rate (people)		23.5	77.4	93.0	96.8
All	2000	Line		5.27	11.90	17.85	23.80
		Rate (HHs)	427	6.3	42.7	65.3	75.4
		Rate (people)		8.5	51.9	71.9	80.2
	2006	Line		8.89	18.22	27.34	36.45
		Rate (HHs)	698	6.6	34.2	57.5	74.1
		Rate (people)		10.1	44.0	67.3	81.9
	2014	Line		15.93	28.32	42.47	56.63
		Rate (HHs)	702	11.8	46.2	67.2	77.4
		Rate (people)		16.7	56.0	74.9	83.7

Source and definitions: See Figure 1 and text.

Table 2 (Quetzaltenango): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.89	6.23	7.78	15.56	3.55	5.79
		Rate (HHs)	250	0.0	5.0	11.3	44.0	0.0	3.4
		Rate (people)		0.0	8.3	16.1	52.2	0.0	5.7
	2006	Line		6.06	9.69	12.12	24.24	5.52	9.01
		Rate (HHs)	364	0.6	5.0	13.9	43.5	0.0	4.4
		Rate (people)		1.2	7.7	19.6	53.8	0.0	6.6
	2014	Line		9.18	14.70	18.37	36.74	8.37	13.66
		Rate (HHs)	388	0.5	5.4	11.2	45.7	0.5	4.1
		Rate (people)		0.7	8.5	16.9	55.0	0.7	6.9
Rural	2000	Line		3.94	6.30	7.88	15.75	3.59	5.86
		Rate (HHs)	177	4.7	17.2	25.3	75.4	4.0	13.9
		Rate (people)		4.8	22.3	31.2	81.2	4.1	18.4
	2006	Line		6.15	9.85	12.31	24.61	5.61	9.15
		Rate (HHs)	334	0.6	12.8	23.7	64.9	0.0	10.8
		Rate (people)		1.2	19.3	33.0	74.5	0.0	16.0
	2014	Line		9.33	14.92	18.66	37.31	8.50	13.88
		Rate (HHs)	314	1.8	14.7	29.6	86.3	1.1	10.1
		Rate (people)		2.6	17.8	36.6	90.0	1.7	13.7
All	2000	Line		3.91	6.26	7.83	15.66	3.57	5.82
		Rate (HHs)	427	2.3	10.9	18.1	59.2	1.9	8.5
		Rate (people)		2.4	15.4	23.7	66.9	2.1	12.1
	2006	Line		6.10	9.76	12.20	24.40	5.56	9.07
		Rate (HHs)	698	0.6	8.2	18.0	52.3	0.0	7.0
		Rate (people)		1.2	12.6	25.3	62.7	0.0	10.6
	2014	Line		9.24	14.79	18.49	36.97	8.43	13.75
		Rate (HHs)	702	1.0	8.9	18.2	61.1	0.8	6.4
		Rate (people)		1.5	12.3	24.8	69.1	1.1	9.6

Source and definitions: See Figure 1 and text.

Table 2 (Quetzaltenango): Relative poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2000	Line		6.82	5.73	8.68	10.45	12.55	21.72
		Rate (HHs)	250	6.6	3.4	15.0	26.6	33.6	59.1
		Rate (people)		10.9	5.7	21.3	33.0	41.6	66.8
	2006	Line		10.97	9.88	14.56	17.73	21.77	34.94
		Rate (HHs)	364	9.0	5.0	19.3	27.4	35.5	66.7
		Rate (people)		12.3	7.7	26.3	35.9	45.2	76.1
	2014	Line		17.83	14.82	20.75	24.30	28.43	42.03
		Rate (HHs)	388	9.7	5.6	15.8	24.5	31.3	53.0
		Rate (people)		14.9	8.9	23.3	34.1	41.8	62.6
Rural	2000	Line		6.90	5.80	8.79	10.58	12.70	21.98
		Rate (HHs)	177	22.6	13.9	37.4	50.5	61.0	87.6
		Rate (people)		28.4	18.4	43.3	58.0	70.6	89.3
	2006	Line		11.14	10.03	14.79	18.01	22.11	35.48
		Rate (HHs)	334	20.1	14.2	32.0	42.0	57.8	81.5
		Rate (people)		28.3	21.1	41.5	52.9	67.8	86.7
	2014	Line		18.10	15.05	21.07	24.68	28.87	42.69
		Rate (HHs)	314	27.4	15.4	42.5	58.0	71.4	90.6
		Rate (people)		33.4	18.8	50.2	65.1	77.8	93.0
All	2000	Line		6.86	5.76	8.74	10.52	12.62	21.85
		Rate (HHs)	427	14.4	8.5	25.8	38.2	46.9	72.9
		Rate (people)		19.7	12.1	32.4	45.7	56.3	78.2
	2006	Line		11.04	9.95	14.66	17.85	21.92	35.17
		Rate (HHs)	698	13.6	8.8	24.5	33.4	44.7	72.8
		Rate (people)		19.1	13.4	32.8	43.2	54.9	80.7
	2014	Line		17.94	14.92	20.88	24.46	28.61	42.30
		Rate (HHs)	702	16.4	9.3	26.0	37.2	46.5	67.2
		Rate (people)		22.4	12.9	34.2	46.6	56.3	74.9

Source and definitions: See Figure 1 and text.

Table 2 (Suchitepéquez): National poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)			
				National			
				Food	100%	150%	200%
Urban	2000	Line		5.23	11.81	17.72	23.63
		Rate (HHs)	59	0.0	29.2	55.2	77.8
		Rate (people)		0.0	32.8	58.2	81.9
	2006	Line		8.82	18.09	27.14	36.18
		Rate (HHs)	211	5.6	34.5	55.7	71.5
		Rate (people)		7.7	42.3	65.7	79.8
	2014	Line		15.82	28.12	42.18	56.24
		Rate (HHs)	269	7.4	39.4	64.4	80.3
		Rate (people)		11.2	50.3	73.7	86.9
Rural	2000	Line		5.34	12.06	18.09	24.12
		Rate (HHs)	132	9.8	55.5	85.6	95.5
		Rate (people)		14.1	65.9	90.5	98.5
	2006	Line		8.93	18.32	27.48	36.64
		Rate (HHs)	303	12.5	55.6	81.0	92.1
		Rate (people)		18.0	64.0	88.7	95.1
	2014	Line		16.03	28.48	42.72	56.95
		Rate (HHs)	361	20.1	66.8	87.4	95.4
		Rate (people)		27.2	75.2	93.5	97.5
All	2000	Line		5.32	12.01	18.01	24.02
		Rate (HHs)	191	7.7	49.8	78.9	91.6
		Rate (people)		11.1	58.7	83.5	94.9
	2006	Line		8.89	18.22	27.33	36.45
		Rate (HHs)	514	9.2	45.6	69.0	82.3
		Rate (people)		13.6	54.7	78.9	88.5
	2014	Line		15.93	28.31	42.47	56.63
		Rate (HHs)	630	13.8	53.3	76.1	88.0
		Rate (people)		19.8	63.8	84.4	92.6

Source and definitions: See Figure 1 and text.

Table 2 (Suchitepéquez): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.89	6.22	7.77	15.55	3.54	5.78
		Rate (HHs)	59	0.0	7.4	16.9	45.5	0.0	3.5
		Rate (people)		0.0	11.8	23.0	50.1	0.0	5.1
	2006	Line		6.05	9.69	12.11	24.22	5.52	9.01
		Rate (HHs)	211	0.5	7.1	14.1	50.0	0.5	7.1
		Rate (people)		1.2	9.8	19.7	60.1	1.2	9.8
	2014	Line		9.18	14.69	18.36	36.71	8.37	13.65
		Rate (HHs)	269	0.0	4.1	12.3	55.3	0.0	2.6
		Rate (people)		0.0	5.5	19.0	65.1	0.0	3.3
Rural	2000	Line		3.97	6.35	7.94	15.87	3.62	5.90
		Rate (HHs)	132	4.7	19.5	31.9	79.8	4.7	14.3
		Rate (people)		6.8	26.1	41.3	86.2	6.8	20.3
	2006	Line		6.13	9.81	12.26	24.53	5.59	9.12
		Rate (HHs)	303	1.9	17.8	29.7	76.0	0.9	13.4
		Rate (people)		2.4	24.2	38.0	84.4	1.1	18.8
	2014	Line		9.30	14.87	18.59	37.18	8.47	13.83
		Rate (HHs)	361	0.9	14.7	29.1	83.2	0.9	11.1
		Rate (people)		0.9	19.8	38.0	90.4	0.9	15.1
All	2000	Line		3.95	6.32	7.90	15.80	3.60	5.88
		Rate (HHs)	191	3.7	16.9	28.6	72.3	3.7	12.0
		Rate (people)		5.3	23.0	37.3	78.4	5.3	17.0
	2006	Line		6.10	9.76	12.20	24.39	5.56	9.07
		Rate (HHs)	514	1.3	12.7	22.3	63.7	0.7	10.4
		Rate (people)		1.9	18.0	30.2	74.0	1.1	14.9
	2014	Line		9.24	14.79	18.48	36.97	8.43	13.75
		Rate (HHs)	630	0.5	9.5	20.8	69.4	0.5	7.0
		Rate (people)		0.5	13.3	29.3	78.8	0.5	9.7

Source and definitions: See Figure 1 and text.

Table 2 (Suchitepéquez): Relative poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Poorest half < 100% natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2000	Line		6.81	5.72	8.67	10.44	12.53	21.69
		Rate (HHs)	59	11.8	3.5	16.9	21.3	34.9	74.7
		Rate (people)		17.7	5.1	23.0	26.2	39.3	80.0
	2006	Line		10.96	9.87	14.55	17.72	21.76	34.91
		Rate (HHs)	211	12.9	7.6	21.6	33.2	44.3	69.4
		Rate (people)		18.2	10.3	27.7	40.8	54.2	77.8
	2014	Line		17.81	14.81	20.74	24.29	28.41	42.00
		Rate (HHs)	269	11.7	4.3	20.4	30.8	40.3	64.4
		Rate (people)		18.5	5.8	29.5	40.8	51.5	73.7
Rural	2000	Line		6.95	5.84	8.85	10.66	12.79	22.15
		Rate (HHs)	132	21.8	14.3	38.1	51.5	66.3	93.5
		Rate (people)		28.8	20.3	46.5	61.0	75.8	97.5
	2006	Line		11.10	10.00	14.74	17.94	22.03	35.36
		Rate (HHs)	303	23.6	17.8	40.3	54.1	68.7	90.8
		Rate (people)		31.5	24.2	49.1	62.7	77.6	94.1
	2014	Line		18.04	15.00	21.00	24.60	28.77	42.54
		Rate (HHs)	361	26.7	15.4	40.2	53.8	67.2	87.4
		Rate (people)		34.5	20.6	50.8	62.9	75.7	93.5
All	2000	Line		6.92	5.81	8.81	10.61	12.74	22.05
		Rate (HHs)	191	19.6	12.0	33.5	44.9	59.4	89.4
		Rate (people)		26.4	17.0	41.4	53.4	67.9	93.7
	2006	Line		11.04	9.95	14.66	17.85	21.91	35.17
		Rate (HHs)	514	18.5	12.9	31.4	44.2	57.1	80.7
		Rate (people)		25.8	18.3	39.9	53.3	67.5	87.1
	2014	Line		17.94	14.91	20.88	24.45	28.60	42.29
		Rate (HHs)	630	19.3	9.9	30.4	42.4	53.9	76.1
		Rate (people)		27.1	13.8	41.0	52.7	64.6	84.4

Source and definitions: See Figure 1 and text.

Table 2 (Retalhuleu): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	100%	150%	200%
Urban	2000	Line		5.24	11.83	17.74	23.66
		Rate (HHs)	26	0.0	4.6	25.8	48.1
		Rate (people)		0.0	6.1	37.0	59.3
	2006	Line		8.79	18.02	27.03	36.04
		Rate (HHs)	269	3.5	24.6	44.3	62.9
		Rate (people)		6.9	35.6	54.5	70.0
	2014	Line		15.76	28.01	42.01	56.02
		Rate (HHs)	160	6.4	33.4	60.6	77.4
		Rate (people)		10.9	44.1	72.6	86.0
Rural	2000	Line		5.28	11.93	17.90	23.86
		Rate (HHs)	30	22.4	68.5	82.1	88.8
		Rate (people)		27.9	76.3	90.4	96.4
	2006	Line		8.86	18.17	27.25	36.33
		Rate (HHs)	722	7.3	49.3	78.6	89.9
		Rate (people)		11.1	59.5	86.7	94.7
	2014	Line		15.89	28.23	42.35	56.47
		Rate (HHs)	246	11.5	53.2	83.1	91.5
		Rate (people)		18.3	64.3	88.8	94.3
All	2000	Line		5.27	11.90	17.85	23.80
		Rate (HHs)	56	15.0	47.4	63.5	75.3
		Rate (people)		19.5	55.1	74.3	85.2
	2006	Line		8.83	18.11	27.17	36.22
		Rate (HHs)	991	5.7	38.7	64.0	78.3
		Rate (people)		9.5	50.4	74.5	85.3
	2014	Line		15.84	28.14	42.21	56.29
		Rate (HHs)	406	9.4	45.0	73.7	85.7
		Rate (people)		15.3	56.1	82.1	90.9

Source and definitions: See Figure 1 and text.

Table 2 (Retalhuleu): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.89	6.23	7.78	15.57	3.55	5.79
		Rate (HHs)	26	0.0	0.0	0.0	14.7	0.0	0.0
		Rate (people)		0.0	0.0	0.0	21.0	0.0	0.0
	2006	Line		6.03	9.65	12.06	24.12	5.50	8.97
		Rate (HHs)	269	0.7	5.7	9.2	38.3	0.7	4.0
		Rate (people)		1.6	9.7	15.4	49.7	1.6	7.6
	2014	Line		9.14	14.63	18.29	36.57	8.34	13.60
		Rate (HHs)	160	0.0	6.0	12.3	53.6	0.0	3.5
		Rate (people)		0.0	9.4	19.4	65.8	0.0	5.3
Rural	2000	Line		3.93	6.28	7.85	15.70	3.58	5.84
		Rate (HHs)	30	4.7	35.3	40.9	82.1	0.0	22.4
		Rate (people)		6.8	43.2	49.4	90.4	0.0	27.9
	2006	Line		6.08	9.73	12.16	24.32	5.54	9.04
		Rate (HHs)	722	1.6	9.2	19.1	70.9	1.5	7.6
		Rate (people)		3.0	13.6	26.7	80.9	2.7	11.5
	2014	Line		9.22	14.75	18.43	36.86	8.40	13.71
		Rate (HHs)	246	1.0	8.4	20.0	75.1	0.4	6.0
		Rate (people)		1.7	13.8	28.4	82.8	0.5	10.0
All	2000	Line		3.91	6.26	7.83	15.66	3.57	5.82
		Rate (HHs)	56	3.2	23.6	27.4	59.9	0.0	15.0
		Rate (people)		4.8	30.1	34.5	69.4	0.0	19.5
	2006	Line		6.06	9.70	12.12	24.24	5.53	9.02
		Rate (HHs)	991	1.3	7.7	14.9	56.9	1.2	6.0
		Rate (people)		2.5	12.1	22.4	69.1	2.3	10.0
	2014	Line		9.19	14.70	18.37	36.74	8.37	13.66
		Rate (HHs)	406	0.6	7.4	16.8	66.2	0.2	4.9
		Rate (people)		1.0	12.0	24.7	75.8	0.3	8.1

Source and definitions: See Figure 1 and text.

Table 2 (Retalhuleu): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Poorest half < 100% natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2000	Line		6.82	5.73	8.68	10.45	12.55	21.72
		Rate (HHs)	26	0.0	0.0	0.0	0.0	6.9	45.8
		Rate (people)		0.0	0.0	0.0	0.0	8.9	56.5
	2006	Line		10.92	9.84	14.49	17.65	21.67	34.78
		Rate (HHs)	269	7.0	5.7	15.1	24.3	32.0	61.3
		Rate (people)		12.0	9.7	23.0	35.4	43.0	68.7
	2014	Line		17.75	14.75	20.66	24.19	28.30	41.84
		Rate (HHs)	160	12.3	6.0	20.7	28.3	33.4	60.6
		Rate (people)		19.4	9.4	30.0	38.4	44.1	72.6
Rural	2000	Line		6.88	5.78	8.76	10.54	12.66	21.91
		Rate (HHs)	30	35.3	22.4	52.6	66.3	75.2	88.8
		Rate (people)		43.2	27.9	61.2	73.9	84.6	96.4
	2006	Line		11.01	9.91	14.61	17.79	21.84	35.06
		Rate (HHs)	722	14.3	10.2	31.6	47.7	64.2	89.1
		Rate (people)		20.8	14.8	40.5	58.0	74.6	94.2
	2014	Line		17.89	14.87	20.82	24.39	28.52	42.17
		Rate (HHs)	246	17.2	9.1	27.0	42.5	53.7	83.1
		Rate (people)		25.1	14.8	36.8	52.9	65.1	88.8
All	2000	Line		6.86	5.76	8.74	10.52	12.62	21.85
		Rate (HHs)	56	23.6	15.0	35.2	44.4	52.6	74.6
		Rate (people)		30.1	19.5	42.7	51.6	61.7	84.3
	2006	Line		10.98	9.88	14.57	17.74	21.78	34.95
		Rate (HHs)	991	11.2	8.3	24.5	37.7	50.4	77.2
		Rate (people)		17.5	12.9	33.9	49.4	62.6	84.5
	2014	Line		17.83	14.82	20.75	24.31	28.43	42.04
		Rate (HHs)	406	15.2	7.8	24.4	36.6	45.3	73.7
		Rate (people)		22.7	12.6	34.0	46.9	56.5	82.1

Source and definitions: See Figure 1 and text.

Table 2 (San Marcos): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	*n*	Poverty lines (GTQ/person/day) and poverty rates (%)			
				National			
				Food	100%	150%	200%
Urban	2000	Line		5.31	11.99	17.98	23.98
		Rate (HHs)	31	0.0	29.1	45.0	70.0
		Rate (people)		0.0	40.0	60.4	82.9
	2006	Line		8.81	18.06	27.09	36.12
		Rate (HHs)	97	4.6	26.0	42.8	55.9
		Rate (people)		8.1	34.1	50.5	62.7
	2014	Line		15.80	28.07	42.11	56.14
		Rate (HHs)	90	5.2	24.7	46.5	70.5
		Rate (people)		6.9	28.8	53.3	77.2
Rural	2000	Line		5.28	11.93	17.89	23.86
		Rate (HHs)	266	20.6	68.7	82.6	89.0
		Rate (people)		26.3	77.4	87.5	92.1
	2006	Line		8.85	18.15	27.23	36.31
		Rate (HHs)	319	18.6	68.3	86.9	96.1
		Rate (people)		23.9	75.8	90.2	97.7
	2014	Line		15.88	28.22	42.32	56.43
		Rate (HHs)	333	20.8	64.8	88.4	96.0
		Rate (people)		28.4	73.5	93.7	97.3
All	2000	Line		5.28	11.93	17.90	23.86
		Rate (HHs)	297	19.6	66.7	80.6	88.0
		Rate (people)		25.2	75.8	86.4	91.7
	2006	Line		8.84	18.13	27.19	36.26
		Rate (HHs)	416	14.5	55.9	74.0	84.3
		Rate (people)		19.9	65.5	80.4	89.0
	2014	Line		15.85	28.17	42.26	56.35
		Rate (HHs)	423	15.4	51.0	73.9	87.2
		Rate (people)		22.0	60.2	81.7	91.4

Source and definitions: See Figure 1 and text.

Table 2 (San Marcos): International 2005 and 2011 PPP poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.94	6.31	7.89	15.78	3.60	5.87
		Rate (HHs)	31	0.0	0.0	6.0	37.0	0.0	0.0
		Rate (people)		0.0	0.0	11.0	48.4	0.0	0.0
	2006	Line		6.04	9.67	12.09	24.18	5.51	8.99
		Rate (HHs)	97	0.0	8.8	11.8	40.3	0.0	4.6
		Rate (people)		0.0	13.7	17.8	46.6	0.0	8.1
	2014	Line		9.16	14.66	18.33	36.65	8.35	13.63
		Rate (HHs)	90	0.0	4.1	9.1	43.3	0.0	2.2
		Rate (people)		0.0	5.6	10.6	50.3	0.0	3.0
Rural	2000	Line		3.92	6.28	7.85	15.70	3.58	5.84
		Rate (HHs)	266	10.5	30.4	42.8	78.2	8.9	25.9
		Rate (people)		13.8	36.9	51.2	84.8	12.1	32.8
	2006	Line		6.08	9.72	12.15	24.30	5.54	9.04
		Rate (HHs)	319	1.9	22.4	41.4	82.0	1.6	20.0
		Rate (people)		2.5	29.2	47.8	87.4	2.1	26.5
	2014	Line		9.21	14.74	18.42	36.84	8.40	13.70
		Rate (HHs)	333	4.0	17.5	31.0	81.2	2.8	14.5
		Rate (people)		6.6	24.0	40.2	88.3	4.0	20.7
All	2000	Line		3.93	6.28	7.85	15.70	3.58	5.84
		Rate (HHs)	297	9.9	28.9	40.9	76.1	8.4	24.6
		Rate (people)		13.2	35.4	49.6	83.3	11.6	31.5
	2006	Line		6.07	9.71	12.14	24.27	5.53	9.03
		Rate (HHs)	416	1.4	18.4	32.7	69.8	1.1	15.5
		Rate (people)		1.9	25.4	40.4	77.3	1.6	21.9
	2014	Line		9.20	14.71	18.39	36.78	8.38	13.68
		Rate (HHs)	423	2.6	12.9	23.4	68.1	1.8	10.2
		Rate (people)		4.6	18.5	31.4	77.0	2.8	15.5

Source and definitions: See Figure 1 and text.

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Table 2 (San Marcos): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	20th	40th	50th	60th	80th
					Percentile-based lines				
Urban	2000	Line		6.91	5.81	8.80	10.59	12.72	22.02
		Rate (HHs)	31	3.0	0.0	9.0	20.5	29.1	62.6
		Rate (people)		6.5	0.0	15.5	25.6	40.0	78.1
	2006	Line		10.95	9.86	14.53	17.69	21.72	34.85
		Rate (HHs)	97	10.3	8.8	18.9	26.0	40.3	55.5
		Rate (people)		15.7	13.7	27.2	34.1	46.6	62.5
	2014	Line		17.78	14.79	20.70	24.25	28.36	41.93
		Rate (HHs)	90	9.1	4.1	15.4	18.2	26.7	46.5
		Rate (people)		10.6	5.6	18.8	22.5	31.3	53.3
Rural	2000	Line		6.88	5.78	8.76	10.54	12.65	21.90
		Rate (HHs)	266	35.1	26.6	51.8	61.2	72.3	87.4
		Rate (people)		43.0	33.4	60.0	70.9	80.5	91.1
	2006	Line		11.00	9.91	14.60	17.78	21.83	35.03
		Rate (HHs)	319	31.6	23.7	54.3	67.5	78.0	95.4
		Rate (people)		40.1	30.5	62.5	75.0	84.1	97.1
	2014	Line		17.88	14.86	20.81	24.37	28.50	42.15
		Rate (HHs)	333	29.1	18.0	39.1	50.4	65.0	88.2
		Rate (people)		38.1	24.9	48.8	61.1	73.6	93.6
All	2000	Line		6.88	5.78	8.76	10.54	12.66	21.91
		Rate (HHs)	297	33.5	25.2	49.6	59.1	70.0	86.2
		Rate (people)		41.4	32.0	58.1	69.0	78.8	90.6
	2006	Line		10.99	9.90	14.58	17.76	21.80	34.99
		Rate (HHs)	416	25.4	19.4	44.0	55.4	67.0	83.8
		Rate (people)		34.0	26.3	53.8	64.9	74.8	88.6
	2014	Line		17.85	14.84	20.78	24.33	28.46	42.08
		Rate (HHs)	423	22.2	13.2	30.9	39.3	51.8	73.8
		Rate (people)		30.0	19.2	39.9	49.6	61.1	81.7

Source and definitions: See Figure 1 and text.

Table 2 (Huehuetenango): National poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | *n* | Poverty lines (GTQ/person/day) and poverty rates (%) | | | |
| | | | | National | | | |
				Food	100%	150%	200%
Urban	2000	Line		5.42	12.23	18.35	24.47
		Rate (HHs)	303	6.8	35.9	52.4	72.3
		Rate (people)		10.2	43.7	60.9	78.3
	2006	Line		8.83	18.11	27.16	36.21
		Rate (HHs)	112	9.3	41.2	60.3	70.1
		Rate (people)		15.3	51.2	69.5	78.6
	2014	Line		15.84	28.14	42.22	56.29
		Rate (HHs)	109	7.5	47.2	77.7	85.8
		Rate (people)		10.9	51.9	80.2	86.5
Rural	2000	Line		5.53	12.50	18.75	24.99
		Rate (HHs)	572	28.0	82.4	93.9	97.0
		Rate (people)		34.2	87.9	96.2	98.1
	2006	Line		8.68	17.79	26.69	35.59
		Rate (HHs)	338	18.2	69.4	85.7	92.7
		Rate (people)		24.3	78.2	91.0	95.7
	2014	Line		15.56	27.66	41.48	55.31
		Rate (HHs)	356	29.3	76.0	93.3	98.4
		Rate (people)		36.5	83.6	96.0	99.4
All	2000	Line		5.51	12.45	18.67	24.90
		Rate (HHs)	875	23.5	72.5	85.2	91.8
		Rate (people)		29.8	79.7	89.7	94.5
	2006	Line		8.72	17.87	26.81	35.75
		Rate (HHs)	450	15.7	61.5	78.6	86.4
		Rate (people)		22.0	71.3	85.5	91.4
	2014	Line		15.65	27.81	41.71	55.62
		Rate (HHs)	465	21.8	66.0	87.9	94.0
		Rate (people)		28.6	73.8	91.1	95.4

Source and definitions: See Figure 1 and text.

Table 2 (Huehuetenango): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		4.02	6.44	8.05	16.10	3.67	5.99
		Rate (HHs)	303	4.2	9.7	18.2	48.3	3.4	8.3
		Rate (people)		6.6	13.9	23.8	57.3	5.5	11.7
	2006	Line		6.06	9.70	12.12	24.24	5.52	9.01
		Rate (HHs)	112	0.0	11.5	19.2	51.0	0.0	9.3
		Rate (people)		0.0	18.1	28.1	60.4	0.0	15.3
	2014	Line		9.19	14.70	18.37	36.75	8.38	13.66
		Rate (HHs)	109	0.7	7.5	13.5	70.4	0.7	6.9
		Rate (people)		1.7	10.9	16.0	75.6	1.7	9.9
Rural	2000	Line		4.11	6.58	8.22	16.44	3.75	6.12
		Rate (HHs)	572	12.1	42.9	56.6	90.9	8.5	36.9
		Rate (people)		15.3	50.9	64.9	94.1	10.9	44.2
	2006	Line		5.95	9.53	11.91	23.82	5.43	8.86
		Rate (HHs)	338	3.4	24.0	41.1	79.6	1.7	18.8
		Rate (people)		5.0	31.2	51.8	86.9	2.1	24.8
	2014	Line		9.03	14.44	18.05	36.11	8.23	13.43
		Rate (HHs)	356	3.0	23.6	43.4	87.2	2.3	17.8
		Rate (people)		4.3	29.4	52.8	92.0	3.4	21.9
All	2000	Line		4.10	6.55	8.19	16.38	3.73	6.09
		Rate (HHs)	875	10.5	35.9	48.4	81.9	7.5	30.9
		Rate (people)		13.7	44.1	57.4	87.3	9.9	38.2
	2006	Line		5.98	9.57	11.96	23.93	5.45	8.90
		Rate (HHs)	450	2.4	20.5	35.0	71.6	1.2	16.1
		Rate (people)		3.8	27.9	45.8	80.1	1.6	22.4
	2014	Line		9.08	14.52	18.15	36.31	8.28	13.50
		Rate (HHs)	465	2.2	18.0	33.0	81.4	1.7	14.0
		Rate (people)		3.5	23.6	41.3	86.9	2.9	18.2

Source and definitions: See Figure 1 and text.

Table 2 (Huehuetenango): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	20th	40th	50th	60th	80th
					Percentile-based lines				
Urban	2000	Line		7.05	5.92	8.98	10.81	12.98	22.46
		Rate (HHs)	303	14.4	9.2	23.0	30.2	38.0	64.9
		Rate (people)		19.4	13.4	30.0	38.1	45.9	72.1
	2006	Line		10.97	9.88	14.56	17.73	21.77	34.94
		Rate (HHs)	112	16.9	12.8	30.3	40.1	47.9	69.5
		Rate (people)		25.9	19.4	41.9	49.2	57.5	77.8
	2014	Line		17.83	14.82	20.76	24.31	28.43	42.04
		Rate (HHs)	109	11.4	7.5	20.6	38.5	50.8	77.7
		Rate (people)		15.1	10.9	26.8	44.5	55.1	80.2
Rural	2000	Line		7.21	6.05	9.17	11.04	13.26	22.95
		Rate (HHs)	572	48.8	37.1	65.3	78.3	85.0	96.2
		Rate (people)		57.0	44.5	72.8	84.5	90.2	97.7
	2006	Line		10.78	9.71	14.31	17.43	21.40	34.34
		Rate (HHs)	338	32.4	26.0	54.2	68.2	76.8	91.5
		Rate (people)		42.2	33.6	64.8	77.2	84.4	94.6
	2014	Line		17.52	14.57	20.40	23.89	27.94	41.31
		Rate (HHs)	356	40.7	24.0	54.7	68.0	76.8	93.3
		Rate (people)		49.7	29.9	64.9	77.3	84.3	96.0
All	2000	Line		7.18	6.03	9.14	11.00	13.20	22.86
		Rate (HHs)	875	41.5	31.2	56.3	68.1	75.0	89.6
		Rate (people)		50.1	38.8	64.9	76.0	82.1	93.0
	2006	Line		10.83	9.76	14.38	17.50	21.49	34.49
		Rate (HHs)	450	28.1	22.3	47.5	60.3	68.7	85.3
		Rate (people)		38.0	30.0	59.0	70.1	77.6	90.4
	2014	Line		17.62	14.65	20.51	24.02	28.09	41.54
		Rate (HHs)	465	30.6	18.2	42.9	57.8	67.8	87.9
		Rate (people)		38.9	24.0	53.0	67.1	75.2	91.1

Source and definitions: See Figure 1 and text.

Table 2 (Quiché): National poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | *n* | Poverty lines (GTQ/person/day) and poverty rates (%) National | | | |
				Food	100%	150%	200%
Urban	2000	Line		5.41	12.23	18.35	24.46
		Rate (HHs)	101	12.0	43.3	59.5	71.6
		Rate (people)		18.7	55.8	69.6	81.5
	2006	Line		8.76	17.97	26.95	35.93
		Rate (HHs)	137	11.1	53.5	70.7	81.2
		Rate (people)		14.6	64.7	78.7	86.7
	2014	Line		15.71	27.92	41.89	55.85
		Rate (HHs)	100	19.3	42.1	65.8	77.9
		Rate (people)		27.5	52.6	74.6	83.4
Rural	2000	Line		5.49	12.41	18.62	24.83
		Rate (HHs)	221	28.7	85.9	96.9	98.8
		Rate (people)		38.3	92.7	99.1	99.7
	2006	Line		8.49	17.40	26.10	34.80
		Rate (HHs)	372	22.7	79.7	94.5	97.6
		Rate (people)		29.8	87.2	97.1	98.7
	2014	Line		15.22	27.05	40.57	54.09
		Rate (HHs)	345	39.3	79.0	93.5	98.2
		Rate (people)		48.7	85.4	95.7	99.0
All	2000	Line		5.48	12.39	18.58	24.78
		Rate (HHs)	322	26.4	80.0	91.7	95.1
		Rate (people)		35.8	88.0	95.4	97.4
	2006	Line		8.56	17.56	26.33	35.11
		Rate (HHs)	509	19.2	71.8	87.3	92.6
		Rate (people)		25.6	81.0	92.0	95.4
	2014	Line		15.38	27.33	41.00	54.67
		Rate (HHs)	445	31.9	65.3	83.2	90.6
		Rate (people)		41.8	74.7	88.9	93.9

Source and definitions: See Figure 1 and text.

Table 2 (Quiché): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		4.02	6.44	8.05	16.09	3.67	5.98
		Rate (HHs)	101	4.6	18.3	27.9	55.3	2.3	15.5
		Rate (people)		9.3	28.0	41.0	65.6	4.0	24.6
	2006	Line		6.01	9.62	12.03	24.05	5.48	8.94
		Rate (HHs)	137	1.6	19.4	33.7	66.7	0.9	12.7
		Rate (people)		1.8	25.1	42.1	75.4	1.1	16.8
	2014	Line		9.11	14.58	18.23	36.46	8.31	13.56
		Rate (HHs)	100	3.8	16.0	23.2	56.6	2.6	12.5
		Rate (people)		6.6	22.8	33.2	65.7	4.9	19.1
Rural	2000	Line		4.08	6.53	8.17	16.33	3.72	6.07
		Rate (HHs)	221	11.1	38.1	60.6	93.8	7.3	32.9
		Rate (people)		16.7	49.1	70.3	97.0	11.0	42.9
	2006	Line		5.82	9.32	11.65	23.30	5.31	8.66
		Rate (HHs)	372	6.0	28.7	50.3	92.4	3.7	25.2
		Rate (people)		9.2	36.4	59.7	95.6	5.5	32.7
	2014	Line		8.83	14.13	17.66	35.31	8.05	13.13
		Rate (HHs)	345	4.9	35.8	49.5	90.2	4.2	29.4
		Rate (people)		7.1	45.3	59.4	93.7	6.3	37.4
All	2000	Line		4.08	6.52	8.15	16.30	3.72	6.06
		Rate (HHs)	322	10.2	35.3	56.1	88.5	6.6	30.5
		Rate (people)		15.7	46.4	66.6	93.0	10.1	40.6
	2006	Line		5.88	9.40	11.75	23.50	5.36	8.74
		Rate (HHs)	509	4.7	25.9	45.3	84.7	2.9	21.4
		Rate (people)		7.2	33.3	54.9	90.0	4.3	28.3
	2014	Line		8.92	14.27	17.84	35.69	8.13	13.27
		Rate (HHs)	445	4.5	28.4	39.7	77.7	3.6	23.1
		Rate (people)		6.9	38.0	50.8	84.6	5.8	31.4

Source and definitions: See Figure 1 and text.

Table 2 (Quiché): Relative poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	20th	40th	50th	60th	80th
					Poverty lines (GTQ/person/day) and poverty rates (%) — Percentile-based lines				
Urban	2000	Line		7.05	5.92	8.98	10.81	12.97	22.46
		Rate (HHs)	101	19.3	15.5	32.3	37.7	45.4	68.6
		Rate (people)		28.7	24.6	45.1	50.7	57.2	78.4
	2006	Line		10.89	9.81	14.45	17.59	21.60	34.67
		Rate (HHs)	137	25.8	20.2	46.2	53.5	62.9	78.8
		Rate (people)		32.4	26.3	56.2	64.7	73.7	85.5
	2014	Line		17.69	14.71	20.59	24.12	28.21	41.71
		Rate (HHs)	100	23.2	16.0	27.5	36.3	44.4	65.8
		Rate (people)		33.2	22.8	38.0	45.7	54.0	74.6
Rural	2000	Line		7.16	6.01	9.11	10.97	13.17	22.79
		Rate (HHs)	221	47.9	34.0	69.8	80.3	89.0	98.8
		Rate (people)		58.7	44.4	80.3	89.5	94.1	99.7
	2006	Line		10.55	9.50	14.00	17.04	20.93	33.58
		Rate (HHs)	372	41.5	30.3	66.8	78.2	89.4	97.3
		Rate (people)		50.5	38.0	76.2	85.8	93.8	98.6
	2014	Line		17.14	14.25	19.95	23.36	27.32	40.40
		Rate (HHs)	345	46.3	36.2	57.6	67.4	79.7	93.5
		Rate (people)		56.3	45.7	67.2	75.3	86.0	95.7
All	2000	Line		7.14	6.00	9.09	10.95	13.14	22.75
		Rate (HHs)	322	43.9	31.5	64.6	74.4	83.0	94.7
		Rate (people)		54.9	41.9	75.8	84.5	89.4	97.0
	2006	Line		10.64	9.58	14.12	17.19	21.11	33.88
		Rate (HHs)	509	36.8	27.3	60.6	70.8	81.4	91.7
		Rate (people)		45.6	34.8	70.7	80.0	88.3	95.0
	2014	Line		17.32	14.40	20.16	23.61	27.61	40.83
		Rate (HHs)	445	37.7	28.7	46.4	55.9	66.6	83.2
		Rate (people)		48.8	38.2	57.7	65.6	75.5	88.9

Source and definitions: See Figure 1 and text.

Table 2 (Baja Verapaz): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	100%	150%	200%
Urban	2000	Line		5.32	12.01	18.02	24.02
		Rate (HHs)	130	3.4	40.5	58.5	73.6
		Rate (people)		5.0	47.7	66.3	79.3
	2006	Line		8.88	18.20	27.30	36.40
		Rate (HHs)	123	2.2	32.1	63.2	78.3
		Rate (people)		3.4	39.4	72.8	84.9
	2014	Line		15.92	28.29	42.43	56.58
		Rate (HHs)	123	9.8	51.3	77.5	85.5
		Rate (people)		12.5	59.8	83.7	90.9
Rural	2000	Line		5.38	12.16	18.24	24.32
		Rate (HHs)	108	23.4	79.6	90.4	93.7
		Rate (people)		28.4	85.5	94.8	97.0
	2006	Line		8.31	17.05	25.57	34.10
		Rate (HHs)	333	22.6	76.6	87.6	95.4
		Rate (people)		28.5	83.2	91.2	97.2
	2014	Line		14.91	26.50	39.75	53.00
		Rate (HHs)	231	23.2	60.6	86.9	94.1
		Rate (people)		30.7	69.6	89.7	95.6
All	2000	Line		5.37	12.13	18.20	24.27
		Rate (HHs)	238	19.0	71.0	83.4	89.3
		Rate (people)		23.8	78.2	89.2	93.5
	2006	Line		8.48	17.38	26.08	34.77
		Rate (HHs)	456	15.9	62.2	79.7	89.9
		Rate (people)		21.2	70.4	85.8	93.6
	2014	Line		15.25	27.10	40.64	54.19
		Rate (HHs)	354	18.7	57.4	83.7	91.2
		Rate (people)		24.6	66.3	87.7	94.0

Source and definitions: See Figure 1 and text.

Table 2 (Baja Verapaz): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.95	6.32	7.90	15.81	3.60	5.88
		Rate (HHs)	130	2.6	6.9	15.9	54.7	2.6	5.1
		Rate (people)		4.8	9.1	22.3	62.4	4.8	7.4
	2006	Line		6.09	9.75	12.18	24.36	5.55	9.06
		Rate (HHs)	123	0.5	2.2	9.6	54.3	0.0	2.2
		Rate (people)		0.9	3.4	13.3	63.6	0.0	3.4
	2014	Line		9.23	14.77	18.47	36.93	8.42	13.73
		Rate (HHs)	123	0.5	8.0	18.5	69.2	0.0	4.7
		Rate (people)		0.9	10.4	24.8	76.6	0.0	7.0
Rural	2000	Line		4.00	6.40	8.00	16.00	3.65	5.95
		Rate (HHs)	108	3.5	34.3	50.9	86.6	1.9	27.9
		Rate (people)		5.4	41.4	58.9	91.6	3.0	33.6
	2006	Line		5.71	9.13	11.41	22.82	5.20	8.49
		Rate (HHs)	333	4.3	30.4	45.6	86.2	1.9	24.4
		Rate (people)		5.9	37.8	53.6	90.2	2.7	30.3
	2014	Line		8.65	13.84	17.30	34.60	7.89	12.87
		Rate (HHs)	231	3.7	18.1	32.9	80.8	2.1	14.6
		Rate (people)		5.4	24.1	41.6	84.8	3.1	19.8
All	2000	Line		3.99	6.39	7.98	15.96	3.64	5.94
		Rate (HHs)	238	3.3	28.3	43.2	79.6	2.1	22.9
		Rate (people)		5.3	35.1	51.8	85.9	3.4	28.5
	2006	Line		5.82	9.31	11.64	23.27	5.30	8.65
		Rate (HHs)	456	3.1	21.2	33.9	75.8	1.3	17.2
		Rate (people)		4.4	27.7	41.9	82.4	1.9	22.5
	2014	Line		8.84	14.15	17.69	35.38	8.06	13.16
		Rate (HHs)	354	2.6	14.7	28.0	76.9	1.4	11.3
		Rate (people)		3.9	19.5	36.0	82.0	2.1	15.5

Source and definitions: See Figure 1 and text.

Table 2 (Baja Verapaz): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2000	Line		6.93	5.82	8.82	10.61	12.74	22.06
		Rate (HHs)	130	11.7	5.1	23.2	35.7	44.8	68.0
		Rate (people)		15.7	7.4	30.2	43.7	51.4	74.2
	2006	Line		11.03	9.93	14.64	17.82	21.89	35.12
		Rate (HHs)	123	5.9	2.2	19.6	30.9	47.2	78.3
		Rate (people)		8.1	3.4	23.4	38.6	53.9	84.9
	2014	Line		17.92	14.90	20.86	24.43	28.58	42.25
		Rate (HHs)	123	17.9	8.4	25.7	37.0	51.3	77.5
		Rate (people)		24.2	10.8	32.8	42.4	59.8	83.7
Rural	2000	Line		7.01	5.89	8.93	10.75	12.90	22.33
		Rate (HHs)	108	40.8	27.9	60.7	74.7	82.1	92.9
		Rate (people)		49.2	33.6	68.6	81.1	87.6	96.6
	2006	Line		10.33	9.31	13.71	16.70	20.50	32.90
		Rate (HHs)	333	41.1	31.0	61.1	76.2	81.4	94.4
		Rate (people)		49.3	38.6	70.3	83.0	86.6	96.4
	2014	Line		16.79	13.96	19.54	22.89	26.77	39.58
		Rate (HHs)	231	30.6	18.1	42.5	49.7	61.3	86.9
		Rate (people)		38.6	24.1	51.0	57.9	69.9	89.7
All	2000	Line		7.00	5.88	8.91	10.72	12.87	22.28
		Rate (HHs)	238	34.4	22.9	52.5	66.2	73.9	87.5
		Rate (people)		42.7	28.5	61.1	73.8	80.6	92.2
	2006	Line		10.54	9.49	13.98	17.03	20.91	33.55
		Rate (HHs)	456	29.7	21.7	47.6	61.5	70.3	89.2
		Rate (people)		37.3	28.3	56.6	70.1	77.1	93.0
	2014	Line		17.17	14.27	19.98	23.40	27.37	40.47
		Rate (HHs)	354	26.3	14.8	36.8	45.4	57.9	83.7
		Rate (people)		33.8	19.6	44.9	52.7	66.5	87.7

Poverty lines (GTQ/person/day) and poverty rates (%)

Source and definitions: See Figure 1 and text.

Table 2 (Alta Verapaz): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)			
				National			
				Food	100%	150%	200%
Urban	2000	Line		5.34	12.06	18.08	24.11
		Rate (HHs)	262	7.1	37.5	60.6	72.3
		Rate (people)		9.0	47.7	69.5	79.4
	2006	Line		8.75	17.94	26.90	35.87
		Rate (HHs)	102	16.7	42.4	58.5	69.8
		Rate (people)		24.0	48.9	67.9	77.7
	2014	Line		15.69	27.88	41.82	55.75
		Rate (HHs)	88	26.2	46.0	67.0	80.6
		Rate (people)		39.8	57.6	76.3	87.5
Rural	2000	Line		5.44	12.29	18.43	24.57
		Rate (HHs)	298	39.7	88.0	96.7	99.3
		Rate (people)		50.1	92.5	98.0	99.8
	2006	Line		8.15	16.71	25.07	33.43
		Rate (HHs)	326	40.0	82.8	90.3	94.8
		Rate (people)		49.0	87.2	93.2	96.4
	2014	Line		14.62	25.98	38.97	51.95
		Rate (HHs)	294	52.9	87.0	96.4	98.3
		Rate (people)		57.9	91.0	97.8	99.0
All	2000	Line		5.42	12.25	18.38	24.51
		Rate (HHs)	560	34.1	79.3	90.4	94.6
		Rate (people)		44.0	85.9	93.8	96.8
	2006	Line		8.28	16.98	25.47	33.96
		Rate (HHs)	428	33.8	72.1	81.9	88.2
		Rate (people)		43.5	78.8	87.7	92.3
	2014	Line		14.87	26.43	39.64	52.85
		Rate (HHs)	382	45.7	75.9	88.5	93.5
		Rate (people)		53.6	83.1	92.7	96.3

Source and definitions: See Figure 1 and text.

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Table 2 (Alta Verapaz): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.97	6.35	7.93	15.86	3.62	5.90
		Rate (HHs)	262	2.9	13.6	18.3	55.4	2.0	10.7
		Rate (people)		3.2	18.2	24.9	65.0	2.5	13.7
	2006	Line		6.00	9.60	12.00	24.01	5.47	8.93
		Rate (HHs)	102	8.3	23.1	26.1	55.3	2.5	16.7
		Rate (people)		11.7	31.5	33.9	62.6	4.8	24.0
	2014	Line		9.10	14.56	18.20	36.40	8.30	13.53
		Rate (HHs)	88	11.8	23.3	34.0	57.5	7.9	22.0
		Rate (people)		21.7	35.0	47.5	68.3	15.3	32.6
Rural	2000	Line		4.04	6.47	8.08	16.17	3.68	6.01
		Rate (HHs)	298	17.6	51.6	67.6	95.4	11.6	47.7
		Rate (people)		23.5	63.7	78.0	97.1	15.5	59.6
	2006	Line		5.59	8.95	11.19	22.37	5.10	8.32
		Rate (HHs)	326	13.5	49.0	67.5	87.2	9.4	43.7
		Rate (people)		17.3	58.1	75.1	91.1	12.6	52.7
	2014	Line		8.48	13.57	16.96	33.92	7.73	12.61
		Rate (HHs)	294	13.5	45.3	60.6	94.9	8.6	39.6
		Rate (people)		15.5	48.9	65.6	96.8	9.5	44.4
All	2000	Line		4.03	6.45	8.06	16.12	3.67	6.00
		Rate (HHs)	560	15.0	45.0	59.1	88.5	9.9	41.3
		Rate (people)		20.5	57.0	70.2	92.4	13.6	52.8
	2006	Line		5.68	9.09	11.37	22.73	5.18	8.45
		Rate (HHs)	428	12.1	42.1	56.5	78.8	7.6	36.5
		Rate (people)		16.1	52.3	66.1	84.9	10.9	46.5
	2014	Line		8.63	13.80	17.25	34.50	7.86	12.83
		Rate (HHs)	382	13.0	39.4	53.4	84.9	8.4	34.8
		Rate (people)		16.9	45.6	61.3	90.0	10.9	41.6

Source and definitions: See Figure 1 and text.

Table 2 (Alta Verapaz): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Poorest half < 100% natl. | Percentile-based lines | | | | |
					20th	40th	50th	60th	80th
Urban	2000	Line		6.95	5.84	8.85	10.65	12.79	22.14
		Rate (HHs)	262	15.6	10.7	23.0	33.2	40.2	70.9
		Rate (people)		21.0	13.7	31.8	43.3	50.7	77.9
	2006	Line		10.87	9.79	14.43	17.57	21.57	34.61
		Rate (HHs)	102	26.1	23.1	30.8	42.4	51.5	68.8
		Rate (people)		33.9	31.5	38.6	48.9	58.9	77.0
	2014	Line		17.66	14.68	20.56	24.08	28.16	41.64
		Rate (HHs)	88	30.7	23.3	36.6	39.2	46.8	67.0
		Rate (people)		43.5	35.0	52.0	53.6	58.7	76.3
Rural	2000	Line		7.08	5.95	9.02	10.86	13.03	22.56
		Rate (HHs)	298	59.6	48.5	76.9	83.3	91.4	98.8
		Rate (people)		70.6	60.4	84.0	89.3	94.3	99.7
	2006	Line		10.13	9.12	13.44	16.37	20.10	32.25
		Rate (HHs)	326	59.2	50.0	75.9	82.7	85.7	94.2
		Rate (people)		68.9	59.1	82.3	87.1	89.9	95.9
	2014	Line		16.46	13.68	19.16	22.44	26.24	38.80
		Rate (HHs)	294	59.0	45.9	67.6	77.9	87.5	96.4
		Rate (people)		64.4	49.9	72.2	82.4	91.5	97.8
All	2000	Line		7.06	5.93	8.99	10.83	13.00	22.50
		Rate (HHs)	560	51.9	41.9	67.5	74.6	82.5	94.0
		Rate (people)		63.3	53.5	76.4	82.5	87.9	96.5
	2006	Line		10.29	9.27	13.66	16.63	20.42	32.77
		Rate (HHs)	428	50.4	42.8	63.9	72.0	76.6	87.5
		Rate (people)		61.3	53.1	72.7	78.7	83.1	91.8
	2014	Line		16.74	13.92	19.49	22.82	26.70	39.47
		Rate (HHs)	382	51.4	39.8	59.2	67.5	76.5	88.5
		Rate (people)		59.4	46.4	67.4	75.6	83.8	92.7

Source and definitions: See Figure 1 and text.

Table 2 (Petén): National poverty lines, poverty rates, and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	*n*	Food	100%	150%	200%
				Poverty lines (GTQ/person/day) and poverty rates (%)
				National
Urban	2000	Line		5.28	11.92	17.88	23.84
		Rate (HHs)	266	2.9	26.5	50.0	62.6
		Rate (people)		3.7	36.0	59.3	69.8
	2006	Line		8.99	18.44	27.66	36.88
		Rate (HHs)	147	4.1	24.2	41.7	59.5
		Rate (people)		6.7	34.5	53.7	72.4
	2014	Line		16.13	28.66	42.99	57.32
		Rate (HHs)	206	7.8	34.4	66.5	79.9
		Rate (people)		10.9	45.0	76.0	87.8
Rural	2000	Line		5.35	12.09	18.14	24.18
		Rate (HHs)	319	12.5	70.6	87.7	93.1
		Rate (people)		16.5	80.1	93.8	97.2
	2006	Line		8.73	17.90	26.84	35.79
		Rate (HHs)	335	13.6	61.2	79.1	87.2
		Rate (people)		17.9	66.6	83.2	91.8
	2014	Line		15.65	27.81	41.72	55.63
		Rate (HHs)	361	19.7	58.5	85.2	95.1
		Rate (people)		24.5	68.2	90.7	97.6
All	2000	Line		5.33	12.04	18.07	24.09
		Rate (HHs)	585	9.4	56.6	75.7	83.5
		Rate (people)		12.9	67.9	84.2	89.6
	2006	Line		8.81	18.06	27.09	36.11
		Rate (HHs)	482	10.5	49.0	66.8	78.1
		Rate (people)		14.5	57.0	74.5	86.0
	2014	Line		15.80	28.08	42.12	56.17
		Rate (HHs)	567	15.6	50.1	78.7	89.8
		Rate (people)		20.2	60.8	86.0	94.5

Source and definitions: See Figure 1 and text.

Table 2 (Petén): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		3.92	6.27	7.84	15.69	3.58	5.83
		Rate (HHs)	266	1.8	6.1	8.7	39.9	1.5	3.5
		Rate (people)		2.5	9.4	13.6	49.2	2.0	4.7
	2006	Line		6.17	9.87	12.34	24.68	5.63	9.18
		Rate (HHs)	147	0.9	4.9	11.6	33.9	0.9	4.1
		Rate (people)		1.7	8.4	19.6	46.2	1.7	6.7
	2014	Line		9.35	14.97	18.71	37.42	8.53	13.92
		Rate (HHs)	206	1.5	7.0	14.1	55.7	1.0	4.6
		Rate (people)		2.3	9.7	20.0	66.4	1.5	6.7
Rural	2000	Line		3.98	6.36	7.95	15.91	3.63	5.92
		Rate (HHs)	319	5.1	25.1	42.4	82.8	4.5	17.2
		Rate (people)		6.3	33.1	51.8	90.2	5.6	23.0
	2006	Line		5.99	9.58	11.98	23.96	5.46	8.91
		Rate (HHs)	335	2.7	16.0	31.6	75.2	1.8	14.6
		Rate (people)		3.6	20.6	37.3	79.5	2.3	19.1
	2014	Line		9.08	14.53	18.16	36.32	8.28	13.50
		Rate (HHs)	361	2.5	16.7	29.1	79.3	1.2	13.8
		Rate (people)		4.1	21.4	37.6	86.6	2.0	18.6
All	2000	Line		3.96	6.34	7.92	15.85	3.61	5.89
		Rate (HHs)	585	4.1	19.0	31.7	69.2	3.5	12.8
		Rate (people)		5.3	26.6	41.3	78.9	4.6	17.9
	2006	Line		6.04	9.67	12.09	24.17	5.51	8.99
		Rate (HHs)	482	2.1	12.3	25.0	61.6	1.5	11.1
		Rate (people)		3.0	17.0	32.0	69.6	2.1	15.4
	2014	Line		9.17	14.67	18.33	36.67	8.36	13.64
		Rate (HHs)	567	2.1	13.3	23.9	71.1	1.1	10.6
		Rate (people)		3.5	17.7	32.0	80.2	1.8	14.9

Source and definitions: See Figure 1 and text.

Table 2 (Petén): Relative poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Poorest half < 100% natl. | Percentile-based lines | | | | |
					20th	40th	50th	60th	80th
Urban	2000	Line		6.87	5.77	8.75	10.53	12.65	21.89
		Rate (HHs)	266	7.1	3.5	14.2	22.1	29.2	59.5
		Rate (people)		11.0	4.7	20.8	31.1	38.6	67.4
	2006	Line		11.17	10.06	14.83	18.06	22.17	35.58
		Rate (HHs)	147	10.0	5.9	17.0	23.0	31.8	57.5
		Rate (people)		16.0	9.8	26.0	33.0	43.6	70.3
	2014	Line		18.16	15.10	21.14	24.75	28.95	42.81
		Rate (HHs)	206	12.3	7.6	19.8	26.1	34.7	66.5
		Rate (people)		16.7	10.5	26.0	34.6	45.7	76.0
Rural	2000	Line		6.97	5.85	8.87	10.68	12.82	22.20
		Rate (HHs)	319	32.6	17.6	54.8	65.6	74.8	92.3
		Rate (people)		42.2	23.6	65.4	76.1	84.0	96.4
	2006	Line		10.85	9.77	14.39	17.53	21.52	34.53
		Rate (HHs)	335	25.3	17.1	44.8	60.0	69.7	84.8
		Rate (people)		30.4	21.7	52.5	65.8	74.4	87.7
	2014	Line		17.62	14.65	20.51	24.02	28.10	41.55
		Rate (HHs)	361	26.6	17.0	40.9	51.4	59.3	85.2
		Rate (people)		33.7	21.6	49.2	60.6	69.2	90.7
All	2000	Line		6.94	5.83	8.84	10.64	12.78	22.12
		Rate (HHs)	585	24.5	13.1	41.9	51.8	60.3	81.9
		Rate (people)		33.6	18.4	53.1	63.6	71.4	88.4
	2006	Line		10.94	9.86	14.52	17.68	21.71	34.85
		Rate (HHs)	482	20.3	13.4	35.6	47.8	57.2	75.8
		Rate (people)		26.1	18.2	44.6	56.0	65.2	82.5
	2014	Line		17.79	14.79	20.71	24.25	28.37	41.95
		Rate (HHs)	567	21.6	13.7	33.6	42.6	50.8	78.7
		Rate (people)		28.3	18.1	41.8	52.3	61.8	86.0

Source and definitions: See Figure 1 and text.

Table 2 (Izabal): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	*n*	Poverty lines (GTQ/person/day) and poverty rates (%)			
				National			
				Food	100%	150%	200%
Urban	2000 Line			5.46	12.33	18.49	24.66
		Rate (HHs)	190	4.3	20.7	42.2	58.3
		Rate (people)		7.8	28.9	55.9	71.0
	2006 Line			8.96	18.38	27.57	36.76
		Rate (HHs)	232	2.1	21.7	41.2	58.3
		Rate (people)		4.2	33.5	54.5	71.5
	2014 Line			16.08	28.57	42.86	57.14
		Rate (HHs)	112	6.5	21.7	47.8	69.1
		Rate (people)		7.6	29.7	60.2	79.8
Rural	2000 Line			5.55	12.54	18.81	25.08
		Rate (HHs)	113	5.9	43.7	65.4	73.8
		Rate (people)		6.6	52.7	76.0	83.0
	2006 Line			8.86	18.18	27.26	36.35
		Rate (HHs)	566	17.3	48.6	65.9	77.8
		Rate (people)		24.9	60.3	76.4	85.0
	2014 Line			15.90	28.25	42.38	56.50
		Rate (HHs)	270	40.2	67.4	83.6	91.3
		Rate (people)		52.1	78.4	90.7	94.8
All	2000 Line			5.53	12.48	18.73	24.97
		Rate (HHs)	303	5.5	37.4	59.0	69.5
		Rate (people)		6.9	46.4	70.7	79.9
	2006 Line			8.90	18.24	27.36	36.48
		Rate (HHs)	798	12.2	39.5	57.5	71.2
		Rate (people)		18.3	51.7	69.4	80.7
	2014 Line			15.97	28.37	42.56	56.75
		Rate (HHs)	382	25.9	48.0	68.4	81.9
		Rate (people)		35.2	59.9	79.1	89.1

Source and definitions: See Figure 1 and text.

Table 2 (Izabal): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		4.06	6.49	8.11	16.22	3.70	6.03
		Rate (HHs)	190	1.7	5.3	8.6	36.3	1.0	5.3
		Rate (people)		3.2	9.6	14.7	50.2	1.8	9.6
	2006	Line		6.15	9.84	12.30	24.61	5.61	9.15
		Rate (HHs)	232	0.0	2.1	7.7	34.4	0.0	2.1
		Rate (people)		0.0	4.2	12.9	48.1	0.0	4.2
	2014	Line		9.33	14.92	18.65	37.30	8.50	13.87
		Rate (HHs)	112	0.0	2.9	10.6	35.3	0.0	2.9
		Rate (people)		0.0	2.7	12.6	46.4	0.0	2.7
Rural	2000	Line		4.13	6.60	8.25	16.50	3.76	6.14
		Rate (HHs)	113	1.0	7.4	19.0	58.7	1.0	6.6
		Rate (people)		1.4	8.0	22.8	68.4	1.4	7.4
	2006	Line		6.08	9.73	12.17	24.33	5.55	9.05
		Rate (HHs)	566	6.6	22.7	31.3	60.3	4.0	18.4
		Rate (people)		9.9	29.2	38.5	71.9	6.8	26.0
	2014	Line		9.22	14.75	18.44	36.89	8.41	13.72
		Rate (HHs)	270	13.8	38.2	46.6	79.2	10.3	35.5
		Rate (people)		18.6	49.9	60.2	88.0	13.9	46.6
All	2000	Line		4.11	6.57	8.21	16.43	3.74	6.11
		Rate (HHs)	303	1.2	6.8	16.1	52.5	1.0	6.3
		Rate (people)		1.9	8.4	20.7	63.6	1.5	8.0
	2006	Line		6.11	9.77	12.21	24.42	5.57	9.08
		Rate (HHs)	798	4.3	15.7	23.3	51.6	2.6	12.9
		Rate (people)		6.7	21.2	30.3	64.3	4.6	19.1
	2014	Line		9.26	14.82	18.52	37.04	8.44	13.78
		Rate (HHs)	382	7.9	23.2	31.3	60.5	5.9	21.6
		Rate (people)		11.5	31.9	42.1	72.2	8.6	29.9

Source and definitions: See Figure 1 and text.

Table 2 (Izabal): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2000	Line		7.11	5.97	9.05	10.89	13.08	22.64
		Rate (HHs)	190	7.4	5.3	11.4	18.1	22.9	55.0
		Rate (people)		12.6	9.6	18.8	26.0	31.9	67.8
	2006	Line		11.14	10.03	14.79	18.00	22.11	35.47
		Rate (HHs)	232	3.7	2.7	15.6	21.0	28.0	56.0
		Rate (people)		5.9	4.6	24.5	32.1	40.6	69.8
	2014	Line		18.10	15.05	21.07	24.68	28.86	42.68
		Rate (HHs)	112	9.7	2.9	13.7	16.5	21.7	47.8
		Rate (people)		11.1	2.7	17.0	22.6	29.7	60.2
Rural	2000	Line		7.23	6.07	9.21	11.08	13.30	23.03
		Rate (HHs)	113	13.5	6.6	27.7	35.5	51.0	73.2
		Rate (people)		16.3	7.4	34.0	43.7	62.1	82.3
	2006	Line		11.02	9.92	14.62	17.80	21.86	35.08
		Rate (HHs)	566	27.8	23.3	37.5	47.8	56.5	76.9
		Rate (people)		34.6	29.9	45.9	59.5	68.9	84.4
	2014	Line		17.90	14.88	20.83	24.40	28.54	42.20
		Rate (HHs)	270	43.5	38.7	53.0	58.2	67.9	83.6
		Rate (people)		55.3	50.2	66.2	71.1	78.8	90.7
All	2000	Line		7.20	6.05	9.16	11.03	13.24	22.92
		Rate (HHs)	303	11.8	6.3	23.2	30.7	43.3	68.1
		Rate (people)		15.3	8.0	30.0	39.0	54.2	78.5
	2006	Line		11.06	9.96	14.67	17.87	21.94	35.20
		Rate (HHs)	798	19.7	16.4	30.1	38.8	46.8	69.8
		Rate (people)		25.4	21.8	39.1	50.7	59.9	79.7
	2014	Line		17.98	14.95	20.92	24.51	28.66	42.38
		Rate (HHs)	382	29.1	23.4	36.3	40.4	48.2	68.4
		Rate (people)		38.5	32.2	47.5	52.7	60.2	79.1

Source and definitions: See Figure 1 and text.

Table 2 (Zacapa): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	100%	150%	200%
Urban	2000 Line			5.62	12.70	19.05	25.40
		Rate (HHs)	110	0.0	14.7	33.3	47.3
		Rate (people)		0.0	22.0	42.6	58.5
	2006 Line			9.11	18.67	28.01	37.34
		Rate (HHs)	309	1.7	22.3	40.0	52.2
		Rate (people)		3.0	29.5	49.4	61.9
	2014 Line			16.33	29.02	43.53	58.04
		Rate (HHs)	153	6.7	28.0	42.1	65.1
		Rate (people)		8.9	36.5	51.1	72.0
Rural	2000 Line			5.44	12.29	18.44	24.58
		Rate (HHs)	35	3.3	53.5	64.5	79.6
		Rate (people)		4.3	62.0	72.5	87.6
	2006 Line			9.02	18.50	27.76	37.01
		Rate (HHs)	492	20.6	58.0	73.8	86.6
		Rate (people)		29.8	70.9	83.8	92.7
	2014 Line			16.19	28.76	43.14	57.52
		Rate (HHs)	221	22.8	58.7	80.6	91.2
		Rate (people)		31.2	71.2	89.1	95.5
All	2000 Line			5.51	12.44	18.66	24.88
		Rate (HHs)	145	5.5	12.4	18.7	24.9
		Rate (people)		2.0	38.5	52.5	67.1
	2006 Line			2.73	47.52	61.62	77.04
		Rate (HHs)	145	2.7	47.5	61.6	77.0
		Rate (people)		—	—	—	—
	2014 Line			9.06	18.57	27.86	37.15
		Rate (HHs)	801	9.1	18.6	27.9	37.1
		Rate (people)		11.9	41.5	58.2	70.8

Source and definitions: See Figure 1 and text.

Table 2 (Zacapa): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		4.18	6.68	8.36	16.71	3.81	6.21
		Rate (HHs)	110	0.0	2.0	5.1	27.7	0.0	0.0
		Rate (people)		0.0	3.6	8.7	37.9	0.0	0.0
	2006	Line		6.25	10.00	12.50	25.00	5.70	9.29
		Rate (HHs)	309	0.8	2.4	7.2	34.0	0.8	1.9
		Rate (people)		0.9	4.2	11.8	42.5	0.9	3.3
	2014	Line		9.47	15.16	18.95	37.89	8.64	14.09
		Rate (HHs)	153	0.3	6.3	10.9	38.5	0.3	5.8
		Rate (people)		1.0	8.2	13.7	47.0	1.0	7.5
Rural	2000	Line		4.04	6.47	8.09	16.17	3.69	6.01
		Rate (HHs)	35	0.0	15.7	31.7	64.5	0.0	9.1
		Rate (people)		0.0	25.2	41.4	72.5	0.0	15.2
	2006	Line		6.19	9.91	12.39	24.77	5.65	9.21
		Rate (HHs)	492	8.3	25.3	37.5	70.0	6.9	21.0
		Rate (people)		13.2	35.4	49.0	80.5	11.1	30.3
	2014	Line		9.39	15.02	18.78	37.55	8.56	13.96
		Rate (HHs)	221	3.5	18.6	31.4	74.0	1.8	14.6
		Rate (people)		5.0	26.1	40.8	83.9	1.8	21.5
All	2000	Line		4.09	6.55	8.18	16.37	3.73	6.09
		Rate (HHs)	145	4.1	6.5	8.2	16.4	3.7	6.1
		Rate (people)		0.0	10.4	21.4	50.3	0.0	5.6
	2006	Line		0.00	17.40	29.51	59.90	0.00	9.70
		Rate (HHs)	145	0.0	17.4	29.5	59.9	0.0	9.7
		Rate (people)		—	—	—	—	—	—
	2014	Line		6.22	9.95	12.43	24.86	5.67	9.25
		Rate (HHs)	801	6.2	9.9	12.4	24.9	5.7	9.2
		Rate (people)		4.8	14.8	23.6	53.5	4.1	12.2

Source and definitions: See Figure 1 and text.

Table 2 (Zacapa): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Poorest half < 100% natl. | Percentile-based lines | | | | |
					20th	40th	50th	60th	80th
Urban	2000	Line		7.32	6.15	9.32	11.22	13.47	23.32
		Rate (HHs)	110	3.1	0.0	8.1	11.8	17.7	42.3
		Rate (people)		5.0	0.0	13.9	18.8	25.5	53.9
	2006	Line		11.32	10.19	15.02	18.29	22.45	36.03
		Rate (HHs)	309	4.3	2.9	13.9	21.8	29.4	51.4
		Rate (people)		7.2	5.0	19.5	28.7	37.9	60.9
	2014	Line		18.39	15.29	21.40	25.06	29.32	43.35
		Rate (HHs)	153	9.9	6.3	13.3	25.8	28.7	42.1
		Rate (people)		12.3	8.2	16.3	33.2	37.3	51.1
Rural	2000	Line		7.09	5.95	9.02	10.86	13.04	22.57
		Rate (HHs)	35	19.1	9.1	44.1	47.5	59.9	74.7
		Rate (people)		28.8	15.2	53.6	55.8	68.6	83.9
	2006	Line		11.21	10.10	14.88	18.12	22.25	35.71
		Rate (HHs)	492	30.9	25.8	45.5	56.9	65.8	85.1
		Rate (people)		42.1	36.1	58.5	69.9	77.3	91.7
	2014	Line		18.22	15.15	21.21	24.84	29.06	42.96
		Rate (HHs)	221	29.1	19.0	39.9	48.9	58.7	80.6
		Rate (people)		37.9	26.6	51.1	61.2	71.2	89.1
All	2000	Line		7.17	6.02	9.13	10.99	13.20	22.84
		Rate (HHs)	145	7.2	6.0	9.1	11.0	13.2	22.8
		Rate (people)		12.9	5.6	30.2	33.7	43.6	62.2
	2006	Line		20.15	9.70	39.20	42.35	52.98	73.01
		Rate (HHs)	145	20.2	9.7	39.2	42.4	53.0	73.0
		Rate (people)		—	—	—	—	—	—
	2014	Line		11.26	10.14	14.94	18.19	22.33	35.84
		Rate (HHs)	801	11.3	10.1	14.9	18.2	22.3	35.8
		Rate (people)		18.7	15.3	31.0	40.8	49.1	69.6

Source and definitions: See Figure 1 and text.

Table 2 (Chiquimula): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | |
| | | | | National | | | |
				Food	100%	150%	200%
Urban	2000	Line		17.81	14.96	29.91	17.71
		Rate (HHs)	663	31.1	19.2	55.4	30.9
		Rate (people)		36.7	23.4	61.8	36.6
	2006	Line		25.20	16.33	62.85	25.62
		Rate (HHs)	1,246	30.8	19.7	72.4	31.2
		Rate (people)		27.5	23.4	46.9	27.8
	2014	Line		28.84	19.17	62.72	29.79
		Rate (HHs)	3,939	32.5	27.8	55.5	32.9
		Rate (people)		22.3	14.6	56.8	22.8
Rural	2000	Line		5.53	12.49	18.73	24.97
		Rate (HHs)	51	5.5	12.5	18.7	25.0
		Rate (people)		0.0	13.5	23.9	47.9
	2006	Line		0.00	17.95	31.08	59.32
		Rate (HHs)	51	0.0	18.0	31.1	59.3
		Rate (people)		—	—	—	—
	2014	Line		9.14	18.75	28.13	37.50
		Rate (HHs)	152	9.1	18.8	28.1	37.5
		Rate (people)		0.0	9.0	22.0	38.1
All	2000	Line		0.00	15.19	29.35	49.00
		Rate (HHs)	152	0.0	15.2	29.3	49.0
		Rate (people)		—	—	—	—
	2006	Line		16.40	29.15	43.72	58.29
		Rate (HHs)	88	16.4	29.1	43.7	58.3
		Rate (people)		4.8	29.4	54.4	69.5
	2014	Line		5.58	36.56	65.21	78.57
		Rate (HHs)	88	5.6	36.6	65.2	78.6
		Rate (people)		—	—	—	—

Source and definitions: See Figure 1 and text.

Table 2 (Chiquimula): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		13.63	10.23	17.04	20.45	27.27	16.53
		Rate (HHs)	663	15.3	3.2	27.5	38.8	52.5	26.5
		Rate (people)		19.2	4.8	33.3	44.0	58.9	31.8
	2006	Line		11.72	3.29	23.79	36.06	58.62	21.95
		Rate (HHs)	1,246	14.2	4.5	28.9	42.7	67.7	26.7
		Rate (people)		21.4	16.0	26.7	32.0	42.7	25.4
	2014	Line		15.27	5.50	27.57	39.37	56.68	22.88
		Rate (HHs)	3,939	25.3	19.0	31.6	37.9	50.6	29.5
		Rate (people)		8.9	1.7	20.6	31.6	51.0	17.0
Rural	2000	Line		4.11	6.57	8.21	16.43	3.74	6.11
		Rate (HHs)	51	4.1	6.6	8.2	16.4	3.7	6.1
		Rate (people)		0.0	0.0	4.0	20.1	0.0	0.0
	2006	Line		0.00	0.00	5.92	26.18	0.00	0.00
		Rate (HHs)	51	0.0	0.0	5.9	26.2	0.0	0.0
		Rate (people)		—	—	—	—	—	—
	2014	Line		6.28	10.04	12.55	25.10	5.72	9.33
		Rate (HHs)	152	6.3	10.0	12.6	25.1	5.7	9.3
		Rate (people)		0.0	0.0	3.1	16.2	0.0	0.0
All	2000	Line		0.00	0.00	4.58	22.50	0.00	0.00
		Rate (HHs)	152	0.0	0.0	4.6	22.5	0.0	0.0
		Rate (people)		—	—	—	—	—	—
	2006	Line		9.51	15.22	19.03	38.05	8.67	14.15
		Rate (HHs)	88	9.5	15.2	19.0	38.1	8.7	14.2
		Rate (people)		0.0	2.6	9.9	48.6	0.0	2.6
	2014	Line		0.00	2.42	13.00	57.75	0.00	2.42
		Rate (HHs)	88	0.0	2.4	13.0	57.7	0.0	2.4
		Rate (people)		—	—	—	—	—	—

Source and definitions: See Figure 1 and text.

Table 2 (Chiquimula): Relative poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Poorest half < 100% natl.	20th	40th	50th	60th	80th
Urban	2000	Line		—	—	—	—	—	—
		Rate (HHs)	663	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
	2006	Line		—	—	—	—	—	—
		Rate (HHs)	1,246	—	—	—	—	—	—
		Rate (people)		50.7	30.0	45.2	60.1	37.9	56.9
	2014	Line		62.80	29.90	55.13	70.49	44.31	68.57
		Rate (HHs)	3,939	59.0	34.9	52.5	69.8	44.1	66.1
		Rate (people)		51.3	19.5	43.7	60.8	33.7	57.5
Rural	2000	Line		7.20	6.05	9.16	11.03	13.24	22.93
		Rate (HHs)	51	7.2	6.0	9.2	11.0	13.2	22.9
		Rate (people)		2.1	0.0	10.1	11.0	13.5	39.1
	2006	Line		2.45	0.00	11.95	13.96	17.95	50.18
		Rate (HHs)	51	2.4	0.0	11.9	14.0	18.0	50.2
		Rate (people)		—	—	—	—	—	—
	2014	Line		11.36	10.23	15.08	18.36	22.55	36.19
		Rate (HHs)	152	11.4	10.2	15.1	18.4	22.5	36.2
		Rate (people)		1.8	0.6	4.3	9.0	13.8	36.3
All	2000	Line		2.13	1.07	7.39	15.19	20.11	46.11
		Rate (HHs)	152	2.1	1.1	7.4	15.2	20.1	46.1
		Rate (people)		—	—	—	—	—	—
	2006	Line		18.46	15.35	21.49	25.17	29.44	43.53
		Rate (HHs)	88	18.5	15.4	21.5	25.2	29.4	43.5
		Rate (people)		5.8	2.6	16.6	24.4	29.4	53.0
	2014	Line		6.93	2.42	22.21	31.12	36.56	63.32
		Rate (HHs)	88	6.9	2.4	22.2	31.1	36.6	63.3
		Rate (people)		—	—	—	—	—	—

Source and definitions: See Figure 1 and text.

Table 2 (Jalapa): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	*n*	Poverty lines (GTQ/person/day) and poverty rates (%)			
				National			
				Food	100%	150%	200%
Urban	2000	Line		19.96	17.94	35.88	20.68
		Rate (HHs)	1,676	18.3	14.2	49.3	20.0
		Rate (people)		25.5	20.6	61.4	27.4
	2006	Line		16.78	12.60	50.26	18.62
		Rate (HHs)	2,531	23.4	17.9	59.6	25.7
		Rate (people)		30.8	28.1	56.2	32.4
	2014	Line		16.99	12.33	52.35	19.09
		Rate (HHs)	7,964	36.4	33.3	66.6	38.4
		Rate (people)		6.0	4.1	35.0	7.3
Rural	2000	Line		5.28	11.93	17.90	23.87
		Rate (HHs)	132	5.3	11.9	17.9	23.9
		Rate (people)		0.6	28.2	43.9	58.5
	2006	Line		0.77	39.21	55.63	71.58
		Rate (HHs)	132	0.8	39.2	55.6	71.6
		Rate (people)		—	—	—	—
	2014	Line		8.75	17.94	26.91	35.87
		Rate (HHs)	138	8.7	17.9	26.9	35.9
		Rate (people)		3.0	29.8	54.1	70.5
All	2000	Line		4.09	38.06	61.70	77.87
		Rate (HHs)	138	4.1	38.1	61.7	77.9
		Rate (people)		—	—	—	—
	2006	Line		15.69	27.88	41.82	55.76
		Rate (HHs)	181	15.7	27.9	41.8	55.8
		Rate (people)		5.2	36.2	62.9	73.3
	2014	Line		6.27	47.68	74.73	82.50
		Rate (HHs)	181	6.3	47.7	74.7	82.5
		Rate (people)		—	—	—	—

Source and definitions: See Figure 1 and text.

Table 2 (Jalapa): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

| Region | Year | Line/rate | n | Poverty lines (GTQ/person/day) and poverty rates (%) | | | | | |
| | | | | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		16.12	12.09	20.15	24.18	32.24	19.62
		Rate (HHs)	1,676	9.3	3.1	18.9	26.0	42.5	18.1
		Rate (people)		13.8	4.9	26.1	35.1	54.1	25.3
	2006	Line		8.95	3.30	17.86	25.96	41.43	16.79
		Rate (HHs)	2,531	12.3	4.9	24.9	34.7	50.9	23.4
		Rate (people)		25.2	18.9	31.6	37.9	50.5	31.6
	2014	Line		8.69	2.85	18.13	27.23	45.15	18.27
		Rate (HHs)	7,964	29.9	22.4	37.4	44.8	59.8	37.0
		Rate (people)		2.2	0.5	6.6	12.2	28.3	6.4
Rural	2000	Line		3.93	6.28	7.85	15.70	3.58	5.84
		Rate (HHs)	132	3.9	6.3	7.9	15.7	3.6	5.8
		Rate (people)		0.0	2.7	9.9	38.0	0.0	2.7
	2006	Line		0.00	4.12	14.89	49.97	0.00	4.12
		Rate (HHs)	132	0.0	4.1	14.9	50.0	0.0	4.1
		Rate (people)		—	—	—	—	—	—
	2014	Line		6.00	9.60	12.01	24.01	5.47	8.93
		Rate (HHs)	138	6.0	9.6	12.0	24.0	5.5	8.9
		Rate (people)		1.0	5.6	14.4	41.8	1.0	5.0
All	2000	Line		1.51	8.26	18.36	49.51	1.51	7.54
		Rate (HHs)	138	1.5	8.3	18.4	49.5	1.5	7.5
		Rate (people)		—	—	—	—	—	—
	2006	Line		9.10	14.56	18.20	36.40	8.30	13.54
		Rate (HHs)	181	9.1	14.6	18.2	36.4	8.3	13.5
		Rate (people)		1.1	3.6	10.1	57.4	0.3	1.8
	2014	Line		2.20	5.13	12.39	69.59	0.44	2.79
		Rate (HHs)	181	2.2	5.1	12.4	69.6	0.4	2.8
		Rate (people)		—	—	—	—	—	—

Source and definitions: See Figure 1 and text.

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Table 2 (Jalapa): Relative poverty lines, poverty rates, and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines 20th	40th	50th	60th	80th
Urban	2000	Line		—	—	—	—	—	—
		Rate (HHs)	1,676	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
	2006	Line		—	—	—	—	—	—
		Rate (HHs)	2,531	—	—	—	—	—	—
		Rate (people)		63.2	37.4	56.3	74.8	43.8	65.7
	2014	Line		55.02	20.88	47.63	65.58	30.08	57.69
		Rate (HHs)	7,964	74.0	43.8	65.9	87.7	51.3	77.0
		Rate (people)		35.6	7.1	27.7	47.2	12.6	38.3
Rural	2000	Line		6.88	5.78	8.76	10.55	12.66	21.92
		Rate (HHs)	132	6.9	5.8	8.8	10.5	12.7	21.9
		Rate (people)		4.8	2.7	16.0	23.3	28.7	55.9
	2006	Line		7.00	4.12	22.32	33.30	39.40	69.41
		Rate (HHs)	132	7.0	4.1	22.3	33.3	39.4	69.4
		Rate (people)		—	—	—	—	—	—
	2014	Line		10.87	9.79	14.43	17.57	21.57	34.61
		Rate (HHs)	138	10.9	9.8	14.4	17.6	21.6	34.6
		Rate (people)		11.4	5.6	17.1	28.9	37.4	67.5
All	2000	Line		14.92	8.26	23.49	37.30	45.76	75.25
		Rate (HHs)	138	14.9	8.3	23.5	37.3	45.8	75.2
		Rate (people)		—	—	—	—	—	—
	2006	Line		17.66	14.69	20.56	24.08	28.16	41.64
		Rate (HHs)	181	17.7	14.7	20.6	24.1	28.2	41.6
		Rate (people)		9.4	3.6	15.7	25.6	36.2	62.1
	2014	Line		11.51	5.13	19.96	34.28	47.68	73.53
		Rate (HHs)	181	11.5	5.1	20.0	34.3	47.7	73.5
		Rate (people)		—	—	—	—	—	—

Note: *Poverty lines (GTQ/person/day) and poverty rates (%)*

Source and definitions: See Figure 1 and text.

Table 2 (Jutiapa): National poverty lines, poverty rates,and sample sizes for urban/rural/all by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	*n*	Poverty lines (GTQ/person/day) and poverty rates (%) National			
				Food	100%	150%	200%
Urban	2000	Line		12.72	17.64	35.29	11.76
		Rate (HHs)	240	2.5	21.7	88.0	1.4
		Rate (people)		3.8	26.2	89.7	2.4
	2006	Line		0.00	10.69	83.95	0.00
		Rate (HHs)	256	0.0	13.8	90.2	0.0
		Rate (people)		19.6	27.7	55.3	18.5
	2014	Line		8.64	29.32	93.53	3.65
		Rate (HHs)	2,364	23.2	32.7	65.5	21.9
		Rate (people)		1.0	14.2	83.8	0.6
Rural	2000	Line		5.36	12.10	18.15	24.21
		Rate (HHs)	69	5.4	12.1	18.2	24.2
		Rate (people)		5.4	25.6	39.7	55.9
	2006	Line		10.20	36.05	52.69	65.63
		Rate (HHs)	69	10.2	36.1	52.7	65.6
		Rate (people)		—	—	—	—
	2014	Line		8.89	18.24	27.36	36.48
		Rate (HHs)	155	8.9	18.2	27.4	36.5
		Rate (people)		4.2	22.9	42.2	59.6
All	2000	Line		9.00	31.56	53.54	71.37
		Rate (HHs)	155	9.0	31.6	53.5	71.4
		Rate (people)		—	—	—	—
	2006	Line		15.95	28.35	42.52	56.70
		Rate (HHs)	195	16.0	28.3	42.5	56.7
		Rate (people)		7.2	40.7	66.8	77.1
	2014	Line		12.43	49.58	74.88	83.98
		Rate (HHs)	195	12.4	49.6	74.9	84.0
		Rate (people)		—	—	—	—

Source and definitions: See Figure 1 and text.

Table 2 (Jutiapa): International 2005 and 2011 PPP poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poverty lines (GTQ/person/day) and poverty rates (%)					
				Intl. 2005 PPP				Intl. 2011 PPP	
				$1.25	$2.00	$2.50	$5.00	$1.90	$3.10
Urban	2000	Line		15.87	11.90	19.84	23.80	31.74	19.91
		Rate (HHs)	240	6.1	1.4	27.1	50.7	73.3	27.4
		Rate (people)		8.2	2.4	32.3	55.2	77.3	32.6
	2006	Line		2.62	0.00	31.96	66.07	81.44	31.96
		Rate (HHs)	256	3.8	0.0	36.0	72.6	87.4	36.0
		Rate (people)		24.9	18.6	31.1	37.3	49.7	31.4
	2014	Line		17.64	4.12	44.79	70.97	89.06	46.36
		Rate (HHs)	2,364	29.4	22.1	36.8	44.1	58.9	38.5
		Rate (people)		10.9	0.8	24.0	46.7	78.1	28.4
Rural	2000	Line		3.98	6.37	7.96	15.93	3.63	5.92
		Rate (HHs)	69	4.0	6.4	8.0	15.9	3.6	5.9
		Rate (people)		1.8	7.2	11.4	34.5	1.8	5.4
	2006	Line		3.78	12.09	15.24	47.00	3.78	10.20
		Rate (HHs)	69	3.8	12.1	15.2	47.0	3.8	10.2
		Rate (people)		—	—	—	—	—	—
	2014	Line		6.10	9.77	12.21	24.42	5.56	9.08
		Rate (HHs)	155	6.1	9.8	12.2	24.4	5.6	9.1
		Rate (people)		1.3	4.7	7.0	39.5	1.3	4.2
All	2000	Line		2.38	9.92	12.77	50.89	2.38	9.00
		Rate (HHs)	155	2.4	9.9	12.8	50.9	2.4	9.0
		Rate (people)		—	—	—	—	—	—
	2006	Line		9.25	14.80	18.51	37.01	8.44	13.76
		Rate (HHs)	195	9.3	14.8	18.5	37.0	8.4	13.8
		Rate (people)		0.5	6.9	13.9	56.0	0.5	5.6
	2014	Line		1.01	11.54	21.24	64.71	1.01	9.59
		Rate (HHs)	195	1.0	11.5	21.2	64.7	1.0	9.6
		Rate (people)		—	—	—	—	—	—

Source and definitions: See Figure 1 and text.

Table 2 (Jutiapa): Relative poverty lines, poverty rates,and sample sizes for urban/rural/all, by households and people for 2000, 2006, and 2014

Region	Year	Line/rate	n	Poorest half < 100% natl.	Percentile-based lines				
					20th	40th	50th	60th	80th
Urban	2000	Line		—	—	—	—	—	—
		Rate (HHs)	240	—	—	—	—	—	—
		Rate (people)		—	—	—	—	—	—
	2006	Line		—	—	—	—	—	—
		Rate (HHs)	256	—	—	—	—	—	—
		Rate (people)		62.8	37.2	55.9	74.4	41.9	62.8
	2014	Line		94.59	70.02	91.34	97.23	76.65	94.78
		Rate (HHs)	2,364	76.9	45.5	68.5	91.1	51.3	77.0
		Rate (people)		87.2	48.0	82.0	92.9	69.6	87.2
Rural	2000	Line		6.98	5.86	8.88	10.69	12.84	22.22
		Rate (HHs)	69	7.0	5.9	8.9	10.7	12.8	22.2
		Rate (people)		7.2	5.4	11.4	19.5	30.1	54.8
	2006	Line		12.09	10.20	15.24	27.69	39.62	64.25
		Rate (HHs)	69	12.1	10.2	15.2	27.7	39.6	64.2
		Rate (people)		—	—	—	—	—	—
	2014	Line		11.05	9.95	14.67	17.86	21.93	35.20
		Rate (HHs)	155	11.1	10.0	14.7	17.9	21.9	35.2
		Rate (people)		4.7	4.7	12.2	22.5	34.7	57.3
All	2000	Line		9.92	9.92	19.98	31.36	44.94	68.71
		Rate (HHs)	155	9.9	9.9	20.0	31.4	44.9	68.7
		Rate (people)		—	—	—	—	—	—
	2006	Line		17.96	14.93	20.91	24.48	28.64	42.34
		Rate (HHs)	195	18.0	14.9	20.9	24.5	28.6	42.3
		Rate (people)		13.9	6.9	21.2	28.0	41.4	66.5
	2014	Line		21.24	11.54	29.35	37.74	49.77	74.62
		Rate (HHs)	195	21.2	11.5	29.3	37.7	49.8	74.6
		Rate (people)		—	—	—	—	—	—

Source and definitions: See Figure 1 and text.

Table 3: Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
2,295	Does the household possess, own, or have access to a gas or electric stove or a microwave oven? (None; Only gas or electric stove, without microwave oven; Microwave oven (regardless of gas or electric stove))
2,082	Does the household possess, own, or have access to a stove (gas or electric)? (No; Yes)
1,908	How many household members are 17-years-old or younger? (Five or more; Four; Three; Two; One; None)
1,906	How many household members are 16-years-old or younger? (Five or more; Four; Three; Two; One; None)
1,899	How many household members are 18-years-old or younger? (Six or more; Five; Four; Three; Two; One; None)
1,881	How many household members are 15-years-old or younger? (Five or more; Four; Three; Two; One; None)
1,832	How many household members are 14-years-old or younger? (Four or more; Three; Two; One; None)
1,744	How many household members are 12-years-old or younger? (Four or more; Three; Two; One; None)
1,729	How many household members are 13-years-old or younger? (Four or more; Three; Two; One; None)
1,673	What is the main construction material of the floors? (Dirt, wood, parquet, or other; Formed cement bricks; Mud bricks, or cement slab; Granite, or ceramic)
1,647	Does the household possess, own, or have access to a television with cable service? (No; Only television (without cable); Cable (regardless of television))
1,644	How many household members are 11-years-old or younger? (Three or more; Two; One; None)
1,613	What was the highest level and grade of education completed by the female head/spouse? (No female head/spouse; None, kindergarten, pre-school, or primary (1 to 6); Secondary (1 or 2); Secondary (3 or 4); Secondary (5 or 6), or higher)
1,572	Does the household possess, own, or have access to a refrigerator? (No; Yes)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
1,554	What is the main treatment applied to drinking water? (Boil, chlorine, other, or none; Filter; Bottled water)
1,552	How many members does the household have? (Eight or more; Seven; Six; Five; Four; Three; Two; One)
1,509	Does the household possess, own, or have access to an electric or non-electric iron? (None; Only non-electric, without electric; Electric (regardless of non-electric))
1,508	Does the household possess, own, or have access to an electric iron? (No; Yes)
1,482	What type of toilet arrangement does the household have? (Latrine, covered pit, or none; Hand-pour toilet, or toilet connected to septic tank or sewer system)
1,410	How may televisions does the household possess, own, or have access to? (None; One; Two or more)
1,347	Does this household have cable? (No; Yes)
1,306	What was the highest level and grade of education completed by the male head/spouse? (None, kindergarten, pre-school, or primary (1 or 2); No male head/spouse; Primary (3 to 6), or secondary (1 or 2); Secondary (3 to 6) or higher)
1,283	Does the household possess, own, or have access to a television with a DVD player? (None; Only television, without DVD; DVD (regardless of television))
1,279	Does the household possess, own, or have access to a blender? (No; Yes)
1,271	What is the main material of the exterior walls? (Wood, metal sheets, adobe, wattle and daub, sticks, cane, or other; Cinder block, brick, or concrete)
1,269	Does the household possess, own, or have access to a bicycle, motorcycle or scooter/moped, or passenger car, pick up, van, minivan, SUV, or truck? (No; Only bicycle (without any others); Motorcycle or scooter/moped (without car etc., and regardless of bicycle); Car etc. (regardless of any others))
1,164	Is the residence connected to a sewer system? (No; Yes)
1,112	Does the household possess, own, or have access to a desktop computer, laptop, printer, or tablet? (No; Yes)
1,069	How many household members are 6-years-old or younger? (Two or more; One; None)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
1,031	Does the household possess, own, or have access to a passenger automobile, pick up, van, minivan, SUV, or truck? (No; Yes)
1,020	Does the residence have a water meter? (No; Yes)
996	Does the household possess, own, or have access to a microwave oven? (No; Yes)
982	If the main soure of drinking water is pipes (network), whether inside the residence or outside the residence but on the property, the water supply is . . .? (The main soure of drinking water is not pipes (network), whether inside the residence or outside the residence but on the property; Local water cooperative; Public; Private)
977	Does the household possess, own, or have access to a pressure cooker? (No; Yes)
972	What is the male head/spouse in the work that occupied the most time in the past calendar week? (Day laborer, or does not work; Self-employed in agriculture; Private-sector employee; No male head/spouse; Self-employed in non-agriculture, owner/partner of an agricultural firm that employees people, domestic worker in a private home, or unpaid worker or helper in a family or non-family business; Public-sector employee, or owner/partner of a non-agricultural firm that employees people)
878	What is the main construction material of the roof? (Tile, thatch, palm leaves, or similar material, or other; Metal sheets; Concrete, or asbestos)
857	Does the female head/spouse know how to read and write? (No; Yes; No female head/spouse)
834	Does the household possess, own, or have access to a washing machine? (No; Yes)
820	What is the mother language of the female head/spouse? (Not Spanish; Spanish; No female head/spouse)
802	Does the residence have an electric meter? (No; Yes)
797	What is the main source of drinking water for the household? (River, lake, spring, rain water, public standpipe, or other; Pipes (network) outside the residence but inside the property; Public or private well; Pipes (network) inside the residence, or water truck)
789	Did all household members ages 7 to 15 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
774	Based on her history, traditions, and customs, to what ethnic group does the female head/spouse belong? (Not Ladina; Ladina; No female head/spouse)
771	Did all household members ages 7 to 16 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)
771	How many rooms does the household use (excluding kitchen, bathrooms, hallways, garages, or rooms used only for business)? (One; Two; Three; Four or more)
764	Is the residence connected to a electrical grid? (No; Yes)
764	Did all household members ages 7 to 17 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)
759	Did all household members ages 7 to 14 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)
716	What is the mother language of the male head/spouse? (Not Spanish; No male head/spouse; Spanish)
705	Does the household possess, own, or have access to a molino manual de nixtamal or a grinding stone? (Both; One or the other, but not both; None)
700	Did all household members ages 7 to 12 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)
689	Did all household members ages 7 to 13 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)
688	In the past month, did the household use electricity? (No; Yes)
676	Does the female head/spouse have a mobile/cellular phone? (No; Yes; No male head/spouse)
675	Did all household members ages 7 to 18 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)
673	Does the residence have a land-line telephone connection? (No; Yes)
669	Did all household members ages 7 to 11 enroll in a school of some sort in the current academic year? (No; Yes; No members of these ages)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
635	In what region does the household live? (Norte; Noroccidente; Suroccidente; Petén; Nororiente; Suroriente; Central; Metropolitana)
631	Based on his history, traditions, and customs, to what ethnic group does the male head/spouse belong? (Not Ladino; No male head/spouse; Ladino)
600	Does this household have an internet conection? (No; Yes)
587	Does the household possess, own, or have access to a grinding stone? (Yes; No)
558	Does the household possess, own, or have access to a transistor radio, tape player/radio-tape player, hi-fi with CD, or Walkman, mp3, mp4, or iPod? (None; Only transistor radio (without tape player/radio-tape player nor hi-fi with CD, Walkman, mp3, mp4, or iPod); Tape player/radio-tape player, without CD, Walkman, mp3, mp4, or iPod, and regardless of transistor radio; Hi-fi with CD, or Walkman, mp3, mp4, or iPod (regardless of others))
520	Does the household possess, own, or have access to a water heater for the shower? (No; Yes)
518	Does the household possess, own, or have access to a DVD player? (No; Yes)
505	Does the household possess, own, or have access to a hi-fi with CD, or Walkman, mp3, mp4, or iPod? (No; Yes)
501	Does the male head/spouse have a mobile/cellular phone? (No; Yes; No male head/spouse)
477	Does the household possess, own, or have access to a camera? (No; Yes)
473	What is the female head/spouse in the work that occupied the most time in the past week? (Domestic worker in a private home, casual worker, self-employed in agriculture, owner or partner of an agricultural firm that employees people, or does not work; Self-employed in non-agriculture; Employee in a private company, or unpaid worker or helped in a family or non-family business; No female head/spouse; Government employee, or owner or partner of a non-agricultural firm that employees people)
473	Does the male head/spouse know how to read and write? (No; Yes; No male head/spouse)
465	Does the household possess, own, or have access to an electric coffee maker? (No; Yes)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
460	Is the residence connected to a water-distribution network? (No; Yes)
458	How many household members have a mobile/cellular phone? (None; One; Two; Three or more)
426	Household members usually cook . . .? (In a room outside the residence; In a room also used for sleeping; In the yard (outdoors), or does not cook; In the yard (open air), or does not cook; In a passageway; In a room inside the residence used only for cooking (kitchen); In a living room or dining room)
423	If the main source of drinking water is pipes (network), whether inside the residence or outside the residence but on the property, the water supply is . . .? (The main source of drinking water is not pipes (network), whether inside the residence or outside the residence but on the property; Shared with other households; Used only by this household)
419	Does the household possess, own, or have access to a toaster-oven or a toaster? (No; Yes)
368	How many rooms serve as bedrooms? (One, or none; Two; Three or more)
339	Does the household possess, own, or have access to a fan? (No; Yes)
331	Does the household possess, own, or have access to a toaster-oven? (No; Yes)
318	Does the household possess, own, or have access to a motorcycle or scooter/moped? (No; Yes)
279	Does this household have cellular-phone service? (No; Sí)
259	Does the household possess, own, or have access to a food processor? (No; Yes)
250	What is the current marital status of the male head/spouse? (Cohabiting; Married; No male head/spouse; Widowed; Single/never-married and never-cohabited, separated from spouse, separated from cohabitor, or divorced)
247	What is the current marital status of the female head/spouse? (Cohabiting; Married; Separated from cohabitor; Widowed; Separated from spouse; Single/never-married and never-cohabited, or divorced; No female head/spouse)
230	In the past week, what was the main activity of the female head/spouse? (Something other than work; Work; No female head/spouse)
214	Does the household possess, own, or have access to a toaster? (No; Yes)

Table 3 (cont.): Poverty indicators

Uncertainty coefficient	Indicator (Responses ordered starting with those linked with higher poverty likelihoods)
202	Does the household possess, own, or have access to a hand-mill for nixtamal? (Yes; No)
185	Does the household possess, own, or have access to a juicer? (No; Yes)
168	Does the household possess, own, or have access to a video-game player? (No; Yes)
160	The toilet arrangement is . . .? (No toilet arrangement; Shared with other households; Used only by the household)
127	What is the tenancy status of the household in its residence? (Transferred or loaned, or other; Owned free-and-clear, or owned with a mortgage; Rented)
120	Does the household possess, own, or have access to an electric sewing machine? (No; Yes)
117	Does the household possess, own, or have access to a video camera? (No; Yes)
111	Does the residence's kitchen have a chimney or other way for smoke to escape? (Yes; No)
107	What type of residence does the household live in? (Farm house, improvised house, or other; Formal house, room in a boarding house or in the house of another family, or apartment)
95	Does the household possess, own, or have access to a transistor radio? (No; Yes)
84	Does the household possess, own, or have access to a human-powered or elecrtic sewing machine? (No; Yes)
69	In the past week, what was the main activity of the male head/spouse? (Work; Something other than work; No male head/spouse)
38	In the past month, did this household ever cook with firewood? If affirmative, then does the residence's kitchen have a chimney or other way for smoke to escape? (Uses firewood, but no chimney nor other way for smoke to escape; Uses firewood with a chimney or other way for smoke to escape; Does not use firewood)
38	In the past month, did this household ever cook with firewood? (Yes; No)
13	Does the household possess, own, or have access to a non-electric iron? (Yes; No)
11	Does the household possess, own, or have access to a human-powered sewing machine? (No; Yes)
4	Does the household possess, own, or have access to a metal silo for grain storage? (Yes; No)
3	Does the household possess, own, or have access to a bicycle? (No; Yes)
0	Does the household possess, own, or have access to a tape player or radio tape player? (No; Yes)

Source: 2014 Encuesta Nacional de Condiciones de Vida and 100% 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	100.0
5–9	99.7
10–14	99.2
15–19	94.8
20–24	93.4
25–29	87.3
30–34	78.2
35–39	66.0
40–44	46.6
45–49	33.8
50–54	22.7
55–59	15.6
60–64	2.8
65–69	0.7
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 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	1,002	÷	1,002	=	100.0
5–9	3,532	÷	3,544	=	99.7
10–14	3,309	÷	3,335	=	99.2
15–19	5,911	÷	6,235	=	94.8
20–24	6,553	÷	7,013	=	93.4
25–29	5,984	÷	6,855	=	87.3
30–34	6,203	÷	7,930	=	78.2
35–39	5,201	÷	7,882	=	66.0
40–44	4,088	÷	8,763	=	46.6
45–49	3,449	÷	10,199	=	33.8
50–54	1,834	÷	8,064	=	22.7
55–59	1,059	÷	6,778	=	15.6
60–64	182	÷	6,610	=	2.8
65–69	29	÷	4,495	=	0.7
70–74	10	÷	5,889	=	0.2
75–79	0	÷	1,148	=	0.0
80–84	0	÷	2,826	=	0.0
85–89	0	÷	528	=	0.0
90–94	0	÷	794	=	0.0
95–100	0	÷	109	=	0.0

Number of all households is 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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

Score	Error	Difference between estimate and observed value		
		Confidence interval ($\pm$percentage points)		
		90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+2.6	1.6	1.8	2.3
10–14	−0.5	0.3	0.4	0.4
15–19	+0.2	1.6	1.9	2.7
20–24	−3.2	2.1	2.2	2.3
25–29	−1.0	1.8	2.2	2.8
30–34	+10.4	2.9	3.5	4.5
35–39	+1.5	3.1	3.7	5.4
40–44	−7.2	5.0	5.2	5.9
45–49	+3.1	2.4	2.8	3.8
50–54	+8.9	1.9	2.2	3.0
55–59	+7.1	1.9	2.3	2.8
60–64	−11.8	7.4	7.6	8.4
65–69	0.0	0.4	0.5	0.7
70–74	−0.8	0.7	0.8	0.9
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): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	−1.3	66.1	72.2	88.9
4	+0.1	32.7	41.9	56.5
8	+0.5	24.6	29.4	40.8
16	+0.6	17.9	21.1	29.7
32	+0.5	12.6	15.9	21.5
64	+0.6	9.1	11.5	14.6
128	+0.6	6.6	8.0	11.8
256	+0.7	4.6	5.6	7.5
512	+0.7	3.3	4.2	5.6
1,024	+0.8	2.5	2.9	3.8
2,048	+0.8	1.7	2.0	2.7
4,096	+0.8	1.1	1.4	1.8
8,192	+0.8	0.9	1.0	1.4
16,384	+0.8	0.6	0.7	1.0

Table 8 (National poverty lines): Average errors (differences between estimates and observed values) for poverty rates at a point in time, confidence intervals, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample

| | Poverty line | | | |
| | National | | | |
	Food	100%	150%	200%
Error (estimate minus observed)	–0.6	+0.8	+0.7	+0.3
90% C.I. of estimate (n = 16,384)	0.5	0.6	0.5	0.5
α factor for precision	1.04	0.93	0.94	0.93

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

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

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

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

α 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 poverty lines): Average errors (differences between estimates and observed values) for poverty rates at a point in time, confidence intervals, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample

| | Poverty line | | | | | |
| | Intl. 2005 PPP | | | | Intl. 2011 PPP | |
	$1.25	**$2.00**	**$2.50**	**$5.00**	**$1.90**	**$3.10**
Error (estimate minus observed)	–0.8	+0.6	+0.4	+0.2	–0.9	+0.2
90% C.I. of estimate (n = 16,384)	0.3	0.4	0.5	0.6	0.3	0.4
α factor for precision	1.26	1.04	0.99	1.00	1.40	1.07

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

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

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

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

α 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 lines): Average errors (differences between estimates and observed values) for poverty rates at a point in time, confidence intervals, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample

| | Poorest half | | | | | |
| | | Percentile-based lines | | | | |
	< 100% natl.	20th	40th	50th	60th	80th
Error (estimate minus observed)	+0.8	+0.5	−0.2	+1.4	+0.9	+0.6
90% C.I. of estimate (n = 16,384)	0.5	0.4	0.5	0.6	0.6	0.5
α factor for precision	0.97	1.04	0.91	0.94	0.91	0.95

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

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

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

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

α 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): Average errors (differences between estimates and observed values) for changes in poverty rates for two independent samples between two points in time, confidence intervals, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample (baseline) and to all of the 2000 or 2006 data (follow-up)

				Poverty line			
	Year			National			
	Baseline	Follow-up		Food	100%	150%	200%
Error (Estimated change minus observed change)							
	2014	2000		+17.3	+21.6	+20.3	+16.2
	2014	2006		+6.8	+10.2	+15.8	+14.4
90% C.I. of estimated change (n = 16,384)							
	2014	2000		0.7	0.9	0.9	0.7
	2014	2006		0.6	0.9	0.8	0.7
α factor for precision of estimated change							
	2014	2000		1.05	1.00	1.09	1.15
	2014	2006		0.92	0.97	1.00	1.10
2014 scorecard is applied to 2014 validation sample (baseline) and all 2006 or all 2000 data (follow-up).							
Errors (differences between estimates and observed values) are in units of percentage points.							
Precision is measured as 90-percent confidence intervals in units of ± percentage points.							
Errors and precision estimated from 1,000 bootstraps with n = 16,384.							
α 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 poverty lines): Average errors (differences between estimates and observed values) for changes in poverty rates for two independent samples between two points in time, confidence intervals, and the α factor for precision, 2014 scorecard applied to the 2014 validation sample (baseline) and to all of the 2000 or 2006 data (follow-up)

| | Year | | Poverty line | | | | | | | |
| | | | Intl. 2005 PPP | | | | | | Intl. 2011 PPP | |
	Baseline	Follow-up	$1.25		$2.00		$2.50		$5.00		$1.90		$3.10
Error (Estimated change minus observed change)													
	2014	2000	+2.2		+8.4		+13.0		+21.7		+1.5		+7.6
	2014	2006	+1.6		+1.5		+2.5		+14.7		+1.5		+1.4
90% C.I. of estimated change (n = 16,384)													
	2014	2000	0.4		0.6		0.8		0.9		0.3		0.6
	2014	2006	0.3		0.5		0.7		0.8		0.3		0.5
α factor for precision of estimated change													
	2014	2000	1.18		1.04		1.10		1.08		1.29		1.05
	2014	2006	1.02		0.91		0.87		0.99		1.14		0.94
2014 scorecard is applied to 2014 validation sample (baseline) and all 2006 or all 2000 data (follow-up).													
Errors (differences between estimates and observed values) are in units of percentage points.													
Precision is measured as 90-percent confidence intervals in units of ± percentage points.													
Errors and precision estimated from 1,000 bootstraps with n = 16,384.													
α 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

		Targeting segment	
		Targeted	**Non-targeted**
Observed poverty status	**Below poverty line**	**Inclusion** Below poverty line and correctly targeted	**Undercoverage** Below poverty line and mistakenly non-targeted
	Above poverty line	**Leakage** Above poverty line and mistakenly targeted	**Exclusion** Above poverty line and correctly non-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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	47.6	0.0	51.4	52.4	−95.9
=<9	4.5	44.1	0.1	51.3	55.8	−81.4
=<14	7.8	40.8	0.1	51.3	59.1	−67.8
=<19	13.7	34.9	0.4	51.0	64.8	−42.7
=<24	20.5	28.1	0.7	50.7	71.2	−14.4
=<29	26.4	22.2	1.6	49.8	76.3	+12.0
=<34	32.3	16.3	3.6	47.8	80.0	+40.3
=<39	37.7	10.9	6.1	45.3	83.1	+67.8
=<44	42.5	6.1	10.1	41.3	83.8	+79.2
=<49	46.0	2.6	16.8	34.6	80.7	+65.5
=<54	47.4	1.2	23.4	28.0	75.4	+51.9
=<59	48.0	0.6	29.6	21.8	69.9	+39.2
=<64	48.5	0.1	35.7	15.7	64.2	+26.5
=<69	48.5	0.1	40.2	11.2	59.8	+17.4
=<74	48.6	0.0	46.0	5.4	54.0	+5.4
=<79	48.6	0.0	47.1	4.3	52.9	+3.0
=<84	48.6	0.0	50.0	1.4	50.0	−2.8
=<89	48.6	0.0	50.5	0.9	49.5	−3.9
=<94	48.6	0.0	51.3	0.1	48.7	−5.5
=<100	48.6	0.0	51.4	0.0	48.6	−5.8

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	2.1	Only poor targeted
=<9	4.5	98.7	9.2	73.1:1
=<14	7.9	98.8	16.0	85.1:1
=<19	14.1	97.4	28.3	37.3:1
=<24	21.1	96.9	42.1	30.8:1
=<29	28.0	94.4	54.4	17.0:1
=<34	35.9	89.8	66.4	8.8:1
=<39	43.8	86.2	77.6	6.2:1
=<44	52.6	80.8	87.4	4.2:1
=<49	62.8	73.3	94.7	2.7:1
=<54	70.8	67.0	97.6	2.0:1
=<59	77.6	61.9	98.8	1.6:1
=<64	84.2	57.6	99.8	1.4:1
=<69	88.7	54.7	99.9	1.2:1
=<74	94.6	51.4	100.0	1.1:1
=<79	95.7	50.8	100.0	1.0:1
=<84	98.6	49.3	100.0	1.0:1
=<89	99.1	49.0	100.0	1.0:1
=<94	99.9	48.7	100.0	0.9:1
=<100	100.0	48.6	100.0	0.9:1

Tables for
the Food Poverty Line

Table 4 (Food 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	80.8
5–9	71.8
10–14	66.6
15–19	55.8
20–24	38.9
25–29	26.0
30–34	12.2
35–39	8.3
40–44	3.3
45–49	1.2
50–54	0.2
55–59	0.2
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 (Food line): Average errors (differences between estimated and observed poverty likelihoods) for households by score range, with confidence intervals, from 1,000 bootstraps of $n = 16{,}384$, 2014 scorecard applied to the 2014 validation sample

| Score | Error | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
		90-percent	95-percent	99-percent
0–4	−5.8	5.3	5.6	7.1
5–9	+3.0	4.1	4.9	6.3
10–14	+17.3	4.8	5.7	7.7
15–19	−3.7	3.6	4.0	5.5
20–24	−1.3	3.5	4.0	5.2
25–29	−4.7	4.0	4.3	5.5
30–34	+1.4	1.7	1.9	2.4
35–39	−4.7	3.3	3.5	3.9
40–44	−0.7	1.0	1.2	1.6
45–49	−4.0	2.7	2.8	3.0
50–54	0.0	0.2	0.2	0.3
55–59	+0.2	0.0	0.0	0.0
60–64	−0.1	0.1	0.2	0.2
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 (Food line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+0.6	58.4	77.2	81.7
4	0.0	29.0	36.3	52.5
8	−0.1	22.4	26.2	36.8
16	−0.4	15.1	18.8	25.1
32	−0.7	10.8	13.4	18.4
64	−0.6	7.7	9.5	12.9
128	−0.5	5.8	7.0	9.1
256	−0.5	4.0	4.7	6.3
512	−0.6	2.9	3.5	4.4
1,024	−0.6	2.0	2.3	3.1
2,048	−0.6	1.4	1.7	2.1
4,096	−0.6	1.0	1.1	1.5
8,192	−0.6	0.7	0.8	1.1
16,384	−0.6	0.5	0.6	0.8

Table 11 (Food line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.8	15.5	0.2	83.5	84.3	−88.7
=<9	3.3	13.1	1.3	82.4	85.6	−52.2
=<14	5.3	11.1	2.6	81.0	86.3	−19.5
=<19	8.9	7.5	5.2	78.4	87.3	+40.6
=<24	11.8	4.6	9.3	74.3	86.1	+43.0
=<29	13.6	2.8	14.4	69.3	82.9	+12.1
=<34	14.6	1.8	21.3	62.3	76.9	−30.3
=<39	15.5	0.8	28.3	55.4	70.9	−72.8
=<44	15.9	0.5	36.7	47.0	62.9	−124.2
=<49	16.3	0.1	46.5	37.2	53.4	−184.1
=<54	16.3	0.0	54.5	29.2	45.5	−233.1
=<59	16.3	0.0	61.3	22.4	38.7	−274.5
=<64	16.4	0.0	67.9	15.8	32.1	−314.8
=<69	16.4	0.0	72.3	11.3	27.7	−342.3
=<74	16.4	0.0	78.2	5.4	21.8	−378.3
=<79	16.4	0.0	79.4	4.3	20.6	−385.3
=<84	16.4	0.0	82.2	1.4	17.8	−402.6
=<89	16.4	0.0	82.7	0.9	17.3	−405.8
=<94	16.4	0.0	83.5	0.1	16.5	−410.7
=<100	16.4	0.0	83.6	0.0	16.4	−411.3

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

Table 12 (Food 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	84.6	5.2	5.5:1
=<9	4.5	71.9	20.0	2.6:1
=<14	7.9	67.0	32.3	2.0:1
=<19	14.1	62.9	54.3	1.7:1
=<24	21.1	55.9	72.2	1.3:1
=<29	28.0	48.6	83.1	0.9:1
=<34	35.9	40.6	89.2	0.7:1
=<39	43.8	35.5	95.0	0.5:1
=<44	52.6	30.2	97.1	0.4:1
=<49	62.8	25.9	99.5	0.4:1
=<54	70.8	23.1	99.9	0.3:1
=<59	77.6	21.1	99.9	0.3:1
=<64	84.2	19.4	100.0	0.2:1
=<69	88.7	18.4	100.0	0.2:1
=<74	94.6	17.3	100.0	0.2:1
=<79	95.7	17.1	100.0	0.2:1
=<84	98.6	16.6	100.0	0.2:1
=<89	99.1	16.5	100.0	0.2:1
=<94	99.9	16.4	100.0	0.2:1
=<100	100.0	16.4	100.0	0.2:1

Tables for
150% of the National Poverty Line

Table 4 (150% of 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	100.0
10–14	100.0
15–19	99.8
20–24	99.6
25–29	99.3
30–34	98.5
35–39	95.4
40–44	89.0
45–49	76.9
50–54	68.4
55–59	55.2
60–64	29.0
65–69	22.5
70–74	8.6
75–79	2.1
80–84	0.6
85–89	0.0
90–94	0.0
95–100	0.0

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

| | | Difference between estimate and observed value | | |
| | | Confidence interval ($\pm$percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	−0.2	0.1	0.1	0.1
20–24	−0.3	0.2	0.2	0.2
25–29	−0.6	0.3	0.3	0.4
30–34	+0.3	0.6	0.7	0.9
35–39	−0.3	1.1	1.3	1.6
40–44	+0.3	2.0	2.3	3.0
45–49	−2.4	2.1	2.3	3.2
50–54	+5.8	3.1	3.6	5.2
55–59	+20.9	2.9	3.4	4.6
60–64	−15.8	9.7	9.9	10.6
65–69	+9.0	2.3	2.6	3.8
70–74	−1.1	1.9	2.3	3.0
75–79	−1.3	1.6	1.9	2.6
80–84	−1.1	1.1	1.2	1.5
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 national line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Error	Difference between estimate and observed value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	+0.2	56.6	73.9	86.7
4	+0.3	31.7	41.3	53.9
8	+0.6	23.6	29.7	41.3
16	+0.9	17.0	20.7	27.6
32	+0.9	12.2	14.5	20.6
64	+0.8	8.8	10.3	13.6
128	+0.6	5.9	7.0	10.2
256	+0.6	4.4	5.1	7.0
512	+0.7	3.0	3.6	5.2
1,024	+0.7	2.1	2.6	3.8
2,048	+0.7	1.5	1.8	2.5
4,096	+0.7	1.1	1.3	1.7
8,192	+0.7	0.8	1.0	1.2
16,384	+0.7	0.5	0.6	0.8

Table 11 (150% of national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	70.4	0.0	28.6	29.6	−97.2
=<9	4.5	66.9	0.0	28.6	33.1	−87.3
=<14	7.9	63.5	0.0	28.6	36.5	−77.9
=<19	14.1	57.3	0.0	28.6	42.7	−60.5
=<24	21.1	50.3	0.0	28.6	49.7	−40.9
=<29	27.9	43.5	0.0	28.5	56.5	−21.7
=<34	35.7	35.8	0.2	28.3	64.0	+0.2
=<39	43.2	28.2	0.6	28.0	71.2	+21.8
=<44	51.2	20.2	1.4	27.2	78.4	+45.3
=<49	59.2	12.2	3.5	25.1	84.3	+70.8
=<54	64.6	6.8	6.2	22.4	87.0	+89.6
=<59	67.5	3.9	10.1	18.5	85.9	+85.8
=<64	70.0	1.5	14.3	14.3	84.3	+80.0
=<69	70.7	0.7	18.0	10.6	81.4	+74.9
=<74	71.3	0.1	23.3	5.3	76.6	+67.4
=<79	71.4	0.1	24.4	4.2	75.6	+65.9
=<84	71.4	0.0	27.1	1.4	72.9	+62.0
=<89	71.4	0.0	27.7	0.9	72.3	+61.3
=<94	71.4	0.0	28.5	0.1	71.5	+60.1
=<100	71.4	0.0	28.6	0.0	71.4	+60.0

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

Table 12 (150% of 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	1.4	Only poor targeted
=<9	4.5	100.0	6.4	Only poor targeted
=<14	7.9	100.0	11.0	Only poor targeted
=<19	14.1	100.0	19.8	Only poor targeted
=<24	21.1	99.9	29.6	1,559.6:1
=<29	28.0	99.9	39.1	729.1:1
=<34	35.9	99.3	49.9	145.4:1
=<39	43.8	98.6	60.5	70.7:1
=<44	52.6	97.4	71.7	37.6:1
=<49	62.8	94.4	82.9	16.8:1
=<54	70.8	91.2	90.5	10.4:1
=<59	77.6	87.0	94.5	6.7:1
=<64	84.2	83.1	97.9	4.9:1
=<69	88.7	79.8	99.0	3.9:1
=<74	94.6	75.4	99.8	3.1:1
=<79	95.7	74.5	99.9	2.9:1
=<84	98.6	72.5	100.0	2.6:1
=<89	99.1	72.1	100.0	2.6:1
=<94	99.9	71.5	100.0	2.5:1
=<100	100.0	71.4	100.0	2.5:1

Tables for
200% of the National Poverty Line

Table 4 (200% of 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	100.0
10–14	100.0
15–19	100.0
20–24	99.9
25–29	99.9
30–34	99.9
35–39	99.3
40–44	97.7
45–49	93.2
50–54	90.1
55–59	82.4
60–64	60.9
65–69	43.6
70–74	31.6
75–79	14.9
80–84	7.8
85–89	0.9
90–94	0.0
95–100	0.0

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

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	0.0	0.0	0.0	0.0
20–24	–0.1	0.0	0.0	0.0
25–29	–0.1	0.0	0.0	0.0
30–34	–0.1	0.1	0.1	0.1
35–39	–0.3	0.3	0.4	0.5
40–44	+1.7	1.2	1.5	1.8
45–49	–1.9	1.5	1.6	1.7
50–54	+6.5	2.6	3.1	4.3
55–59	+4.8	2.6	3.2	4.3
60–64	–12.3	7.5	7.7	8.2
65–69	–3.0	3.8	4.6	6.3
70–74	+6.6	2.8	3.3	4.3
75–79	+9.2	2.1	2.6	3.4
80–84	+2.1	1.8	2.2	2.9
85–89	–0.9	1.5	1.8	2.5
90–94	0.0	0.0	0.0	0.0
95–100	0.0	0.0	0.0	0.0

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

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	0.0	41.3	58.7	80.8
4	−0.1	26.1	35.0	52.4
8	+0.2	20.3	25.1	34.7
16	+0.2	13.8	17.2	25.9
32	+0.6	10.3	12.4	17.2
64	+0.5	7.5	8.9	11.9
128	+0.4	5.2	6.2	7.7
256	+0.4	3.5	4.2	5.3
512	+0.4	2.6	3.2	4.3
1,024	+0.4	1.8	2.1	3.0
2,048	+0.4	1.3	1.6	2.2
4,096	+0.4	0.9	1.1	1.5
8,192	+0.3	0.7	0.8	1.1
16,384	+0.3	0.5	0.5	0.7

Table 11 (200% of national line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	81.9	0.0	17.1	18.1	−97.6
=<9	4.5	78.4	0.0	17.1	21.6	−89.0
=<14	7.9	75.0	0.0	17.1	25.0	−81.0
=<19	14.1	68.8	0.0	17.1	31.2	−65.9
=<24	21.1	61.8	0.0	17.1	38.2	−49.0
=<29	28.0	54.9	0.0	17.1	45.1	−32.5
=<34	35.9	47.0	0.0	17.1	53.0	−13.4
=<39	43.7	39.2	0.1	17.0	60.8	+5.6
=<44	52.3	30.6	0.3	16.8	69.1	+26.5
=<49	62.0	20.9	0.8	16.3	78.3	+50.4
=<54	69.1	13.8	1.7	15.3	84.4	+68.7
=<59	74.4	8.5	3.2	13.9	88.3	+83.3
=<64	78.9	4.0	5.3	11.8	90.8	+93.7
=<69	81.1	1.8	7.6	9.5	90.5	+90.8
=<74	82.6	0.3	12.0	5.1	87.6	+85.5
=<79	82.7	0.2	13.0	4.1	86.8	+84.3
=<84	82.9	0.0	15.7	1.4	84.3	+81.1
=<89	82.9	0.0	16.2	0.9	83.8	+80.5
=<94	82.9	0.0	17.0	0.1	83.0	+79.5
=<100	82.9	0.0	17.1	0.0	82.9	+79.4

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

Table 12 (200% of 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	1.2	Only poor targeted
=<9	4.5	100.0	5.5	Only poor targeted
=<14	7.9	100.0	9.5	Only poor targeted
=<19	14.1	100.0	17.0	Only poor targeted
=<24	21.1	100.0	25.5	Only poor targeted
=<29	28.0	100.0	33.8	Only poor targeted
=<34	35.9	100.0	43.3	2,138.2:1
=<39	43.8	99.9	52.8	773.3:1
=<44	52.6	99.5	63.1	192.9:1
=<49	62.8	98.7	74.7	78.1:1
=<54	70.8	97.5	83.3	39.5:1
=<59	77.6	95.9	89.8	23.3:1
=<64	84.2	93.8	95.2	15.0:1
=<69	88.7	91.4	97.8	10.6:1
=<74	94.6	87.3	99.6	6.9:1
=<79	95.7	86.4	99.8	6.3:1
=<84	98.6	84.1	100.0	5.3:1
=<89	99.1	83.7	100.0	5.1:1
=<94	99.9	83.0	100.0	4.9:1
=<100	100.0	82.9	100.0	4.9:1

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	29.3
5–9	19.3
10–14	13.5
15–19	7.5
20–24	3.1
25–29	1.4
30–34	0.9
35–39	0.3
40–44	0.0
45–49	0.0
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 ($1.25/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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	–3.2	7.3	8.7	11.3
5–9	–9.9	7.1	7.6	8.6
10–14	+2.9	2.4	2.7	3.6
15–19	–9.2	6.1	6.3	6.9
20–24	–0.1	1.0	1.3	1.7
25–29	–1.7	1.4	1.5	1.8
30–34	+0.9	0.0	0.0	0.0
35–39	+0.3	0.0	0.0	0.0
40–44	0.0	0.0	0.0	0.0
45–49	–0.1	0.1	0.1	0.1
50–54	0.0	0.0	0.0	0.0
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): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	−1.0	6.7	50.0	62.0
4	−0.5	13.5	21.2	35.5
8	−0.4	9.6	14.0	23.6
16	−0.6	8.0	10.5	15.3
32	−0.7	5.4	6.7	10.1
64	−0.7	4.1	4.9	6.4
128	−0.8	2.9	3.4	4.6
256	−0.8	2.2	2.6	3.2
512	−0.9	1.5	1.8	2.4
1,024	−0.8	1.1	1.3	1.6
2,048	−0.8	0.8	0.9	1.2
4,096	−0.8	0.5	0.6	0.8
8,192	−0.8	0.4	0.4	0.6
16,384	−0.8	0.3	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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.4	2.5	0.6	96.5	96.9	−51.9
=<9	1.2	1.6	3.3	93.8	95.0	−17.8
=<14	1.7	1.2	6.2	91.0	92.6	−118.8
=<19	2.4	0.5	11.7	85.4	87.8	−313.6
=<24	2.6	0.2	18.5	78.7	81.3	−552.2
=<29	2.8	0.0	25.2	72.0	74.8	−787.6
=<34	2.8	0.0	33.1	64.1	66.9	−1,067.2
=<39	2.8	0.0	41.0	56.2	59.0	−1,345.1
=<44	2.8	0.0	49.8	47.4	50.2	−1,654.1
=<49	2.8	0.0	59.9	37.2	40.1	−2,012.6
=<54	2.8	0.0	68.0	29.2	32.0	−2,296.9
=<59	2.8	0.0	74.8	22.4	25.2	−2,535.9
=<64	2.8	0.0	81.4	15.8	18.6	−2,768.9
=<69	2.8	0.0	85.9	11.3	14.1	−2,927.4
=<74	2.8	0.0	91.8	5.4	8.2	−3,135.0
=<79	2.8	0.0	92.9	4.3	7.1	−3,175.5
=<84	2.8	0.0	95.7	1.4	4.3	−3,275.1
=<89	2.8	0.0	96.3	0.9	3.7	−3,293.7
=<94	2.8	0.0	97.1	0.1	2.9	−3,321.7
=<100	2.8	0.0	97.2	0.0	2.8	−3,325.6

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	36.2	12.8	0.6:1
=<9	4.5	26.5	42.5	0.4:1
=<14	7.9	21.3	59.0	0.3:1
=<19	14.1	16.9	84.0	0.2:1
=<24	21.1	12.5	92.8	0.1:1
=<29	28.0	10.0	99.0	0.1:1
=<34	35.9	7.8	99.0	0.1:1
=<39	43.8	6.4	99.0	0.1:1
=<44	52.6	5.3	99.0	0.1:1
=<49	62.8	4.5	100.0	0.0:1
=<54	70.8	4.0	100.0	0.0:1
=<59	77.6	3.7	100.0	0.0:1
=<64	84.2	3.4	100.0	0.0:1
=<69	88.7	3.2	100.0	0.0:1
=<74	94.6	3.0	100.0	0.0:1
=<79	95.7	3.0	100.0	0.0:1
=<84	98.6	2.9	100.0	0.0:1
=<89	99.1	2.9	100.0	0.0:1
=<94	99.9	2.8	100.0	0.0:1
=<100	100.0	2.8	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	71.3
5–9	61.8
10–14	58.9
15–19	48.7
20–24	31.5
25–29	20.4
30–34	9.6
35–39	5.6
40–44	2.8
45–49	0.9
50–54	0.2
55–59	0.2
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 ($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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	−13.2	9.1	9.4	10.1
5–9	+12.1	4.7	5.8	7.4
10–14	+13.1	4.7	5.6	7.4
15–19	−8.0	5.6	5.9	6.8
20–24	+8.3	2.4	2.8	3.8
25–29	−7.1	5.2	5.6	6.2
30–34	+4.2	1.1	1.3	1.7
35–39	−2.0	1.8	1.9	2.4
40–44	+2.1	0.3	0.3	0.4
45–49	−2.4	1.8	1.9	2.1
50–54	0.0	0.2	0.2	0.3
55–59	+0.2	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 ($2.00/day 2005 PPP line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
	Error	90-percent	95-percent	99-percent
1	+1.0	50.0	69.2	78.1
4	+0.6	28.1	35.0	47.8
8	+0.9	19.8	26.2	36.4
16	+0.9	14.0	17.1	23.5
32	+0.5	10.4	12.9	16.5
64	+0.6	7.4	8.8	12.0
128	+0.6	5.3	6.5	8.7
256	+0.7	3.7	4.5	5.9
512	+0.6	2.6	3.2	4.1
1,024	+0.6	1.9	2.2	3.1
2,048	+0.6	1.3	1.5	2.0
4,096	+0.6	1.0	1.1	1.4
8,192	+0.6	0.6	0.8	0.9
16,384	+0.6	0.4	0.5	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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.8	12.3	0.2	86.7	87.5	−86.2
=<9	2.9	10.3	1.7	85.2	88.1	−43.5
=<14	4.7	8.4	3.1	83.7	88.4	−4.1
=<19	8.0	5.1	6.1	80.7	88.8	+53.6
=<24	10.2	2.9	10.9	75.9	86.1	+17.0
=<29	11.6	1.5	16.3	70.5	82.1	−24.3
=<34	12.2	1.0	23.7	63.1	75.3	−80.3
=<39	12.8	0.4	31.0	55.8	68.6	−135.8
=<44	12.9	0.3	39.7	47.2	60.1	−201.6
=<49	13.1	0.1	49.7	37.2	50.3	−277.5
=<54	13.2	0.0	57.7	29.2	42.3	−338.4
=<59	13.2	0.0	64.4	22.4	35.6	−389.9
=<64	13.2	0.0	71.1	15.8	28.9	−440.2
=<69	13.2	0.0	75.6	11.3	24.4	−474.4
=<74	13.2	0.0	81.4	5.4	18.6	−519.1
=<79	13.2	0.0	82.6	4.3	17.4	−527.9
=<84	13.2	0.0	85.4	1.4	14.6	−549.4
=<89	13.2	0.0	85.9	0.9	14.1	−553.4
=<94	13.2	0.0	86.7	0.1	13.3	−559.4
=<100	13.2	0.0	86.8	0.0	13.2	−560.2

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	81.4	6.2	4.4:1
=<9	4.5	63.4	21.9	1.7:1
=<14	7.9	60.1	36.0	1.5:1
=<19	14.1	56.8	60.9	1.3:1
=<24	21.1	48.3	77.6	0.9:1
=<29	28.0	41.6	88.5	0.7:1
=<34	35.9	34.0	92.8	0.5:1
=<39	43.8	29.2	97.1	0.4:1
=<44	52.6	24.5	98.0	0.3:1
=<49	62.8	20.9	99.6	0.3:1
=<54	70.8	18.6	100.0	0.2:1
=<59	77.6	17.0	100.0	0.2:1
=<64	84.2	15.6	100.0	0.2:1
=<69	88.7	14.8	100.0	0.2:1
=<74	94.6	13.9	100.0	0.2:1
=<79	95.7	13.7	100.0	0.2:1
=<84	98.6	13.3	100.0	0.2:1
=<89	99.1	13.3	100.0	0.2:1
=<94	99.9	13.2	100.0	0.2:1
=<100	100.0	13.2	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	85.3
5–9	83.5
10–14	79.4
15–19	73.8
20–24	59.8
25–29	38.2
30–34	24.9
35–39	18.0
40–44	7.4
45–49	3.7
50–54	1.0
55–59	0.3
60–64	0.1
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 ($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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

Score	Error	Difference between estimate and observed value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
0–4	−3.4	4.7	5.5	6.7
5–9	+1.2	3.2	3.8	5.0
10–14	+21.9	5.2	6.0	8.5
15–19	+2.9	3.0	3.6	4.6
20–24	+8.5	3.6	4.1	5.2
25–29	−11.2	7.2	7.6	8.4
30–34	+7.8	1.9	2.3	3.0
35–39	−5.1	3.7	4.1	4.5
40–44	−1.3	1.5	1.9	2.4
45–49	−6.3	4.1	4.2	4.7
50–54	+0.4	0.2	0.3	0.4
55–59	+0.3	0.0	0.0	0.0
60–64	−0.1	0.1	0.2	0.2
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 ($2.50/day 2005 PPP line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

| Sample Size n | Difference between estimate and observed value | | | |
| | Error | Confidence interval (±percentage points) | | |
		90-percent	95-percent	99-percent
1	−0.3	67.5	77.9	89.9
4	+0.9	30.2	41.7	59.1
8	+0.7	24.2	30.5	41.1
16	+0.7	16.8	20.6	26.0
32	+0.4	12.2	14.9	20.9
64	+0.4	9.0	10.6	13.9
128	+0.4	6.3	7.5	10.5
256	+0.5	4.3	5.1	6.9
512	+0.5	3.1	3.6	5.0
1,024	+0.4	2.1	2.5	3.2
2,048	+0.4	1.5	1.8	2.3
4,096	+0.4	1.1	1.3	1.6
8,192	+0.4	0.7	0.9	1.2
16,384	+0.4	0.5	0.6	0.8

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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.9	22.2	0.1	76.8	77.7	−91.8
=<9	3.8	19.2	0.7	76.2	80.0	−63.7
=<14	6.2	16.9	1.7	75.3	81.4	−39.0
=<19	10.7	12.4	3.5	73.5	84.1	+7.4
=<24	14.8	8.3	6.4	70.6	85.4	+55.7
=<29	17.9	5.2	10.1	66.8	84.7	+56.2
=<34	19.7	3.4	16.3	60.7	80.3	+29.5
=<39	21.4	1.7	22.4	54.5	75.9	+2.8
=<44	22.2	0.9	30.4	46.6	68.8	−31.6
=<49	22.9	0.1	39.8	37.1	60.0	−72.7
=<54	23.0	0.0	47.8	29.1	52.2	−107.2
=<59	23.0	0.0	54.6	22.4	45.4	−136.5
=<64	23.1	0.0	61.1	15.8	38.8	−165.1
=<69	23.1	0.0	65.6	11.3	34.4	−184.6
=<74	23.1	0.0	71.5	5.4	28.5	−210.1
=<79	23.1	0.0	72.7	4.3	27.3	−215.1
=<84	23.1	0.0	75.5	1.4	24.5	−227.3
=<89	23.1	0.0	76.0	0.9	24.0	−229.6
=<94	23.1	0.0	76.8	0.1	23.2	−233.1
=<100	23.1	0.0	76.9	0.0	23.1	−233.5

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	89.4	3.9	8.4:1
=<9	4.5	84.3	16.6	5.4:1
=<14	7.9	78.6	26.9	3.7:1
=<19	14.1	75.5	46.2	3.1:1
=<24	21.1	69.9	64.1	2.3:1
=<29	28.0	63.9	77.5	1.8:1
=<34	35.9	54.7	85.2	1.2:1
=<39	43.8	48.8	92.7	1.0:1
=<44	52.6	42.2	96.2	0.7:1
=<49	62.8	36.5	99.4	0.6:1
=<54	70.8	32.5	99.9	0.5:1
=<59	77.6	29.7	99.9	0.4:1
=<64	84.2	27.4	100.0	0.4:1
=<69	88.7	26.0	100.0	0.4:1
=<74	94.6	24.4	100.0	0.3:1
=<79	95.7	24.1	100.0	0.3:1
=<84	98.6	23.4	100.0	0.3:1
=<89	99.1	23.3	100.0	0.3:1
=<94	99.9	23.1	100.0	0.3:1
=<100	100.0	23.1	100.0	0.3:1

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	99.5
20–24	98.9
25–29	97.3
30–34	95.8
35–39	90.5
40–44	78.3
45–49	63.9
50–54	49.8
55–59	39.7
60–64	15.3
65–69	11.6
70–74	2.9
75–79	0.2
80–84	0.1
85–89	0.0
90–94	0.0
95–100	0.0

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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	−0.1	0.3	0.3	0.4
20–24	−1.0	0.5	0.6	0.6
25–29	−1.6	1.0	1.1	1.1
30–34	+6.9	2.4	2.8	3.6
35–39	−2.0	1.7	1.8	2.2
40–44	−2.9	2.6	2.8	3.5
45–49	+4.5	2.7	3.1	4.4
50–54	+3.8	3.1	3.6	4.6
55–59	+11.0	2.7	3.2	4.6
60–64	−20.0	11.8	12.2	12.8
65–69	+4.9	1.7	2.0	2.9
70–74	−0.9	1.1	1.2	1.7
75–79	−1.6	1.4	1.6	1.8
80–84	+0.1	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 ($5.00/day 2005 PPP line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and observed value			
	Error	Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	−0.4	57.0	62.1	88.9
4	+0.1	34.0	43.9	58.7
8	0.0	24.5	31.9	43.7
16	+0.2	18.5	21.9	28.0
32	+0.4	13.0	15.1	20.1
64	+0.1	9.4	11.0	15.4
128	0.0	6.6	8.1	10.6
256	0.0	4.8	5.8	8.2
512	+0.1	3.7	4.6	5.9
1,024	+0.2	2.5	2.9	3.9
2,048	+0.1	1.7	2.1	2.8
4,096	+0.2	1.3	1.5	2.0
8,192	+0.2	0.9	1.0	1.4
16,384	+0.2	0.6	0.7	1.0

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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	63.8	0.0	35.2	36.2	−96.9
=<9	4.5	60.3	0.0	35.2	39.7	−86.0
=<14	7.9	56.9	0.0	35.2	43.1	−75.7
=<19	14.1	50.7	0.0	35.2	49.3	−56.5
=<24	21.1	43.7	0.1	35.1	56.2	−34.9
=<29	27.8	37.0	0.2	35.0	62.9	−13.9
=<34	35.2	29.6	0.7	34.5	69.6	+9.7
=<39	42.4	22.4	1.4	33.8	76.2	+33.0
=<44	49.6	15.2	3.0	32.2	81.8	+57.6
=<49	56.1	8.7	6.7	28.5	84.6	+83.4
=<54	60.2	4.6	10.6	24.6	84.8	+83.7
=<59	62.5	2.3	15.1	20.1	82.6	+76.7
=<64	64.1	0.7	20.1	15.1	79.2	+69.0
=<69	64.5	0.3	24.2	11.0	75.5	+62.6
=<74	64.8	0.0	29.8	5.4	70.1	+54.0
=<79	64.8	0.0	30.9	4.3	69.1	+52.3
=<84	64.8	0.0	33.8	1.4	66.2	+47.9
=<89	64.8	0.0	34.3	0.9	65.7	+47.1
=<94	64.8	0.0	35.1	0.1	64.9	+45.9
=<100	64.8	0.0	35.2	0.0	64.8	+45.7

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	1.5	Only poor targeted
=<9	4.5	100.0	7.0	Only poor targeted
=<14	7.9	100.0	12.2	Only poor targeted
=<19	14.1	99.8	21.7	485.7:1
=<24	21.1	99.8	32.5	419.5:1
=<29	28.0	99.4	42.9	172.7:1
=<34	35.9	97.9	54.3	47.5:1
=<39	43.8	96.8	65.4	30.0:1
=<44	52.6	94.3	76.5	16.6:1
=<49	62.8	89.4	86.6	8.4:1
=<54	70.8	85.1	93.0	5.7:1
=<59	77.6	80.5	96.4	4.1:1
=<64	84.2	76.1	98.9	3.2:1
=<69	88.7	72.7	99.5	2.7:1
=<74	94.6	68.5	99.9	2.2:1
=<79	95.7	67.7	100.0	2.1:1
=<84	98.6	65.7	100.0	1.9:1
=<89	99.1	65.4	100.0	1.9:1
=<94	99.9	64.9	100.0	1.8:1
=<100	100.0	64.8	100.0	1.8:1

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	20.8
5–9	14.5
10–14	8.8
15–19	4.8
20–24	1.1
25–29	0.7
30–34	0.4
35–39	0.1
40–44	0.0
45–49	0.0
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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	+2.2	5.7	6.8	8.4
5–9	–11.1	7.6	8.2	8.9
10–14	+3.7	1.4	1.6	2.2
15–19	–9.6	6.2	6.5	7.1
20–24	–1.4	1.3	1.4	1.5
25–29	–1.4	1.2	1.3	1.6
30–34	+0.4	0.0	0.0	0.0
35–39	+0.1	0.0	0.0	0.0
40–44	0.0	0.0	0.0	0.0
45–49	0.0	0.1	0.1	0.1
50–54	0.0	0.0	0.0	0.0
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): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and observed value			
	Error	Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	−1.1	4.4	48.4	58.0
4	−0.7	9.1	18.2	34.7
8	−0.6	8.6	13.1	22.4
16	−0.7	7.6	10.0	13.3
32	−0.8	5.2	6.3	9.5
64	−0.8	3.8	4.4	6.2
128	−0.9	2.7	3.2	4.3
256	−1.0	2.0	2.4	3.0
512	−1.0	1.4	1.7	2.3
1,024	−0.9	1.0	1.2	1.6
2,048	−0.9	0.7	0.9	1.1
4,096	−0.9	0.5	0.6	0.8
8,192	−0.9	0.4	0.4	0.5
16,384	−0.9	0.3	0.3	0.4

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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.2	1.8	0.8	97.2	97.4	−39.1
=<9	0.9	1.1	3.6	94.4	95.3	−78.6
=<14	1.2	0.8	6.7	91.3	92.6	−229.6
=<19	1.7	0.3	12.4	85.6	87.3	−513.3
=<24	1.9	0.1	19.2	78.8	80.7	−852.4
=<29	2.0	0.0	26.0	72.0	74.0	−1,187.7
=<34	2.0	0.0	33.9	64.1	66.1	−1,580.8
=<39	2.0	0.0	41.8	56.2	58.2	−1,971.4
=<44	2.0	0.0	50.6	47.4	49.4	−2,405.8
=<49	2.0	0.0	60.7	37.2	39.3	−2,910.5
=<54	2.0	0.0	68.8	29.2	31.2	−3,310.2
=<59	2.0	0.0	75.6	22.4	24.4	−3,646.1
=<64	2.0	0.0	82.2	15.8	17.8	−3,973.7
=<69	2.0	0.0	86.7	11.3	13.3	−4,196.5
=<74	2.0	0.0	92.6	5.4	7.4	−4,488.4
=<79	2.0	0.0	93.7	4.3	6.3	−4,545.3
=<84	2.0	0.0	96.6	1.4	3.4	−4,685.3
=<89	2.0	0.0	97.1	0.9	2.9	−4,711.5
=<94	2.0	0.0	97.9	0.1	2.1	−4,750.9
=<100	2.0	0.0	98.0	0.0	2.0	−4,756.3

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	22.6	11.2	0.3:1
=<9	4.5	20.7	46.7	0.3:1
=<14	7.9	15.6	61.0	0.2:1
=<19	14.1	12.3	86.3	0.1:1
=<24	21.1	9.1	94.8	0.1:1
=<29	28.0	7.2	99.2	0.1:1
=<34	35.9	5.6	99.2	0.1:1
=<39	43.8	4.6	99.2	0.0:1
=<44	52.6	3.8	99.2	0.0:1
=<49	62.8	3.2	100.0	0.0:1
=<54	70.8	2.8	100.0	0.0:1
=<59	77.6	2.6	100.0	0.0:1
=<64	84.2	2.4	100.0	0.0:1
=<69	88.7	2.3	100.0	0.0:1
=<74	94.6	2.1	100.0	0.0:1
=<79	95.7	2.1	100.0	0.0:1
=<84	98.6	2.0	100.0	0.0:1
=<89	99.1	2.0	100.0	0.0:1
=<94	99.9	2.0	100.0	0.0:1
=<100	100.0	2.0	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	67.1
5–9	56.8
10–14	54.2
15–19	38.7
20–24	22.1
25–29	15.4
30–34	6.6
35–39	3.7
40–44	1.5
45–49	0.8
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 ($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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

Score	Error	Difference between estimate and observed value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
0–4	−9.9	7.9	8.6	9.5
5–9	+11.2	4.6	5.7	7.0
10–14	+10.5	4.7	5.6	7.4
15–19	−10.2	6.9	7.1	7.7
20–24	+3.2	2.1	2.6	3.5
25–29	−9.6	6.4	6.8	7.5
30–34	+5.1	0.5	0.7	0.8
35–39	−2.6	2.0	2.1	2.4
40–44	+1.2	0.2	0.2	0.3
45–49	+0.5	0.2	0.2	0.3
50–54	+0.1	0.0	0.0	0.1
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 ($3.10/day 2011 PPP line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+1.6	50.0	66.0	77.7
4	+0.6	27.3	33.2	47.3
8	+0.7	18.2	24.1	36.2
16	+0.6	13.0	16.5	24.3
32	+0.3	9.8	12.3	16.6
64	+0.3	6.7	8.3	11.5
128	+0.3	4.8	5.8	8.6
256	+0.3	3.4	4.2	5.4
512	+0.2	2.5	3.1	3.9
1,024	+0.2	1.7	2.0	2.7
2,048	+0.2	1.2	1.5	1.8
4,096	+0.2	0.8	1.0	1.4
8,192	+0.2	0.6	0.7	0.9
16,384	+0.2	0.4	0.5	0.7

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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.7	9.9	0.3	89.1	89.9	−83.6
=<9	2.5	8.1	2.0	87.4	89.9	−33.1
=<14	4.2	6.4	3.7	85.7	90.0	+14.1
=<19	7.0	3.6	7.2	82.2	89.2	+32.5
=<24	8.7	1.9	12.5	76.9	85.6	−17.5
=<29	9.8	0.8	18.2	71.2	81.0	−71.3
=<34	10.0	0.6	25.9	63.5	73.5	−144.1
=<39	10.5	0.2	33.3	56.1	66.5	−214.4
=<44	10.5	0.1	42.0	47.3	57.9	−296.4
=<49	10.6	0.0	52.2	37.2	47.8	−391.9
=<54	10.6	0.0	60.2	29.2	39.8	−467.8
=<59	10.6	0.0	67.0	22.4	33.0	−531.7
=<64	10.6	0.0	73.6	15.8	26.4	−594.0
=<69	10.6	0.0	78.1	11.3	21.9	−636.4
=<74	10.6	0.0	84.0	5.4	16.0	−691.9
=<79	10.6	0.0	85.1	4.3	14.9	−702.7
=<84	10.6	0.0	88.0	1.4	12.0	−729.4
=<89	10.6	0.0	88.5	0.9	11.5	−734.3
=<94	10.6	0.0	89.3	0.1	10.7	−741.8
=<100	10.6	0.0	89.4	0.0	10.6	−742.9

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	73.3	6.9	2.7:1
=<9	4.5	56.1	24.0	1.3:1
=<14	7.9	53.6	39.8	1.2:1
=<19	14.1	49.3	65.6	1.0:1
=<24	21.1	41.0	81.7	0.7:1
=<29	28.0	35.1	92.5	0.5:1
=<34	35.9	27.9	94.5	0.4:1
=<39	43.8	23.9	98.6	0.3:1
=<44	52.6	20.0	99.1	0.3:1
=<49	62.8	16.9	99.9	0.2:1
=<54	70.8	15.0	100.0	0.2:1
=<59	77.6	13.7	100.0	0.2:1
=<64	84.2	12.6	100.0	0.1:1
=<69	88.7	12.0	100.0	0.1:1
=<74	94.6	11.2	100.0	0.1:1
=<79	95.7	11.1	100.0	0.1:1
=<84	98.6	10.8	100.0	0.1:1
=<89	99.1	10.7	100.0	0.1:1
=<94	99.9	10.6	100.0	0.1:1
=<100	100.0	10.6	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 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	85.3
5–9	82.1
10–14	76.4
15–19	70.6
20–24	55.4
25–29	36.9
30–34	22.0
35–39	14.6
40–44	5.9
45–49	2.5
50–54	0.4
55–59	0.2
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 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 $n = 16{,}384$, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	–3.0	4.7	5.5	6.8
5–9	+8.2	4.0	4.7	5.8
10–14	+20.8	5.1	6.0	8.2
15–19	+1.9	3.1	3.7	5.0
20–24	+7.2	3.5	4.1	5.3
25–29	–4.5	3.9	4.3	5.4
30–34	+5.8	1.9	2.3	3.0
35–39	–6.0	4.2	4.4	4.9
40–44	–2.1	1.8	2.0	2.4
45–49	–4.0	2.7	2.9	3.2
50–54	–0.2	0.2	0.3	0.4
55–59	+0.2	0.0	0.0	0.0
60–64	–0.1	0.1	0.2	0.2
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 poorest half of people below 100% of the national line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and observed value			
	Error	Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	−0.5	66.7	78.0	89.8
4	+0.8	30.1	40.7	57.8
8	+1.0	23.0	29.3	39.4
16	+1.0	16.4	20.4	25.8
32	+0.7	11.3	14.4	20.0
64	+0.8	8.3	10.2	13.5
128	+0.8	6.1	7.2	9.9
256	+0.9	4.1	4.9	6.9
512	+0.8	3.0	3.5	4.7
1,024	+0.8	2.1	2.5	3.1
2,048	+0.8	1.6	1.8	2.2
4,096	+0.8	1.0	1.2	1.6
8,192	+0.8	0.7	0.9	1.1
16,384	+0.8	0.5	0.6	0.9

Table 11 (Line marking 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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.9	20.4	0.1	78.6	79.4	−91.1
=<9	3.7	17.6	0.9	77.8	81.5	−61.5
=<14	5.9	15.4	1.9	76.7	82.7	−35.1
=<19	10.2	11.1	3.9	74.8	85.0	+14.2
=<24	14.0	7.3	7.1	71.6	85.6	+65.0
=<29	16.8	4.5	11.2	67.5	84.3	+47.5
=<34	18.4	2.9	17.5	61.2	79.6	+17.9
=<39	19.9	1.4	23.9	54.8	74.7	−12.0
=<44	20.6	0.7	31.9	46.7	67.3	−50.0
=<49	21.2	0.1	41.6	37.1	58.3	−95.2
=<54	21.3	0.0	49.5	29.1	50.4	−132.5
=<59	21.3	0.0	56.3	22.4	43.7	−164.3
=<64	21.3	0.0	62.9	15.8	37.1	−195.2
=<69	21.3	0.0	67.4	11.3	32.6	−216.3
=<74	21.3	0.0	73.3	5.4	26.7	−243.9
=<79	21.3	0.0	74.4	4.3	25.6	−249.3
=<84	21.3	0.0	77.2	1.4	22.7	−262.6
=<89	21.3	0.0	77.8	0.9	22.2	−265.1
=<94	21.3	0.0	78.6	0.1	21.4	−268.8
=<100	21.3	0.0	78.7	0.0	21.3	−269.3

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

Table 12 (Line marking 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	88.4	4.2	7.6:1
=<9	4.5	80.6	17.2	4.1:1
=<14	7.9	75.3	27.9	3.1:1
=<19	14.1	72.4	48.0	2.6:1
=<24	21.1	66.4	65.8	2.0:1
=<29	28.0	59.9	78.8	1.5:1
=<34	35.9	51.2	86.3	1.0:1
=<39	43.8	45.5	93.5	0.8:1
=<44	52.6	39.2	96.6	0.6:1
=<49	62.8	33.7	99.3	0.5:1
=<54	70.8	30.0	99.9	0.4:1
=<59	77.6	27.4	99.9	0.4:1
=<64	84.2	25.3	100.0	0.3:1
=<69	88.7	24.0	100.0	0.3:1
=<74	94.6	22.5	100.0	0.3:1
=<79	95.7	22.2	100.0	0.3:1
=<84	98.6	21.6	100.0	0.3:1
=<89	99.1	21.5	100.0	0.3:1
=<94	99.9	21.3	100.0	0.3:1
=<100	100.0	21.3	100.0	0.3:1

Tables for
the First-Quintile (20th-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	71.3
5–9	63.0
10–14	59.4
15–19	49.5
20–24	32.1
25–29	21.4
30–34	9.8
35–39	5.7
40–44	3.0
45–49	1.1
50–54	0.2
55–59	0.2
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 (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, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	−13.4	9.2	9.5	10.2
5–9	+13.0	4.7	5.9	7.4
10–14	+11.0	4.8	5.7	7.8
15–19	−7.5	5.4	5.7	6.5
20–24	+8.2	2.5	2.9	3.9
25–29	−6.3	4.8	5.2	5.8
30–34	+4.1	1.1	1.3	1.7
35–39	−2.0	1.8	1.9	2.4
40–44	+2.0	0.3	0.4	0.5
45–49	−3.4	2.4	2.5	2.7
50–54	0.0	0.2	0.2	0.3
55–59	+0.2	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 (First-quintile (20th-percentile) line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	**Error**	**90-percent**	**95-percent**	**99-percent**
1	+0.9	50.0	69.0	78.6
4	+0.4	27.7	34.9	48.1
8	+0.7	20.4	25.5	36.4
16	+0.7	13.8	16.9	24.1
32	+0.4	10.4	12.7	16.4
64	+0.5	7.3	8.8	12.1
128	+0.6	5.4	6.5	8.7
256	+0.6	3.8	4.6	6.2
512	+0.5	2.7	3.3	4.2
1,024	+0.5	1.9	2.2	3.1
2,048	+0.5	1.3	1.6	2.0
4,096	+0.5	0.9	1.2	1.5
8,192	+0.5	0.6	0.7	1.0
16,384	+0.5	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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	0.8	12.8	0.2	86.2	87.0	−86.6
=<9	2.9	10.7	1.6	84.8	87.7	−45.4
=<14	4.8	8.8	3.0	83.4	88.2	−6.7
=<19	8.1	5.4	5.9	80.4	88.6	+56.3
=<24	10.4	3.2	10.7	75.7	86.1	+21.5
=<29	11.9	1.7	16.1	70.3	82.2	−18.2
=<34	12.5	1.1	23.4	63.0	75.5	−72.1
=<39	13.1	0.5	30.7	55.7	68.8	−125.7
=<44	13.2	0.4	39.3	47.1	60.3	−189.0
=<49	13.5	0.1	49.2	37.2	50.7	−261.8
=<54	13.6	0.0	57.2	29.2	42.8	−320.7
=<59	13.6	0.0	64.0	22.4	36.0	−370.6
=<64	13.6	0.0	70.6	15.8	29.4	−419.2
=<69	13.6	0.0	75.1	11.3	24.9	−452.3
=<74	13.6	0.0	81.0	5.4	19.0	−495.6
=<79	13.6	0.0	82.1	4.3	17.9	−504.0
=<84	13.6	0.0	84.9	1.4	15.0	−524.8
=<89	13.6	0.0	85.5	0.9	14.5	−528.7
=<94	13.6	0.0	86.3	0.1	13.7	−534.5
=<100	13.6	0.0	86.4	0.0	13.6	−535.3

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	82.1	6.1	4.6:1
=<9	4.5	63.9	21.4	1.8:1
=<14	7.9	61.3	35.5	1.6:1
=<19	14.1	57.7	59.9	1.4:1
=<24	21.1	49.3	76.7	1.0:1
=<29	28.0	42.5	87.4	0.7:1
=<34	35.9	34.8	91.9	0.5:1
=<39	43.8	29.9	96.2	0.4:1
=<44	52.6	25.2	97.4	0.3:1
=<49	62.8	21.6	99.6	0.3:1
=<54	70.8	19.2	100.0	0.2:1
=<59	77.6	17.5	100.0	0.2:1
=<64	84.2	16.1	100.0	0.2:1
=<69	88.7	15.3	100.0	0.2:1
=<74	94.6	14.4	100.0	0.2:1
=<79	95.7	14.2	100.0	0.2:1
=<84	98.6	13.8	100.0	0.2:1
=<89	99.1	13.7	100.0	0.2:1
=<94	99.9	13.6	100.0	0.2:1
=<100	100.0	13.6	100.0	0.2:1

Tables for
the Second-Quintile (40th-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	91.7
5–9	90.0
10–14	86.6
15–19	86.1
20–24	74.3
25–29	54.9
30–34	39.8
35–39	28.8
40–44	12.7
45–49	7.1
50–54	5.3
55–59	1.8
60–64	0.3
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 (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, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	–8.3	4.2	4.2	4.2
5–9	+0.3	2.6	3.0	3.9
10–14	+15.2	5.2	6.2	8.3
15–19	+5.3	2.7	3.3	4.3
20–24	+5.1	3.3	3.9	5.3
25–29	–11.0	7.0	7.2	7.7
30–34	+3.3	2.7	3.3	4.3
35–39	–2.6	2.6	3.2	4.2
40–44	–7.9	5.3	5.6	6.2
45–49	–6.2	4.1	4.3	4.7
50–54	+4.5	0.3	0.3	0.4
55–59	+1.8	0.0	0.0	0.0
60–64	+0.1	0.1	0.2	0.2
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 (Second-quintile (40th-percentile) line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
	Error	90-percent	95-percent	99-percent
1	−1.5	63.0	80.8	89.8
4	+0.2	32.6	40.5	57.1
8	−0.1	23.4	30.1	41.3
16	−0.2	17.6	20.9	26.5
32	−0.5	12.5	14.5	19.2
64	−0.4	8.7	10.6	14.8
128	−0.3	6.3	7.4	10.4
256	−0.2	4.2	5.3	7.1
512	−0.2	3.2	3.6	4.8
1,024	−0.2	2.3	2.6	3.5
2,048	−0.2	1.6	1.9	2.4
4,096	−0.2	1.1	1.4	1.8
8,192	−0.2	0.8	1.0	1.3
16,384	−0.2	0.5	0.7	1.0

Table 11 (Second-quintile (40th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	29.4	0.0	69.6	70.6	−93.4
=<9	4.2	26.2	0.3	69.3	73.5	−71.1
=<14	7.0	23.5	0.9	68.7	75.6	−51.2
=<19	12.1	18.3	2.0	67.5	79.6	−13.9
=<24	17.3	13.1	3.8	65.8	83.0	+26.3
=<29	21.5	8.9	6.5	63.1	84.6	+62.8
=<34	24.8	5.6	11.1	58.4	83.2	+63.3
=<39	27.4	3.1	16.4	53.1	80.5	+45.9
=<44	29.0	1.4	23.6	46.0	75.0	+22.5
=<49	30.2	0.2	32.6	37.0	67.2	−7.1
=<54	30.4	0.0	40.4	29.1	59.5	−33.0
=<59	30.4	0.0	47.2	22.4	52.7	−55.3
=<64	30.4	0.0	53.8	15.8	46.2	−76.9
=<69	30.4	0.0	58.3	11.3	41.7	−91.7
=<74	30.4	0.0	64.2	5.4	35.8	−111.1
=<79	30.4	0.0	65.3	4.3	34.7	−114.8
=<84	30.4	0.0	68.2	1.4	31.8	−124.1
=<89	30.4	0.0	68.7	0.9	31.3	−125.9
=<94	30.4	0.0	69.5	0.1	30.5	−128.5
=<100	30.4	0.0	69.6	0.0	30.4	−128.8

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	3.3	Only poor targeted
=<9	4.5	93.1	13.9	13.5:1
=<14	7.9	88.2	22.9	7.5:1
=<19	14.1	85.5	39.7	5.9:1
=<24	21.1	81.8	56.9	4.5:1
=<29	28.0	76.9	70.8	3.3:1
=<34	35.9	69.0	81.4	2.2:1
=<39	43.8	62.5	89.9	1.7:1
=<44	52.6	55.2	95.3	1.2:1
=<49	62.8	48.1	99.3	0.9:1
=<54	70.8	42.9	99.9	0.8:1
=<59	77.6	39.1	99.9	0.6:1
=<64	84.2	36.1	100.0	0.6:1
=<69	88.7	34.3	100.0	0.5:1
=<74	94.6	32.1	100.0	0.5:1
=<79	95.7	31.8	100.0	0.5:1
=<84	98.6	30.9	100.0	0.4:1
=<89	99.1	30.7	100.0	0.4:1
=<94	99.9	30.4	100.0	0.4:1
=<100	100.0	30.4	100.0	0.4:1

Tables for
the Median (50th-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	95.2
5–9	95.1
10–14	94.8
15–19	92.3
20–24	88.8
25–29	73.7
30–34	64.0
35–39	46.4
40–44	28.2
45–49	19.3
50–54	11.7
55–59	5.9
60–64	1.3
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 (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 $n = 16,384$, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	−4.8	2.4	2.4	2.4
5–9	+1.9	2.2	2.5	3.4
10–14	+13.9	5.5	6.7	8.1
15–19	−0.2	1.8	2.0	2.9
20–24	+12.8	3.4	4.0	5.1
25–29	−7.8	4.9	5.1	5.7
30–34	+11.4	2.9	3.5	4.6
35–39	−4.7	3.8	4.2	5.1
40–44	−4.4	3.6	3.9	4.6
45–49	−2.2	2.1	2.6	3.5
50–54	+6.4	1.1	1.4	1.8
55–59	−0.1	1.9	2.1	2.6
60–64	+0.8	0.3	0.3	0.4
65–69	−0.2	0.3	0.3	0.4
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 (Median (50th-percentile) line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Difference between estimate and observed value			
	Error	Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	−1.2	67.9	77.2	90.3
4	−0.2	34.2	44.3	58.5
8	+0.8	24.8	31.4	44.1
16	+1.2	18.6	22.8	30.4
32	+1.0	12.8	15.5	21.4
64	+1.2	9.2	10.9	13.7
128	+1.3	6.7	8.0	11.1
256	+1.5	4.5	5.4	7.5
512	+1.5	3.4	4.1	5.4
1,024	+1.5	2.4	2.9	3.8
2,048	+1.5	1.7	2.0	2.6
4,096	+1.5	1.2	1.5	2.0
8,192	+1.4	0.9	1.1	1.4
16,384	+1.4	0.6	0.7	0.9

Table 11 (Median (50th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	38.4	0.0	60.6	61.6	−94.9
=<9	4.4	35.1	0.2	60.4	64.8	−77.4
=<14	7.5	32.0	0.4	60.2	67.6	−61.0
=<19	13.3	26.2	0.9	59.7	73.0	−30.6
=<24	19.2	20.2	1.9	58.6	77.9	+2.3
=<29	24.4	15.0	3.5	57.0	81.5	+33.0
=<34	29.1	10.4	6.9	53.7	82.8	+64.8
=<39	33.1	6.3	10.7	49.9	83.1	+73.0
=<44	36.1	3.3	16.4	44.1	80.3	+58.3
=<49	38.4	1.0	24.3	36.2	74.7	+38.3
=<54	39.1	0.4	31.8	28.8	67.9	+19.4
=<59	39.3	0.1	38.3	22.3	61.6	+2.9
=<64	39.4	0.0	44.8	15.8	55.2	−13.6
=<69	39.4	0.0	49.3	11.3	50.7	−25.0
=<74	39.4	0.0	55.2	5.4	44.8	−39.9
=<79	39.4	0.0	56.3	4.3	43.7	−42.8
=<84	39.4	0.0	59.1	1.4	40.9	−50.0
=<89	39.4	0.0	59.7	0.9	40.3	−51.3
=<94	39.4	0.0	60.5	0.1	39.5	−53.3
=<100	39.4	0.0	60.6	0.0	39.4	−53.6

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	2.5	Only poor targeted
=<9	4.5	96.1	11.1	24.5:1
=<14	7.9	94.9	19.0	18.7:1
=<19	14.1	93.9	33.6	15.4:1
=<24	21.1	90.9	48.7	10.0:1
=<29	28.0	87.4	62.0	6.9:1
=<34	35.9	80.9	73.7	4.2:1
=<39	43.8	75.7	84.0	3.1:1
=<44	52.6	68.8	91.6	2.2:1
=<49	62.8	61.2	97.5	1.6:1
=<54	70.8	55.2	99.1	1.2:1
=<59	77.6	50.7	99.7	1.0:1
=<64	84.2	46.8	99.9	0.9:1
=<69	88.7	44.5	100.0	0.8:1
=<74	94.6	41.7	100.0	0.7:1
=<79	95.7	41.2	100.0	0.7:1
=<84	98.6	40.0	100.0	0.7:1
=<89	99.1	39.8	100.0	0.7:1
=<94	99.9	39.5	100.0	0.7:1
=<100	100.0	39.4	100.0	0.7:1

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	99.2
15–19	95.6
20–24	94.3
25–29	88.7
30–34	79.1
35–39	67.0
40–44	48.2
45–49	34.3
50–54	23.7
55–59	17.8
60–64	2.9
65–69	0.8
70–74	0.5
75–79	0.0
80–84	0.0
85–89	0.0
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, 2014 scorecard applied to the 2014 validation sample

		Difference between estimate and observed value		
		Confidence interval (±percentage points)		
Score	Error	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	+3.0	1.6	1.8	2.3
10–14	−0.6	0.4	0.4	0.4
15–19	+0.9	1.6	1.9	2.7
20–24	−2.3	1.7	1.7	1.9
25–29	0.0	1.8	2.1	2.7
30–34	+10.9	3.0	3.4	4.4
35–39	−2.5	2.9	3.6	4.8
40–44	−6.7	4.8	5.0	5.4
45–49	+3.3	2.4	2.8	3.8
50–54	+8.4	1.9	2.3	3.1
55–59	+9.1	2.0	2.3	2.8
60–64	−11.7	7.4	7.6	8.4
65–69	+0.1	0.4	0.5	0.7
70–74	−0.6	0.6	0.7	0.9
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 (Third-quintile (60th-percentile) line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size n	Error	Difference between estimate and observed value		
		Confidence interval (±percentage points)		
		90-percent	95-percent	99-percent
1	−1.1	66.3	72.4	88.3
4	+0.3	31.7	41.6	56.7
8	+0.6	24.2	28.9	40.9
16	+0.7	17.7	20.9	29.5
32	+0.7	12.7	16.0	21.7
64	+0.7	9.2	11.3	15.1
128	+0.7	6.5	8.2	12.3
256	+0.8	4.5	5.7	7.6
512	+0.8	3.2	4.1	5.4
1,024	+0.9	2.5	2.9	4.0
2,048	+0.9	1.7	2.0	2.5
4,096	+0.9	1.2	1.4	1.8
8,192	+0.9	0.9	1.0	1.4
16,384	+0.9	0.6	0.7	1.0

Table 11 (Third-quintile (60th-percentile) line): Percentages of households by cut-off score and targeting classification, along with the hit rate and BPAC, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	48.3	0.0	50.7	51.7	−95.9
=<9	4.5	44.8	0.1	50.7	55.1	−81.7
=<14	7.8	41.5	0.1	50.6	58.4	−68.2
=<19	13.8	35.5	0.3	50.4	64.1	−43.4
=<24	20.5	28.8	0.6	50.1	70.6	−15.5
=<29	26.5	22.8	1.5	49.2	75.8	+10.6
=<34	32.4	16.9	3.5	47.2	79.6	+38.6
=<39	38.0	11.2	5.8	45.0	83.0	+66.0
=<44	42.9	6.4	9.7	41.0	83.9	+80.4
=<49	46.5	2.8	16.3	34.4	80.9	+67.0
=<54	48.1	1.2	22.8	28.0	76.0	+53.8
=<59	48.7	0.6	28.9	21.8	70.5	+41.3
=<64	49.2	0.1	35.0	15.7	64.8	+28.9
=<69	49.2	0.1	39.5	11.2	60.4	+19.9
=<74	49.3	0.0	45.3	5.4	54.7	+8.0
=<79	49.3	0.0	46.5	4.3	53.5	+5.7
=<84	49.3	0.0	49.3	1.4	50.7	−0.0
=<89	49.3	0.0	49.8	0.9	50.2	−1.1
=<94	49.3	0.0	50.6	0.1	49.4	−2.7
=<100	49.3	0.0	50.7	0.0	49.3	−2.9

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	2.0	Only poor targeted
=<9	4.5	98.7	9.1	73.1:1
=<14	7.9	99.0	15.8	96.5:1
=<19	14.1	97.6	27.9	39.8:1
=<24	21.1	97.0	41.6	32.5:1
=<29	28.0	94.7	53.8	18.0:1
=<34	35.9	90.2	65.8	9.2:1
=<39	43.8	86.8	77.2	6.6:1
=<44	52.6	81.6	87.0	4.4:1
=<49	62.8	74.1	94.3	2.9:1
=<54	70.8	67.9	97.5	2.1:1
=<59	77.6	62.8	98.8	1.7:1
=<64	84.2	58.4	99.8	1.4:1
=<69	88.7	55.5	99.9	1.2:1
=<74	94.6	52.1	100.0	1.1:1
=<79	95.7	51.5	100.0	1.1:1
=<84	98.6	50.0	100.0	1.0:1
=<89	99.1	49.7	100.0	1.0:1
=<94	99.9	49.3	100.0	1.0:1
=<100	100.0	49.3	100.0	1.0:1

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	99.8
20–24	99.6
25–29	99.3
30–34	98.5
35–39	95.2
40–44	89.0
45–49	76.7
50–54	68.2
55–59	55.1
60–64	28.6
65–69	22.3
70–74	8.6
75–79	2.1
80–84	0.6
85–89	0.0
90–94	0.0
95–100	0.0

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, 2014 scorecard applied to the 2014 validation sample

| | | Difference between estimate and observed value | | |
| | | Confidence interval (±percentage points) | | |
Score	Error	90-percent	95-percent	99-percent
0–4	0.0	0.0	0.0	0.0
5–9	0.0	0.0	0.0	0.0
10–14	0.0	0.0	0.0	0.0
15–19	−0.2	0.1	0.1	0.1
20–24	−0.3	0.2	0.2	0.2
25–29	−0.6	0.3	0.3	0.4
30–34	+0.3	0.6	0.7	0.9
35–39	−0.6	1.1	1.3	1.6
40–44	+0.4	2.0	2.4	3.0
45–49	−2.6	2.2	2.4	3.2
50–54	+5.7	3.1	3.6	5.2
55–59	+20.9	2.9	3.5	4.6
60–64	−16.1	9.8	10.1	10.7
65–69	+8.8	2.3	2.6	3.9
70–74	−1.1	1.9	2.3	3.0
75–79	−1.3	1.6	1.9	2.6
80–84	−1.1	1.1	1.2	1.5
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 (Fourth-quintile (80th-percentile) line): Average errors (differences between estimated and observed poverty rates) at a point in time by sample size, with confidence intervals, for 1,000 bootstraps of various sample sizes, 2014 scorecard applied to the 2014 validation sample

Sample Size	Difference between estimate and observed value			
		Confidence interval (±percentage points)		
n	Error	90-percent	95-percent	99-percent
1	+0.1	56.6	74.0	86.8
4	+0.3	31.7	41.4	54.0
8	+0.5	23.6	29.7	41.3
16	+0.8	16.9	20.8	27.7
32	+0.8	12.3	14.4	20.7
64	+0.8	8.7	10.3	13.6
128	+0.5	6.0	7.0	10.2
256	+0.5	4.4	5.1	7.0
512	+0.6	3.0	3.7	5.2
1,024	+0.6	2.1	2.6	3.8
2,048	+0.6	1.5	1.8	2.5
4,096	+0.6	1.1	1.3	1.7
8,192	+0.6	0.8	0.9	1.2
16,384	+0.6	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, 2014 scorecard applied to the 2014 validation sample

Score	Inclusion: < poverty line correctly targeted	Undercoverage: < poverty line mistakenly non-targeted	Leakage: =>poverty line mistakenly targeted	Exclusion: =>poverty line correctly non-targeted	Hit rate Inclusion + Exclusion	BPAC See text
=<4	1.0	70.3	0.0	28.6	29.6	–97.2
=<9	4.5	66.8	0.0	28.6	33.2	–87.3
=<14	7.9	63.5	0.0	28.6	36.5	–77.9
=<19	14.1	57.2	0.0	28.6	42.7	–60.4
=<24	21.1	50.2	0.0	28.6	49.7	–40.8
=<29	27.9	43.4	0.0	28.6	56.5	–21.6
=<34	35.7	35.7	0.2	28.4	64.1	+0.3
=<39	43.2	28.2	0.6	28.0	71.2	+21.9
=<44	51.2	20.2	1.4	27.3	78.4	+45.4
=<49	59.2	12.1	3.5	25.1	84.3	+70.9
=<54	64.6	6.8	6.2	22.4	87.0	+89.8
=<59	67.4	3.9	10.1	18.5	85.9	+85.8
=<64	69.9	1.5	14.3	14.3	84.2	+80.0
=<69	70.7	0.7	18.0	10.6	81.3	+74.8
=<74	71.2	0.1	23.4	5.3	76.5	+67.3
=<79	71.3	0.1	24.4	4.2	75.5	+65.8
=<84	71.3	0.0	27.2	1.4	72.8	+61.9
=<89	71.3	0.0	27.7	0.9	72.2	+61.1
=<94	71.3	0.0	28.5	0.1	71.5	+60.0
=<100	71.3	0.0	28.6	0.0	71.3	+59.9

Inclusion, undercoverage, leakage, and exclusion are 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 (that is, have consumption below the poverty line), the share of poor households who are targeted, and the number of poor households who are successfully targeted (inclusion) per non-poor household mistakenly targeted (leakage), 2014 scorecard applied to the 2014 validation sample

Targeting cut-off	% all HHs who are targeted	% targeted HHs who are poor	% poor HHs who are targeted	Poor HHs targeted per non-poor HH targeted
=<4	1.0	100.0	1.4	Only poor targeted
=<9	4.5	100.0	6.4	Only poor targeted
=<14	7.9	100.0	11.0	Only poor targeted
=<19	14.1	100.0	19.8	Only poor targeted
=<24	21.1	99.9	29.6	1,559.6:1
=<29	28.0	99.9	39.2	729.1:1
=<34	35.9	99.3	50.0	145.4:1
=<39	43.8	98.6	60.5	70.7:1
=<44	52.6	97.4	71.7	36.9:1
=<49	62.8	94.3	83.0	16.7:1
=<54	70.8	91.2	90.5	10.4:1
=<59	77.6	86.9	94.5	6.6:1
=<64	84.2	83.0	98.0	4.9:1
=<69	88.7	79.7	99.0	3.9:1
=<74	94.6	75.3	99.8	3.0:1
=<79	95.7	74.5	99.9	2.9:1
=<84	98.6	72.4	100.0	2.6:1
=<89	99.1	72.0	100.0	2.6:1
=<94	99.9	71.4	100.0	2.5:1
=<100	100.0	71.3	100.0	2.5:1