# Simple Poverty Scorecard® Poverty-Assessment Tool Mexico

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Un índice más actualizado que éste en Castellano está en `SimplePovertyScorecard.com`.
A more-current scorecard than this one is in English at `SimplePovertyScorecard.com`.

## Abstract

The Simple Poverty Scorecard-brand poverty-assessment tool uses ten low-cost indicators from Mexico's 2008 National Household Survey of Income and Expenditure to estimate the likelihood that a household has income 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 Mexico to measure poverty rates, to track changes in poverty rates over time, and to segment clients for targeted services.

## Acknowledgements

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# Simple Poverty Scorecard® Poverty-Assessment Tool

| | | | Name | Identifier |
|---|---|---|---|---|
| Interview ID: | | | | |
| Interview date: | | Participant: | | |
| Country: | MEX | Field agent: | | |
| Scorecard: | 003 | Service point: | | |
| Sampling wgt.: | | Number of household members: | | |

| Indicator | Value | Points | Score |
|---|---|---|---|
| 1. How many household members are ages 0 to 17? | A. Four or more | 0 | |
| | B. Three | 7 | |
| | C. Two | 11 | |
| | D. One | 20 | |
| | E. None | 28 | |
| 2. What is the highest level that the female head/ spouse has passed in school? | A. None | 0 | |
| | B. Up to third grade | 5 | |
| | C. Fourth grade through high school | 7 | |
| | D. College preparatory 1–3 | 10 | |
| | E. Normal/technical/commercial | 14 | |
| | F. Professional, master's or doctorate | 20 | |
| | G. No female head/spouse | 14 | |
| 3. How many household members have a written employment contract for a salary or for an indefinite period? | A. None | 0 | |
| | B. One | 6 | |
| | C. Two or more | 16 | |
| 4. What is the main material of the floor of this residence? | A. Dirt | 0 | |
| | B. Cement/concrete | 2 | |
| | C. Other | 7 | |
| 5. How is water supplied to the residence's toilet for flushing? | A. No toilet, or no water supply | 0 | |
| | B. Carried by bucket | 1 | |
| | C. Piped | 3 | |
| 6. Does the residence have a medium sink for washing dishes? | A. No | 0 | |
| | B. Yes | 4 | |
| 7. What fuel do you usually use to cook or heat food? | A. Firewood | 0 | |
| | B. Other | 2 | |
| 8. Does the household have a blender? | A. No | 0 | |
| | B. Yes | 4 | |
| 9. Does the household have an electric iron? | A. No | 0 | |
| | B. Yes | 4 | |
| 10. How many televisions does the household have? | A. None | 0 | |
| | B. One | 0 | |
| | B. Two | 5 | |
| | C. Three or more | 12 | |



**Score:**

# Simple Poverty Scorecard® Poverty-Assessment Tool Mexico

## 1. Introduction

Pro-poor programs in Mexico can use the Simple Poverty Scorecard poverty-assessment tool to estimate the likelihood that a household has income below a given poverty line, to measure groups' poverty rates at a point in time, to track changes in groups' poverty rates over time, and to segment clients for targeted services.

The direct approach to poverty measurement via surveys is difficult and costly, asking households about a lengthy list of items. As a case in point, Mexico's 2008 National Household Survey of Income and Expenditure (ENIGH, for its initials in Spanish) runs 212 pages.

In contrast, the indirect approach via the scorecard is simple, quick, and inexpensive. It uses ten verifiable indicators (such as "What fuel do you usually use to cook or heat food?" or "How many televisions does the household have?") to get a score that is highly correlated with poverty status as measured by income from the exhaustive survey.

The scorecard differs from "proxy means tests" (Coady, Grosh, and Hoddinott, 2002) in that it is tailored to the capabilities and purposes not of national governments but rather of local, pro-poor organizations. The feasible poverty-measurement options for these local organizations are typically subjective and relative (such as participatory

wealth ranking by skilled field workers) or blunt (such as rules based on land-ownership or housing quality). These approaches may be costly, their results are not comparable across organizations nor across countries, and their accuracy and precision are unknown.

Suppose an organization wants to know what share of its participants are below a poverty line, perhaps because it wants to relate is participants' poverty status to the Millennium Development Goals' $1.25/day poverty line at 2005 purchase-power parity. Or an organization might want to report how many of its participants are among the poorest half of people below the national poverty line (as required of USAID microenterprise partners). Or an organization might want to measure movement across a poverty line (see, for example, Daley-Harris, 2009). In all these cases, what is needed is an income-based, objective tool with known accuracy. While income surveys are costly even for governments, many small, local organizations can implement an inexpensive scorecard that can serve for monitoring, management, and targeting.

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, 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 three decades, but they are rarely used to inform decisions by local pro-poor organizations. This is not because they do not work, but because they are presented (when they are presented at all) as tables of regression

coefficients incomprehensible to non-specialists (with cryptic indicator names such as "`LGHHSZ_2`", negative points, and points with many decimal places). Thanks to the predictive-modeling phenomenon known as the "flat max", simple scorecards are about as accurate as complex ones.

The technical approach here is also 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 standard 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 the 2008 ENIGH conducted by Mexico's *Instituto Nacional de Estadística, Geografía e Informática*. 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

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 five to 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 income below a given poverty line.

Second, the scorecard can estimate the poverty rate of a group of households at a point in time. This is simply the average poverty likelihood among the households in the group.

Third, the scorecard can estimate changes in the poverty rate for a given group of households (or for two independent representative samples of households from the same population) between two points in time. This estimate is the change in the average poverty likelihood of the group(s) of households over time.

The scorecard can also be used for targeting services to poorer households. To help managers choose a targeting cut-off, this paper reports several measures of targeting accuracy for a range of possible cut-offs.

This paper presents a single scorecard whose indicators and points are derived from household income data and Mexico's national asset poverty line. Scores from this scorecard are calibrated to poverty likelihoods for eight poverty lines.

The scorecard is constructed and calibrated using a sub-sample of the data from the 2008 ENIGH. Its accuracy is then validated on a different sub-sample from the 2008 ENIGH as well as on the entire 2004, 2005, and 2006 ENIGH surveys.[1] While all three scoring estimators are unbiased when applied to the population from which they were derived (that is, they match the true value on average in repeated samples from the

[1] Accuracy is not tested with the 2002 ENIGH because its question about educational attainment is incompatible with later surveys.

same population from which the scorecard was built), they are—like all predictive models—biased to some extent when applied to a different population.[2]

Thus, while the indirect scoring approach is less costly than the direct survey approach, it is also biased in practice. (The direct survey approach is unbiased by definition.) There is bias because scoring must assume that the future relationships between indicators and poverty will be the same as in the data used to build the scorecard (this assumption in particular is not met for the 2008 ENIGH, compared with earlier survey rounds). It must also assume that these relationships will be the same in all sub-groups as in the population as a whole.[3] Of course, these assumptions—ubiquitous and inevitable in predictive modeling—hold only partly.

When applied to the 2008 validation sample for Mexico with $n = 16{,}384$, the difference between scorecard estimates of groups' poverty rates and the true rates at a point in time is –0.4 percentage points for the national asset poverty line. Across all eight lines, the average absolute difference is 0.8 percentage points, and the maximum absolute difference is 1.2 percentage points. Because the 2008 validation sample is representative of the same population as the data that was used to construct the scorecard and because all the data comes from the same time frame, the scorecard

[2] Examples of "different populations" include nationally representative samples at another point in time or a non-representative sub-group (Tarozzi and Deaton, 2007).
[3] Bias may also result from changes in the quality of data collection over time, from changes over time in the real value of poverty lines, from imperfect adjustment of poverty lines to account for differences in cost-of-living across time or geographic regions, or from sampling variation across surveys.

estimators are unbiased and these observed differences are due to sampling variation; the average difference would be zero if the whole 2008 ENIGH were to be repeatedly redrawn and divided into sub-samples before repeating the entire scorecard-building and accuracy-testing process.

For $n = 16{,}384$, the 90-percent confidence intervals for these estimates are +/– 0.6 percentage points or less. For $n = 1{,}024$, these intervals are +/–2.4 percentage points or less.

When the scorecard built from the 2008 construction and calibration samples is applied both to the 2008 validation sample and to the entire 2006 ENIGH with $n =$ 16,384 to measure change between two points in time, the difference between scorecard estimates and true values for changes in groups' poverty rates is +4.9 percentage points for the national asset line. This large difference is because the scorecard assumes that August 2006 (before the recent economic crisis) is the same as August 2008 (during the crisis), and so it greatly overestimates poverty in 2006. This is an inherent property of scorecards; they assume no change through time, and they cannot predict changes—such as the recent economic crisis—that depart from past trends. Thus, while the true change was +6.1 percentage points from 2006 to 2008 (Figure 2), the scorecard estimates a change of +11.0 percentage points. Across all eight lines, the average difference between the estimated change and the true change for 2008 and 2006 is about +3.6 percentage points. For $n = 16{,}384$, the 90-percent confidence intervals for these estimates of change are +/–0.8 percentage points or less.

Estimated changes are less inaccurate for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH (average difference of +1.4 percentage points), implying that the effect of the economic crisis as of August 2008 was to put poverty in Mexico more or less back to where it was in 2005. In any case, the accuracy of the scorecard here will depend on whether it is applied in periods that resemble August 2008.

Section 2 below describes data and poverty lines. Section 3 places the new scorecard here in the context of existing poverty-assessment tools for Mexico. Sections 4 and 5 describe scorecard construction and offer practical guidelines for use. Sections 6 and 7 detail the estimation of households' poverty likelihoods and of groups' poverty rates at a point in time. Section 8 discusses estimating changes in poverty rates, and Section 9 covers targeting. The final section is a summary.

# 2. Data and poverty lines

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

## 2.1 Data

The scorecard is based on data from the 29,403 households in the 2008 ENIGH.[4] This is the best, most recent national income survey available for Mexico. Households are randomly divided into three sub-samples (Figure 2):

[4] In 2008, the average surveyed household represented about 900 households. To prevent the breakdown of some bootstrap estimates (see Singh, 1998), 222 households who each represented more than 5,000 households were omitted from scorecard analysis for 2008, 108 were omitted for 2006, 180 were omitted for 2005, and 216 were omitted for 2004. Furthermore, before random assignment to sub-samples, remaining households representing more than 4,000 households were duplicated and their weights divided by two. Thus, the newly replicated pair of households together represent the same number of households as the original heavily weighted household. Replication helps spread heavily weighted households across the construction, calibration, and validation sub-samples, which in turn reduces the influence of any single heavily weighted household on scorecard construction, calibration, and validation. This does not affect the

- *Construction* for selecting indicators and points
- *Calibration* for associating scores with poverty likelihoods
- *Validation* for measuring accuracy on data not used in construction or calibration

In addition, the 20,480, 22,894, and 22,130 households in the 2004, 2005, and 2006 ENIGH are used in the validation of estimates of changes in poverty rates for two independent samples between two points in time.

## 2.2 Poverty rates and poverty lines

### 2.2.1 Rates

As a general definition, the *poverty rate* is the share of people in a given group who live in households whose total household income (divided by the number of members) is below a given poverty line.

Beyond this general definition, there two special cases, *household-level poverty rates* and *person-level poverty rates*. With household-level rates, each household is counted as if it had only one person, regardless of true household size, so all households are counted equally. With person-level rates (the "head-count index"), each household is weighted by the number of people in it, so larger households have greater weight.

For example, consider a group of two households, the first with one member and the second with two members. Suppose further that the first household has per-capita income above a poverty line (it is "non-poor") and that the second household has per-

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unbiasedness of scoring estimators, but it does increase precision and thus decreases the average difference between estimates and true values in any given sample.

capita income below a poverty line (it is "poor"). The household-level rate counts both households as if they had only one person and so gives a poverty rate for the group of 1 ÷ (1 + 1) = 50 percent. In contrast, the person-level rate weighs each household by the number of people in it and so gives a poverty rate for the group of 2 ÷ (1 + 2) = 67 percent.

Whether the household-level rate or the person-level rate is most relevant depends on the situation. If an organization's "participants" include all the people in a household, then the person-level rate is relevant. Governments, for example, are concerned with the well-being of their people, regardless of how those people are arranged in households, so governments typically report person-level poverty rates.

If an organization has only one "participant" per household, however, then the household-level rate is relevant. For example, if a microlender has only one borrower in a household, then it might want to report household-level poverty rates.

The scorecard is constructed using the 2008 ENIGH and household-level lines, scores are calibrated to household-level poverty likelihoods, and accuracy is measured for household-level rates. This use of household-level rates reflects the belief that they are the most relevant for most pro-poor organizations.

In any case, organizations can estimate person-level poverty rates by taking a household-size-weighted average of the household-level poverty likelihoods. It is also possible to construct a scorecard based on person-level lines, to calibrate scores to

person-level likelihoods, and to measure accuracy for person-level rates, but it is not done here.

### 2.2.2 Poverty lines

Based on Mexico's complete 2002, 2004, 2005, 2006, and 2008 ENIGH, Figure 3 reports poverty rates and poverty lines by urban/rural and for all-Mexico at both the household level and the person level.

Mexico's three national poverty lines are defined in terms of income (Comité Técnico para la Medición de la Pobreza, 2002). Usually, expenditure—not income—is preferred for measuring poverty (Deaton and Zaidi, 2002). In Mexico, however, income and expenditure both give about the same poverty rates and about the same changes in poverty rates over time (de la Torre, 2005). Furthermore, de la Torre points out that income tracks expenditure closely for households in the poorest four deciles. Finally, the measure of income in Mexico includes the value of self-produced/self-consumed goods as well as the rental value of owner-occupied housing, two values that are usually omitted from income and whose usual omission from income accounts for much of the typical preference for expenditure. All these factors suggest that for poverty measurement in Mexico, income is more or less equivalent to expenditure.

The first national poverty line represents the income required for basic nutrition (Comité Técnico para la Medición de la Pobreza, 2002; Rascón Ramírez, 2002). In 2008, this "food" line is MXN31.21 per person per day in urban areas and MXN23.23 in rural areas, implying household-level poverty rates of 8.2 percent and 26.3 percent (Figure 3).

The second national poverty line (the *capacidades* or capacity line) is the food line plus the income required for basic education and health care. In 2008, the capacity line is MXN38.28 per person per day in urban areas and MXN27.47 in rural areas, giving household-level poverty rates of 13.6 percent and 32.7 percent (Figure 3).

Finally, the third national poverty line (the *patrimonio* or asset line) is the capacity line plus the income required for clothing, shoes, housing, and transportation. The scorecard in this paper is constructed using this asset line. In 2008, this line is MXN62.62 per person per day in urban areas and MXN42.16 in rural areas, giving household-level poverty rates of 33.3 percent and 53.6 percent (Figure 3).

For Mexico as a whole, poverty rates for these three lines increased an average of about 3.7 percentage points from 2006 to 2008, decreased an average of about 3.3 percentage points from 2005 to 2006, and decreased an average of about 0.6 percentage points from 2004 to 2005 (Figure 2). Due to the economic crisis, poverty rates in Mexico in 2008 are very close to what they were in 2004.

Because local pro-poor organizations may want to use different or various poverty lines, this paper calibrates scores from its single scorecard to poverty likelihoods for eight lines:

- National food
- National capacity
- National asset
- 125% of national asset
- 150% of national asset
- USAID "extreme"
- USD1.25/day 2005 PPP
- USD2.50/day 2005 PPP

The 125-percent asset line and the 150-percent asset line are multiples of the national asset line.

The USAID "extreme" line is defined as the median income of people (not households) below the national line (U.S. Congress, 2002).

The USD1.25/day line (2005 PPP) is derived from:

- 2005 PPP exchange rate for "individual consumption expenditure by households" (International Comparison Project, 2008): MXN7.65 per $1.00
- Price deflators from Banco de México:[5] 100.3315 for August 2002, 111.4331 for August 2004, 115.2967 for August 2005, 120.1828 for August 2006, and 134.7458 for August 2008, along with 116.3710 for 2005 on average

[5] `http://www.banxico.org.mx/polmoneinflacion/estadisticas/indicesPrecios/indicesPreciosConsumidor.html`, accessed 31 July 2009, using the *canasta básica* (basic bundle).

Using the formula in Sillers (2006), the USD1.25/day 2005 PPP line for Mexico as a whole in August 2008 is:

$$(\text{2005 PPP exchange rate}) \cdot \text{USD1.25} \cdot \frac{\text{CPI}_{\text{August 2008}}}{\text{CPI}_{\text{Ave. 2005}}} =$$
$$\left(\frac{\text{MXN7.65}}{\text{USD1.00}}\right) \cdot \text{USD1.25} \cdot \frac{134.7458}{116.3710} = \text{MXN11.07.}$$

The 2002, 2004, 2005, and 2006 all-Mexico USD1.25/day 2005 PPP lines are computed in the same way. The USD2.50/day line is twice the USD1.25/day line.

The 2005 PPP lines above apply to Mexico as a whole. These are adjusted for urban/rural differences in cost-of-living as implicitly reflected in the national food poverty lines using:

- $L$, a given national-level PPP poverty line
- $p_i$, population proportion by urban/rural ($p_{urban}$ is 0.61822, 0.62521, 0.62894, 0.63250, and 0.63972 for 2002, 2004, 2005, 2006, and 2008)
- $\pi_i$, national food poverty line by urban/rural

For example, the cost-of-living-adjusted poverty line $L_{urban,\ 2008}$ is:

$$L_{urban,2008} = \frac{L \cdot \pi_{urban,2008}}{p_{urban,2008} \cdot \pi_{urban,2008} + \left(1 - p_{urban,2008}\right) \cdot \pi_{rural,2008}},$$
$$= \frac{11.07 \cdot 31.21}{0.63972 \cdot 31.21 + (1 - 0.63972) \cdot 23.23} = 12.20.$$

The all-Mexico poverty lines $L$ in Figure 3 are the household- or person-weighted average of the urban and rural lines $L_i$, with the differences in the lines reflecting urban/rural differences in the cost of living.

# 3. Context of poverty-assessment tools for Mexico

This section discusses existing Mexico poverty-assessment tools in terms of their goals, methods, poverty lines, indicators, accuracy, and precision. The relative strengths of the new scorecard here are:

- Its estimates are tested out-of-sample, and accuracy, precision, and formulas for standard errors are reported
- It is based on the largest sample and on the latest nationally representative data
- Its accuracy is good enough for most of its likely purposes

## 3.1 López-Calva *et al.*

López-Calva *et al.* (2005) use poverty-assessment tools to construct a "poverty map" (Elbers, Lanjouw, and Lanjouw, 2003) to estimate average income at the level of Mexico's municipalities. Their goal is to improve the policy process by raising awareness through detailed information on the geographic distribution of poverty.

López-Calva *et al.* build ten tools (urban and rural for five groupings of states) using stepwise ordinary least squares on the logarithm of per-capita income for households in the 2000 ENIGH, using only indicators also in the 2000 census.

They then apply the resulting tools to households in the 2000 census to estimate average income levels (not poverty rates) by municipality and state. These estimates are more precise for these smaller areas than would be possible with only ENIGH data. They then make "poverty maps" that quickly show how average income varies across municipalities in a way that makes sense to lay people.

Poverty mapping in López-Calva *et al.* and the scorecard in this paper are similar in that they both:

- Build tools with nationally representative survey data and then apply them to other data on sub-groups that may not be nationally representative
- Use simple, verifiable indicators that are quick and inexpensive to collect
- Provide unbiased estimates when their assumptions hold
- Can be used to estimate poverty rates for groups
- Seek to be useful in practice and so aim to be understood by non-specialists

Strengths of poverty mapping include that it:

- Has formally established theoretical properties
- Can be applied straightforwardly to measures of well-being beyond poverty rates
- Requires less data for tool construction and calibration
- Includes community-level indicators
- Uses only indicators that appear in a census

Strengths of the scorecard include that it:

- Is simpler in terms of both construction and application
- Tests accuracy empirically
- Associates poverty likelihoods with scores non-parametrically
- Uses judgment and theory in scorecard construction to reduce overfitting
- Estimates poverty likelihoods for individual households
- Reports simple formulas for standard errors

The basic difference between the two approaches is that poverty mapping seeks to help governments design pro-poor policies, while the scorecard seeks to help small, local pro-poor organizations to manage their outreach when implementing policies.[6]

[6] Another apparent difference is that the developers of the poverty-mapping approach say that it is too inaccurate to be used for targeting individual households or persons, while Schreiner (2008c) supports such targeting as a legitimate, potentially useful application of the scorecard.

López-Calva *et al.* use the following indicators in their tools for Mexico:

- Demographics:
    - — Logarithm of household size
    - — Share of household members older than 60
    - — Share of household members younger than 6
    - — Share of household members who are women
    - — Share of children who are girls
    - — Number of children
    - — Number of children younger than 12
    - — Structure of headship
    - — Marital status of head
- Education:
    - — Lowest grade passed by a household member
    - — Highest grade passed by a household member
    - — Highest grade passed by the household head (and its square)
    - — Share of household members under 15 who are illiterate
- Employment by head:
    - — Hours worked
    - — Whether self-employed
    - — Job description
- Residence characteristics:
    - — Floors
    - — Walls
    - — Roof
    - — Water supply
    - — Sewer connection
    - — Fuel for cooking
    - — Whether anyone sleeps in the kitchen
    - — Tenancy status
- Ownership of durable assets:
    - — Blender
    - — Television
    - — Land-line telephone
    - — Video-game machine
    - — Washing machine
    - — Refrigerator
    - — Computer
    - — Water heater
    - — Automobile

- Community characteristics:
    - Average low temperature
    - Average high temperature
    - Average annual rainfall
- Municipality characteristics:
    - Composition of employment by sector
    - Share of population that is literate
    - Share of population that speaks only one language
    - Average people per room
    - Share of households with a dirt floor
    - Share of population that is indigenous
    - Infant mortality rate
- State characteristics:
    - Share of post-secondary schools
    - Average people per room
    - Nurses per person
    - Rate of use of medical services

The five urban tools are built using about 1,300 households and 21 indicators each, and the five rural tools are built using about 600 households and 12 indicators each.

Because the census measure of income differs from that in ENIGH, López-Calva *et al.* do not test accuracy out-of-sample, that is, using data that was not also used to construct the tool. Furthermore, even though a central strength of the poverty-mapping approach (like the the scorecard approach here) is that provides estimates of standard errors, López-Calva *et al.* do not report them.

The poverty maps in López-Calva *et al.* stand out because they have actually been used, informing federal budget distributions to local governments, leading to targeted interventions in the 50 poorest municipalities, and generally increasing awareness and improving the quality of the public debate on poverty and policy (López-

Calva, Rodríguez-Chamussy, and Székely, 2007). Still, the complexity of the methods has hindered understanding and thus slowed acceptance.[7]

## 3.2 Tarozzi and Deaton, and Demombynes *et al.*

A broader debate on the general accuracy of the poverty-mapping approach (and by extension, of the poverty-scoring approach here) has played out against the background of Mexico in Tarozzi and Deaton (2007) and Demombynes *et al.* (2007).

### 3.2.1 Tarozzi and Deaton

Tarozzi and Deaton point out that sub-groups in a population (such as a given municipality, or the clients of a given pro-poor organization) may differ from the population as a whole in ways that are both linked with poverty and not fully captured by a poverty map or scorecard. These differences cause estimates based on poverty mapping/scoring to differ from true values, so that reports of accuracy should include not only standard errors but also differences from true values.

Tarozzi and Deaton use Monte Carlo tests to show that sub-group differences can matter. To show that their concern is not merely theoretical, they also use the 2000 Mexico census (the same data source as in López-Calva *et al.*) to create synthetic household surveys of rural households in Chiapas, Oaxaca, and Veracruz. Using a poverty line of MXN6.57/day per person in 2000 prices (about $1.08/day 1993 PPP,

[7] CONEVAL (2007) produces poverty maps combining the 2005 ENIGH with the 2005 *II Conteo de Población y Vivienda*, a mid-decade mini-census, but the documentation does not provide enough detail to permit an analysis here.

according to Tarozzi and Deaton), they apply poverty mapping to these surveys, generate estimates of poverty rates, and compare the estimates out-of-sample to census data on households not used in tool construction. At the time, such an accuracy test had not yet been done for poverty mapping, although, as in this paper, it has been a standard feature since the birth of the poverty-scoring approach.[8]

As in the present paper, Tarozzi and Deaton use logit to estimate the likelihood that a household has income below a given poverty line. Their 35 indicators are:

- Demographics:
    - — Number of members ages 0–12 (and its square)
    - — Number of members older than 65 (and its square)
    - — Number of male members ages 13–65 (and its square)
    - — Number of female members ages 13–65 (and its square)
    - — Whether head is a woman
    - — Age of head
    - — Whether head belongs to indigenous group
    - — Language(s) spoken
- Education: Whether head is literate
- Employment:
    - — Whether head works
    - — Whether head works in agriculture, fishing, forestry, or mining
- Residence characteristics:
    - — Floor
    - — Roof
    - — Fuel for cooking
    - — Primary building material
    - — Presence of toilet inside residence
    - — Presence of an electrical connection
    - — Number of rooms

[8] Tarozzi (2008) further shows that the poverty-mapping approach, when applied to literacy rates in the 2000 Mexico census, leads to inaccuracies for sub-groups, suggesting that there would probably also be inaccuracies when applying the approach to income or poverty rates.

- Ownership of consumer durables:
    - Radio
    - Television
    - Refrigerator
- Municipality characteristics:
    - Average years of schooling of head
    - Share of heads who are literate
    - Share of households who speak only an indigenous language
    - Share of households with a dirt floor
    - Share of households with electricity
    - Share of households with a toilet in the residence
    - Share of households with a residence built primarily of brick/stone
    - Share of households with a masonry/concrete/tile roof
    - Share of households whose head works in agriculture/fishing/forestry
    - Share of households who own a radio

Tarozzi and Deaton report bias, standard errors, and a formula for the standard error of their estimates.

### 3.2.2 Demombynes *et al.*

Demombynes *et al.* (2007) defend the poverty-mapping approach against the critique of Tarozzi and Deaton. They use expenditure data from a census of 20,544 households in some communities served by Mexico's Progresa/Oportunidades conditional-cash-transfer program.

Demombynes *et al.* draw a series of synthetic surveys (like Tarozzi or Deaton), perform poverty mapping using a poverty line of MXN5.23 per person per day in November 1997 prices, and then apply it to out-of-sample households, comparing estimates with true values. To get large enough "small areas" to test whether sub-

groups effects matter, Demombynes *et al.* join 50 localities at random.[9] Stepwise ordinary least-squares is used to estimate the log of per-capita expenditure for 10 synthetic surveys. The average tool has 17 indicators, about half of them at the community-level. A total of 34 indicators appear in the 10 tools:[10]

- Demographics:
    - Household size
    - Share of adults who are male
    - Presence of a single head
    - Presence of a bilingual head
    - `rechead`
- Education of the head
- Residence characteristics:
    - Wall
    - Roof
    - Presence of a toilet
- Ownership of consumer durables:
    - Blender
    - Radio
    - Stereo
    - Gas stove
    - Television
    - Refrigerator
    - Vehicle

[9] Tarozzi and Deaton point out that this way of forming "small areas" wipes out most sub-group differences, invalidating it as a test for the influence of such differences.
[10] The descriptions here are based on guesses from labels such as `ragehead2` and `adultfracf`.

- "Small area" characteristics:
    - — Average household size (and its square)
    - — Average share of adults who are male
    - — Average age of head (and its square)
    - — Share of female-headed households
    - — Share of single-headed households
    - — Share of households with a concrete roof
    - — Share of households with brick walls
    - — Share of households with running water
    - — Share of households with a toilet
    - — Share of households with a blender
    - — Share of households with a radio
    - — Share of households with a television
    - — Share of households with a water heater
    - — Share of households with a washing machine
    - — Share of households with a refrigerator
    - — Average education level of head
    - — Average persons per room (and its square)
    - — Share of `rechead`

From Table 5 in Demombynes *et al.*, the average difference between estimated poverty rates and true values across 20 "small areas" with an average sample size of about 1,010 is +0.7 percentage points, and the average 90-percent confidence interval for this difference is +/–0.7 percentage points. For the scorecard here and 150% of the national asset line (the poverty line that gives a poverty rate closest to the 61 percent in Demombynes *et al.*'s Figure 5), the 2008 scorecard applied to the 2008 validation sample with $n = 1{,}024$ gives a difference –1.2 percentage points and a 90-percent confidence interval of +/–2.3 percentage points (Figure 10). Thus, Demombynes *et al.* is more accurate and more precise than the scorecard here, perhaps because they use about 17 indicators instead of 10, about half of which are at the community level

(versus none in the scorecard here). Indeed, Demombynes *et al.* find that community-level indicators reduce standard errors by 41 percent.

In the end, Demombynes *et al.* concede that accuracy is reduced when a sub-group is not representative of the population from which the tool was built. They also contend, however, that the use of community-level indicators mitigates such inaccuracies. After all, if a sub-group is different, then group-level indicators should help control for these differences. While acknowledging Tarozzi and Deaton's point, Demombynes *et al.* conclude that "bias is low" (p. 18) and that the use of community-level indicators "can go a long way" (p. 19) toward mitigating sub-group differences.

Similar conclusions come out of another paper that shares two authors with Demombynes *et al.* Using data from a census of the Brazilian state of Minas Gerais that asked about income, Elbers, Lanjouw, and Leite (2008) state that the poverty-mapping approach "performs reasonably well" (p. 30). They find that differences between estimates and true values are small and that confidence intervals have about the right width. While acknowledging that Deaton and Tarozzi have a point, they conclude that in practice "a hypothetical policy maker, presented with [a poverty map] and its accompanying standard errors, would not come away with a wildly unrealistic picture of the spatial distribution of poverty" (p. 30).

### 3.2.3 Significance for the scorecard

In some senses, the scorecard is a simpler version of poverty mapping, designed to be accurate enough to be useful, inexpensive enough to be used by local pro-poor

organizations, and straightforward enough for non-specialists to understand and accept. Given this, does the critique of poverty mapping by a heavyweight[11] in development economics mean that the scorecard should be abandoned?

In their concluding remarks, Tarozzi and Deaton say (pp. 24–25):

> Overall, we believe that efforts to calculate welfare estimates for small areas . . . are certainly worthwhile, but we also believe that the current literature has not emphasized enough the limitations of the current methodologies and the very strong assumptions that they require in order to allow for meaningful inference. Such limitations must be stressed, and the precision of the estimates should be judged accordingly . . . [Users] should be aware that such maps may be subject to much more uncertainty and error than previously thought.

In essence, Tarozzi and Deaton ask that poverty maps document not only standard errors but also differences between estimates and true values, as well as the broader limitations of the approach. This is reasonable; users of any tool need to know what it can and cannot do, and in what contexts. This type of reporting has been standard for the scorecard since the beginning of 2008. In particular, reporting includes both bias and standard errors and explicitly points out that reported accuracy holds only for sub-groups that are representative of a given country's population at a particular point in time. Thus, the scorecard is still potentially useful, even though poverty mapping's limitations were not fully reported.

[11] Deaton has a chance at a future Nobel Prize.

But is poverty mapping/scoring accurate enough? For what purpose? Consider, for example, for-profit lenders with billions of dollars at risk in loans underwritten largely via credit-risk scorecards. Not only are these credit-risk scorecards much less accurate for their purposes than poverty maps/scorecards, but they are also subject to the same sub-group critiques. But even though credit-risk scorecards have limitations, they are nevertheless more useful from a benefit/cost perspective than alternatives.

The next question is then, What is the benefit of improved decisions versus the cost of improved decision-making? If national governments are targeting funds at the state-level, then the cost of poverty mapping/scoring is probably not worth the benefit; after all, governments probably can already rank states by poverty. If, however, federal governments are targeting funds at lower levels, then they may not know what the poorest entities are (although governments at lower levels should know). In any case, poverty mapping provides an objectivity that will likely favor poorer entities in the budget process, raising awareness among the polity and allowing politicians to deflect accusations of political bias by referring to the poverty map.

In the case of local, pro-poor organizations, no alternative for targeting households compares well with the scorecard's combination of inexpensiveness, accuracy, and objectivity. Other targeting tools may be more accurate, but they cost more, are less objective, and their accuracy is unquantified. For raising organizational awareness about performance in terms of poverty outreach, scoring's measures of poverty rates are also valuable, showing managers which branches and field agents

serve poorer people, and whether the pro-poor organization as a whole is indeed pro-poor.

In short, no tool is a silver bullet, and poverty mapping and the scorecard are accurate enough for some uses and not accurate enough for others. A central strength of the approaches is their ability to report quantitative measures of accuracy.

In most cases, the errors in the scorecard are likely to be small, relative to the benefit/cost of additional accuracy. Given the alternatives for their purposes, the scorecard is usually "good enough for government work".

Also, Tarozzi and Deaton apply their critique only to estimates of poverty rates. Their critique may not to apply as strongly to estimates of changes in poverty rates or to rankings used for targeting. For example, Schreiner (2006a) finds little degradation for targeting when a single all-Mexico scorecard is applied to urban/rural sub-groups. Of course, on the continuum of sub-groups between urban/rural down to a single household, at some point rankings may very well become too inaccurate for a given purpose. Still, even relatively inaccurate credit-risk scorecards have proven useful for targeting individual households, and, depending on the context and alternatives, scorecards may likewise turn out to be the best choice for targeting and other uses.

Given that Demombynes *et al.* emphasize that community-level indicators improve accuracy, a final question is whether scorecards should also include them. Local pro-poor organizations, however, do not seek estimates of poverty rates for a

community; they want measures for their clients (a sub-group within a community or across a group of communities).

## 3.3 CIMMYT

Bellon *et al.* (2004, "CIMMYT", the Spanish acronym for the "International Maize and Wheat Improvement Center", the authors' institution) produce a poverty map for Mexico using the 2002 ENIGH and the 2000 census which they then test out-of-sample on the 2000 ENIGH. At the time, household-level data from these sources was not being released, so CIMMYT follows Bigman *et al.* (2000) in using only community-level indicators at the level of the municipality. CIMMYT also differ from López-Calva *et al.* and Deaton and Tarozzi in that they consider expenditure rather than income, consider only rural areas (localities with less than 2,500 people) rather than all areas, and use the national food line instead of income levels or a $1.08/day 1993 PPP line.

The tool aggregates indicators from the 2002 ENIGH over municipalities to predict the logarithm of the ratio of per-capita household income to the national food line. CIMMYT's 16 indicators are:

- Average household size
- Education levels of household members older than 15
- Residence characteristics:
    - — Share of households with a dirt floor
    - — Share of households with a one-room residence
    - — Share of households with potable water
    - — Share of households with a sewer connection
    - — Share of households with an electrical connection
    - — Share of households with a telephone

- Municipal-level indicators:
    - State
    - Share of people older than five who speak an indigenous language
    - Average minutes to nearest urban center
    - Average minimum temperature
    - Average maximum temperature
    - Average annual rainfall
    - Share of population that is rural
    - Population density

CIMMYT do not report standard errors, but they do report correlations in levels and ranks based on the out-of-sample test. Their estimated poverty rate is 41.5 percent while the true rate is 32.4 percent, so bias is –9.1 percentage points.

Despite the limits on its data and accuracy, CIMMYT stands out for the relevance and depth of its application. The authors use the poverty map to inform CIMMYT policy as it relates to its mandate by comparing the map to the placement of agricultural test plots (finding that test plots tend to be in flat, fertile areas, while the poor tend to live in sloped, infertile areas), to the distribution of the variety of corn germplasm (finding that the poor are not necessarily the caretakers of genetic diversity), and to the distribution of farm production (finding that the poor grow corn and beans rather than wheat).

CIMMYT further use the poverty-mapping approach to create a food-security map, finding that the indicators and weights for the food-security map are similar to those of the poverty map and that food-security is more difficult to predict than poverty status. Overall, CIMMYT is more impressive in its application than in its technique, inverting the strengths of most poverty-mapping exercises to date.

## 3.4 McKenzie

McKenzie (2007) applies principal components analysis to Mexico's 1998 ENIGH to make an "asset index" from simple, low-cost indicators of the type available from surveys that do not collect detailed income or expenditure data. The index is like the scorecard here except that it is based on a relative definition of poverty. Because of this and because the ENIGH includes expenditure data, McKenzie compares his index versus direct measures of expenditure, finding that his index is a good proxy for its purposes.[12] Other examples of the PCA asset-index approach are Stifel and Christiaensen (2007), Zeller *et al.* (2006), Sahn and Stifle (2000 and 2003), and Filmer and Pritchett (2001).

McKenzie's index uses almost all of the asset indicators available in the 1998 ENIGH. These 27 indicators are simple and inexpensive to collect and verify:

- Residence characteristics:
    - — Wall
    - — Roof
    - — Floor
    - — Water supply
    - — Toilet
    - — Garbage collection
    - — Electricity supply
    - — Tenancy status
    - — Number of rooms

[12] For similar tests, see Filmer and Scott (2008), Bollen, Glanville, and Stecklov (2007), Lindelow (2006), Wagstaff and Watanabe (2003), and Montgomery *et al.* (2000).

- Ownership of durable assets:
    - — Radio
    - — Fan
    - — Television
    - — Video-game machine
    - — Computer
    - — Sewing machine
    - — Stove
    - — Microwave
    - — Refrigerator
    - — Washing machine
    - — Clothes dryer
    - — Central air conditioning
    - — Space heater
    - — Telephone
    - — Bicycle
    - — Motorcycle
    - — Car
    - — Van

McKenzie's purpose is not to proxy wealth levels but rather to estimate wealth inequality, which he then relates to state-level school attendance for Mexican youth ages 14 to 18. McKenzie derives an inequality measure from the index by dividing the standard deviation of households' index values in a given state in the 1998 ENIGH by the standard deviation of households' indices across all of Mexico. Higher ratios represent states with higher inequality.

McKenzie reports two basic findings. On the policy front, states with higher inequality also have higher rates of school drop-out by male (but not female) youth. On the methodological front, "relative inequality in the overall asset index does appear to be a reasonable proxy for both inequality in non-durable consumption and inequality in food expenditure" (p. 18).

## 3.5 Oportunidades

In Mexico, the most important poverty-assessment tool is that used to verify households' eligibility for the conditional cash-transfer program Oportunidades (formerly known as Progresa). While the indicators collected from applicants is public knowledge, and while it is known that the tool is built with discriminant analysis, the tool's points are secret and do not seem to appear in the vast literature on Oportunidades.

Thus, while it would be highly policy-relevant to compare targeting accuracy for the scorecard here versus the Oportunidades tool, it is also impossible. Indeed, two papers that purport to evaluate the targeting effectiveness of Oportunidades (Medina, Hubert, and Soto, 2000, and Skoufias, Davis, and Behrman, 1999) in fact only test different statistical approaches to targeting, because even these authors do not have access to the full Oportunidades tool.

# 4. Scorecard construction

For the Mexico scorecard, about 120 potential indicators are initially prepared in the areas of:

- Family composition (such as household size)
- Education (such as school attendance of children)
- Employment (such as number of household members working in agriculture)
- Housing (such as the main construction material of the floors, walls, and roof)
- Ownership of durable goods (such as televisions and refrigerators)

Each indicator is first screened with the entropy-based "uncertainty coefficient" (Goodman and Kruskal, 1979), a measure of how well the indicator predicts poverty on its own. Figure 4 lists all the candidate indicators, ranked by uncertainty coefficient. Responses for each indicator in Figure 4 are ordered starting with those most strongly associated with poverty.

The scorecard also aims to measure *changes* in poverty through time. This means that, when selecting indicators and holding other considerations constant, preference is given to more sensitive indicators. For example, ownership of a television is probably more likely to change in response to changes in poverty than is the age of the male head/spouse.

The scorecard itself is built using the national asset poverty line and Logit regression on the construction sub-sample (Figure 2). Indicator selection uses both judgment and statistics (forward stepwise, based on "c"). The first step is to use Logit to build one scorecard for each candidate indicator. Each scorecard's accuracy is taken as "c", a measure of ability to rank by poverty status (SAS Institute Inc., 2004).

One of these one-indicator scorecards is then selected based on several factors (Schreiner *et al.*, 2004; Zeller, 2004), including 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 status, variety among indicators, and verifiability.

A series of two-indicator scorecards are then built, each based on the one-indicator scorecard selected from the first step, with a second candidate indicator added. The best two-indicator scorecard is then selected, again based on "c" and judgment. These steps are repeated until the scorecard has 10 indicators. The selection of indicators was also informed by feedback on practical considerations from pro-poor organizations in Mexico.

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

This algorithm is the Logit analogue to the familiar $R^2$-based stepwise with least-squares regression. It differs from naïve stepwise in that the criteria for selecting indicators include not only statistical accuracy but also judgment and non-statistical factors. The use of non-statistical criteria can improve robustness through time and helps ensure that indicators are simple and make sense to users.

The single scorecard here applies to all of Mexico. Evidence from Mexico and India (Schreiner, 2006a and 2006c), Sri Lanka (Narayan and Yoshida, 2005), and

Jamaica (Grosh and Baker, 1995) suggests that segmenting scorecards by urban/rural does not improve targeting accuracy much, although—as pointed out by Tarozzi and Deaton—such segmentation may improve the accuracy of estimated poverty rates.

# 5. Practical guidelines for scorecard use

The main challenge of scorecard design is not to squeeze out the last drops of accuracy but rather to improve the chances that scoring is actually used (Schreiner, 2005b). When scoring projects fail, the reason is not usually technical inaccuracy but rather the failure of an organization to decide to do what is needed to integrate scoring in its processes and to learn to use it properly (Schreiner, 2002). After all, most reasonable scorecards predict tolerably well, thanks to the empirical phenomenon known as the "flat max" (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 adopt it and use it properly. Of course, accuracy is important, but so are 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 make a lot of "extra" work and if the whole process generally seems to make sense.

To this end, the scorecard here fits on a single page. The construction process, indicators, and points are simple and transparent. "Extra" work is minimized; non-specialists can compute scores by hand in the field because the scorecard has:

- Only 10 indicators
- Only categorical indicators
- Simple weights (non-negative integers, and no arithmetic beyond addition)

A field worker using the paper scorecard would:

- Record participant identifiers
- Read each question from the scorecard
- Circle each response and its points
- Write the points in the far-right column
- Add up the points to get the total score
- Implement targeting policy (if any)
- Deliver the paper scorecard to a central office for data entry and filing

## 5.1 Quality control

Of course, field workers must be trained. High-quality outputs require high-quality inputs. If organizations or field workers gather their own data and if they believe that they have an incentive to exaggerate poverty rates (for example, if 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).[13] IRIS Center (2007a) and Toohig (2008) are useful nuts-and-bolts guides for planning, budgeting, training field workers and supervisors, logistics, sampling, interviewing, piloting, recording data, and controlling quality.

In particular, while collecting scorecard indicators is relatively easier than most alternatives, it is still absolutely difficult. Training and explicit definitions of terms and

[13] If an organization does not want field workers to know the points associated with indicators, then they can use the version of Figure 1 without points and apply the points later in a spreadsheet or database at the central office.

concepts in the scorecard is essential.[14] For the example of Nigeria, one study finds distressingly low inter-rater and test-retest correlations for indicators as seemingly simple and obvious as whether the household owns an automobile (Onwujekwe, Hanson, and Fox-Rushby, 2006). At the same time, Grosh and Baker (1995) find that gross underreporting of assets does not affect targeting.

For the first stage of targeting in Mexico's Oportunidades program, Martinelli and Parker (2007) find that "underreporting [of asset ownership] is widespread but not overwhelming, except for a few goods . . . [and] overreporting is common for a few goods, which implies that self-reporting may lead to the exclusion of deserving households" (pp. 24–25). Still, as is the practice of Oportunidades itself in the second stage of their targeting process, most false self-reports can be corrected by field agents who verify responses with a home visit, and this is the suggested procedure for the the scorecard approach here.

[14] Appendix A gives help for interpreting the indicators in Mexico's scorecard.

## 5.2 Implementation and sampling

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

- Who will do the scoring
- How scores will be recorded
- What participants will be scored
- How many participants will be scored
- How frequently participants will be scored
- 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

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

- Employees of the organization
- Third-party contractors

Responses, scores, and poverty likelihoods can be recorded:

- On paper in the field and then filed at an office
- On paper in the field and then keyed into a database or spreadsheet at an office
- On portable electronic devices in the field and then downloaded to a database

The subjects to be scored can be:

- All participants (or all new participants)
- A representative sample of all participants (or of all new participants)
- All participants (or all new participants) in a representative sample of branches
- A representative sample of all participants (or of all new participants) in a representative sample of branches

If not determined by other factors, the number of participants to be scored can be derived from sample-size formulas (presented later) for a desired confidence level and a desired confidence interval.

Frequency of application can be:

- At in-take of new clients only (precluding measuring change in poverty rates)
- As a once-off project for current participants (precluding measuring change)
- Once a year or at some other fixed time interval (allowing measuring change)
- Each time a field worker visits a participant at home (allowing measuring change)

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

- With different sets of participants, all of which are representative of a population
- With the same set of participants

An example set of implementation and design choices is illustrated by BRAC and ASA, two microlenders in Bangladesh (each with more than 7 million participants) who are applying the Simple Poverty Scorecard tool for Bangladesh (Chen and Schreiner, 2009a). Their design is that loan officers in a random sample of branches score all their clients each time they visit a homestead (about once a year) as part of their standard due diligence prior to loan disbursement. Responses are recorded on paper in the field before being sent to a central office to be entered into a database. The sampling plans of ASA and BRAC cover 50,000–100,000 participants each (far more than would be required to inform most relevant decisions at a typical pro-poor organization).

# 6. Estimates of household poverty likelihoods

The sum of scorecard points for a household is called the *score*. For Mexico, 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 below a poverty line, the scores themselves have only relative units. For example, doubling the score does not double the likelihood of being above a poverty line.

To get absolute units, scores must be 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 the national food line with the 2008 ENIGH, scores of 10–14 have a poverty likelihood of 68.0 percent, and scores of 40–44 have a poverty likelihood of 9.9 percent (Figure 5).

The poverty likelihood associated with a score varies by poverty line. For example, scores of 40–44 are associated with a poverty likelihood of 9.9 percent for the national food line but 50.6 percent for the national asset line.[15]

[15] Starting with Figure 5, many figures have 32 versions, one for each of the eight poverty lines for the 2008 scorecard applied to the 2008 validation sample, one for each of the eight poverty lines for the 2008 scorecard applied to the 2006 ENIGH, one for each of the eight poverty lines for the 2008 scorecard applied to the 2005 ENIGH, and one for each of the eight poverty lines for the 2008 scorecard applied to the 2004 ENIGH. To keep them straight, they are grouped by poverty line and by the data used for validation. Single tables that pertain to all poverty lines and/or years are placed with the tables for the national food line and the 2008 validation sample.

## 6.1 Calibrating scores with poverty likelihoods

A given score is non-parametrically 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 are below a given poverty line.

For the example of the national food line (Figure 6), there are 1,285 (normalized) households in the calibration sub-sample with a score of 10–14, of whom 874 (normalized) are below the poverty line. The estimated poverty likelihood associated with a score of 10–14 is then 68.0 percent, as 874 ÷ 1,285 = 68.0 percent.

To illustrate further with the national food line and a score of 40–44, there are 9,587 (normalized) households in the calibration sample, of whom 946 (normalized) are below the line (Figure 6). Thus, the poverty likelihood for this score is 946 ÷ 9,587 = 9.9 percent.

The same method is used to calibrate scores with estimated poverty likelihoods for the other seven poverty lines.

Figure 7 shows, for all scores, the likelihood that income falls in a range demarcated by two adjacent poverty lines. For example, the daily income of someone with a score of 25–29 falls in the following ranges with probability:

- 2.8 percent below the $1.25/day 2005 PPP line
- 15.8 percent between the $1.25/day 2005 PPP and $2.50/day 2005 PPP lines
- 17.1 percent between the $2.50/day 2005 PPP and the national food lines
- 13.7 percent between the national food and the national capacity lines
- 31.7 percent between the national capacity and the national asset lines
- 8.6 percent between the national asset and 125% of the national asset lines
- 4.7 percent between 125% and 150% of national asset lines
- 5.6 percent above 150% of the national asset line

Even though the scorecard is constructed partly based on judgment, this calibration process produces poverty likelihoods that are objective, that is, derived from survey data on income and quantitative poverty lines. The poverty likelihoods would be objective even if indicators and/or points were selected without any data at all. In fact, objective scorecards of proven accuracy are often based only on judgment (Fuller, 2006; Caire, 2004; Schreiner *et al.*, 2004). 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 this depends on using data in score calibration, not on using data (and nothing else) in scorecard construction.

Although the points in Mexico's scorecard are transformed coefficients from a Logit regression, scores are not converted to poverty likelihoods via the Logit formula of $2.718281828^{score}$ x $(1+ 2.718281828^{score})^{-1}$. 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. In the field, converting scores to poverty likelihoods requires no arithmetic at all, just a look-up table. This non-parametric calibration can also improve accuracy, especially with large calibration samples.

## 6.2 Accuracy of estimates of households' poverty likelihoods

As long as the relationship between indicators and poverty does not change and as long as the scorecard is applied to households who are representative of the same population from which the scorecard was constructed, 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 poverty likelihood. The scorecard also produces unbiased estimates of poverty rates at a point in time, as well as unbiased estimates of changes in poverty rates between two points in time.[16]

The relationship between indicators and poverty does change with time and also—as Tarozzi and Deaton point out—across sub-groups in Mexico's population, so the scorecard will generally be biased when applied after the end date of fieldwork for the 2008 ENIGH (as it must be in practice) or when applied with non-nationally representative groups (as it probably would be by local, pro-poor organizations).

[16] This follows because these estimates of groups' poverty rates are linear functions of the unbiased estimates of households' poverty likelihoods.

How accurate are estimates of households' poverty likelihoods when the assumption of representativeness holds? To check, the scorecard is applied to 1,000 bootstrap samples of size $n$ = 16,384 from the 2008 validation sub-sample. Bootstrapping entails (Efron and Tibshirani, 1993):

- Score each household in the validation sample
- Draw a new bootstrap sample *with replacement* from the validation sample
- For each score, compute the true poverty likelihood in the bootstrap sample, that is, the share of households with the score who have income below a poverty line
- For each score, record the difference between the estimated poverty likelihood (Figure 5) and the true poverty likelihood in the bootstrap sample
- Repeat the previous three steps 1,000 times
- For each score, report the average difference between estimated and true poverty likelihoods across the 1,000 bootstrap samples
- For each score, report the two-sided interval containing the central 900, 950, or 990 differences between estimated and true poverty likelihoods

For each score range and for $n$ = 16,384, Figure 8 shows the average difference between estimated and true poverty likelihoods as well as confidence intervals for the differences.

For the national food line in the 2008 validation sample, the average poverty likelihood across bootstrap samples for scores of 15–19 is too low by 5.9 percentage points (Figure 8). For scores of 20–24, the estimate is too high by 8.1 percentage points.[17]

[17] These differences are not zero, in spite of the estimator's unbiasedness, because the scorecard comes from a single sample. The weighted-average difference by score would be zero if samples were repeatedly drawn from the population and split into sub-samples before repeating the entire construction and calibration process.

The 90-percent confidence interval for the differences for scores of 15–19 is +/–5.1 percentage points (Figure 8). This means that in 900 of 1,000 bootstraps, the difference between the estimate and the true value is between –11.0 and –0.8 percentage points (because –5.9 – 5.1 = –11.0, and –5.9 + 5.1 = –0.8). In 950 of 1,000 bootstraps (95 percent), the difference is –5.9 +/–5.8 percentage points, and in 990 of 1,000 bootstraps (99 percent), the difference is –5.9 +/–6.9 percentage points.

For almost all scores below 50, Figure 8 shows differences—some of them large—between estimated poverty likelihoods and true values. This is because the validation sub-sample is a single sample that—thanks to sampling variation—differs in distribution from the construction/calibration sub-samples and from Mexico's population. When the 2008 scorecard is applied to the 2006, 2005, and 2004 ENIGH, differences are due mostly to changes in the relationships between indicators and poverty over time. For targeting, however, what matters is less the differences across all score ranges and more the differences in score ranges just above and below the targeting cut-off. This mitigates the effects of bias and sampling variation on targeting (Friedman, 1997). Section 9 below looks at targeting accuracy in detail.

Of course, if estimates of groups' poverty rates are to be usefully accurate, then errors for individual households must largely cancel each other out. This is generally the case, especially for the 2008 validation sub-sample, as discussed in the next section.

Another possible source of bias is overfitting. By construction, the scorecard here is unbiased, but it may still be *overfit* when applied after the August 2008 end of field

work for the 2008 ENIGH. That is, the scorecard may fit the 2008 ENIGH data 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 2008 ENIGH. Or the scorecard may be overfit in the sense that it becomes biased as the relationships between indicators and poverty change through time (for example, due to the economic crisis that started in 2008). Finally, the scorecard could also be overfit—as Tarozzi and Deaton highlight—when it is applied to samples from non-nationally representative sub-groups.

Overfitting can be mitigated by simplifying the scorecard and by not relying only on data but rather also considering experience, judgment, and theory. Of course, the scorecard here does this. Bootstrapping scorecard construction—which is not done here—can also mitigate overfitting by reducing (but not eliminating) dependence on a single sampling instance. Combining scorecards can also help, at the cost of complexity.

In any case, most errors in individual households' likelihoods cancel out in the estimates of groups' poverty rates (see later sections). Furthermore, much of the differences between scorecard estimates and true values may come from non-scorecard sources such as changes in the relationship between indicators and poverty, sampling variation, changes in poverty lines, inconsistencies in data quality across time, and inconsistencies/imperfections in cost-of-living adjustments across time and space. These factors can be addressed only by improving data quantity and quality (which is beyond the scope of the scorecard), by updating data, or by reducing overfitting (which likely has limited returns, given the scorecard's parsimony).

# 7. Estimates of a group's poverty rate at a point in time

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

To illustrate, suppose a program samples three households on Jan. 1, 2009 and that they have scores of 20, 30, and 40, corresponding to poverty likelihoods of 46.9, 27.8, and 9.9 percent (national food line, Figure 5). The group's estimated poverty rate is the households' average poverty likelihood of (46.9 + 27.8 + 9.9) ÷ 3 = 28.2 percent.[18]

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

How accurate is this estimate? For a range of sample sizes, Figure 10 reports average differences between estimated and true poverty rates as well as precision (confidence intervals for the differences) for the Mexico scorecard applied to 1,000 bootstrap samples from the 2008 validation sample and from the 2006, 2005, and 2004 ENIGH.

Summarizing Figure 10 across poverty lines and years for $n$ = 16,384, Figure 9 shows that the differences between the estimated poverty rate and the true rate for the 2008 scorecard applied to the 2008 validation sample are –1.2 percentage points or less.

[18] The group's poverty rate is *not* the poverty likelihood associated with the average score. Here, the average score is (20 + 30 + 40) ÷ 3 = 30, and the poverty likelihood associated with the average score is 27.8 percent. This is not the 28.2 percent found as the average of the three poverty likelihoods associated with each of the three scores.

The average difference across the eight poverty lines for the 2008 validation sample is –0.8 percentage points.

In terms of precision, the 90-percent confidence interval for a group's estimated poverty rate at a point in time in 2004–2008 with $n = 16{,}384$ and for all poverty lines is +/–0.8 percentage points or less (Figure 9). This means that in 900 of 1,000 bootstraps of this size, the absolute difference between the estimate and the average estimate is 0.8 percentage points or less.

In the specific case of the national asset line and the 2008 validation sample, 90 percent of all samples of $n = 16{,}384$ produce estimates that differ from the true value in the range of $-0.4 + 0.6 = +0.2$ to $-0.4 - 0.6 = -1.0$ percentage points. This is because –0.4 is the average difference, and +/–0.6 is its 90-percent confidence interval. The average difference is –0.4 because the average scorecard estimate is too low by 0.4 percentage points; it tends to estimate a poverty rate of 40.5 percent for the 2008 validation sample, but the true value is 40.9 percent (Figure 2).

The differences between estimates and true values are much larger for the 2008 scorecard applied to the 2006, 2005, and 2004 ENIGH (Figure 9). Part of these differences is due to sampling variation across survey rounds and in the division of the 2008 ENIGH into three sub-samples, as well as small design differences across ENIGH rounds. Mostly, however, the differences are due to changes in the relationships between

indicators and poverty over time,[19] as the 2008 ENIGH took place during an economic crisis when poverty was increasing, while the previous rounds took place in non-crisis periods when poverty was decreasing. This suggests that estimates of poverty rates at a point in time will not be very accurate except for periods that are similar to 2008.

For the Mexico scorecard based on the 2008 ENIGH applied to the 2006, 2005, and 2004 ENIGH with $n = 16{,}384$, the differences at a point in time range from –0.7 to +4.5 percentage points, and the average absolute difference across lines and years is 2.5 percentage points. The 90-percent confidence intervals are +/–0.8 percentage points or less. Future accuracy will depend on whether the next few years are more like 2008 or more like previous years.

## 7.2 Standard-error formula for estimates of poverty rates at a point in time

How precise are the point-in-time estimates? Because they are averages, the estimates have a Normal distribution and can be characterized by their average difference vis-à-vis true values, along with the standard error of the average difference.

To derive a formula for the standard errors of estimated poverty rates at a point in time for indirect measurement via scorecards (Schreiner, 2008a), note that the

[19] This follows because similar poverty-scoring exercises in other countries and periods not following sudden crises—including Mexico with the 2006 ENIGH—show much smaller differences between estimates and true values.

textbook formula (Cochran, 1977) that relates confidence intervals with standard errors in the case of direct measurement of poverty rates is $c = +/- z \cdot \sigma$, where:

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

$z$ is from the Normal distribution and is $\begin{cases} 1.64 \text{ for confidence levels of 90 percent} \\ 1.96 \text{ for confidence levels of 95 percent} \\ 2.58 \text{ for confidence levels of 99 percent} \end{cases}$,

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

$p$ is the proportion of households below the poverty line in the sample, and

$n$ is the sample size.

For example, with a sample $n = 16{,}384$, 90-percent confidence ($z = 1.64$), and a poverty rate $p$ of 40.9 percent (the true rate in the 2008 validation sample for the national asset line in Figure 2), the confidence interval $c$ is

$$+/- z \cdot \sqrt{\frac{p \cdot (1-p)}{n}} = +/- 1.64 \cdot \sqrt{\frac{0.409 \cdot (1-0.409)}{16{,}384}} = +/–0.630 \text{ percentage points.}$$

The scorecard, however, does not measure poverty directly, so this formula is not immediately applicable. To derive a formula for the Mexico scorecard, consider Figure 10, which reports empirical confidence intervals $c$ for the differences for the scorecard applied to 1,000 bootstrap samples of various sample sizes from a validation sample. For $n = 16{,}384$, the national asset line, and the 2008 validation sub-sample, the 90-

percent confidence interval is +/–0.620 percentage points.[20] Thus, the ratio of confidence intervals with the scorecard and with direct measurement is 0.620 ÷ 0.630 = 0.98.

Now consider the same case, but with $n$ = 8,192. The confidence interval under direct measurement is $+/-1.64 \cdot \sqrt{\frac{0.409 \cdot (1-0.409)}{8{,}192}}$ =+/–0.891 percentage points. The empirical confidence interval with the Mexico scorecard for the national asset line (Figure 10) is +/–0.845 percentage points. Thus for $n$ = 8,192, the ratio is 0.845 ÷ 0.891 = 0.95.

This ratio of 0.95 for $n$ = 8,182 is not far from the ratio of 0.98 for $n$ = 16,384. Indeed, across all sample sizes of 256 or more in Figure 10, the average ratio turns out to be 0.96, implying that confidence intervals for indirect estimates of poverty rates via the Mexico scorecard and this poverty line are slightly narrower than those for direct estimates. This 0.96 appears in Figure 9 as the "α factor" because if $\alpha = 0.96$, then the formula relating confidence intervals $c$ and standard errors $\sigma$ for the Mexico scorecard is $c = +/- z \cdot \alpha \cdot \sigma$. The standard error $\sigma$ for point-in-time estimates of poverty rates via scoring is $\alpha \cdot \sqrt{\frac{p \cdot (1-p)}{n}}$.

In general, α could be more or less than 1.00. When α is less than 1.00, it means that the scorecard is more precise than direct measurement. This occurs in about half the cases in Figure 9.

[20] Due to rounding, Figure 10 displays 0.6, not 0.620.

The formula relating confidence intervals to standard errors for the scorecard can be rearranged to give a formula for determining sample size $n$ before measurement.[21] If $\hat{p}$ is the expected poverty rate before measurement, then the formula for $n$ based on the desired confidence level that corresponds to $z$ and the desired confidence interval $+/-c$ under the scorecard is $n = \left(\frac{\alpha \cdot z}{c}\right)^2 \cdot \hat{p} \cdot (1 - \hat{p})$.

To illustrate how to use this, suppose $c = 0.0479$ and $z = 1.64$ (90-percent confidence), and $\hat{p} = 0.4055$ (the average poverty rate for the national asset line in the 2008 construction and calibration sub-samples, Figure 2). Then the formula gives $n = \left(\frac{0.96 \cdot 1.64}{0.0479}\right)^2 \cdot 0.4055 \cdot (1 - 0.4055) = 261$, close to the sample size of 256 observed for these parameters in Figure 10.

Of course, the $\alpha$ factors in Figure 9 are specific to Mexico, its poverty lines, its poverty rates, and this scorecard. The method for deriving the formulas, however, is valid for any poverty-assessment tool following the approach in this paper.

In practice after the end of field work for the August 2008 ENIGH, an organization would select a poverty line (say, the national asset line), select a desired confidence level (say, 90 percent, or $z = 1.64$), select a desired confidence interval (say,

[21] IRIS Center (2007a and 2007b) says that a sample size of $n = 300$ is sufficient for reporting estimated poverty rates to USAID. If a tool is as precise as direct measurement, if the expected (before measurement) poverty rate is 50 percent, and if the confidence level is 90 percent, then $n = 300$ implies a confidence interval of +/–2.2 percentage points. In fact, USAID has not specified confidence levels or intervals. Furthermore, the expected poverty rate may not be 50 percent, and the tool could be more or less precise than direct measurement.

+/–2.0 percentage points, or $c = 0.02$), make an assumption about $\hat{p}$ (perhaps based on a previous measurement such as the 40.7 percent average for the national asset line in the 2008 ENIGH in Figure 2), look up $\alpha$ (here, 0.96), assume that the scorecard will still work in the future and/or for non-nationally representative sub-groups,[22] and then compute the required sample size. In this illustration,

$$n = \left(\frac{0.96 \cdot 1.64}{0.02}\right)^2 \cdot 0.407 \cdot (1 - 0.407) = 1{,}496.$$

[22] This paper reports accuracy for the scorecard applied to the 2008 validation sample and to the 2006, 2005, and 2004 ENIGH, but it cannot test accuracy for later years or for other groups. Performance will deteriorate with time to the extent that the relationship between indicators and poverty changes.

# 8. Estimates of changes in group poverty rates over time

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

## 8.1 Warning: Change is not impact

Scoring can estimate change. Of course, change could be for the better or for the worse, and scoring does not indicate what caused change. This point is often forgotten, confused, or ignored, so it bears repeating: the scorecard simply estimates change, and it does not, in and of itself, indicate the reason for the change. In particular, estimating the impact of program participation requires knowing what would have happened to participants if they had not been participants (Moffitt, 1991). Knowing this requires either strong assumptions or a control group that resembles participants in all ways except participation. To belabor the point, the scorecard can help estimate program impact only if there is some way to know what would have happened in the absence of the program. And that information must come from somewhere beyond the scorecard.

## 8.2 Calculating estimated changes in poverty rates over time

Consider the illustration begun in the previous section. On Jan. 1, 2009, a program samples three households who score 20, 30, and 40 and so have poverty likelihoods of 46.9, 27.8, and 9.9 percent (national food line, Figure 5). The group's

baseline estimated poverty rate is the households' average poverty likelihood of (46.9 + 27.8 + 9.9) ÷ 3 = 28.2 percent.

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

- Score a new, independent sample, measuring change by cohort across samples
- Score the same sample at follow-up as at baseline

By way of illustration, suppose that a year later on Jan. 1, 2010, the program samples three additional households who are in the same cohort as the three households originally sampled (or suppose that the program scores the same three original households a second time) and finds that their scores are now 25, 35, and 45 (poverty likelihoods of 35.7, 15.7, and 7.5 percent, national food line, Figure 5). Their average poverty likelihood at follow-up is (35.7 + 15.7 + 7.5) ÷ 3 = 19.6 percent, an improvement of 28.2 – 19.6 = 8.6 percentage points.[23]

This suggests that about one of 12 participants crossed the poverty line in 2009. (This is a net figure; some people start above the line and end below it, and vice versa.) Among those who started below the line, about one in three (8.6 ÷ 28.2 = 30.4 percent) ended up above the line. Of course, the scorecard does not reveal the reasons for this change.

[23] Of course, such a huge reduction in poverty is unlikely in a year's time, but this is just an example to show how the scorecard can be used to estimate change.

## 8.3 Estimated changes in poverty rates in Mexico

Given the Mexico scorecard built from the construction and calibration samples from the 2008 ENIGH, an estimate of the change in the poverty rate is the difference between the estimated poverty rate in the 2008 validation sample and the estimated poverty rate in the 2006, 2005, and 2004 ENIGH.

In Figure 11 (summarizing Figure 12 across years and poverty lines), the difference between this estimate and the true value for the national asset line between 2008 and 2006 is +4.9 percentage points. The scorecard overstates the change in poverty because it assumes that August 2006 (when there was no economic crisis) is like August 2008 (when there is an economic crisis); the true change was +6.1 percentage points (Figure 2), while the scorecard estimates a change of +11.0 percentage points. Across all eight lines for 2008 and 2006, the average difference is 3.6 percentage points, while the average true change is +4.1 percentage points (Figure 2). Thus, the scorecard estimate is about twice as large as it should be. In terms of precision, the 90-percent confidence interval is +/–0.8 percentage points or less (Figure 11). Results for 2005 and 2004 are only a little better.

Because the scorecard estimate is unbiased, these differences are due to sampling variation, changes in poverty lines and/or data collection, and—especially—changes over time in the relationship between indicators and poverty. The magnitude of the differences here is far greater than those in other tests (Schreiner, 2009a, 2009b, 2009c,

and 2008b; Chen and Schreiner, 2009a and 2009b; Mathiassen, 2008), suggesting that the differences are related to the economic crisis captured in the 2008 ENIGH data.

## 8.4 Accuracy for estimated change in two independent samples

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

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

$z$, $c$, and $p$ are defined as above, $n$ is the sample size at both baseline and follow-up,[24] and $\alpha$ is the average (across a range of bootstrapped sample sizes) of the ratio of the observed confidence intervals from a scorecard and the theoretical confidence intervals from the textbook formula for direct measurement for two equal-sized independent samples. All the $\alpha$ factors for Mexico exceed 1.00 (Figure 11), so scoring in this case is less precise than direct measurement.

[24] This means that, for a given precision and with direct measurement, estimating the change in a poverty rate over time requires four times as many measurements (not twice as many) as does estimating a poverty rate at a point in time.

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

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

To illustrate the use of the formula above to determine sample size for estimating changes in poverty rates across two independent samples from 2006 and 2008, suppose the desired confidence level is 90 percent ($z = 1.64$), the desired confidence interval is 2 percentage points ($c = 0.02$), the poverty line is the national asset line, $\alpha = 1.29$ (from Figure 11), and $\hat{p} = 0.407$ (from Figure 2). Then the baseline sample size is

$n = 2 \cdot \left( \frac{1.29 \cdot 1.64}{0.02} \right)^2 \cdot 0.407 \cdot (1 - 0.407) = 5{,}402$, and the follow-up sample is also 5,402.

## 8.5 Accuracy for estimated change for one sample, scored twice

The general formula relating the confidence interval $c$ to the standard error $\sigma$ when using scoring to estimate change for a single group of households, all of whom are scored at two points in time, is:[25]

$$c = +/- z \cdot \sigma = +/- z \cdot \alpha \cdot \sqrt{\frac{p_{12} \cdot (1 - p_{12}) + p_{21} \cdot (1 - p_{21}) + 2 \cdot p_{12} \cdot p_{21}}{n}} .$$

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

$z$, $c$, and $\alpha$ are defined as before, $p_{12}$ is the share of all sampled households that move from below the poverty line to above it, and $p_{21}$ is the share of all sampled households that move from above the line to below it.

As usual, the formula for $\sigma$ can be rearranged to give a formula for sample size $n$ before measurement. This requires an estimate (based on information available before measurement) of the expected shares of all households who cross the poverty line $\hat{p}_{12}$ and $\hat{p}_{21}$. Before measurement, it is reasonable to assume that the overall change in the poverty rate will be zero, which implies $\hat{p}_{12} = \hat{p}_{21} = \hat{p}_*$, giving:

$$n = 2 \cdot \left( \frac{\alpha \cdot z}{c} \right)^2 \cdot \hat{p}_* .$$

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

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

Given this, a sample-size formula for a group of households to whom the Mexico scorecard is applied twice (once after the end of field work for the 2008 ENIGH and then again later) is:

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

In Peru (the only other country for which there is a data-based estimate, Schreiner 2009b), the average $\alpha$ across years and poverty lines is about 1.3.

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 ($c = 0.02$), the poverty line is the national asset line, and the sample will be scored first in 2009 and then again in 2012 ($y = 3$). The before-baseline poverty rate is 34.9 percent ($p_{2006} = 0.349$, Figure 2), and suppose $\alpha = 1.3$. Then the baseline sample size is $n = 2 \cdot \left(\frac{1.3 \cdot 1.64}{0.02}\right)^2 \cdot \left\{-0.02 + 0.016 \cdot 3 + 0.47 \cdot \left[0.349 \cdot (1 - 0.349)\right]\right\} = 3{,}064$. The same group of 3,064 households is scored at follow-up as well.

# 9. Targeting

When a program uses the scorecard for targeting, households with scores at or below a cut-off are labeled *targeted* and treated—for program purposes—as if they are below a given poverty line. Households with scores above a cut-off are labeled *non-targeted* and treated—for program purposes—as if they are above a given poverty line.

There is a distinction between *targeting status* (scoring at or below a targeting cut-off) and *poverty status* (having income below a poverty line). Poverty status is a fact that depends on whether income 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 scorecard.

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 scorecard is perfect, and targeting is unsuccessful when households truly below a poverty line are not targeted (*undercoverage*) or when households truly above a poverty line are targeted (*leakage*).

Figure 13 depicts these four possible targeting outcomes. Targeting accuracy varies by cut-off; a higher cut-off has better inclusion (but greater leakage), while a lower cut-off has better exclusion (but higher undercoverage).

A program 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).

Figure 14 shows the distribution of households by targeting outcome. For an example cut-off of 44 or less and the 2008 scorecard applied to the 2008 validation sample, outcomes for the national asset line are:

- Inclusion: 30.5 percent are below the line and correctly targeted
- Undercoverage: 10.5 percent are below the line and mistakenly not targeted
- Leakage: 12.3 percent are above the line and mistakenly targeted
- Exclusion: 46.7 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: 34.6 percent are below the line and correctly targeted
- Undercoverage: 6.3 percent are below the line and mistakenly not targeted
- Leakage: 18.8 percent are above the line and mistakenly targeted
- Exclusion: 40.2 percent are above the line and correctly not targeted

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

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

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

- Assign benefits and costs to possible outcomes, based on its values and mission
- Tally total net benefits for each cut-off using Figure 14 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. Any program that uses targeting—with or without scoring—should thoughtfully consider

how it values successful inclusion or 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 "Total Accuracy" (IRIS Center, 2005; Grootaert and Braithwaite, 1998). With "Total Accuracy", total net benefit is the number of households correctly included or correctly excluded:

| | | | | |
|---|---|---|---|---|
| Total Accuracy = | 1 | x | Households correctly included | – |
| | 0 | x | Households mistakenly undercovered | – |
| | 0 | x | Households mistakenly leaked | + |
| | 1 | x | Households correctly excluded. | |

Figure 14 shows "Total Accuracy" for all cut-offs for Mexico's scorecard. For the national asset line in the 2008 validation sample, total net benefit is greatest (77.2) for a cut-off of 39 or less or of 44 or less, with about four in five Mexican households correctly classified.

"Total Accuracy" weighs successful inclusion of households below the line the same as successful exclusion of households above the line. If a program valued inclusion more (say, twice as much) than exclusion, it could reflect this by setting the benefit for inclusion to 2 and the benefit for exclusion to 1. Then the chosen cut-off would maximize (2 x Households correctly included) + (1 x Households correctly excluded).[26]

[26] Figure 14 also reports "BPAC", the Balanced Poverty Accuracy Criteria adopted by USAID as its criterion for certifying poverty-assessment tools. IRIS Center (2005) says that BPAC considers accuracy both in terms of the estimated poverty rate and in terms of targeting inclusion. After normalizing by the number of people below the poverty line, the formula is:

As an alternative to assigning benefits and costs to targeting outcomes and then choosing a cut-off to maximize total net benefit, a program could set a cut-off to achieve a desired poverty rate among targeted households. The third column of Figure 15 ("% targeted who are poor") shows the expected poverty rate among Mexican households who score at or below a given cut-off. For the example of the national asset line and the 2008 validation sample, targeting households who score 44 or less would target 42.8 percent of all households (second column) and produce a poverty rate among those targeted of 71.2 percent (third column).

Figure 15 also reports two other measures of targeting accuracy. The first is a version of inclusion ("% of poor who are targeted"). For the example of the national asset line and the 2008 validation sample with a cut-off of 44, 74.4 percent of all poor households are covered.

The final targeting measure in Figure 15 is the number of successfully targeted poor households for each non-poor household mistakenly targeted (right-most column). For the national asset line, the 2008 validation sample, and a cut-off of 44, covering 2.5 poor households means leaking to 1 non-poor household.

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BPAC = (Inclusion + |Undercoverage – Leakage|) x [100 ÷ (Inclusion+Undercoverage)].

# 10. Conclusion

This paper presents the scorecard. Pro-poor organizations in Mexico can use it to estimate the likelihood that a household has income below a given poverty line, to estimate the poverty rate of a group of households at a point in time, and to estimate changes in the poverty rate of a group of households between two points in time. The scorecard can also be used for targeting.

The scorecard is inexpensive to use and can be understood by non-specialists. It is designed to be practical for local pro-poor organizations who want to improve how they monitor and manage their social performance in order to speed up their participants' progress out of poverty.

The scorecard is built with a sub-sample of data from the 2008 ENIGH, tested on a different sub-sample from the 2008 ENIGH and on the 2006, 2005 and 2004 ENIGH, and calibrated to eight poverty lines (national food, national capacity, national asset, 125% of the national asset, 150% of the national asset, USAID "extreme", $1.25/day 2005 PPP, and $2.50/day 2005 PPP).

Accuracy is reported for estimates of households' poverty likelihoods, groups' poverty rates at a point in time, and changes in groups' poverty rates over time. Of course, the scorecard's estimates of changes in poverty rates are not the same as estimates of program impact. Targeting accuracy and formula for standard errors are also reported.

When the scorecard is applied to the 2008 validation sample with $n = 16{,}384$, the difference between estimates and true poverty rates at a point in time is always less than –1.2 percentage points and averages—across the eight poverty lines—about –0.8 percentage points. With 90-percent confidence, the precision of these differences is +/– 0.6 percentage points or less. In this case, the scorecard is usually more precise than direct measurement.

When used to measure change across independent samples of $n = 16{,}384$ between the 2008 validation sample and the 2006, 2005, or 2004 ENIGH, the average absolute difference between estimates and true changes across poverty lines and years is large (about +2.7 percentage points), with a 90-percent confidence interval of +/–0.8 percentage points or less. The scorecard overestimates changes over time mainly because the 2008 ENIGH data from which the scorecard was built reflect a time of economic crisis, while earlier survey rounds reflect non-crisis periods. Future accuracy will depend on how closely the economic situation in Mexico resembles that of August 2008.

For targeting, programs can use the results reported here to select a cut-off that fits their values and mission.

Although the statistical technique is innovative, and although technical accuracy is important, the design of the scorecard here focuses on transparency and ease-of-use. After all, a perfectly accurate scorecard is worthless if programs feel so daunted by its complexity or its cost that they do not even try to use it. For this reason, the scorecard

is kept simple, using ten indicators that are inexpensive to collect and that are straightforward to verify. 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 related to poverty likelihoods via simple look-up tables, and targeting cut-offs are likewise simple to apply. The design attempts to facilitate adoption by helping managers understand and trust scoring and by allowing non-specialists to generate scores quickly in the field.

In sum, the scorecard is a practical, objective way for pro-poor programs in Mexico to monitor poverty rates, track changes in poverty rates over time, and target services, provided that it is applied during a period similar to that of August 2008, the point in time when the data used to construct the scorecard was collected. The same approach can be applied to any country with similar data from a national income or expenditure survey.

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# Appendix A: Definitions of Scorecard Indicators

The definitions here come from INEGI's *Manual de Encuestador: ENIGH 2008*. This document is available after a free, no-obligation registration at `http://www.inegi.org.mx/lib/usuarios/default.aspx?s=est&sistema=enigh&c=`. The *Manual* is then found at `http://www.inegi.org.mx/est/contenidos/espanol/metodologias/encuestas/hogares/m_enigh_08.pdf`, accessed 7 August 2009.

1. How many household members are ages 0 to 17?

According to page 4, "A *household* is defined as the group formed by one or more people who normally live in the same residence and who share consumption expenses, especially for food. The *members of the household* are those people in a residence who normally eat and sleep there, and who share expenses for meals. They may or may not be relatives."

2. What is the highest level that the female/head spouse has passed in school?

According to pp. 134–135, "college preparatory" provides the student "the knowledge that allows him/her to be admitted to an institution of higher education." The scholastic levels below college preparatory are none, pre-school, grade school, and high school.

"Normal school" trains teachers for pre-school, grade school, or high school.

"Technical/commercial" training is for "secretaries, information technologists, clerks, electricians, dental technicians, dieticians, hotel and restaurant managers, etc. This level may follow grade school, high school, or college preparatory. Advanced technical training is also classified here, because even though it requires college preparatory as a prerequisite, it does not award a degree".

"Professionals" are "those who have received degrees from universities, technical universities, polytechnic schools, and other institutions of higher education, be they public or private, whose prerequisites for admission include college preparatory". This includes engineers.

"Master's" includes "those people who have passed one or two years at this level, after having completed an undergraduate degree. Medical doctors are considered to be at this level if their course of studies lasted for at least two years"

"Doctorates" includes "those people who have passed 1 to 4 years at this level, after having received a master's degree. Medical doctors with a specialization are counted here."

3. How many household members have a written employment contract for a salary or for an indefinite period?

According to p. 183, a written employment contract is a "pact or covenant establishing in writing the rights and obligations of the labor relationship between an employee and an employer"

A contract for a salary or indefinite period is used for "employees whose labor relationship is governed by a written contract for an unspecified period of time."

4. What is the main material of the floor of this residence?

According to p. 90, "If there is no covering on the floor, mark 'Dirt'. If the floor has various coverings, mark the main one. If the respondent says that two or more coverings are used in equal proportions, then mark the lowest-quality one."

5. How is water supplied to the residence's toilet for flushing?

According to p. 99, the response is counted as "no water supply" when the toilet arrangement "does not require water to function, for example, in the case of dry latrines, pit toilets, or outhouses."

6. Does the residence have a medium sink for washing dishes?

The *Manual* for the 2008 ENIGH gives no specific guidance about this. The *Manual* for the 2006 ENIGH states that sinks should be counted if the household uses them, "independently of whether or not they are owned by the members of the household" (p. 93).

7. What fuel do you usually use to cook or heat food?

According to p. 85 in the *Manual* for the 2006 ENIGH, "when firewood and some other fuel are used equally, mark firewood." The 2008 *Manual* makes no specific comments about this indicator.

8. Does the household have a blender?

According to p. 151, only blenders owned by the household should be counted.

9. Does the household have an electric iron?

According to p. 151, only electric irons owned by the household should be counted. Also, according to the *Manual* for the 2006 ENIGH, "do not count portable irons used only when travelling."

10. How many televisions does the household have?

According to p. 151, only televisions owned by the household should be counted. Both black and white and color televisions should be counted.

# Figure 2: Sample sizes and household poverty rates by sub-sample, survey round and poverty line

| | | | % with income below a poverty line | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | National | National | National | 125% Natl. | 150% Natl. | USAID | International 2005 PPP | |
| **Sub-sample** | **Round** | **Households** | **Food** | **Capacity** | **Asset** | **Asset** | **Asset** | **'Extreme'** | **$1.25/day** | **$2.50/day** |
| **All Mexico** | 2008 | 29,403 | 14.4 | 20.3 | 40.7 | 51.6 | 60.4 | 19.2 | 1.6 | 8.5 |
| | 2006 | 20,480 | 10.4 | 15.8 | 34.9 | 46.3 | 55.3 | 16.8 | 1.2 | 6.7 |
| | 2005 | 22,894 | 14.0 | 19.5 | 39.5 | 50.6 | 60.0 | 18.9 | 2.2 | 9.4 |
| | 2004 | 22,130 | 13.9 | 20.3 | 40.7 | 51.6 | 60.4 | 20.0 | 2.6 | 9.5 |
| **Construction** | | | | | | | | | | |
| Selecting indicators and weights | 2008 | 9,768 | 14.2 | 20.1 | 40.6 | 51.5 | 60.1 | 18.9 | 1.5 | 8.2 |
| **Calibration** | | | | | | | | | | |
| Associating scores with likelihoods | 2008 | 9,785 | 14.0 | 20.0 | 40.5 | 51.7 | 60.5 | 18.9 | 1.5 | 8.1 |
| **Validation** | | | | | | | | | | |
| Measuring accuracy | 2008 | 9,850 | 15.0 | 21.0 | 40.9 | 51.8 | 60.6 | 19.9 | 1.8 | 9.2 |
| **Change in poverty rate (percentage points)** | | | | | | | | | | |
| From 2008 construction/calibration to 2008 validation | | | –0.9 | –0.9 | –0.4 | –0.2 | –0.3 | –1.0 | –0.3 | –1.0 |
| From 2008 validation to 2006 for all Mexico | | | +4.7 | +5.2 | +6.1 | +5.5 | +5.3 | +3.1 | +0.6 | +2.5 |
| From 2008 validation to 2005 for all Mexico | | | +1.0 | +1.4 | +1.4 | +1.2 | +0.6 | +0.9 | –0.4 | –0.2 |
| From 2008 validation to 2004 for all Mexico | | | +1.1 | +0.7 | +0.2 | +0.1 | +0.2 | –0.1 | –0.8 | –0.3 |

Source: ENIGH, after removing most heavily weighted cases and breaking up other heavily weighted cases.

# Figure 3: Poverty lines and poverty rates by survey round and by urban/rural/all Mexico (household level)

| | | Line or rate | Poverty line (MXN/person/day) and poverty rate (%) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | National Food | National Capacity | National Asset | 125% Natl. Asset | 150% Natl. Asset | USAID 'Extreme' | International 2005 PPP $1.25/day | International 2005 PPP $2.50/day |
| **Urban** | 2002 | Line | 22.10 | 27.11 | 44.35 | 55.43 | 66.52 | 29.68 | 9.17 | 18.34 |
| | | Rate | 8.5 | 13.2 | 34.5 | 46.7 | 55.9 | 16.1 | 0.4 | 4.8 |
| | 2004 | Line | 24.32 | 29.82 | 48.79 | 60.98 | 73.18 | 32.35 | 10.14 | 20.28 |
| | | Rate | 8.7 | 14.2 | 34.3 | 45.8 | 55.0 | 16.5 | 1.0 | 5.3 |
| | 2005 | Line | 26.00 | 31.89 | 52.16 | 65.20 | 78.24 | 34.56 | 10.49 | 20.98 |
| | | Rate | 7.7 | 12.4 | 32.0 | 43.8 | 53.7 | 15.2 | 0.7 | 4.1 |
| | 2006 | Line | 26.63 | 32.66 | 53.42 | 66.78 | 80.13 | 36.53 | 10.92 | 21.85 |
| | | Rate | 5.9 | 10.6 | 29.3 | 40.7 | 50.0 | 14.0 | 0.5 | 3.3 |
| | 2008 | Line | 31.21 | 38.28 | 62.62 | 78.28 | 93.94 | 41.40 | 12.20 | 24.39 |
| | | Rate | 8.2 | 13.6 | 33.3 | 44.3 | 53.9 | 15.9 | 0.7 | 4.2 |
| **Rural** | 2002 | Line | 26.62 | 19.23 | 29.52 | 36.90 | 44.28 | 15.71 | 6.75 | 13.50 |
| | | Rate | 27.8 | 35.4 | 56.0 | 65.8 | 73.7 | 26.5 | 4.0 | 20.6 |
| | 2004 | Line | 18.02 | 21.31 | 32.70 | 40.88 | 49.05 | 18.20 | 7.52 | 15.03 |
| | | Rate | 22.9 | 29.9 | 49.3 | 61.9 | 69.3 | 23.3 | 5.0 | 16.6 |
| | 2005 | Line | 19.21 | 22.71 | 34.86 | 43.58 | 52.29 | 18.70 | 7.75 | 15.50 |
| | | Rate | 26.1 | 32.9 | 53.9 | 64.6 | 73.0 | 24.9 | 4.9 | 18.5 |
| | 2006 | Line | 19.68 | 23.27 | 35.72 | 44.65 | 53.58 | 20.94 | 8.08 | 16.15 |
| | | Rate | 19.5 | 26.5 | 47.2 | 59.1 | 68.1 | 22.1 | 2.7 | 13.7 |
| | 2008 | Line | 23.23 | 27.47 | 42.16 | 52.70 | 63.24 | 22.54 | 9.08 | 18.16 |
| | | Rate | 26.3 | 32.7 | 53.6 | 64.5 | 71.6 | 24.8 | 3.3 | 16.8 |
| **All Mexico** | 2002 | Line | 19.95 | 24.20 | 38.88 | 48.60 | 58.32 | 24.53 | 8.28 | 16.55 |
| | | Rate | 15.6 | 21.4 | 42.4 | 53.7 | 62.5 | 19.9 | 1.7 | 10.6 |
| | 2004 | Line | 22.04 | 26.74 | 42.97 | 53.71 | 64.46 | 27.24 | 9.19 | 18.38 |
| | | Rate | 13.8 | 19.9 | 39.7 | 51.6 | 60.2 | 19.0 | 2.4 | 9.4 |
| | 2005 | Line | 23.65 | 28.71 | 46.18 | 57.72 | 69.26 | 29.07 | 9.54 | 19.08 |
| | | Rate | 14.1 | 19.4 | 39.6 | 51.0 | 60.4 | 18.5 | 2.2 | 9.1 |
| | 2006 | Line | 24.23 | 29.42 | 47.32 | 59.15 | 70.97 | 31.15 | 9.94 | 19.88 |
| | | Rate | 10.6 | 16.1 | 35.5 | 47.1 | 56.2 | 16.8 | 1.2 | 6.9 |
| | 2008 | Line | 28.52 | 34.63 | 55.71 | 69.64 | 83.56 | 35.02 | 11.14 | 22.28 |
| | | Rate | 14.3 | 20.1 | 40.2 | 51.2 | 59.9 | 18.9 | 1.6 | 8.5 |

Source: ENIGH, complete sample. All-Mexico figures are population-weighted averages of urban and rural figures.

# Figure 3 (cont.): Poverty lines and poverty rates by survey round and by urban/rural/all Mexico (person level)

| | | or | National | National | National | 125% Natl. | 150% Natl. | USAID | International 2005 PPP | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | rate | Food | Capacity | Asset | Asset | Asset | 'Extreme' | $1.25/day | $2.50/day |
| **Urban** | 2002 | Line | 22.10 | 27.11 | 44.35 | 55.43 | 66.52 | 29.68 | 9.17 | 18.34 |
| | | Rate | 11.3 | 17.2 | 41.1 | 53.8 | 63.0 | 20.6 | 0.5 | 6.4 |
| | 2004 | Line | 24.32 | 29.82 | 48.79 | 60.98 | 73.18 | 32.35 | 10.14 | 20.28 |
| | | Rate | 11.0 | 17.8 | 41.1 | 53.2 | 62.5 | 20.6 | 1.0 | 6.5 |
| | 2005 | Line | 26.00 | 31.89 | 52.16 | 65.20 | 78.24 | 34.56 | 10.49 | 20.98 |
| | | Rate | 9.9 | 15.8 | 38.3 | 51.1 | 61.2 | 19.1 | 0.7 | 5.4 |
| | 2006 | Line | 26.63 | 32.66 | 53.42 | 66.78 | 80.13 | 36.53 | 10.92 | 21.85 |
| | | Rate | 7.5 | 13.6 | 35.6 | 48.4 | 57.9 | 17.8 | 0.5 | 4.2 |
| | 2008 | Line | 31.21 | 38.28 | 62.62 | 78.28 | 93.94 | 41.40 | 12.20 | 24.39 |
| | | Rate | 10.6 | 17.2 | 39.8 | 51.8 | 61.6 | 19.9 | 0.8 | 5.3 |
| **Rural** | 2002 | Line | 26.62 | 19.23 | 29.52 | 36.90 | 44.28 | 15.71 | 6.75 | 13.50 |
| | | Rate | 34.0 | 42.6 | 64.3 | 73.6 | 80.5 | 32.1 | 5.0 | 25.5 |
| | 2004 | Line | 18.02 | 21.31 | 32.70 | 40.88 | 49.05 | 18.20 | 7.52 | 15.03 |
| | | Rate | 28.0 | 36.2 | 57.4 | 69.5 | 75.8 | 28.7 | 6.6 | 20.9 |
| | 2005 | Line | 19.21 | 22.71 | 34.86 | 43.58 | 52.29 | 18.70 | 7.75 | 15.50 |
| | | Rate | 32.3 | 39.8 | 61.8 | 72.1 | 79.3 | 30.9 | 6.6 | 23.5 |
| | 2006 | Line | 19.68 | 23.27 | 35.72 | 44.65 | 53.58 | 20.94 | 8.08 | 16.15 |
| | | Rate | 24.5 | 32.7 | 54.6 | 66.6 | 75.6 | 27.3 | 3.7 | 17.6 |
| | 2008 | Line | 23.23 | 27.47 | 42.16 | 52.70 | 63.24 | 22.54 | 9.08 | 18.16 |
| | | Rate | 31.8 | 39.1 | 60.8 | 70.9 | 77.2 | 30.4 | 4.6 | 20.9 |
| **All Mexico** | 2002 | Line | 19.87 | 24.10 | 38.68 | 48.36 | 58.03 | 24.35 | 8.24 | 16.49 |
| | | Rate | 20.0 | 26.9 | 50.0 | 61.4 | 69.7 | 25.0 | 2.2 | 13.7 |
| | 2004 | Line | 21.96 | 26.63 | 42.76 | 53.45 | 64.14 | 27.05 | 9.16 | 18.31 |
| | | Rate | 17.4 | 24.7 | 47.2 | 59.3 | 67.5 | 23.6 | 3.1 | 11.9 |
| | 2005 | Line | 23.48 | 28.48 | 45.74 | 57.18 | 68.61 | 28.68 | 9.47 | 18.95 |
| | | Rate | 18.2 | 24.7 | 47.0 | 58.9 | 67.9 | 23.5 | 2.9 | 12.1 |
| | 2006 | Line | 24.07 | 29.21 | 46.92 | 58.64 | 70.37 | 30.80 | 9.88 | 19.75 |
| | | Rate | 13.8 | 20.7 | 42.6 | 55.0 | 64.4 | 21.3 | 1.7 | 9.1 |
| | 2008 | Line | 28.34 | 34.39 | 55.25 | 69.06 | 82.88 | 34.60 | 11.07 | 22.14 |
| | | Rate | 18.2 | 25.1 | 47.4 | 58.7 | 67.2 | 23.7 | 2.2 | 10.9 |

Source: ENIGH, complete sample. All-Mexico figures are population-weighted averages of urban and rural figures.

## Figure 4: Poverty indicators by uncertainty coefficient

| Uncertainty coefficient | Indicator (Answers ordered starting with those most strongly indicative of poverty) |
|---|---|
| 1153 | How is water supplied to the residence's toilet for flushing? (No toilet, or no water supply; Carried by bucket; Piped) |
| 1144 | How many household members are ages 0 to 16? (Four or more; Three; Two; One; None) |
| 1136 | How many household members are ages 0 to 17? (Four or more; Three; Two; One; None) |
| 1133 | How many household members are ages 0 to 15? (Four or more; Three; Two; One; None) |
| 1113 | How many household members are ages 0 to 14? (Four or more; Three; Two; One; None) |
| 1091 | Does the residence have a shower? (No: Yes) |
| 1087 | How many household members are ages 0 to 18? (Four or more; Three; Two; One; None) |
| 1057 | What is the main material of the floor of this residence? (Dirt; Cement/concrete; Other) |
| 1025 | What is the highest level that the female head/ spouse has passed in school? (None; Up to third grade; Fourth grade through high school; College preparatory 1–3; Normal/technical/commercial; No female head/spouse; Professional, master's or doctorate) |
| 1020 | What is the highest grade or year a family member has passed in school? (College preparatory or less; Normal/technical/commercial; Professional or graduate) |
| 1008 | How many full bathrooms are in this residence? (None; One or more) |
| 998 | How many household members are ages 0 to 13? (Three or more; Two; One; None) |
| 980 | Does the residence have a medium sink for washing dishes? (No; Yes) |
| 955 | How many household members are ages 0 to 12? (Three or more; Two; One; None) |
| 916 | How many household members are workers, employees, or day laborers, or work in agriculture, animal husbandry, forestry, hunting, or fishing? (Someone works in agriculture, animal husbandry, forestry, hunting, or fishing; No one works in agriculture, animal husbandry, forestry, hunting, or fishing, and no one has a written contract for a salary or for an indefinite period; Regardless of whether anyone works in agriculture, animal husbandry, forestry, hunting, or fishing, no one has a written contract for a salary or for an indefinite period; Regardless of whether anyone works in agriculture, animal husbandry, forestry, hunting, or fishing, one person has a written contract for a salary or for an indefinite period) |

## Figure 4 (cont.): Poverty indicators by uncertainty coefficient

| Uncertainty coefficient | Indicator (Answers ordered starting with those most strongly associated with poverty) |
|---|---|
| 903 | How many household members are ages 0 to 11? (Three or more; Two; One; None) |
| 871 | Does the residence have a water heater?(No; Yes) |
| 855 | Does the household have a land-line telephone or a mobile or cellular telephone? (No; Yes) |
| 846 | Does the household have a microwave oven? (No; Yes) |
| 824 | What is the highest grade in school that the male head/spouse passed? (None; Second grade or less; Third grade to eighth grade; Ninth grade; No male head/spouse present; College preparatory 1, 2, or 3; Normal or normal/technical/commercial level 1, 2, 3 or 4; Professional or graduate) |
| 783 | Does the household have a land-line telephone? (No; Yes) |
| 771 | Does the household have a computer? (No; Yes) |
| 735 | What did the male head/spouse do in his job last month? (Helper, unskilled laborer, and the like in artisanal and industrial manufacturing, repair, and maintenance; Worker in agriculture, animal husbandry, forestry, hunting, and fishing, or other occupations incompletely specified; Domestic servant, travelling salesperson and mobile service worker, or machine operator in industrial manufacturing; Male head/spouse does not work; Skilled worker in manufacturing, maintenance, and repair, or personal service worker; No male head/spouse present; Transportation operator and assistant, or police, security guard, and the armed forces; Salesperson and other retail worker, administrative assistant, or technician; Sports and entertainment figure, manager and supervisor in manufacturing (artisanal and industrial) and in repair and maintenance, educational worker, professional, director and executive in the public, private, and non-profit sectors, and mid- and upper-level manager and administrator) |

## Figure 4 (cont.): Poverty indicators by uncertainty coefficient

| Uncertainty coefficient | Indicator (Answers ordered starting with those most strongly associated with poverty) |
|---|---|
| 733 | What did the female head/spouse do in her job last month? (Worker in agriculture, animal husbandry, forestry, hunting, and fishing or other occupations incompletely specified; Skilled worker in manufacturing, maintenance, and repair; The female head/spouse does not work; Domestic servant; Travelling salesperson and mobile service worker; Personal service worker, machine operator in industrial manufacturing, or transportation operator and assistant; No female head/spouse present; Helper, unskilled laborer, and the like in artisanal and industrial manufacturing, repair, and maintenance, salesperson and other retail worker, or police, security guard, and the armed forces; Administrative assistant, technicians, sports and entertainment figure, manager and supervisor in manufacturing (artisanal and industrial) and in repair and maintenance, educational worker, professional, director and executive in the public, private, and non-profit sectors, and mid- and upper-level manager and administrator) |
| 694 | What fuel do you usually use to cook or heat food? (Firewood; Other) |
| 662 | How many household members have a written employment contract for a salary or for an indefinite period? (None; One; Two or more) |
| 660 | Does the household have an automatic clothes washer? (No; Yes) |
| 641 | How many household members are there? (Seven or more; Six; Five; Four; Three; Two; One) |
| 636 | How many rooms does this residence have overall, counting kitchens but not counting hallways or bathrooms? (One or two; Three or no data; Four; Five or more) |
| 636 | How many electric lights does the residence have? (None, one, two, three, or four; Five; Six; Seven or eight; Nine or ten; Eleven or more) |
| 625 | Do all children in the household ages 5 to 14 attend school? (No; Yes; There are no children in this age range) |
| 624 | What is the household's source of water? (Other; Public network, inside the residence) |
| 622 | Does the household have an automobile, a van or minivan, or a pick-up truck? (No; Yes) |
| 612 | Do all children in the household ages 5 to 15 attend school? (No; Yes; There are no children in this age range) |
| 607 | Do all children in the household ages 5 to 16 attend school? (No; Yes; There are no children in this age range) |

## Figure 4 (cont.): Poverty indicators by uncertainty coefficient

| Uncertainty coefficient | Indicator (Answers ordered starting with those most strongly associated with poverty) |
|---|---|
| 593 | Do all children in the household ages 5 to 13 attend school? (No; Yes; There are no children in this age range) |
| 587 | Do all children in the household ages 5 to 17 attend school? (No; Yes; There are no children in this age range) |
| 581 | How many televisions does the household have? (None; One; Two; Three or more) |
| 576 | What is the main material of the roof of this residence? (No data, scrap material, cardboard sheets, metal sheets or asbestos, or reeds, bamboo, palm leaves, or straw; Flat roof made of rafters or steel beams with breeze blocks, cinder blocks, or formed plastic; Wood or shingles, solid concrete or concrete with breeze blocks or cinder blocks, or other;) |
| 573 | Do all children in the household ages 5 to 12 attend school? (No; Yes; There are no children in this age range) |
| 567 | Do all children in the household ages 5 to 11 attend school? (No; Yes; There are no children in this age range) |
| 546 | Does the household have internet? (No; Yes) |
| 542 | How many household members work as domestic servants, or in agriculture, animal husbandry, forestry, hunting, and fishing, or as workers, helpers, unskilled laborers, and the like in artisanal and industrial manufacturing, maintenance, and repair? (Three or more; Two; One; None) |
| 531 | Do all children in the household ages 5 to 18 attend school? (No; Yes; There are no children in this age range) |
| 526 | Does the household have a toaster? (No; Yes) |
| 526 | Does the household have an electric oven? (No; Yes) |
| 517 | Does the household have cable television, SKY, or Multivision? (No; Yes) |
| 515 | Does the household have a drain or sewer connected to . . .? (Other; Public sewer network) |
| 507 | Does the household have a refrigerator? (No; Yes) |
| 505 | Does the household have a mobile or cellular telephone? (No; Yes) |
| 499 | Does the residence have a water tank on the roof? (No; Yes) |

## Figure 4 (cont.): Poverty indicators by uncertainty coefficient

| Uncertainty coefficient | Indicator (Answers ordered starting with those most strongly associated with poverty) |
|---|---|
| 495 | If the female head/spouse is working, what kind of contract does she have? (The female head/spouse does not work; No written contract; Temporary or for a specific job; No female head/spouse present; Salaried for an indefinite period) |
| 487 | How many household members work in agriculture, animal husbandry, forestry, hunting, or fishing? (Two or more; One; None) |
| 456 | How many meters squared is the residence? (Less than 70; 70 to 90; 91 to 120; 121 to 160; 161 or more; Does not know) |
| 436 | How many household members are ages 0 to 5? (Two or more; One; None) |
| 435 | Is any household member receiving a scholarship to attend school this year from OPORTUNIDADES? (No; Yes) |
| 414 | Does the household have a vacuum cleaner?(No; Yes) |
| 395 | Does the household have an electric stove? (No; Yes) |
| 382 | Does the residence have a propane tank? (No; Yes) |
| 373 | What position did the female head/spouse hold in her job last month? (Day laborer, unremunerated worker in a business not owned by the family, self-employed (alone or with non-remunerated employees), or the female head/spouse does not work; Unremunerated worker in a family business; Worker or employee; No female head/spouse present, employer with one or more paid employees, or member of a cooperative) |
| 371 | Does the household have a DVD player? (No; Yes) |
| 350 | Does the residence have a cistern or rain-catchment system? (No; Yes) |
| 349 | Does the residence have a water pump? (No; Yes) |
| 346 | Can the female head/spouse read and write a letter? (No; Yes; No female head/spouse present) |
| 286 | How many fans does the household have? (None: One; Two; Three or more) |
| 281 | Does the household have an electric iron? (No; Yes) |
| 280 | Does the household have a blender? (No; Yes) |
| 280 | If the male head/spouse is working, what kind of contract does he have? (No written contract; Temporary or for a specific job; Male head/spouse does not work; No male head/spouse present; Salaried for an indefinite period) |

## Figure 4 (cont.): Poverty indicators by uncertainty coefficient

| Uncertainty coefficient | Indicator (Answers ordered starting with those most strongly associated with poverty) |
|---|---|
| 270 | What is the current marital status of the female head/spouse? (Co-habiting; Widowed; Married; Separated; Single; No female head/spouse present; Divorced) |
| 249 | Does the household have a stereo system? (No; Yes) |
| 249 | Does the household have a CD player? (No; Yes) |
| 239 | Did the female head/spouse work last month? (No; Yes; No female head/spouse present) |
| 235 | What is the main material of the walls of this residence? (Other; Bricks, breeze blocks, cinder blocks, or concrete) |
| 231 | Does any household member attend a private or self-pay school? (No; Yes) |
| 221 | Does the residence have a lavatory (toilet)? (No; Yes) |
| 217 | What is the current marital status of the male head/spouse? (Co-habiting, or no data; Married, or no male head/spouse present; Widowed, separated, single or divorced) |
| 215 | Does the household have a VCR? (No; Yes) |
| 191 | Does the male head/spouse speak an indigenous language or dialect? (Yes; No; No male head/spouse present) |
| 191 | Does any household member speak an indigenous language or dialect? (Yes; No) |
| 182 | How many rooms are used as bedrooms, not counting hallways? (One; Two; Three or more) |
| 180 | Is this toilet used only by people who live in this household? (There is no toilet; No; Yes) |
| 178 | What type of residence does the household have? (A single-family detached house that shares a yard with another residence, a room or a residence on the roof of a building, building not intended for human habitation, or no data; A single-family detached house or a non-detached house that also shares a yard with another residence; Apartment in an apartment building or a duplex or multi-unit house) |
| 169 | Does the household have a video-game machine? (No; Yes) |
| 161 | What is the structure of household headship? (Both male and female heads/spouses present; Only female head/spouse present; Only male head/spouse present) |
| 142 | How many household members work as workers or employees? (None; One; Two or more) |
| 136 | Does the residence have a large sink for washing clothes, a medium sink for washing dishes, or a small basin for washing hands? (No; Yes) |

## Figure 4 (cont.): Poverty indicators by uncertainty coefficient

| Uncertainty coefficient | Indicator (Answers ordered starting with those most strongly associated with poverty) |
|---|---|
| 133 | What position did the male head/spouse hold in his job last month? (Day laborer or unremunerated worker in a business not owned by the family; Unremunerated worker in a family business or self-employed (alone or with non-remunerated employees); Male head/spouse does not work; No male head/spouse present; Worker or employee or member of a cooperative; Employer with one or more paid employees) |
| 126 | How long ago was this residence built? (10 years or less; No data o unknown; 11 to 20 years; 21 years or more) |
| 125 | Can the male head/spouse read and write a letter? (No; Yes, or no male head/spouse present) |
| 110 | Does anyone sleep in the room used for cooking? (Yes; No) |
| 104 | Does the residence have a water tank on the roof, a cistern or rain-catchment system, or a water storage tank? (No; Yes) |
| 99 | Does the residence have a kitchen? (No; Yes) |
| 88 | How old is the male head/spouse? (Up to 39; 40 to 49, 60 or more, or no male head/spouse present; 50 to 59) |
| 80 | Does the household have a bicycle used as a means of transport? (Yes; No) |
| 71 | Does the household have a sewing machine? (No; Yes) |
| 68 | How many household members are self-employed or run their own businesses? (Two or more; One; None) |
| 67 | Does the residence have a water storage tank? (No; Yes) |
| 67 | In the past month, how many household members worked? (One; None; Three or more; Two) |
| 62 | What is the household's source of electricity? (Other; Public grid) |
| 60 | What is the tenancy status of the household in its residence? (Lent, involved in a lawsuit, other arrangement, or no data; Rented; Owned free-and-clear or mortgaged) |
| 51 | How many household members work without remuneration? (One or more; None) |
| 38 | Does the household have a radio/tape player with out without a CD player? (Yes; No) |
| 29 | Does the household have a radio? (No; Yes) |
| 15 | Does the household have a motorcycle or scooter? (No; Yes) |
| 14 | Did the male head/spouse work last month? (No; Yes; No male head/spouse) |
| 13 | Does the residence have a large sink for washing clothes? (No; Yes) |

Source: ENIGH 2008 and the national asset poverty line.

# National Food Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

# (and tables pertaining to all eight poverty lines)

## Figure 5 (National 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 | 83.9 |
| 5–9 | 80.7 |
| 10–14 | 68.0 |
| 15–19 | 51.4 |
| 20–24 | 46.9 |
| 25–29 | 35.7 |
| 30–34 | 27.8 |
| 35–39 | 15.7 |
| 40–44 | 9.9 |
| 45–49 | 7.5 |
| 50–54 | 4.6 |
| 55–59 | 2.2 |
| 60–64 | 1.1 |
| 65–69 | 0.9 |
| 70–74 | 0.2 |
| 75–79 | 0.0 |
| 80–84 | 0.0 |
| 85–89 | 0.0 |
| 90–94 | 0.0 |
| 95–100 | 0.0 |

## Figure 6 (National food line): Derivation of estimated poverty likelihoods associated with scores

| Score | Households below poverty line | | All households at score | | Poverty likelihood (estimated, %) |
|---|---|---|---|---|---|
| 0–4 | 378 | ÷ | 451 | = | 83.9 |
| 5–9 | 690 | ÷ | 855 | = | 80.7 |
| 10–14 | 874 | ÷ | 1,285 | = | 68.0 |
| 15–19 | 1,450 | ÷ | 2,822 | = | 51.4 |
| 20–24 | 2,074 | ÷ | 4,424 | = | 46.9 |
| 25–29 | 2,401 | ÷ | 6,720 | = | 35.7 |
| 30–34 | 2,343 | ÷ | 8,425 | = | 27.8 |
| 35–39 | 1,290 | ÷ | 8,231 | = | 15.7 |
| 40–44 | 946 | ÷ | 9,587 | = | 9.9 |
| 45–49 | 796 | ÷ | 10,668 | = | 7.5 |
| 50–54 | 446 | ÷ | 9,639 | = | 4.6 |
| 55–59 | 200 | ÷ | 9,054 | = | 2.2 |
| 60–64 | 97 | ÷ | 8,489 | = | 1.1 |
| 65–69 | 57 | ÷ | 6,439 | = | 0.9 |
| 70–74 | 9 | ÷ | 4,668 | = | 0.2 |
| 75–79 | 0 | ÷ | 3,995 | = | 0.0 |
| 80–84 | 0 | ÷ | 2,455 | = | 0.0 |
| 85–89 | 0 | ÷ | 915 | = | 0.0 |
| 90–94 | 0 | ÷ | 776 | = | 0.0 |
| 95–100 | 0 | ÷ | 101 | = | 0.0 |

# Figure 7 (All poverty lines): Distribution of household poverty likelihoods across ranges demarcated by poverty lines

| | Likelihood of having income in range demarcated by poverty lines per day per capita | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **<$1.25/day** | **=>$1.25/day and <$2.50/day** | **=>$2.50/day and <Natl. Food** | **=>Natl. Food and <Natl. Capacity** | **=>Natl. Capacity and <Natl. Asset** | **=>Natl. Asset and <125% Natl. Assets** | **=>125% Natl. Assets and <150% Natl. Assets** | **=>150% Natl. Assets** |
| **Score** | **<MXN9.94** | **=>MXN9.94 and <MXN19.88** | **=>MXN19.88 and <MXN24.23** | **=>MXN24.23 and <MXN29.42** | **=>MXN29.42 and <MXN47.32** | **=>MXN47.32 and <MXN59.15** | **=>MXN59.15 and <MXN70.97** | **=>MXN70.97** |
| 0–4 | 24.9 | 39.6 | 19.4 | 5.7 | 9.2 | 0.0 | 1.3 | 0.0 |
| 5–9 | 21.3 | 45.2 | 14.2 | 8.2 | 8.2 | 1.4 | 1.5 | 0.0 |
| 10–14 | 13.4 | 37.9 | 16.8 | 8.4 | 17.7 | 3.3 | 0.6 | 1.9 |
| 15–19 | 8.5 | 16.7 | 26.2 | 16.4 | 24.4 | 3.9 | 1.6 | 2.3 |
| 20–24 | 4.5 | 28.8 | 13.5 | 14.5 | 25.4 | 5.7 | 3.6 | 3.9 |
| 25–29 | 2.8 | 15.8 | 17.1 | 13.7 | 31.7 | 8.6 | 4.7 | 5.6 |
| 30–34 | 1.9 | 12.7 | 13.2 | 12.7 | 31.0 | 12.9 | 6.4 | 9.2 |
| 35–39 | 0.9 | 6.7 | 8.1 | 9.6 | 34.9 | 14.8 | 9.4 | 15.6 |
| 40–44 | 0.6 | 3.9 | 5.4 | 5.1 | 35.6 | 13.8 | 11.0 | 24.6 |
| 45–49 | 0.1 | 3.8 | 3.6 | 6.4 | 27.7 | 18.3 | 11.0 | 29.1 |
| 50–54 | 0.7 | 2.1 | 1.9 | 3.5 | 18.3 | 16.1 | 14.3 | 43.2 |
| 55–59 | 0.4 | 0.7 | 1.2 | 2.7 | 12.9 | 13.6 | 14.0 | 54.6 |
| 60–64 | 0.1 | 0.5 | 0.5 | 1.2 | 8.3 | 8.5 | 9.8 | 71.0 |
| 65–69 | 0.0 | 0.8 | 0.1 | 0.5 | 5.1 | 6.7 | 6.6 | 80.1 |
| 70–74 | 0.0 | 0.0 | 0.2 | 0.2 | 2.4 | 3.6 | 5.9 | 87.7 |
| 75–79 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 3.1 | 5.0 | 91.8 |
| 80–84 | 0.0 | 0.0 | 0.0 | 0.5 | 1.5 | 0.9 | 2.4 | 94.7 |
| 85–89 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| 90–94 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |
| 95–100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 |

Note: All poverty likelihoods in percentage units.

The USAID 'extreme' line is very similar to the national capacities line.

**Figure 8 (National food line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –10.6 | 7.1 | 7.3 | 7.7 |
| 5–9 | –9.2 | 6.6 | 7.0 | 7.9 |
| 10–14 | –1.4 | 7.1 | 8.5 | 11.3 |
| 15–19 | –5.9 | 5.1 | 5.8 | 6.9 |
| 20–24 | +8.1 | 3.3 | 3.9 | 5.2 |
| 25–29 | –3.0 | 3.1 | 3.6 | 4.8 |
| 30–34 | –3.1 | 2.8 | 3.0 | 4.1 |
| 35–39 | –1.6 | 2.0 | 2.4 | 3.0 |
| 40–44 | –2.7 | 2.2 | 2.3 | 2.6 |
| 45–49 | –1.7 | 1.5 | 1.6 | 2.0 |
| 50–54 | +0.0 | 1.1 | 1.3 | 1.6 |
| 55–59 | –0.1 | 0.7 | 0.9 | 1.2 |
| 60–64 | +0.9 | 0.2 | 0.2 | 0.3 |
| 65–69 | –0.4 | 0.8 | 0.9 | 1.2 |
| 70–74 | +0.2 | 0.0 | 0.0 | 0.1 |
| 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 |

## Figure 9 (All poverty lines): Differences, precision of differences, and the α factor for bootstrapped estimates of poverty rates for groups of households at a point in time, 2008 scorecard applied to the 2008 validation sample and to the 2006, 2005, and 2004 ENIGH

| | Poverty line | | | | | | |
|---|---|---|---|---|---|---|---|
| | National | National | National | 125% Natl. | 150% Natl. | USAID | International 2005 PPP |
| | Food | Capacity | Asset | Asset | Asset | 'Extreme' | $1.25/day | $2.50/day |
| **Estimate minus true value** | | | | | | | | |
| 2008 scorecard applied to 2008 validation | –0.9 | –0.9 | –0.4 | –0.9 | –1.2 | –0.8 | –0.1 | –0.8 |
| 2008 scorecard applied to all 2006 | +3.7 | +3.9 | +4.5 | +3.7 | +3.0 | +1.9 | +0.4 | +1.8 |
| 2008 scorecard applied to all 2005 | +1.6 | +3.5 | +4.5 | +3.5 | +1.3 | +3.6 | –0.4 | +0.8 |
| 2008 scorecard applied to all 2004 | +2.8 | +2.6 | +3.2 | +3.8 | +3.4 | +1.8 | –0.7 | +0.5 |
| | | | | | | | | |
| **Precision of difference** | | | | | | | | |
| 2008 scorecard applied to 2008 validation | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.5 | 0.2 | 0.4 |
| 2008 scorecard applied to all 2006 | 0.3 | 0.4 | 0.5 | 0.6 | 0.6 | 0.4 | 0.1 | 0.3 |
| 2008 scorecard applied to all 2005 | 0.5 | 0.6 | 0.8 | 0.8 | 0.8 | 0.6 | 0.2 | 0.4 |
| 2008 scorecard applied to all 2004 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.3 | 0.4 |
| | | | | | | | | |
| **α for sample size** | | | | | | | | |
| 2008 scorecard applied to 2008 validation | 1.03 | 1.02 | 0.96 | 0.95 | 0.92 | 1.04 | 0.99 | 1.07 |
| 2008 scorecard applied to all 2006 | 0.76 | 0.81 | 0.87 | 0.93 | 0.92 | 0.88 | 0.71 | 0.77 |
| 2008 scorecard applied to all 2005 | 1.14 | 1.14 | 1.22 | 1.24 | 1.21 | 1.14 | 1.14 | 1.11 |
| 2008 scorecard applied to all 2004 | 1.08 | 1.07 | 0.99 | 0.93 | 0.91 | 1.09 | 1.48 | 1.15 |
| Precision is measured as 90-percent confidence intervals in units of +/– percentage points. | | | | | | | | |
| Differences and precision estimated from 500 bootstraps of size $n$ = 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. | | | | | | | | |

**Figure 10 (National food line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –2.7 | 60.0 | 68.5 | 81.7 |
| 4 | –0.5 | 29.4 | 37.3 | 48.9 |
| 8 | –1.4 | 20.7 | 24.6 | 35.6 |
| 16 | –1.2 | 14.9 | 18.0 | 23.6 |
| 32 | –1.3 | 10.0 | 11.8 | 16.0 |
| 64 | –1.3 | 7.7 | 9.2 | 12.5 |
| 128 | –1.1 | 5.4 | 6.7 | 8.8 |
| 256 | –1.0 | 3.8 | 4.4 | 6.1 |
| 512 | –1.0 | 2.6 | 3.1 | 4.3 |
| 1,024 | –0.9 | 1.9 | 2.2 | 3.0 |
| 2,048 | –0.9 | 1.3 | 1.6 | 2.2 |
| 4,096 | –0.9 | 0.9 | 1.1 | 1.4 |
| 8,192 | –0.9 | 0.7 | 0.8 | 1.0 |
| 16,384 | –0.9 | 0.5 | 0.6 | 0.8 |

## Figure 11 (All poverty lines): Differences, precision of differences, and the α factor for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and to the 2006, 2005, and 2004 ENIGH

| | Poverty line | | | | | | |
|---|---|---|---|---|---|---|---|
| | National Food | National Capacity | National Asset | 125% Natl. Asset | 150% Natl. Asset | USAID 'Extreme' | International 2005 PPP $1.25/day | International 2005 PPP $2.50/day |
| **Estimated change minus true change** | | | | | | | | |
| 2008 scorecard applied to 2008 validation and all 2006 | +4.6 | +4.8 | +4.9 | +4.6 | +4.2 | +2.6 | +0.5 | +2.6 |
| 2008 scorecard applied to 2008 validation and all 2005 | +1.7 | +2.4 | +1.1 | +1.6 | +0.5 | +2.9 | +0.1 | +0.9 |
| 2008 scorecard applied to 2008 validation and all 2004 | +3.7 | +3.4 | +3.7 | +4.7 | +4.6 | +2.6 | –0.6 | +1.3 |
| | | | | | | | | |
| **Precision of estimated change minus true change** | | | | | | | | |
| 2008 scorecard applied to 2008 validation and all 2006 | 0.6 | 0.7 | 0.8 | 0.8 | 0.8 | 0.7 | 0.2 | 0.5 |
| 2008 scorecard applied to 2008 validation and all 2005 | 0.7 | 0.8 | 1.0 | 1.1 | 1.0 | 0.8 | 0.3 | 0.6 |
| 2008 scorecard applied to 2008 validation and all 2004 | 0.7 | 0.8 | 0.9 | 0.9 | 0.8 | 0.8 | 0.3 | 0.6 |
| | | | | | | | | |
| **α for sample size** | | | | | | | | |
| 2008 scorecard applied to 2008 validation and all 2006 | 1.33 | 1.35 | 1.29 | 1.28 | 1.27 | 1.41 | 1.30 | 1.39 |
| 2008 scorecard applied to 2008 validation and all 2005 | 1.59 | 1.53 | 1.59 | 1.65 | 1.59 | 1.50 | 1.73 | 1.60 |
| 2008 scorecard applied to 2008 validation and all 2004 | 1.54 | 1.49 | 1.36 | 1.33 | 1.28 | 1.54 | 1.86 | 1.65 |
| Precision is measured as 90-percent confidence intervals in units of +/– percentage points. | | | | | | | | |
| Differences and precision estimated from 500 bootstraps of size 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. | | | | | | | | |

## Figure 12 (National food line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

## Figure 13 (All poverty lines): Possible types of outcomes from targeting by poverty score

| True poverty status | Targeting segment: Targeted | Targeting segment: Non-targeted |
|---|---|---|
| **Below poverty line** | **Inclusion**<br>Under poverty line<br>Correctly<br>Targeted | **Undercoverage**<br>Under poverty line<br>Mistakenly<br>Non-targeted |
| **Above poverty line** | **Leakage**<br>Above poverty line<br>Mistakenly<br>Targeted | **Exclusion**<br>Above poverty line<br>Correctly<br>Non-targeted |

## Figure 14 (National food line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 14.6 | 0.0 | 84.9 | 85.3 | –94.3 |
| 5–9 | 1.1 | 13.9 | 0.2 | 84.8 | 86.0 | –83.7 |
| 10–14 | 2.1 | 13.0 | 0.5 | 84.4 | 86.5 | –69.1 |
| 15–19 | 3.8 | 11.3 | 1.6 | 83.3 | 87.1 | –38.9 |
| 20–24 | 5.7 | 9.4 | 4.2 | 80.8 | 86.5 | +3.1 |
| 25–29 | 8.3 | 6.8 | 8.3 | 76.7 | 84.9 | +44.8 |
| 30–34 | 10.8 | 4.3 | 14.2 | 70.7 | 81.5 | +5.3 |
| 35–39 | 12.2 | 2.8 | 21.0 | 64.0 | 76.2 | –39.8 |
| 40–44 | 13.5 | 1.6 | 29.3 | 55.6 | 69.1 | –95.2 |
| 45–49 | 14.3 | 0.7 | 39.2 | 45.8 | 60.1 | –160.7 |
| 50–54 | 14.7 | 0.3 | 48.4 | 36.6 | 51.3 | –222.0 |
| 55–59 | 14.9 | 0.1 | 57.2 | 27.7 | 42.7 | –280.9 |
| 60–64 | 15.0 | 0.1 | 65.7 | 19.3 | 34.3 | –337.2 |
| 65–69 | 15.0 | 0.0 | 72.1 | 12.9 | 27.9 | –379.7 |
| 70–74 | 15.0 | 0.0 | 76.7 | 8.2 | 23.3 | –410.7 |
| 75–79 | 15.0 | 0.0 | 80.7 | 4.2 | 19.3 | –437.3 |
| 80–84 | 15.0 | 0.0 | 83.2 | 1.8 | 16.8 | –453.6 |
| 85–89 | 15.0 | 0.0 | 84.1 | 0.9 | 15.9 | –459.7 |
| 90–94 | 15.0 | 0.0 | 84.9 | 0.1 | 15.1 | –464.9 |
| 95–100 | 15.0 | 0.0 | 85.0 | 0.0 | 15.0 | –465.6 |

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

## Figure 15 (National food line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 91.1 | 2.7 | 10.2:1 |
| 5–9 | 1.3 | 87.5 | 7.6 | 7.0:1 |
| 10–14 | 2.6 | 79.3 | 13.7 | 3.8:1 |
| 15–19 | 5.4 | 69.6 | 25.1 | 2.3:1 |
| 20–24 | 9.8 | 57.5 | 37.7 | 1.4:1 |
| 25–29 | 16.6 | 49.9 | 55.0 | 1.0:1 |
| 30–34 | 25.0 | 43.1 | 71.6 | 0.8:1 |
| 35–39 | 33.2 | 36.8 | 81.3 | 0.6:1 |
| 40–44 | 42.8 | 31.5 | 89.6 | 0.5:1 |
| 45–49 | 53.5 | 26.8 | 95.2 | 0.4:1 |
| 50–54 | 63.1 | 23.3 | 98.0 | 0.3:1 |
| 55–59 | 72.2 | 20.7 | 99.3 | 0.3:1 |
| 60–64 | 80.7 | 18.6 | 99.6 | 0.2:1 |
| 65–69 | 87.1 | 17.2 | 100.0 | 0.2:1 |
| 70–74 | 91.8 | 16.4 | 100.0 | 0.2:1 |
| 75–79 | 95.8 | 15.7 | 100.0 | 0.2:1 |
| 80–84 | 98.2 | 15.3 | 100.0 | 0.2:1 |
| 85–89 | 99.1 | 15.2 | 100.0 | 0.2:1 |
| 90–94 | 99.9 | 15.0 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 15.0 | 100.0 | 0.2:1 |

# National Capacity Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

## Figure 5 (National capacity 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 | 89.6 |
| 5–9 | 88.9 |
| 10–14 | 76.4 |
| 15–19 | 67.8 |
| 20–24 | 61.4 |
| 25–29 | 49.4 |
| 30–34 | 40.6 |
| 35–39 | 25.2 |
| 40–44 | 15.0 |
| 45–49 | 13.9 |
| 50–54 | 8.1 |
| 55–59 | 4.9 |
| 60–64 | 2.4 |
| 65–69 | 1.4 |
| 70–74 | 0.4 |
| 75–79 | 0.0 |
| 80–84 | 0.5 |
| 85–89 | 0.0 |
| 90–94 | 0.0 |
| 95–100 | 0.0 |

**Figure 8 (National capacity line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –6.2 | 4.8 | 4.9 | 6.1 |
| 5–9 | –3.4 | 3.8 | 4.6 | 6.4 |
| 10–14 | +2.3 | 7.0 | 8.3 | 11.0 |
| 15–19 | –8.1 | 5.9 | 6.3 | 7.2 |
| 20–24 | +4.2 | 3.6 | 4.2 | 5.7 |
| 25–29 | +0.9 | 3.1 | 3.6 | 4.8 |
| 30–34 | –0.3 | 2.7 | 3.2 | 4.3 |
| 35–39 | –0.8 | 2.4 | 2.8 | 3.8 |
| 40–44 | –6.6 | 4.3 | 4.4 | 4.7 |
| 45–49 | –1.0 | 1.6 | 1.9 | 2.3 |
| 50–54 | –2.0 | 1.8 | 1.9 | 2.4 |
| 55–59 | +0.1 | 1.1 | 1.3 | 1.7 |
| 60–64 | +2.1 | 0.2 | 0.2 | 0.3 |
| 65–69 | +0.1 | 0.8 | 1.0 | 1.3 |
| 70–74 | +0.4 | 0.0 | 0.0 | 0.1 |
| 75–79 | –3.1 | 2.5 | 2.7 | 3.1 |
| 80–84 | +0.5 | 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 |

## Figure 10 (National capacity line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –2.8 | 67.2 | 73.7 | 85.8 |
| 4 | –1.1 | 32.5 | 37.9 | 52.7 |
| 8 | –1.8 | 23.6 | 28.2 | 37.9 |
| 16 | –1.2 | 16.8 | 20.0 | 25.5 |
| 32 | –1.2 | 11.7 | 13.9 | 18.5 |
| 64 | –1.2 | 8.5 | 10.2 | 12.8 |
| 128 | –1.1 | 6.4 | 7.3 | 9.1 |
| 256 | –1.0 | 4.4 | 5.1 | 6.7 |
| 512 | –1.0 | 3.1 | 3.6 | 4.8 |
| 1,024 | –0.9 | 2.2 | 2.6 | 3.2 |
| 2,048 | –0.9 | 1.5 | 1.8 | 2.3 |
| 4,096 | –0.9 | 1.0 | 1.3 | 1.7 |
| 8,192 | –0.9 | 0.7 | 0.9 | 1.2 |
| 16,384 | –0.9 | 0.5 | 0.6 | 0.9 |

## Figure 12 (National capacity line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

**Figure 14 (National capacity line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 20.5 | 0.0 | 79.0 | 79.4 | –95.8 |
| 5–9 | 1.2 | 19.8 | 0.1 | 78.9 | 80.1 | –88.1 |
| 10–14 | 2.2 | 18.8 | 0.4 | 78.6 | 80.9 | –77.1 |
| 15–19 | 4.3 | 16.7 | 1.1 | 77.9 | 82.3 | –53.6 |
| 20–24 | 6.9 | 14.0 | 2.9 | 76.1 | 83.0 | –20.1 |
| 25–29 | 10.2 | 10.7 | 6.3 | 72.7 | 82.9 | +27.8 |
| 30–34 | 13.6 | 7.3 | 11.3 | 67.7 | 81.3 | +45.9 |
| 35–39 | 15.9 | 5.1 | 17.4 | 61.7 | 77.5 | +17.2 |
| 40–44 | 17.9 | 3.0 | 24.9 | 54.2 | 72.1 | –18.6 |
| 45–49 | 19.5 | 1.5 | 34.0 | 45.0 | 64.5 | –62.2 |
| 50–54 | 20.4 | 0.6 | 42.7 | 36.3 | 56.7 | –103.7 |
| 55–59 | 20.8 | 0.2 | 51.4 | 27.7 | 48.5 | –144.9 |
| 60–64 | 20.9 | 0.1 | 59.8 | 19.2 | 40.1 | –185.2 |
| 65–69 | 20.9 | 0.0 | 66.2 | 12.9 | 33.8 | –215.6 |
| 70–74 | 20.9 | 0.0 | 70.8 | 8.2 | 29.1 | –237.8 |
| 75–79 | 21.0 | 0.0 | 74.8 | 4.2 | 25.2 | –256.6 |
| 80–84 | 21.0 | 0.0 | 77.2 | 1.8 | 22.8 | –268.3 |
| 85–89 | 21.0 | 0.0 | 78.2 | 0.9 | 21.8 | –272.7 |
| 90–94 | 21.0 | 0.0 | 78.9 | 0.1 | 21.1 | –276.4 |
| 95–100 | 21.0 | 0.0 | 79.0 | 0.0 | 21.0 | –276.9 |

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

## Figure 15 (National capacity line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 93.7 | 2.0 | 14.9:1 |
| 5–9 | 1.3 | 91.3 | 5.7 | 10.5:1 |
| 10–14 | 2.6 | 85.3 | 10.5 | 5.8:1 |
| 15–19 | 5.4 | 79.8 | 20.6 | 3.9:1 |
| 20–24 | 9.8 | 70.4 | 33.0 | 2.4:1 |
| 25–29 | 16.6 | 61.8 | 48.8 | 1.6:1 |
| 30–34 | 25.0 | 54.6 | 65.0 | 1.2:1 |
| 35–39 | 33.2 | 47.7 | 75.6 | 0.9:1 |
| 40–44 | 42.8 | 41.9 | 85.5 | 0.7:1 |
| 45–49 | 53.5 | 36.4 | 92.8 | 0.6:1 |
| 50–54 | 63.1 | 32.3 | 97.3 | 0.5:1 |
| 55–59 | 72.2 | 28.8 | 99.2 | 0.4:1 |
| 60–64 | 80.7 | 25.9 | 99.5 | 0.3:1 |
| 65–69 | 87.1 | 24.0 | 99.8 | 0.3:1 |
| 70–74 | 91.8 | 22.8 | 99.8 | 0.3:1 |
| 75–79 | 95.8 | 21.9 | 100.0 | 0.3:1 |
| 80–84 | 98.2 | 21.4 | 100.0 | 0.3:1 |
| 85–89 | 99.1 | 21.2 | 100.0 | 0.3:1 |
| 90–94 | 99.9 | 21.0 | 100.0 | 0.3:1 |
| 95–100 | 100.0 | 21.0 | 100.0 | 0.3:1 |

# National Asset Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

## Figure 5 (National asset 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 | 98.8 |
| 5–9 | 97.1 |
| 10–14 | 94.2 |
| 15–19 | 92.2 |
| 20–24 | 86.8 |
| 25–29 | 81.1 |
| 30–34 | 71.6 |
| 35–39 | 60.2 |
| 40–44 | 50.6 |
| 45–49 | 41.6 |
| 50–54 | 26.4 |
| 55–59 | 17.8 |
| 60–64 | 10.7 |
| 65–69 | 6.5 |
| 70–74 | 2.9 |
| 75–79 | 0.1 |
| 80–84 | 2.0 |
| 85–89 | 0.0 |
| 90–94 | 0.0 |
| 95–100 | 0.0 |

**Figure 8 (National asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –0.8 | 0.8 | 0.9 | 1.2 |
| 5–9 | –2.5 | 1.4 | 1.4 | 1.4 |
| 10–14 | +2.2 | 3.6 | 4.4 | 5.8 |
| 15–19 | –1.0 | 2.1 | 2.6 | 3.2 |
| 20–24 | +3.2 | 2.8 | 3.3 | 4.6 |
| 25–29 | +0.5 | 2.4 | 2.8 | 3.5 |
| 30–34 | –0.9 | 2.4 | 2.7 | 3.9 |
| 35–39 | –2.7 | 2.6 | 3.0 | 3.8 |
| 40–44 | +0.9 | 2.4 | 2.7 | 3.9 |
| 45–49 | +5.3 | 2.1 | 2.6 | 3.4 |
| 50–54 | –2.5 | 2.4 | 2.7 | 3.4 |
| 55–59 | –4.6 | 3.5 | 3.7 | 4.2 |
| 60–64 | –0.4 | 1.7 | 2.0 | 2.4 |
| 65–69 | –0.9 | 1.6 | 1.8 | 2.5 |
| 70–74 | –1.6 | 1.6 | 1.7 | 2.3 |
| 75–79 | –4.1 | 3.1 | 3.2 | 3.8 |
| 80–84 | +2.0 | 0.0 | 0.0 | 0.1 |
| 85–89 | –0.0 | 0.0 | 0.1 | 0.1 |
| 90–94 | +0.0 | 0.0 | 0.0 | 0.0 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (National asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.9 | 66.9 | 72.6 | 89.1 |
| 4 | –0.5 | 37.8 | 44.1 | 56.8 |
| 8 | –0.4 | 26.6 | 31.9 | 39.6 |
| 16 | –0.0 | 19.5 | 23.7 | 31.2 |
| 32 | –0.4 | 14.0 | 16.6 | 21.8 |
| 64 | –0.5 | 9.5 | 11.5 | 14.3 |
| 128 | –0.5 | 7.0 | 8.3 | 10.7 |
| 256 | –0.4 | 4.8 | 5.9 | 8.1 |
| 512 | –0.5 | 3.4 | 4.1 | 5.4 |
| 1,024 | –0.5 | 2.4 | 2.9 | 3.7 |
| 2,048 | –0.4 | 1.7 | 2.0 | 2.6 |
| 4,096 | –0.4 | 1.3 | 1.5 | 1.8 |
| 8,192 | –0.4 | 0.8 | 1.0 | 1.3 |
| 16,384 | –0.4 | 0.6 | 0.8 | 1.0 |

## Figure 12 (National asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

## Figure 14 (National asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 40.5 | 0.0 | 59.0 | 59.5 | –97.8 |
| 5–9 | 1.3 | 39.7 | 0.0 | 59.0 | 60.3 | –93.7 |
| 10–14 | 2.5 | 38.5 | 0.1 | 58.9 | 61.4 | –87.7 |
| 15–19 | 5.1 | 35.9 | 0.3 | 58.7 | 63.8 | –74.4 |
| 20–24 | 8.9 | 32.1 | 1.0 | 58.1 | 66.9 | –54.4 |
| 25–29 | 14.3 | 26.6 | 2.2 | 56.8 | 71.2 | –24.5 |
| 30–34 | 20.6 | 20.4 | 4.4 | 54.7 | 75.3 | +11.3 |
| 35–39 | 25.7 | 15.3 | 7.5 | 51.5 | 77.2 | +43.8 |
| 40–44 | 30.5 | 10.5 | 12.3 | 46.7 | 77.2 | +69.9 |
| 45–49 | 34.6 | 6.3 | 18.8 | 40.2 | 74.9 | +54.0 |
| 50–54 | 37.5 | 3.5 | 25.6 | 33.4 | 70.9 | +37.4 |
| 55–59 | 39.3 | 1.6 | 32.8 | 26.2 | 65.5 | +19.8 |
| 60–64 | 40.2 | 0.8 | 40.5 | 18.6 | 58.7 | +1.1 |
| 65–69 | 40.6 | 0.3 | 46.4 | 12.6 | 53.3 | –13.4 |
| 70–74 | 40.8 | 0.1 | 50.9 | 8.1 | 49.0 | –24.4 |
| 75–79 | 40.9 | 0.0 | 54.8 | 4.2 | 45.2 | –33.8 |
| 80–84 | 40.9 | 0.0 | 57.3 | 1.8 | 42.7 | –39.8 |
| 85–89 | 40.9 | 0.0 | 58.2 | 0.9 | 41.8 | –42.1 |
| 90–94 | 40.9 | 0.0 | 59.0 | 0.1 | 41.0 | –44.0 |
| 95–100 | 40.9 | 0.0 | 59.1 | 0.0 | 40.9 | –44.2 |

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

## Figure 15 (National asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 98.8 | 1.1 | 82.1:1 |
| 5–9 | 1.3 | 98.7 | 3.1 | 73.9:1 |
| 10–14 | 2.6 | 95.2 | 6.0 | 19.9:1 |
| 15–19 | 5.4 | 93.9 | 12.4 | 15.4:1 |
| 20–24 | 9.8 | 90.0 | 21.6 | 9.0:1 |
| 25–29 | 16.6 | 86.6 | 35.0 | 6.5:1 |
| 30–34 | 25.0 | 82.5 | 50.3 | 4.7:1 |
| 35–39 | 33.2 | 77.3 | 62.7 | 3.4:1 |
| 40–44 | 42.8 | 71.2 | 74.4 | 2.5:1 |
| 45–49 | 53.5 | 64.8 | 84.6 | 1.8:1 |
| 50–54 | 63.1 | 59.4 | 91.5 | 1.5:1 |
| 55–59 | 72.2 | 54.5 | 96.0 | 1.2:1 |
| 60–64 | 80.7 | 49.8 | 98.1 | 1.0:1 |
| 65–69 | 87.1 | 46.7 | 99.3 | 0.9:1 |
| 70–74 | 91.8 | 44.5 | 99.7 | 0.8:1 |
| 75–79 | 95.8 | 42.8 | 100.0 | 0.7:1 |
| 80–84 | 98.2 | 41.7 | 100.0 | 0.7:1 |
| 85–89 | 99.1 | 41.3 | 100.0 | 0.7:1 |
| 90–94 | 99.9 | 41.0 | 100.0 | 0.7:1 |
| 95–100 | 100.0 | 40.9 | 100.0 | 0.7:1 |

# 125% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

## Figure 5 (125% of national asset 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 | 98.8 |
| 5–9 | 98.5 |
| 10–14 | 97.5 |
| 15–19 | 96.1 |
| 20–24 | 92.5 |
| 25–29 | 89.7 |
| 30–34 | 84.4 |
| 35–39 | 74.9 |
| 40–44 | 64.4 |
| 45–49 | 59.9 |
| 50–54 | 42.6 |
| 55–59 | 31.4 |
| 60–64 | 19.2 |
| 65–69 | 13.3 |
| 70–74 | 6.5 |
| 75–79 | 3.2 |
| 80–84 | 2.9 |
| 85–89 | 0.0 |
| 90–94 | 0.0 |
| 95–100 | 0.0 |

**Figure 8 (125% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –0.8 | 0.8 | 0.9 | 1.2 |
| 5–9 | –1.3 | 0.8 | 0.8 | 0.8 |
| 10–14 | +3.6 | 3.4 | 4.2 | 5.4 |
| 15–19 | –0.6 | 1.6 | 1.9 | 2.4 |
| 20–24 | +1.3 | 2.3 | 2.6 | 3.7 |
| 25–29 | –0.8 | 1.6 | 2.0 | 2.6 |
| 30–34 | +1.7 | 2.1 | 2.5 | 3.3 |
| 35–39 | –1.8 | 2.2 | 2.5 | 3.2 |
| 40–44 | –5.6 | 3.9 | 4.1 | 4.5 |
| 45–49 | +8.8 | 2.3 | 2.6 | 3.4 |
| 50–54 | –3.5 | 3.0 | 3.3 | 3.9 |
| 55–59 | –3.9 | 3.1 | 3.4 | 3.9 |
| 60–64 | –4.2 | 3.3 | 3.5 | 3.9 |
| 65–69 | –3.2 | 2.7 | 2.9 | 3.3 |
| 70–74 | –0.3 | 1.7 | 2.0 | 2.6 |
| 75–79 | –2.4 | 2.2 | 2.5 | 3.2 |
| 80–84 | +2.3 | 0.5 | 0.5 | 0.7 |
| 85–89 | –0.4 | 0.5 | 0.5 | 0.7 |
| 90–94 | –0.5 | 0.6 | 0.7 | 0.9 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –0.4 | 66.5 | 77.9 | 90.3 |
| 4 | –0.0 | 36.4 | 42.3 | 56.8 |
| 8 | –0.2 | 26.4 | 32.5 | 41.6 |
| 16 | –0.5 | 19.7 | 23.0 | 29.5 |
| 32 | –0.7 | 14.1 | 17.1 | 22.8 |
| 64 | –0.9 | 9.6 | 12.0 | 16.0 |
| 128 | –0.8 | 6.9 | 8.1 | 11.3 |
| 256 | –0.9 | 4.8 | 5.8 | 8.2 |
| 512 | –0.9 | 3.4 | 4.2 | 5.2 |
| 1,024 | –0.9 | 2.3 | 2.8 | 3.6 |
| 2,048 | –0.9 | 1.8 | 2.1 | 2.6 |
| 4,096 | –0.9 | 1.2 | 1.5 | 1.9 |
| 8,192 | –0.9 | 0.9 | 1.1 | 1.4 |
| 16,384 | –0.9 | 0.6 | 0.7 | 1.0 |

## Figure 12 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

## Figure 14 (125% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 51.3 | 0.0 | 48.2 | 48.7 | –98.3 |
| 5–9 | 1.3 | 50.5 | 0.0 | 48.2 | 49.5 | –95.0 |
| 10–14 | 2.5 | 49.2 | 0.1 | 48.2 | 50.7 | –90.1 |
| 15–19 | 5.3 | 46.5 | 0.2 | 48.1 | 53.3 | –79.4 |
| 20–24 | 9.3 | 42.4 | 0.5 | 47.7 | 57.0 | –63.0 |
| 25–29 | 15.4 | 36.4 | 1.2 | 47.0 | 62.4 | –38.3 |
| 30–34 | 22.6 | 29.2 | 2.4 | 45.8 | 68.4 | –8.1 |
| 35–39 | 28.8 | 22.9 | 4.4 | 43.9 | 72.7 | +19.9 |
| 40–44 | 35.5 | 16.3 | 7.3 | 40.9 | 76.3 | +51.2 |
| 45–49 | 41.2 | 10.6 | 12.3 | 35.9 | 77.1 | +76.2 |
| 50–54 | 45.5 | 6.3 | 17.6 | 30.6 | 76.1 | +66.0 |
| 55–59 | 48.5 | 3.3 | 23.6 | 24.6 | 73.1 | +54.3 |
| 60–64 | 50.2 | 1.5 | 30.4 | 17.8 | 68.1 | +41.2 |
| 65–69 | 51.2 | 0.5 | 35.9 | 12.4 | 63.6 | +30.7 |
| 70–74 | 51.5 | 0.2 | 40.2 | 8.0 | 59.6 | +22.3 |
| 75–79 | 51.7 | 0.1 | 44.0 | 4.2 | 55.9 | +14.9 |
| 80–84 | 51.8 | 0.0 | 46.5 | 1.8 | 53.5 | +10.3 |
| 85–89 | 51.8 | 0.0 | 47.4 | 0.9 | 52.6 | +8.5 |
| 90–94 | 51.8 | 0.0 | 48.1 | 0.1 | 51.9 | +7.0 |
| 95–100 | 51.8 | 0.0 | 48.2 | 0.0 | 51.8 | +6.8 |

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

## Figure 15 (125% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 98.8 | 0.9 | 82.1:1 |
| 5–9 | 1.3 | 99.2 | 2.5 | 127.6:1 |
| 10–14 | 2.6 | 97.3 | 4.9 | 36.1:1 |
| 15–19 | 5.4 | 97.0 | 10.1 | 32.6:1 |
| 20–24 | 9.8 | 94.7 | 18.0 | 18.0:1 |
| 25–29 | 16.6 | 92.8 | 29.7 | 13.0:1 |
| 30–34 | 25.0 | 90.3 | 43.6 | 9.4:1 |
| 35–39 | 33.2 | 86.8 | 55.7 | 6.6:1 |
| 40–44 | 42.8 | 82.8 | 68.5 | 4.8:1 |
| 45–49 | 53.5 | 77.0 | 79.5 | 3.3:1 |
| 50–54 | 63.1 | 72.1 | 87.9 | 2.6:1 |
| 55–59 | 72.2 | 67.2 | 93.7 | 2.1:1 |
| 60–64 | 80.7 | 62.3 | 97.0 | 1.7:1 |
| 65–69 | 87.1 | 58.8 | 98.9 | 1.4:1 |
| 70–74 | 91.8 | 56.2 | 99.6 | 1.3:1 |
| 75–79 | 95.8 | 54.0 | 99.9 | 1.2:1 |
| 80–84 | 98.2 | 52.7 | 100.0 | 1.1:1 |
| 85–89 | 99.1 | 52.2 | 100.0 | 1.1:1 |
| 90–94 | 99.9 | 51.8 | 100.0 | 1.1:1 |
| 95–100 | 100.0 | 51.8 | 100.0 | 1.1:1 |

# 150% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

## Figure 5 (150% of national asset 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 | 98.1 |
| 15–19 | 97.7 |
| 20–24 | 96.1 |
| 25–29 | 94.4 |
| 30–34 | 90.8 |
| 35–39 | 84.4 |
| 40–44 | 75.4 |
| 45–49 | 70.9 |
| 50–54 | 56.8 |
| 55–59 | 45.4 |
| 60–64 | 29.0 |
| 65–69 | 19.9 |
| 70–74 | 12.4 |
| 75–79 | 8.2 |
| 80–84 | 5.3 |
| 85–89 | 0.0 |
| 90–94 | 0.0 |
| 95–100 | 0.0 |

**Figure 8 (150% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +0.5 | 0.8 | 0.9 | 1.2 |
| 5–9 | +0.2 | 0.3 | 0.4 | 0.4 |
| 10–14 | +1.7 | 2.8 | 3.2 | 4.2 |
| 15–19 | –1.0 | 0.9 | 1.0 | 1.3 |
| 20–24 | –1.3 | 1.2 | 1.3 | 1.6 |
| 25–29 | –0.7 | 1.2 | 1.4 | 1.9 |
| 30–34 | +0.8 | 1.6 | 1.9 | 2.6 |
| 35–39 | –1.6 | 1.7 | 2.1 | 2.8 |
| 40–44 | –5.9 | 3.8 | 4.0 | 4.4 |
| 45–49 | +8.3 | 2.2 | 2.5 | 3.5 |
| 50–54 | –2.2 | 2.5 | 3.0 | 3.9 |
| 55–59 | –2.4 | 2.5 | 2.8 | 3.7 |
| 60–64 | –5.4 | 3.9 | 4.1 | 4.8 |
| 65–69 | –4.2 | 3.3 | 3.6 | 4.2 |
| 70–74 | –0.2 | 2.1 | 2.5 | 3.2 |
| 75–79 | –3.8 | 3.3 | 3.7 | 4.7 |
| 80–84 | +1.1 | 1.8 | 2.1 | 2.5 |
| 85–89 | –1.2 | 1.2 | 1.4 | 1.7 |
| 90–94 | –0.5 | 0.6 | 0.7 | 0.9 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –1.8 | 71.0 | 77.8 | 91.3 |
| 4 | –0.0 | 36.3 | 42.2 | 57.6 |
| 8 | –0.5 | 26.2 | 31.7 | 40.2 |
| 16 | –0.7 | 18.5 | 22.0 | 27.3 |
| 32 | –1.1 | 13.1 | 15.8 | 19.8 |
| 64 | –1.2 | 9.5 | 11.1 | 14.1 |
| 128 | –1.2 | 6.3 | 7.5 | 9.7 |
| 256 | –1.2 | 4.5 | 5.6 | 7.5 |
| 512 | –1.3 | 3.2 | 3.7 | 4.9 |
| 1,024 | –1.2 | 2.3 | 2.7 | 3.7 |
| 2,048 | –1.2 | 1.7 | 2.0 | 2.6 |
| 4,096 | –1.2 | 1.2 | 1.4 | 1.8 |
| 8,192 | –1.2 | 0.8 | 1.0 | 1.3 |
| 16,384 | –1.2 | 0.6 | 0.7 | 0.9 |

## Figure 12 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

## Figure 14 (150% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 60.1 | 0.0 | 39.4 | 39.9 | –98.5 |
| 5–9 | 1.3 | 59.3 | 0.0 | 39.4 | 40.7 | –95.7 |
| 10–14 | 2.5 | 58.0 | 0.0 | 39.4 | 41.9 | –91.5 |
| 15–19 | 5.3 | 55.3 | 0.1 | 39.3 | 44.6 | –82.3 |
| 20–24 | 9.6 | 51.0 | 0.2 | 39.2 | 48.8 | –67.9 |
| 25–29 | 16.0 | 44.6 | 0.6 | 38.8 | 54.8 | –46.3 |
| 30–34 | 23.7 | 36.9 | 1.3 | 38.1 | 61.7 | –19.7 |
| 35–39 | 30.6 | 30.0 | 2.6 | 36.8 | 67.5 | +5.4 |
| 40–44 | 38.3 | 22.3 | 4.5 | 34.9 | 73.3 | +33.9 |
| 45–49 | 45.3 | 15.3 | 8.2 | 31.2 | 76.5 | +63.0 |
| 50–54 | 51.0 | 9.6 | 12.1 | 27.3 | 78.2 | +80.0 |
| 55–59 | 55.2 | 5.4 | 17.0 | 22.4 | 77.6 | +71.9 |
| 60–64 | 57.9 | 2.7 | 22.8 | 16.6 | 74.5 | +62.4 |
| 65–69 | 59.5 | 1.1 | 27.6 | 11.8 | 71.2 | +54.4 |
| 70–74 | 60.1 | 0.5 | 31.7 | 7.7 | 67.8 | +47.7 |
| 75–79 | 60.4 | 0.2 | 35.3 | 4.1 | 64.5 | +41.7 |
| 80–84 | 60.5 | 0.0 | 37.7 | 1.8 | 62.3 | +37.8 |
| 85–89 | 60.6 | 0.0 | 38.5 | 0.9 | 61.4 | +36.4 |
| 90–94 | 60.6 | 0.0 | 39.3 | 0.1 | 60.7 | +35.1 |
| 95–100 | 60.6 | 0.0 | 39.4 | 0.0 | 60.6 | +34.9 |

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

## Figure 15 (150% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 98.8 | 0.7 | 82.1:1 |
| 5–9 | 1.3 | 99.2 | 2.1 | 127.6:1 |
| 10–14 | 2.6 | 98.4 | 4.2 | 60.5:1 |
| 15–19 | 5.4 | 98.2 | 8.8 | 56.0:1 |
| 20–24 | 9.8 | 97.8 | 15.9 | 44.4:1 |
| 25–29 | 16.6 | 96.5 | 26.4 | 27.4:1 |
| 30–34 | 25.0 | 94.7 | 39.1 | 17.8:1 |
| 35–39 | 33.2 | 92.2 | 50.6 | 11.8:1 |
| 40–44 | 42.8 | 89.5 | 63.3 | 8.6:1 |
| 45–49 | 53.5 | 84.7 | 74.7 | 5.5:1 |
| 50–54 | 63.1 | 80.8 | 84.1 | 4.2:1 |
| 55–59 | 72.2 | 76.4 | 91.1 | 3.2:1 |
| 60–64 | 80.7 | 71.8 | 95.5 | 2.5:1 |
| 65–69 | 87.1 | 68.3 | 98.1 | 2.2:1 |
| 70–74 | 91.8 | 65.4 | 99.1 | 1.9:1 |
| 75–79 | 95.8 | 63.1 | 99.7 | 1.7:1 |
| 80–84 | 98.2 | 61.7 | 99.9 | 1.6:1 |
| 85–89 | 99.1 | 61.1 | 100.0 | 1.6:1 |
| 90–94 | 99.9 | 60.6 | 100.0 | 1.5:1 |
| 95–100 | 100.0 | 60.6 | 100.0 | 1.5:1 |

# USAID "Extreme" Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

## Figure 5 (USAID "extreme" 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 | 83.9 |
| 5–9 | 78.9 |
| 10–14 | 68.9 |
| 15–19 | 52.3 |
| 20–24 | 53.6 |
| 25–29 | 45.4 |
| 30–34 | 37.8 |
| 35–39 | 24.7 |
| 40–44 | 15.3 |
| 45–49 | 14.4 |
| 50–54 | 8.9 |
| 55–59 | 6.1 |
| 60–64 | 3.9 |
| 65–69 | 1.6 |
| 70–74 | 0.5 |
| 75–79 | 0.0 |
| 80–84 | 0.5 |
| 85–89 | 0.0 |
| 90–94 | 0.0 |
| 95–100 | 0.0 |

**Figure 8 (USAID "extreme" line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –7.3 | 6.2 | 6.7 | 9.0 |
| 5–9 | –11.1 | 7.6 | 7.9 | 8.6 |
| 10–14 | –0.5 | 7.0 | 8.5 | 11.2 |
| 15–19 | –6.2 | 5.4 | 5.8 | 7.1 |
| 20–24 | +5.0 | 3.7 | 4.4 | 5.7 |
| 25–29 | +1.1 | 3.1 | 3.6 | 4.7 |
| 30–34 | –3.2 | 2.9 | 3.1 | 4.3 |
| 35–39 | +1.5 | 2.3 | 2.7 | 3.4 |
| 40–44 | –6.3 | 4.1 | 4.3 | 4.6 |
| 45–49 | –0.0 | 1.6 | 1.9 | 2.5 |
| 50–54 | –2.2 | 2.0 | 2.1 | 2.5 |
| 55–59 | –0.7 | 1.4 | 1.7 | 2.1 |
| 60–64 | +3.4 | 0.2 | 0.3 | 0.3 |
| 65–69 | +0.1 | 0.8 | 1.0 | 1.3 |
| 70–74 | +0.5 | 0.0 | 0.0 | 0.1 |
| 75–79 | –3.1 | 2.5 | 2.7 | 3.1 |
| 80–84 | +0.5 | 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 |

## Figure 10 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –2.7 | 65.0 | 69.6 | 81.4 |
| 4 | –0.6 | 33.2 | 40.6 | 52.7 |
| 8 | –1.5 | 24.6 | 29.7 | 37.7 |
| 16 | –1.0 | 17.6 | 20.7 | 27.7 |
| 32 | –1.1 | 12.0 | 14.6 | 19.4 |
| 64 | –1.2 | 8.8 | 10.2 | 13.6 |
| 128 | –0.9 | 6.0 | 7.5 | 9.5 |
| 256 | –0.9 | 4.1 | 5.1 | 6.6 |
| 512 | –0.9 | 3.0 | 3.6 | 4.7 |
| 1,024 | –0.8 | 2.2 | 2.6 | 3.3 |
| 2,048 | –0.8 | 1.5 | 1.8 | 2.4 |
| 4,096 | –0.8 | 1.1 | 1.2 | 1.8 |
| 8,192 | –0.8 | 0.8 | 0.9 | 1.2 |
| 16,384 | –0.8 | 0.5 | 0.7 | 0.9 |

## Figure 12 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

**Figure 14 (USAID "extreme" line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 19.5 | 0.1 | 80.1 | 80.5 | –95.7 |
| 5–9 | 1.1 | 18.7 | 0.2 | 80.0 | 81.1 | –87.7 |
| 10–14 | 2.0 | 17.8 | 0.5 | 79.6 | 81.6 | –76.7 |
| 15–19 | 3.8 | 16.1 | 1.6 | 78.5 | 82.3 | –53.6 |
| 20–24 | 6.1 | 13.8 | 3.8 | 76.3 | 82.4 | –20.0 |
| 25–29 | 9.1 | 10.8 | 7.5 | 72.7 | 81.8 | +29.1 |
| 30–34 | 12.5 | 7.4 | 12.5 | 67.6 | 80.1 | +37.2 |
| 35–39 | 14.6 | 5.3 | 18.6 | 61.5 | 76.0 | +6.2 |
| 40–44 | 16.7 | 3.2 | 26.1 | 54.0 | 70.6 | –31.5 |
| 45–49 | 18.2 | 1.7 | 35.3 | 44.8 | 63.0 | –77.6 |
| 50–54 | 19.2 | 0.7 | 44.0 | 36.2 | 55.3 | –121.2 |
| 55–59 | 19.7 | 0.2 | 52.5 | 27.6 | 47.3 | –164.2 |
| 60–64 | 19.7 | 0.1 | 60.9 | 19.2 | 38.9 | –206.5 |
| 65–69 | 19.8 | 0.0 | 67.3 | 12.9 | 32.7 | –238.5 |
| 70–74 | 19.8 | 0.0 | 71.9 | 8.2 | 28.0 | –261.9 |
| 75–79 | 19.9 | 0.0 | 75.9 | 4.2 | 24.1 | –281.8 |
| 80–84 | 19.9 | 0.0 | 78.3 | 1.8 | 21.7 | –294.1 |
| 85–89 | 19.9 | 0.0 | 79.2 | 0.9 | 20.8 | –298.8 |
| 90–94 | 19.9 | 0.0 | 80.0 | 0.1 | 20.0 | –302.7 |
| 95–100 | 19.9 | 0.0 | 80.1 | 0.0 | 19.9 | –303.2 |

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

## Figure 15 (USAID "extreme" line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 87.9 | 2.0 | 7.3:1 |
| 5–9 | 1.3 | 86.6 | 5.7 | 6.5:1 |
| 10–14 | 2.6 | 79.1 | 10.3 | 3.8:1 |
| 15–19 | 5.4 | 70.3 | 19.1 | 2.4:1 |
| 20–24 | 9.8 | 61.5 | 30.5 | 1.6:1 |
| 25–29 | 16.6 | 55.0 | 45.8 | 1.2:1 |
| 30–34 | 25.0 | 50.0 | 62.9 | 1.0:1 |
| 35–39 | 33.2 | 43.9 | 73.3 | 0.8:1 |
| 40–44 | 42.8 | 38.9 | 83.8 | 0.6:1 |
| 45–49 | 53.5 | 34.0 | 91.4 | 0.5:1 |
| 50–54 | 63.1 | 30.3 | 96.4 | 0.4:1 |
| 55–59 | 72.2 | 27.2 | 98.9 | 0.4:1 |
| 60–64 | 80.7 | 24.5 | 99.3 | 0.3:1 |
| 65–69 | 87.1 | 22.8 | 99.7 | 0.3:1 |
| 70–74 | 91.8 | 21.6 | 99.8 | 0.3:1 |
| 75–79 | 95.8 | 20.8 | 100.0 | 0.3:1 |
| 80–84 | 98.2 | 20.2 | 100.0 | 0.3:1 |
| 85–89 | 99.1 | 20.1 | 100.0 | 0.3:1 |
| 90–94 | 99.9 | 19.9 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 19.9 | 100.0 | 0.2:1 |

# $1.25/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

## Figure 5 ($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 | 24.9 |
| 5–9 | 21.3 |
| 10–14 | 13.4 |
| 15–19 | 8.5 |
| 20–24 | 4.5 |
| 25–29 | 2.8 |
| 30–34 | 1.9 |
| 35–39 | 0.9 |
| 40–44 | 0.6 |
| 45–49 | 0.1 |
| 50–54 | 0.7 |
| 55–59 | 0.4 |
| 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 |

**Figure 8 ($1.25/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –11.9 | 11.7 | 13.0 | 16.3 |
| 5–9 | +6.8 | 4.4 | 5.2 | 7.2 |
| 10–14 | –1.1 | 4.5 | 5.4 | 7.1 |
| 15–19 | +0.6 | 2.4 | 2.9 | 3.5 |
| 20–24 | –0.8 | 1.5 | 1.8 | 2.3 |
| 25–29 | –0.8 | 1.0 | 1.2 | 1.6 |
| 30–34 | +0.4 | 0.5 | 0.7 | 0.9 |
| 35–39 | –0.3 | 0.5 | 0.7 | 0.8 |
| 40–44 | –0.6 | 0.5 | 0.6 | 0.7 |
| 45–49 | +0.1 | 0.0 | 0.0 | 0.0 |
| 50–54 | +0.5 | 0.2 | 0.2 | 0.2 |
| 55–59 | +0.2 | 0.2 | 0.3 | 0.3 |
| 60–64 | +0.1 | 0.0 | 0.1 | 0.1 |
| 65–69 | –1.1 | 0.9 | 1.0 | 1.2 |
| 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 |

## Figure 10 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –1.1 | 2.3 | 42.7 | 59.7 |
| 4 | –0.4 | 10.0 | 16.3 | 24.8 |
| 8 | –0.3 | 8.6 | 10.6 | 14.9 |
| 16 | –0.2 | 5.3 | 6.6 | 9.7 |
| 32 | –0.2 | 3.6 | 4.5 | 6.5 |
| 64 | –0.2 | 2.7 | 3.2 | 4.0 |
| 128 | –0.2 | 1.8 | 2.1 | 2.8 |
| 256 | –0.1 | 1.3 | 1.6 | 2.0 |
| 512 | –0.1 | 0.9 | 1.1 | 1.4 |
| 1,024 | –0.1 | 0.7 | 0.8 | 1.0 |
| 2,048 | –0.1 | 0.5 | 0.6 | 0.8 |
| 4,096 | –0.1 | 0.3 | 0.4 | 0.5 |
| 8,192 | –0.1 | 0.2 | 0.3 | 0.4 |
| 16,384 | –0.1 | 0.2 | 0.2 | 0.3 |

## Figure 12 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

## Figure 14 ($1.25/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.2 | 1.6 | 0.3 | 97.9 | 98.1 | –65.9 |
| 5–9 | 0.4 | 1.4 | 1.0 | 97.3 | 97.6 | –7.6 |
| 10–14 | 0.5 | 1.3 | 2.0 | 96.2 | 96.7 | –14.0 |
| 15–19 | 0.8 | 1.0 | 4.6 | 93.6 | 94.4 | –157.7 |
| 20–24 | 1.1 | 0.7 | 8.8 | 89.4 | 90.5 | –389.5 |
| 25–29 | 1.3 | 0.5 | 15.2 | 83.0 | 84.3 | –749.6 |
| 30–34 | 1.5 | 0.3 | 23.5 | 74.7 | 76.2 | –1,210.2 |
| 35–39 | 1.6 | 0.2 | 31.6 | 66.6 | 68.2 | –1,662.3 |
| 40–44 | 1.7 | 0.1 | 41.1 | 57.1 | 58.8 | –2,190.1 |
| 45–49 | 1.7 | 0.1 | 51.8 | 46.4 | 48.1 | –2,784.3 |
| 50–54 | 1.7 | 0.1 | 61.4 | 36.8 | 38.6 | –3,319.2 |
| 55–59 | 1.8 | 0.0 | 70.4 | 27.8 | 29.5 | –3,822.6 |
| 60–64 | 1.8 | 0.0 | 78.9 | 19.3 | 21.1 | –4,295.1 |
| 65–69 | 1.8 | 0.0 | 85.3 | 12.9 | 14.7 | –4,651.8 |
| 70–74 | 1.8 | 0.0 | 90.0 | 8.2 | 10.0 | –4,911.9 |
| 75–79 | 1.8 | 0.0 | 94.0 | 4.2 | 6.0 | –5,134.5 |
| 80–84 | 1.8 | 0.0 | 96.4 | 1.8 | 3.6 | –5,271.2 |
| 85–89 | 1.8 | 0.0 | 97.3 | 0.9 | 2.7 | –5,322.2 |
| 90–94 | 1.8 | 0.0 | 98.1 | 0.1 | 1.9 | –5,365.4 |
| 95–100 | 1.8 | 0.0 | 98.2 | 0.0 | 1.8 | –5,371.0 |

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

## Figure 15 ($1.25/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 35.7 | 9.0 | 0.6:1 |
| 5–9 | 1.3 | 27.0 | 19.6 | 0.4:1 |
| 10–14 | 2.6 | 21.0 | 30.3 | 0.3:1 |
| 15–19 | 5.4 | 14.5 | 43.9 | 0.2:1 |
| 20–24 | 9.8 | 10.7 | 58.6 | 0.1:1 |
| 25–29 | 16.6 | 7.9 | 72.9 | 0.1:1 |
| 30–34 | 25.0 | 5.9 | 81.6 | 0.1:1 |
| 35–39 | 33.2 | 4.8 | 88.0 | 0.0:1 |
| 40–44 | 42.8 | 4.0 | 94.4 | 0.0:1 |
| 45–49 | 53.5 | 3.2 | 94.5 | 0.0:1 |
| 50–54 | 63.1 | 2.7 | 96.5 | 0.0:1 |
| 55–59 | 72.2 | 2.4 | 97.6 | 0.0:1 |
| 60–64 | 80.7 | 2.2 | 98.0 | 0.0:1 |
| 65–69 | 87.1 | 2.1 | 100.0 | 0.0:1 |
| 70–74 | 91.8 | 2.0 | 100.0 | 0.0:1 |
| 75–79 | 95.8 | 1.9 | 100.0 | 0.0:1 |
| 80–84 | 98.2 | 1.8 | 100.0 | 0.0:1 |
| 85–89 | 99.1 | 1.8 | 100.0 | 0.0:1 |
| 90–94 | 99.9 | 1.8 | 100.0 | 0.0:1 |
| 95–100 | 100.0 | 1.8 | 100.0 | 0.0:1 |

# $2.50/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to 2008 Validation Sample

## Figure 5 ($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 | 64.5 |
| 5–9 | 66.5 |
| 10–14 | 51.3 |
| 15–19 | 25.2 |
| 20–24 | 33.4 |
| 25–29 | 18.7 |
| 30–34 | 14.6 |
| 35–39 | 7.6 |
| 40–44 | 4.5 |
| 45–49 | 3.8 |
| 50–54 | 2.8 |
| 55–59 | 1.1 |
| 60–64 | 0.6 |
| 65–69 | 0.8 |
| 70–74 | 0.0 |
| 75–79 | 0.0 |
| 80–84 | 0.0 |
| 85–89 | 0.0 |
| 90–94 | 0.0 |
| 95–100 | 0.0 |

**Figure 8 ($2.50/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2008 validation sample**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –3.8 | 10.9 | 12.8 | 16.7 |
| 5–9 | –2.4 | 8.0 | 9.3 | 12.7 |
| 10–14 | –1.6 | 6.9 | 8.5 | 10.8 |
| 15–19 | –13.2 | 8.8 | 9.2 | 10.0 |
| 20–24 | +11.1 | 2.7 | 3.2 | 4.1 |
| 25–29 | –1.7 | 2.4 | 2.9 | 3.8 |
| 30–34 | –2.3 | 2.1 | 2.3 | 3.0 |
| 35–39 | –2.8 | 2.3 | 2.4 | 2.6 |
| 40–44 | –2.7 | 1.9 | 2.0 | 2.3 |
| 45–49 | –1.5 | 1.3 | 1.4 | 1.6 |
| 50–54 | +0.2 | 0.8 | 0.9 | 1.3 |
| 55–59 | +0.2 | 0.4 | 0.5 | 0.6 |
| 60–64 | +0.4 | 0.2 | 0.2 | 0.3 |
| 65–69 | –0.4 | 0.8 | 0.9 | 1.2 |
| 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 |

## Figure 10 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2008 validation sample

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –2.1 | 53.2 | 62.9 | 77.3 |
| 4 | –0.6 | 24.1 | 30.2 | 41.9 |
| 8 | –1.3 | 16.1 | 21.4 | 27.5 |
| 16 | –1.0 | 12.0 | 14.5 | 20.3 |
| 32 | –1.2 | 8.6 | 10.0 | 13.6 |
| 64 | –1.2 | 6.4 | 7.7 | 10.3 |
| 128 | –1.0 | 4.5 | 5.3 | 7.1 |
| 256 | –0.9 | 3.2 | 3.8 | 5.2 |
| 512 | –0.9 | 2.2 | 2.6 | 3.5 |
| 1,024 | –0.8 | 1.6 | 1.9 | 2.5 |
| 2,048 | –0.8 | 1.1 | 1.3 | 1.7 |
| 4,096 | –0.8 | 0.8 | 0.9 | 1.3 |
| 8,192 | –0.8 | 0.6 | 0.7 | 0.9 |
| 16,384 | –0.8 | 0.4 | 0.5 | 0.6 |

## Figure 12 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points

This figure does not exist. It exists for the 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH, for the 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH, and for the 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH.

## Figure 14 ($2.50/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2008 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 | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.3 | 8.9 | 0.1 | 90.7 | 91.0 | –91.6 |
| 5–9 | 0.9 | 8.3 | 0.4 | 90.4 | 91.3 | –75.9 |
| 10–14 | 1.6 | 7.6 | 1.0 | 89.8 | 91.4 | –54.7 |
| 15–19 | 2.7 | 6.5 | 2.7 | 88.1 | 90.9 | –11.3 |
| 20–24 | 3.9 | 5.3 | 5.9 | 84.9 | 88.8 | +35.5 |
| 25–29 | 5.3 | 3.9 | 11.3 | 79.6 | 84.9 | –22.5 |
| 30–34 | 6.7 | 2.4 | 18.2 | 72.6 | 79.3 | –98.4 |
| 35–39 | 7.6 | 1.6 | 25.6 | 65.2 | 72.7 | –179.0 |
| 40–44 | 8.3 | 0.9 | 34.5 | 56.3 | 64.6 | –275.5 |
| 45–49 | 8.8 | 0.4 | 44.7 | 46.1 | 54.9 | –386.4 |
| 50–54 | 9.0 | 0.2 | 54.1 | 36.7 | 45.8 | –488.4 |
| 55–59 | 9.1 | 0.1 | 63.1 | 27.7 | 36.9 | –586.1 |
| 60–64 | 9.1 | 0.1 | 71.5 | 19.3 | 28.4 | –678.1 |
| 65–69 | 9.2 | 0.0 | 77.9 | 12.9 | 22.1 | –747.5 |
| 70–74 | 9.2 | 0.0 | 82.6 | 8.2 | 17.4 | –798.3 |
| 75–79 | 9.2 | 0.0 | 86.6 | 4.2 | 13.4 | –841.8 |
| 80–84 | 9.2 | 0.0 | 89.0 | 1.8 | 11.0 | –868.5 |
| 85–89 | 9.2 | 0.0 | 89.9 | 0.9 | 10.1 | –878.5 |
| 90–94 | 9.2 | 0.0 | 90.7 | 0.1 | 9.3 | –886.9 |
| 95–100 | 9.2 | 0.0 | 90.8 | 0.0 | 9.2 | –888.0 |

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

## Figure 15 ($2.50/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2008 validation sample

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.5 | 72.1 | 3.5 | 2.6:1 |
| 5–9 | 1.3 | 69.8 | 9.9 | 2.3:1 |
| 10–14 | 2.6 | 60.8 | 17.1 | 1.6:1 |
| 15–19 | 5.4 | 50.6 | 29.8 | 1.0:1 |
| 20–24 | 9.8 | 39.8 | 42.6 | 0.7:1 |
| 25–29 | 16.6 | 32.0 | 57.7 | 0.5:1 |
| 30–34 | 25.0 | 27.0 | 73.4 | 0.4:1 |
| 35–39 | 33.2 | 22.8 | 82.4 | 0.3:1 |
| 40–44 | 42.8 | 19.4 | 90.2 | 0.2:1 |
| 45–49 | 53.5 | 16.4 | 95.4 | 0.2:1 |
| 50–54 | 63.1 | 14.3 | 98.2 | 0.2:1 |
| 55–59 | 72.2 | 12.6 | 99.0 | 0.1:1 |
| 60–64 | 80.7 | 11.3 | 99.4 | 0.1:1 |
| 65–69 | 87.1 | 10.6 | 100.0 | 0.1:1 |
| 70–74 | 91.8 | 10.0 | 100.0 | 0.1:1 |
| 75–79 | 95.8 | 9.6 | 100.0 | 0.1:1 |
| 80–84 | 98.2 | 9.4 | 100.0 | 0.1:1 |
| 85–89 | 99.1 | 9.3 | 100.0 | 0.1:1 |
| 90–94 | 99.9 | 9.2 | 100.0 | 0.1:1 |
| 95–100 | 100.0 | 9.2 | 100.0 | 0.1:1 |

# National Food Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 (National food line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –10.0 | 7.0 | 7.3 | 7.6 |
| 5–9 | +10.7 | 8.5 | 10.2 | 13.9 |
| 10–14 | +8.9 | 6.2 | 7.3 | 9.2 |
| 15–19 | +7.6 | 4.6 | 5.7 | 7.3 |
| 20–24 | +10.1 | 4.0 | 5.0 | 6.3 |
| 25–29 | +11.4 | 2.6 | 3.0 | 4.1 |
| 30–34 | +13.7 | 1.6 | 2.0 | 2.6 |
| 35–39 | +4.8 | 1.6 | 1.9 | 2.4 |
| 40–44 | +2.7 | 1.2 | 1.5 | 1.8 |
| 45–49 | +2.7 | 0.9 | 1.1 | 1.4 |
| 50–54 | +3.5 | 0.4 | 0.5 | 0.7 |
| 55–59 | +0.8 | 0.6 | 0.7 | 0.9 |
| 60–64 | +0.8 | 0.3 | 0.3 | 0.4 |
| 65–69 | +0.4 | 0.4 | 0.5 | 0.6 |
| 70–74 | –0.2 | 0.4 | 0.4 | 0.5 |
| 75–79 | –0.1 | 0.1 | 0.1 | 0.2 |
| 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 |

**Figure 10 (National food line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.8 | 50.0 | 67.1 | 82.3 |
| 4 | +3.6 | 22.8 | 29.8 | 41.5 |
| 8 | +3.9 | 15.4 | 18.9 | 26.4 |
| 16 | +3.9 | 11.2 | 13.6 | 19.3 |
| 32 | +3.7 | 7.7 | 9.6 | 14.1 |
| 64 | +3.8 | 5.6 | 6.6 | 8.2 |
| 128 | +3.7 | 4.1 | 4.8 | 6.2 |
| 256 | +3.7 | 2.9 | 3.5 | 4.4 |
| 512 | +3.7 | 1.9 | 2.2 | 3.2 |
| 1,024 | +3.7 | 1.4 | 1.6 | 2.1 |
| 2,048 | +3.7 | 1.0 | 1.2 | 1.4 |
| 4,096 | +3.7 | 0.7 | 0.9 | 1.2 |
| 8,192 | +3.7 | 0.5 | 0.6 | 0.8 |
| 16,384 | +3.7 | 0.3 | 0.4 | 0.5 |

**Figure 12 (National food line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +4.5 | 100.0 | 100.0 | 105.6 |
| 4 | +4.1 | 38.9 | 46.4 | 67.3 |
| 8 | +5.3 | 25.9 | 31.8 | 46.1 |
| 16 | +5.1 | 18.8 | 23.2 | 29.4 |
| 32 | +5.0 | 13.3 | 16.4 | 21.3 |
| 64 | +5.1 | 9.5 | 11.9 | 14.7 |
| 128 | +4.9 | 6.7 | 8.3 | 10.4 |
| 256 | +4.7 | 5.0 | 5.8 | 7.5 |
| 512 | +4.7 | 3.4 | 3.9 | 5.5 |
| 1,024 | +4.6 | 2.4 | 2.8 | 3.6 |
| 2,048 | +4.6 | 1.7 | 2.0 | 2.9 |
| 4,096 | +4.6 | 1.2 | 1.5 | 2.0 |
| 8,192 | +4.6 | 0.8 | 1.0 | 1.3 |
| 16,384 | +4.6 | 0.6 | 0.7 | 0.9 |

## Figure 14 (National food line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 10.0 | 0.0 | 89.6 | 90.0 | –92.3 |
| 5–9 | 1.0 | 9.3 | 0.3 | 89.4 | 90.4 | –77.8 |
| 10–14 | 2.0 | 8.4 | 0.9 | 88.8 | 90.8 | –53.8 |
| 15–19 | 3.1 | 7.2 | 2.2 | 87.4 | 90.6 | –18.0 |
| 20–24 | 4.6 | 5.7 | 4.4 | 85.2 | 89.8 | +32.4 |
| 25–29 | 6.3 | 4.1 | 8.9 | 80.8 | 87.1 | +14.3 |
| 30–34 | 7.6 | 2.7 | 15.0 | 74.7 | 82.3 | –44.7 |
| 35–39 | 8.6 | 1.7 | 21.9 | 67.8 | 76.4 | –111.4 |
| 40–44 | 9.4 | 1.0 | 30.4 | 59.2 | 68.6 | –194.1 |
| 45–49 | 10.0 | 0.4 | 40.6 | 49.1 | 59.1 | –291.9 |
| 50–54 | 10.1 | 0.2 | 50.9 | 38.7 | 48.8 | –392.2 |
| 55–59 | 10.3 | 0.1 | 60.4 | 29.3 | 39.5 | –483.2 |
| 60–64 | 10.3 | 0.1 | 68.6 | 21.0 | 31.3 | –562.9 |
| 65–69 | 10.3 | 0.0 | 75.8 | 13.9 | 24.2 | –631.9 |
| 70–74 | 10.3 | 0.0 | 81.5 | 8.1 | 18.5 | –687.5 |
| 75–79 | 10.4 | 0.0 | 85.4 | 4.3 | 14.6 | –724.6 |
| 80–84 | 10.4 | 0.0 | 87.6 | 2.1 | 12.4 | –746.0 |
| 85–89 | 10.4 | 0.0 | 88.6 | 1.0 | 11.4 | –756.1 |
| 90–94 | 10.4 | 0.0 | 89.4 | 0.3 | 10.6 | –763.5 |
| 95–100 | 10.4 | 0.0 | 89.6 | 0.0 | 10.4 | –766.1 |

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

## Figure 15 (National food line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 89.8 | 3.6 | 8.8:1 |
| 5–9 | 1.3 | 79.6 | 9.8 | 3.9:1 |
| 10–14 | 2.8 | 69.7 | 19.0 | 2.3:1 |
| 15–19 | 5.3 | 58.7 | 30.3 | 1.4:1 |
| 20–24 | 9.1 | 51.1 | 44.8 | 1.0:1 |
| 25–29 | 15.2 | 41.5 | 60.8 | 0.7:1 |
| 30–34 | 22.6 | 33.8 | 73.8 | 0.5:1 |
| 35–39 | 30.5 | 28.3 | 83.3 | 0.4:1 |
| 40–44 | 39.8 | 23.6 | 90.6 | 0.3:1 |
| 45–49 | 50.5 | 19.7 | 96.3 | 0.2:1 |
| 50–54 | 61.1 | 16.6 | 97.9 | 0.2:1 |
| 55–59 | 70.6 | 14.5 | 99.0 | 0.2:1 |
| 60–64 | 78.9 | 13.1 | 99.5 | 0.2:1 |
| 65–69 | 86.1 | 12.0 | 99.8 | 0.1:1 |
| 70–74 | 91.9 | 11.3 | 100.0 | 0.1:1 |
| 75–79 | 95.7 | 10.8 | 100.0 | 0.1:1 |
| 80–84 | 97.9 | 10.6 | 100.0 | 0.1:1 |
| 85–89 | 99.0 | 10.5 | 100.0 | 0.1:1 |
| 90–94 | 99.7 | 10.4 | 100.0 | 0.1:1 |
| 95–100 | 100.0 | 10.4 | 100.0 | 0.1:1 |

# National Capacity Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 (National capacity line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –6.6 | 4.7 | 4.9 | 5.5 |
| 5–9 | +2.7 | 6.0 | 7.3 | 9.5 |
| 10–14 | –2.7 | 4.8 | 5.7 | 7.7 |
| 15–19 | +8.1 | 4.6 | 5.2 | 7.5 |
| 20–24 | +6.5 | 4.1 | 4.9 | 6.4 |
| 25–29 | +11.6 | 2.9 | 3.5 | 4.4 |
| 30–34 | +12.0 | 2.5 | 2.9 | 4.0 |
| 35–39 | +3.3 | 2.2 | 2.6 | 3.3 |
| 40–44 | +1.0 | 1.8 | 2.1 | 2.7 |
| 45–49 | +6.4 | 1.1 | 1.3 | 1.7 |
| 50–54 | +5.0 | 0.8 | 0.9 | 1.3 |
| 55–59 | +2.7 | 0.7 | 0.9 | 1.1 |
| 60–64 | +1.3 | 0.4 | 0.5 | 0.7 |
| 65–69 | +0.7 | 0.5 | 0.6 | 0.7 |
| 70–74 | –0.1 | 0.4 | 0.5 | 0.7 |
| 75–79 | –0.2 | 0.2 | 0.3 | 0.4 |
| 80–84 | +0.5 | 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 |

**Figure 10 (National capacity line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +3.8 | 54.4 | 73.2 | 80.6 |
| 4 | +4.0 | 26.1 | 33.3 | 46.5 |
| 8 | +4.1 | 18.7 | 23.5 | 30.2 |
| 16 | +4.0 | 13.5 | 15.8 | 20.1 |
| 32 | +3.8 | 9.3 | 11.0 | 14.7 |
| 64 | +4.0 | 6.9 | 8.2 | 11.0 |
| 128 | +3.9 | 4.7 | 5.5 | 7.4 |
| 256 | +3.8 | 3.3 | 3.8 | 4.9 |
| 512 | +3.8 | 2.3 | 2.7 | 3.6 |
| 1,024 | +3.8 | 1.6 | 1.9 | 2.6 |
| 2,048 | +3.8 | 1.2 | 1.5 | 1.8 |
| 4,096 | +3.9 | 0.9 | 1.1 | 1.3 |
| 8,192 | +3.9 | 0.6 | 0.7 | 0.9 |
| 16,384 | +3.9 | 0.4 | 0.5 | 0.7 |

**Figure 12 (National capacity line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +6.6 | 100.0 | 100.0 | 106.8 |
| 4 | +5.1 | 42.3 | 50.6 | 68.8 |
| 8 | +5.9 | 30.9 | 36.9 | 48.3 |
| 16 | +5.2 | 21.4 | 25.5 | 33.2 |
| 32 | +5.0 | 15.4 | 18.4 | 23.0 |
| 64 | +5.2 | 11.1 | 13.4 | 17.1 |
| 128 | +5.0 | 7.9 | 9.7 | 12.6 |
| 256 | +4.9 | 5.6 | 6.7 | 8.6 |
| 512 | +4.8 | 3.9 | 4.6 | 6.7 |
| 1,024 | +4.7 | 2.8 | 3.3 | 4.1 |
| 2,048 | +4.7 | 1.9 | 2.3 | 3.2 |
| 4,096 | +4.7 | 1.5 | 1.7 | 2.3 |
| 8,192 | +4.8 | 1.0 | 1.2 | 1.5 |
| 16,384 | +4.8 | 0.7 | 0.8 | 1.1 |

## Figure 14 (National capacity line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 15.4 | 0.0 | 84.2 | 84.6 | –94.8 |
| 5–9 | 1.1 | 14.6 | 0.1 | 84.1 | 85.2 | –84.6 |
| 10–14 | 2.3 | 13.4 | 0.5 | 83.8 | 86.1 | –67.3 |
| 15–19 | 3.8 | 11.9 | 1.5 | 82.7 | 86.6 | –41.7 |
| 20–24 | 6.0 | 9.8 | 3.1 | 81.1 | 87.1 | –4.7 |
| 25–29 | 8.4 | 7.3 | 6.7 | 77.5 | 85.9 | +49.7 |
| 30–34 | 10.8 | 5.0 | 11.8 | 72.4 | 83.2 | +25.1 |
| 35–39 | 12.6 | 3.1 | 17.9 | 66.4 | 79.0 | –13.4 |
| 40–44 | 14.0 | 1.8 | 25.8 | 58.4 | 72.4 | –63.8 |
| 45–49 | 15.0 | 0.8 | 35.6 | 48.7 | 63.6 | –125.7 |
| 50–54 | 15.4 | 0.4 | 45.7 | 38.5 | 53.9 | –190.0 |
| 55–59 | 15.6 | 0.2 | 55.1 | 29.2 | 44.7 | –249.2 |
| 60–64 | 15.7 | 0.1 | 63.2 | 21.0 | 36.7 | –301.1 |
| 65–69 | 15.7 | 0.0 | 70.4 | 13.9 | 29.6 | –346.3 |
| 70–74 | 15.8 | 0.0 | 76.1 | 8.1 | 23.9 | –382.8 |
| 75–79 | 15.8 | 0.0 | 79.9 | 4.3 | 20.1 | –407.1 |
| 80–84 | 15.8 | 0.0 | 82.2 | 2.1 | 17.8 | –421.2 |
| 85–89 | 15.8 | 0.0 | 83.2 | 1.0 | 16.8 | –427.8 |
| 90–94 | 15.8 | 0.0 | 84.0 | 0.3 | 16.0 | –432.6 |
| 95–100 | 15.8 | 0.0 | 84.2 | 0.0 | 15.8 | –434.3 |

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

## Figure 15 (National capacity line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 93.8 | 2.5 | 15.0:1 |
| 5–9 | 1.3 | 89.1 | 7.2 | 8.2:1 |
| 10–14 | 2.8 | 83.0 | 14.8 | 4.9:1 |
| 15–19 | 5.3 | 71.9 | 24.4 | 2.6:1 |
| 20–24 | 9.1 | 65.7 | 37.8 | 1.9:1 |
| 25–29 | 15.2 | 55.6 | 53.5 | 1.3:1 |
| 30–34 | 22.6 | 47.8 | 68.5 | 0.9:1 |
| 35–39 | 30.5 | 41.4 | 80.1 | 0.7:1 |
| 40–44 | 39.8 | 35.2 | 88.9 | 0.5:1 |
| 45–49 | 50.5 | 29.6 | 94.9 | 0.4:1 |
| 50–54 | 61.1 | 25.2 | 97.4 | 0.3:1 |
| 55–59 | 70.6 | 22.0 | 98.8 | 0.3:1 |
| 60–64 | 78.9 | 19.9 | 99.5 | 0.2:1 |
| 65–69 | 86.1 | 18.3 | 99.7 | 0.2:1 |
| 70–74 | 91.9 | 17.1 | 99.9 | 0.2:1 |
| 75–79 | 95.7 | 16.5 | 100.0 | 0.2:1 |
| 80–84 | 97.9 | 16.1 | 100.0 | 0.2:1 |
| 85–89 | 99.0 | 15.9 | 100.0 | 0.2:1 |
| 90–94 | 99.7 | 15.8 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 15.8 | 100.0 | 0.2:1 |

# National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 (National asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +0.2 | 1.8 | 2.0 | 2.9 |
| 5–9 | –1.3 | 1.7 | 2.0 | 2.4 |
| 10–14 | +0.4 | 2.7 | 3.2 | 3.9 |
| 15–19 | +5.8 | 3.3 | 3.7 | 5.0 |
| 20–24 | +3.6 | 3.0 | 3.6 | 5.0 |
| 25–29 | +7.8 | 2.7 | 3.2 | 4.3 |
| 30–34 | +3.3 | 2.6 | 3.1 | 4.3 |
| 35–39 | +2.3 | 2.6 | 3.1 | 3.9 |
| 40–44 | +6.1 | 2.5 | 2.9 | 3.9 |
| 45–49 | +12.0 | 2.0 | 2.4 | 3.2 |
| 50–54 | +5.1 | 1.9 | 2.2 | 3.0 |
| 55–59 | +4.5 | 1.6 | 1.9 | 2.5 |
| 60–64 | +3.0 | 1.3 | 1.5 | 2.1 |
| 65–69 | +2.9 | 1.0 | 1.2 | 1.5 |
| 70–74 | +0.3 | 1.0 | 1.2 | 1.5 |
| 75–79 | –0.7 | 0.6 | 0.7 | 0.8 |
| 80–84 | +1.8 | 0.3 | 0.3 | 0.5 |
| 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 |

**Figure 10 (National asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +5.5 | 65.0 | 72.6 | 88.1 |
| 4 | +4.8 | 35.0 | 40.6 | 53.6 |
| 8 | +4.5 | 26.1 | 31.8 | 39.4 |
| 16 | +4.6 | 18.2 | 21.4 | 28.2 |
| 32 | +4.4 | 13.2 | 15.8 | 20.7 |
| 64 | +4.6 | 9.1 | 11.0 | 14.0 |
| 128 | +4.5 | 6.3 | 7.4 | 9.9 |
| 256 | +4.7 | 4.3 | 5.0 | 6.4 |
| 512 | +4.6 | 3.1 | 3.7 | 4.8 |
| 1,024 | +4.5 | 2.2 | 2.7 | 3.4 |
| 2,048 | +4.5 | 1.6 | 1.8 | 2.5 |
| 4,096 | +4.5 | 1.1 | 1.3 | 1.6 |
| 8,192 | +4.5 | 0.8 | 0.9 | 1.1 |
| 16,384 | +4.5 | 0.5 | 0.6 | 0.9 |

**Figure 12 (National asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +4.6 | 100.0 | 104.5 | 100.0 |
| 4 | +5.3 | 52.0 | 62.1 | 78.5 |
| 8 | +4.9 | 39.0 | 45.4 | 58.9 |
| 16 | +4.6 | 27.5 | 32.7 | 42.0 |
| 32 | +4.8 | 20.1 | 24.6 | 30.0 |
| 64 | +5.1 | 13.8 | 16.4 | 21.3 |
| 128 | +5.0 | 9.5 | 11.0 | 14.4 |
| 256 | +5.1 | 6.6 | 7.7 | 9.8 |
| 512 | +5.0 | 4.6 | 5.5 | 7.1 |
| 1,024 | +5.0 | 3.3 | 3.9 | 5.4 |
| 2,048 | +4.9 | 2.3 | 2.8 | 3.6 |
| 4,096 | +4.9 | 1.6 | 1.9 | 2.5 |
| 8,192 | +4.9 | 1.2 | 1.4 | 1.8 |
| 16,384 | +4.9 | 0.8 | 0.9 | 1.2 |

## Figure 14 (National asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 34.5 | 0.0 | 65.1 | 65.5 | –97.6 |
| 5–9 | 1.3 | 33.6 | 0.0 | 65.1 | 66.4 | –92.7 |
| 10–14 | 2.7 | 32.2 | 0.1 | 65.0 | 67.7 | –84.2 |
| 15–19 | 4.9 | 30.0 | 0.5 | 64.7 | 69.6 | –70.6 |
| 20–24 | 8.0 | 26.8 | 1.0 | 64.1 | 72.2 | –50.9 |
| 25–29 | 12.6 | 22.3 | 2.6 | 62.6 | 75.2 | –20.3 |
| 30–34 | 17.8 | 17.0 | 4.8 | 60.3 | 78.2 | +16.0 |
| 35–39 | 22.4 | 12.4 | 8.1 | 57.0 | 79.5 | +51.8 |
| 40–44 | 26.6 | 8.2 | 13.2 | 51.9 | 78.5 | +62.1 |
| 45–49 | 30.0 | 4.8 | 20.5 | 44.6 | 74.7 | +41.2 |
| 50–54 | 32.4 | 2.5 | 28.7 | 36.4 | 68.8 | +17.7 |
| 55–59 | 33.7 | 1.1 | 36.9 | 28.2 | 62.0 | –5.8 |
| 60–64 | 34.4 | 0.5 | 44.5 | 20.6 | 55.0 | –27.7 |
| 65–69 | 34.7 | 0.2 | 51.4 | 13.7 | 48.4 | –47.4 |
| 70–74 | 34.8 | 0.0 | 57.0 | 8.1 | 42.9 | –63.6 |
| 75–79 | 34.9 | 0.0 | 60.8 | 4.3 | 39.1 | –74.5 |
| 80–84 | 34.9 | 0.0 | 63.1 | 2.1 | 36.9 | –80.9 |
| 85–89 | 34.9 | 0.0 | 64.1 | 1.0 | 35.9 | –83.9 |
| 90–94 | 34.9 | 0.0 | 64.9 | 0.3 | 35.1 | –86.1 |
| 95–100 | 34.9 | 0.0 | 65.1 | 0.0 | 34.9 | –86.8 |

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

## Figure 15 (National asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 97.4 | 1.2 | 37.3:1 |
| 5–9 | 1.3 | 97.8 | 3.6 | 43.7:1 |
| 10–14 | 2.8 | 95.1 | 7.7 | 19.3:1 |
| 15–19 | 5.3 | 91.4 | 14.0 | 10.7:1 |
| 20–24 | 9.1 | 88.7 | 23.1 | 7.9:1 |
| 25–29 | 15.2 | 83.2 | 36.2 | 4.9:1 |
| 30–34 | 22.6 | 78.8 | 51.1 | 3.7:1 |
| 35–39 | 30.5 | 73.5 | 64.3 | 2.8:1 |
| 40–44 | 39.8 | 66.8 | 76.3 | 2.0:1 |
| 45–49 | 50.5 | 59.5 | 86.2 | 1.5:1 |
| 50–54 | 61.1 | 53.0 | 92.8 | 1.1:1 |
| 55–59 | 70.6 | 47.8 | 96.7 | 0.9:1 |
| 60–64 | 78.9 | 43.6 | 98.7 | 0.8:1 |
| 65–69 | 86.1 | 40.3 | 99.5 | 0.7:1 |
| 70–74 | 91.9 | 37.9 | 99.9 | 0.6:1 |
| 75–79 | 95.7 | 36.4 | 100.0 | 0.6:1 |
| 80–84 | 97.9 | 35.6 | 100.0 | 0.6:1 |
| 85–89 | 99.0 | 35.2 | 100.0 | 0.5:1 |
| 90–94 | 99.7 | 35.0 | 100.0 | 0.5:1 |
| 95–100 | 100.0 | 34.9 | 100.0 | 0.5:1 |

# 125% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 (125% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –1.3 | 0.6 | 0.6 | 0.6 |
| 5–9 | –0.2 | 1.5 | 1.6 | 2.1 |
| 10–14 | –0.3 | 1.4 | 1.7 | 2.1 |
| 15–19 | +4.2 | 2.7 | 3.1 | 4.1 |
| 20–24 | +0.8 | 2.3 | 2.8 | 3.6 |
| 25–29 | +4.3 | 2.3 | 2.7 | 3.5 |
| 30–34 | +1.2 | 2.2 | 2.6 | 3.5 |
| 35–39 | +3.5 | 2.3 | 2.7 | 3.7 |
| 40–44 | +1.0 | 2.3 | 2.7 | 3.9 |
| 45–49 | +9.6 | 2.2 | 2.7 | 3.7 |
| 50–54 | +4.6 | 2.3 | 2.7 | 3.6 |
| 55–59 | +7.1 | 1.9 | 2.3 | 3.0 |
| 60–64 | +3.3 | 1.9 | 2.2 | 3.0 |
| 65–69 | +3.7 | 1.5 | 1.9 | 2.4 |
| 70–74 | +1.3 | 1.3 | 1.6 | 2.1 |
| 75–79 | +0.3 | 1.1 | 1.3 | 1.6 |
| 80–84 | +2.3 | 0.5 | 0.6 | 0.8 |
| 85–89 | –0.9 | 1.0 | 1.2 | 1.5 |
| 90–94 | +0.0 | 0.0 | 0.0 | 0.0 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +3.3 | 63.6 | 74.2 | 92.3 |
| 4 | +3.6 | 36.7 | 43.7 | 55.2 |
| 8 | +3.5 | 27.3 | 32.8 | 42.9 |
| 16 | +3.5 | 19.0 | 22.9 | 28.9 |
| 32 | +3.5 | 13.5 | 16.0 | 20.7 |
| 64 | +3.7 | 9.3 | 11.4 | 15.5 |
| 128 | +3.7 | 6.5 | 7.7 | 10.3 |
| 256 | +3.8 | 4.8 | 5.8 | 7.6 |
| 512 | +3.7 | 3.3 | 4.0 | 5.4 |
| 1,024 | +3.7 | 2.4 | 2.8 | 3.6 |
| 2,048 | +3.8 | 1.7 | 2.0 | 2.7 |
| 4,096 | +3.7 | 1.2 | 1.4 | 1.8 |
| 8,192 | +3.7 | 0.8 | 1.0 | 1.3 |
| 16,384 | +3.7 | 0.6 | 0.7 | 0.9 |

**Figure 12 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| *n* | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +3.7 | 100.0 | 100.0 | 105.6 |
| 4 | +3.7 | 52.5 | 61.0 | 75.5 |
| 8 | +3.7 | 37.0 | 43.7 | 59.7 |
| 16 | +4.0 | 27.4 | 32.2 | 42.3 |
| 32 | +4.2 | 19.8 | 23.8 | 30.9 |
| 64 | +4.6 | 13.8 | 16.3 | 22.1 |
| 128 | +4.5 | 9.8 | 11.3 | 14.2 |
| 256 | +4.7 | 6.7 | 8.1 | 10.5 |
| 512 | +4.7 | 4.6 | 5.6 | 7.1 |
| 1,024 | +4.6 | 3.3 | 3.9 | 5.2 |
| 2,048 | +4.7 | 2.4 | 2.8 | 3.8 |
| 4,096 | +4.6 | 1.6 | 1.8 | 2.5 |
| 8,192 | +4.6 | 1.2 | 1.4 | 1.9 |
| 16,384 | +4.6 | 0.8 | 1.0 | 1.3 |

## Figure 14 (125% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 45.9 | 0.0 | 53.7 | 54.1 | –98.2 |
| 5–9 | 1.3 | 45.0 | 0.0 | 53.7 | 54.9 | –94.5 |
| 10–14 | 2.8 | 43.6 | 0.1 | 53.6 | 56.4 | –88.0 |
| 15–19 | 5.1 | 41.2 | 0.2 | 53.5 | 58.6 | –77.4 |
| 20–24 | 8.6 | 37.8 | 0.5 | 53.2 | 61.7 | –61.9 |
| 25–29 | 13.8 | 32.5 | 1.3 | 52.4 | 66.2 | –37.4 |
| 30–34 | 20.1 | 26.2 | 2.5 | 51.2 | 71.3 | –7.8 |
| 35–39 | 25.8 | 20.5 | 4.7 | 49.0 | 74.9 | +21.7 |
| 40–44 | 31.8 | 14.5 | 8.0 | 45.7 | 77.5 | +54.7 |
| 45–49 | 37.3 | 9.0 | 13.3 | 40.4 | 77.7 | +71.4 |
| 50–54 | 41.3 | 5.0 | 19.8 | 33.9 | 75.2 | +57.2 |
| 55–59 | 43.8 | 2.6 | 26.9 | 26.8 | 70.6 | +42.0 |
| 60–64 | 45.1 | 1.2 | 33.8 | 19.9 | 65.0 | +27.0 |
| 65–69 | 45.8 | 0.5 | 40.2 | 13.4 | 59.3 | +13.1 |
| 70–74 | 46.1 | 0.2 | 45.7 | 8.0 | 54.1 | +1.3 |
| 75–79 | 46.3 | 0.0 | 49.4 | 4.3 | 50.5 | –6.7 |
| 80–84 | 46.3 | 0.0 | 51.6 | 2.1 | 48.4 | –11.5 |
| 85–89 | 46.3 | 0.0 | 52.7 | 1.0 | 47.3 | –13.7 |
| 90–94 | 46.3 | 0.0 | 53.4 | 0.3 | 46.6 | –15.4 |
| 95–100 | 46.3 | 0.0 | 53.7 | 0.0 | 46.3 | –15.9 |

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

## Figure 15 (125% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 100.0 | 0.9 | Only poor targeted |
| 5–9 | 1.3 | 98.9 | 2.7 | 94.0:1 |
| 10–14 | 2.8 | 97.9 | 6.0 | 45.7:1 |
| 15–19 | 5.3 | 95.5 | 11.0 | 21.4:1 |
| 20–24 | 9.1 | 94.3 | 18.5 | 16.5:1 |
| 25–29 | 15.2 | 91.2 | 29.9 | 10.4:1 |
| 30–34 | 22.6 | 88.8 | 43.4 | 8.0:1 |
| 35–39 | 30.5 | 84.7 | 55.8 | 5.5:1 |
| 40–44 | 39.8 | 79.9 | 68.7 | 4.0:1 |
| 45–49 | 50.5 | 73.8 | 80.5 | 2.8:1 |
| 50–54 | 61.1 | 67.6 | 89.1 | 2.1:1 |
| 55–59 | 70.6 | 62.0 | 94.5 | 1.6:1 |
| 60–64 | 78.9 | 57.2 | 97.4 | 1.3:1 |
| 65–69 | 86.1 | 53.2 | 99.0 | 1.1:1 |
| 70–74 | 91.9 | 50.2 | 99.6 | 1.0:1 |
| 75–79 | 95.7 | 48.3 | 99.9 | 0.9:1 |
| 80–84 | 97.9 | 47.3 | 100.0 | 0.9:1 |
| 85–89 | 99.0 | 46.8 | 100.0 | 0.9:1 |
| 90–94 | 99.7 | 46.4 | 100.0 | 0.9:1 |
| 95–100 | 100.0 | 46.3 | 100.0 | 0.9:1 |

# 150% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 (150% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +0.0 | 0.0 | 0.0 | 0.0 |
| 5–9 | +0.7 | 1.0 | 1.1 | 1.4 |
| 10–14 | –1.2 | 0.9 | 0.9 | 1.0 |
| 15–19 | +1.5 | 1.9 | 2.2 | 2.9 |
| 20–24 | –1.6 | 1.2 | 1.3 | 1.5 |
| 25–29 | +3.5 | 1.8 | 2.1 | 2.7 |
| 30–34 | –2.4 | 1.9 | 2.0 | 2.3 |
| 35–39 | +1.9 | 2.0 | 2.3 | 2.9 |
| 40–44 | –1.1 | 2.1 | 2.5 | 3.3 |
| 45–49 | +5.9 | 2.2 | 2.6 | 3.6 |
| 50–54 | +6.2 | 2.3 | 2.7 | 3.6 |
| 55–59 | +7.4 | 2.3 | 2.7 | 3.6 |
| 60–64 | +4.6 | 2.1 | 2.5 | 3.4 |
| 65–69 | +3.4 | 1.9 | 2.3 | 3.1 |
| 70–74 | +2.3 | 1.8 | 2.1 | 2.6 |
| 75–79 | +2.3 | 1.6 | 2.0 | 2.5 |
| 80–84 | +4.5 | 0.6 | 0.7 | 0.9 |
| 85–89 | –1.3 | 1.3 | 1.4 | 1.9 |
| 90–94 | –2.3 | 2.7 | 3.1 | 3.8 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +2.3 | 65.0 | 82.3 | 92.2 |
| 4 | +3.2 | 36.6 | 42.4 | 54.3 |
| 8 | +3.0 | 25.9 | 31.3 | 38.5 |
| 16 | +3.2 | 18.1 | 21.6 | 30.5 |
| 32 | +2.9 | 12.9 | 15.1 | 20.2 |
| 64 | +2.8 | 8.7 | 10.2 | 13.8 |
| 128 | +3.0 | 6.2 | 7.3 | 10.1 |
| 256 | +3.0 | 4.6 | 5.4 | 7.1 |
| 512 | +3.0 | 3.2 | 3.8 | 5.3 |
| 1,024 | +3.0 | 2.3 | 2.7 | 3.5 |
| 2,048 | +3.0 | 1.7 | 2.0 | 2.8 |
| 4,096 | +3.0 | 1.1 | 1.4 | 1.8 |
| 8,192 | +3.0 | 0.8 | 1.0 | 1.3 |
| 16,384 | +3.0 | 0.6 | 0.7 | 0.9 |

**Figure 12 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| *n* | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +4.1 | 100.0 | 100.0 | 107.1 |
| 4 | +3.2 | 51.6 | 60.8 | 80.5 |
| 8 | +3.5 | 38.0 | 44.3 | 53.9 |
| 16 | +3.8 | 25.8 | 29.9 | 37.7 |
| 32 | +3.9 | 18.2 | 21.6 | 28.2 |
| 64 | +4.0 | 12.4 | 15.5 | 20.5 |
| 128 | +4.2 | 8.6 | 10.6 | 14.2 |
| 256 | +4.2 | 6.6 | 7.5 | 9.7 |
| 512 | +4.2 | 4.2 | 5.0 | 6.7 |
| 1,024 | +4.2 | 3.2 | 3.9 | 4.9 |
| 2,048 | +4.2 | 2.3 | 2.7 | 3.6 |
| 4,096 | +4.2 | 1.6 | 1.9 | 2.4 |
| 8,192 | +4.2 | 1.1 | 1.3 | 1.8 |
| 16,384 | +4.2 | 0.8 | 1.0 | 1.3 |

## Figure 14 (150% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 54.9 | 0.0 | 44.7 | 45.1 | –98.5 |
| 5–9 | 1.3 | 54.0 | 0.0 | 44.7 | 46.0 | –95.4 |
| 10–14 | 2.8 | 52.5 | 0.0 | 44.7 | 47.5 | –89.8 |
| 15–19 | 5.2 | 50.1 | 0.1 | 44.6 | 49.8 | –80.8 |
| 20–24 | 8.8 | 46.5 | 0.2 | 44.5 | 53.3 | –67.6 |
| 25–29 | 14.4 | 40.9 | 0.7 | 44.0 | 58.4 | –46.5 |
| 30–34 | 21.3 | 34.0 | 1.3 | 43.4 | 64.7 | –20.6 |
| 35–39 | 27.8 | 27.5 | 2.7 | 42.0 | 69.9 | +5.5 |
| 40–44 | 35.0 | 20.3 | 4.8 | 39.9 | 74.8 | +35.3 |
| 45–49 | 41.9 | 13.4 | 8.7 | 36.0 | 77.9 | +67.1 |
| 50–54 | 47.3 | 8.0 | 13.8 | 30.9 | 78.1 | +75.0 |
| 55–59 | 51.0 | 4.3 | 19.6 | 25.1 | 76.2 | +64.6 |
| 60–64 | 53.2 | 2.1 | 25.8 | 19.0 | 72.1 | +53.4 |
| 65–69 | 54.4 | 0.9 | 31.7 | 13.0 | 67.4 | +42.7 |
| 70–74 | 55.0 | 0.3 | 36.9 | 7.8 | 62.8 | +33.3 |
| 75–79 | 55.2 | 0.1 | 40.5 | 4.2 | 59.5 | +26.8 |
| 80–84 | 55.3 | 0.0 | 42.7 | 2.0 | 57.3 | +22.9 |
| 85–89 | 55.3 | 0.0 | 43.7 | 1.0 | 56.3 | +21.0 |
| 90–94 | 55.3 | 0.0 | 44.4 | 0.3 | 55.6 | +19.6 |
| 95–100 | 55.3 | 0.0 | 44.7 | 0.0 | 55.3 | +19.2 |

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

## Figure 15 (150% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 100.0 | 0.8 | Only poor targeted |
| 5–9 | 1.3 | 99.4 | 2.3 | 165.2:1 |
| 10–14 | 2.8 | 99.1 | 5.1 | 114.0:1 |
| 15–19 | 5.3 | 98.0 | 9.5 | 47.9:1 |
| 20–24 | 9.1 | 97.4 | 16.0 | 37.5:1 |
| 25–29 | 15.2 | 95.2 | 26.1 | 19.7:1 |
| 30–34 | 22.6 | 94.3 | 38.5 | 16.4:1 |
| 35–39 | 30.5 | 91.2 | 50.3 | 10.4:1 |
| 40–44 | 39.8 | 87.8 | 63.2 | 7.2:1 |
| 45–49 | 50.5 | 82.9 | 75.7 | 4.8:1 |
| 50–54 | 61.1 | 77.4 | 85.4 | 3.4:1 |
| 55–59 | 70.6 | 72.3 | 92.3 | 2.6:1 |
| 60–64 | 78.9 | 67.4 | 96.1 | 2.1:1 |
| 65–69 | 86.1 | 63.2 | 98.3 | 1.7:1 |
| 70–74 | 91.9 | 59.8 | 99.4 | 1.5:1 |
| 75–79 | 95.7 | 57.7 | 99.9 | 1.4:1 |
| 80–84 | 97.9 | 56.4 | 99.9 | 1.3:1 |
| 85–89 | 99.0 | 55.9 | 100.0 | 1.3:1 |
| 90–94 | 99.7 | 55.4 | 100.0 | 1.2:1 |
| 95–100 | 100.0 | 55.3 | 100.0 | 1.2:1 |

# USAID "Extreme" Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 (USAID "extreme" line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –10.4 | 7.2 | 7.4 | 7.7 |
| 5–9 | +0.4 | 7.2 | 8.7 | 12.8 |
| 10–14 | +0.8 | 5.6 | 6.5 | 8.6 |
| 15–19 | –1.0 | 4.7 | 5.8 | 7.8 |
| 20–24 | +0.7 | 4.2 | 5.1 | 6.2 |
| 25–29 | +4.8 | 2.9 | 3.4 | 4.3 |
| 30–34 | +5.3 | 2.4 | 2.9 | 3.8 |
| 35–39 | –1.5 | 2.4 | 2.8 | 3.5 |
| 40–44 | –1.7 | 1.9 | 2.3 | 2.9 |
| 45–49 | +4.9 | 1.2 | 1.5 | 2.0 |
| 50–54 | +3.9 | 1.0 | 1.2 | 1.6 |
| 55–59 | +3.2 | 0.8 | 0.9 | 1.2 |
| 60–64 | +2.1 | 0.6 | 0.7 | 0.9 |
| 65–69 | +0.8 | 0.5 | 0.6 | 0.8 |
| 70–74 | –0.1 | 0.4 | 0.5 | 0.7 |
| 75–79 | –0.2 | 0.2 | 0.3 | 0.4 |
| 80–84 | +0.5 | 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 |

**Figure 10 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.7 | 60.3 | 68.5 | 77.6 |
| 4 | +2.1 | 27.0 | 35.3 | 48.4 |
| 8 | +1.9 | 20.3 | 25.1 | 33.1 |
| 16 | +1.9 | 14.0 | 16.8 | 22.8 |
| 32 | +1.8 | 9.9 | 12.1 | 16.3 |
| 64 | +2.0 | 7.2 | 8.5 | 11.4 |
| 128 | +1.9 | 4.9 | 6.0 | 7.4 |
| 256 | +1.9 | 3.5 | 4.2 | 5.2 |
| 512 | +1.8 | 2.5 | 2.9 | 3.9 |
| 1,024 | +1.8 | 1.8 | 2.1 | 2.8 |
| 2,048 | +1.9 | 1.3 | 1.5 | 1.9 |
| 4,096 | +1.9 | 0.9 | 1.1 | 1.4 |
| 8,192 | +1.9 | 0.6 | 0.8 | 1.0 |
| 16,384 | +1.9 | 0.4 | 0.5 | 0.7 |

## Figure 12 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +4.4 | 100.0 | 100.0 | 104.7 |
| 4 | +2.7 | 45.8 | 53.3 | 76.4 |
| 8 | +3.3 | 31.6 | 38.2 | 50.9 |
| 16 | +2.9 | 22.2 | 27.2 | 37.2 |
| 32 | +2.9 | 16.5 | 19.0 | 24.6 |
| 64 | +3.1 | 11.6 | 13.7 | 18.9 |
| 128 | +2.9 | 8.5 | 10.1 | 12.5 |
| 256 | +2.7 | 5.7 | 6.8 | 8.6 |
| 512 | +2.7 | 4.0 | 4.8 | 5.9 |
| 1,024 | +2.6 | 2.9 | 3.2 | 4.2 |
| 2,048 | +2.7 | 2.0 | 2.4 | 3.1 |
| 4,096 | +2.6 | 1.4 | 1.8 | 2.3 |
| 8,192 | +2.6 | 1.0 | 1.1 | 1.6 |
| 16,384 | +2.6 | 0.7 | 0.8 | 1.1 |

## Figure 14 (USAID "extreme" line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 16.4 | 0.0 | 83.2 | 83.5 | –95.2 |
| 5–9 | 1.1 | 15.7 | 0.2 | 83.0 | 84.1 | –86.0 |
| 10–14 | 2.1 | 14.7 | 0.7 | 82.5 | 84.7 | –70.5 |
| 15–19 | 3.5 | 13.3 | 1.8 | 81.4 | 84.9 | –47.2 |
| 20–24 | 5.6 | 11.3 | 3.5 | 79.7 | 85.2 | –13.0 |
| 25–29 | 8.1 | 8.7 | 7.0 | 76.2 | 84.3 | +38.7 |
| 30–34 | 10.7 | 6.1 | 11.9 | 71.3 | 82.0 | +29.2 |
| 35–39 | 12.8 | 4.0 | 17.7 | 65.5 | 78.3 | –5.4 |
| 40–44 | 14.4 | 2.4 | 25.4 | 57.8 | 72.2 | –51.3 |
| 45–49 | 15.6 | 1.2 | 34.9 | 48.3 | 63.9 | –107.9 |
| 50–54 | 16.2 | 0.6 | 44.9 | 38.3 | 54.5 | –167.0 |
| 55–59 | 16.5 | 0.3 | 54.1 | 29.1 | 45.6 | –221.9 |
| 60–64 | 16.7 | 0.1 | 62.2 | 21.0 | 37.7 | –270.2 |
| 65–69 | 16.8 | 0.0 | 69.3 | 13.9 | 30.6 | –312.5 |
| 70–74 | 16.8 | 0.0 | 75.1 | 8.1 | 24.9 | –346.7 |
| 75–79 | 16.8 | 0.0 | 78.9 | 4.3 | 21.1 | –369.5 |
| 80–84 | 16.8 | 0.0 | 81.1 | 2.1 | 18.9 | –382.7 |
| 85–89 | 16.8 | 0.0 | 82.2 | 1.0 | 17.8 | –388.9 |
| 90–94 | 16.8 | 0.0 | 82.9 | 0.3 | 17.1 | –393.4 |
| 95–100 | 16.8 | 0.0 | 83.2 | 0.0 | 16.8 | –395.0 |

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

## Figure 15 (USAID "extreme" line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 91.1 | 2.3 | 10.3:1 |
| 5–9 | 1.3 | 84.3 | 6.4 | 5.4:1 |
| 10–14 | 2.8 | 76.1 | 12.8 | 3.2:1 |
| 15–19 | 5.3 | 65.8 | 21.0 | 1.9:1 |
| 20–24 | 9.1 | 61.2 | 33.1 | 1.6:1 |
| 25–29 | 15.2 | 53.6 | 48.4 | 1.2:1 |
| 30–34 | 22.6 | 47.4 | 63.8 | 0.9:1 |
| 35–39 | 30.5 | 41.9 | 76.1 | 0.7:1 |
| 40–44 | 39.8 | 36.2 | 85.7 | 0.6:1 |
| 45–49 | 50.5 | 30.9 | 92.9 | 0.4:1 |
| 50–54 | 61.1 | 26.5 | 96.4 | 0.4:1 |
| 55–59 | 70.6 | 23.4 | 98.3 | 0.3:1 |
| 60–64 | 78.9 | 21.2 | 99.4 | 0.3:1 |
| 65–69 | 86.1 | 19.5 | 99.7 | 0.2:1 |
| 70–74 | 91.9 | 18.3 | 99.9 | 0.2:1 |
| 75–79 | 95.7 | 17.6 | 100.0 | 0.2:1 |
| 80–84 | 97.9 | 17.2 | 100.0 | 0.2:1 |
| 85–89 | 99.0 | 17.0 | 100.0 | 0.2:1 |
| 90–94 | 99.7 | 16.9 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 16.8 | 100.0 | 0.2:1 |

# $1.25/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 ($1.25/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –5.8 | 10.9 | 13.9 | 18.5 |
| 5–9 | +7.9 | 5.5 | 6.3 | 8.2 |
| 10–14 | +0.9 | 4.3 | 5.3 | 6.9 |
| 15–19 | +1.7 | 2.7 | 3.1 | 4.1 |
| 20–24 | +2.2 | 0.9 | 1.1 | 1.5 |
| 25–29 | +1.2 | 0.6 | 0.8 | 1.0 |
| 30–34 | +1.3 | 0.3 | 0.4 | 0.6 |
| 35–39 | +0.1 | 0.4 | 0.5 | 0.7 |
| 40–44 | –0.1 | 0.3 | 0.4 | 0.5 |
| 45–49 | –0.1 | 0.1 | 0.2 | 0.2 |
| 50–54 | +0.7 | 0.0 | 0.0 | 0.0 |
| 55–59 | +0.4 | 0.0 | 0.0 | 0.0 |
| 60–64 | +0.1 | 0.0 | 0.0 | 0.0 |
| 65–69 | –0.0 | 0.0 | 0.0 | 0.1 |
| 70–74 | –0.4 | 0.4 | 0.4 | 0.5 |
| 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 |

## Figure 10 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.0 | 2.3 | 4.2 | 59.2 |
| 4 | +0.5 | 2.0 | 8.8 | 19.9 |
| 8 | +0.4 | 4.7 | 7.1 | 14.0 |
| 16 | +0.5 | 3.5 | 5.0 | 7.7 |
| 32 | +0.5 | 2.6 | 3.3 | 4.4 |
| 64 | +0.4 | 1.9 | 2.2 | 3.1 |
| 128 | +0.4 | 1.3 | 1.6 | 2.3 |
| 256 | +0.4 | 1.0 | 1.2 | 1.4 |
| 512 | +0.4 | 0.7 | 0.8 | 1.1 |
| 1,024 | +0.4 | 0.5 | 0.6 | 0.8 |
| 2,048 | +0.4 | 0.3 | 0.4 | 0.5 |
| 4,096 | +0.4 | 0.2 | 0.3 | 0.4 |
| 8,192 | +0.4 | 0.2 | 0.2 | 0.3 |
| 16,384 | +0.4 | 0.1 | 0.1 | 0.2 |

## Figure 12 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.1 | 0.6 | 26.5 | 100.0 |
| 4 | +0.8 | 10.4 | 21.0 | 39.6 |
| 8 | +0.7 | 10.8 | 14.3 | 24.8 |
| 16 | +0.7 | 7.0 | 9.2 | 14.5 |
| 32 | +0.7 | 4.9 | 6.4 | 9.1 |
| 64 | +0.6 | 3.4 | 4.3 | 5.7 |
| 128 | +0.6 | 2.4 | 2.8 | 3.8 |
| 256 | +0.5 | 1.8 | 2.1 | 2.8 |
| 512 | +0.5 | 1.2 | 1.4 | 2.0 |
| 1,024 | +0.5 | 0.9 | 1.1 | 1.4 |
| 2,048 | +0.5 | 0.6 | 0.7 | 1.0 |
| 4,096 | +0.5 | 0.4 | 0.5 | 0.7 |
| 8,192 | +0.5 | 0.3 | 0.4 | 0.5 |
| 16,384 | +0.5 | 0.2 | 0.2 | 0.3 |

## Figure 14 ($1.25/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.2 | 1.1 | 0.3 | 98.5 | 98.7 | –53.5 |
| 5–9 | 0.3 | 0.9 | 1.0 | 97.8 | 98.1 | +19.4 |
| 10–14 | 0.5 | 0.7 | 2.3 | 96.4 | 96.9 | –91.5 |
| 15–19 | 0.6 | 0.6 | 4.7 | 94.0 | 94.7 | –286.3 |
| 20–24 | 0.7 | 0.5 | 8.3 | 90.5 | 91.2 | –579.8 |
| 25–29 | 0.9 | 0.3 | 14.3 | 84.5 | 85.4 | –1,065.9 |
| 30–34 | 1.0 | 0.2 | 21.6 | 77.1 | 78.1 | –1,668.0 |
| 35–39 | 1.1 | 0.2 | 29.4 | 69.3 | 70.4 | –2,305.4 |
| 40–44 | 1.1 | 0.1 | 38.7 | 60.1 | 61.2 | –3,059.6 |
| 45–49 | 1.2 | 0.0 | 49.4 | 49.4 | 50.6 | –3,932.1 |
| 50–54 | 1.2 | 0.0 | 59.9 | 38.9 | 40.1 | –4,791.8 |
| 55–59 | 1.2 | 0.0 | 69.4 | 29.4 | 30.5 | –5,571.2 |
| 60–64 | 1.2 | 0.0 | 77.7 | 21.1 | 22.3 | –6,248.7 |
| 65–69 | 1.2 | 0.0 | 84.9 | 13.9 | 15.1 | –6,833.4 |
| 70–74 | 1.2 | 0.0 | 90.6 | 8.1 | 9.4 | –7,304.0 |
| 75–79 | 1.2 | 0.0 | 94.5 | 4.3 | 5.5 | –7,618.1 |
| 80–84 | 1.2 | 0.0 | 96.7 | 2.1 | 3.3 | –7,799.2 |
| 85–89 | 1.2 | 0.0 | 97.7 | 1.0 | 2.3 | –7,884.4 |
| 90–94 | 1.2 | 0.0 | 98.5 | 0.3 | 1.5 | –7,947.0 |
| 95–100 | 1.2 | 0.0 | 98.8 | 0.0 | 1.2 | –7,968.9 |

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

## Figure 15 ($1.25/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 35.8 | 12.3 | 0.6:1 |
| 5–9 | 1.3 | 22.9 | 24.0 | 0.3:1 |
| 10–14 | 2.8 | 16.8 | 38.8 | 0.2:1 |
| 15–19 | 5.3 | 11.6 | 50.7 | 0.1:1 |
| 20–24 | 9.1 | 8.3 | 61.3 | 0.1:1 |
| 25–29 | 15.2 | 5.9 | 73.1 | 0.1:1 |
| 30–34 | 22.6 | 4.3 | 79.6 | 0.0:1 |
| 35–39 | 30.5 | 3.5 | 86.7 | 0.0:1 |
| 40–44 | 39.8 | 2.9 | 93.6 | 0.0:1 |
| 45–49 | 50.5 | 2.3 | 96.5 | 0.0:1 |
| 50–54 | 61.1 | 1.9 | 97.3 | 0.0:1 |
| 55–59 | 70.6 | 1.7 | 97.8 | 0.0:1 |
| 60–64 | 78.9 | 1.5 | 98.2 | 0.0:1 |
| 65–69 | 86.1 | 1.4 | 98.6 | 0.0:1 |
| 70–74 | 91.9 | 1.3 | 100.0 | 0.0:1 |
| 75–79 | 95.7 | 1.3 | 100.0 | 0.0:1 |
| 80–84 | 97.9 | 1.3 | 100.0 | 0.0:1 |
| 85–89 | 99.0 | 1.2 | 100.0 | 0.0:1 |
| 90–94 | 99.7 | 1.2 | 100.0 | 0.0:1 |
| 95–100 | 100.0 | 1.2 | 100.0 | 0.0:1 |

# $2.50/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to the 2006 ENIGH

**Figure 8 ($2.50/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2006 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –13.9 | 12.4 | 13.9 | 18.0 |
| 5–9 | +11.9 | 8.5 | 10.2 | 14.4 |
| 10–14 | +5.2 | 6.3 | 7.4 | 9.4 |
| 15–19 | –11.0 | 7.9 | 8.2 | 9.3 |
| 20–24 | +10.7 | 3.3 | 4.1 | 5.1 |
| 25–29 | +6.0 | 1.9 | 2.2 | 2.9 |
| 30–34 | +7.7 | 1.1 | 1.4 | 1.9 |
| 35–39 | +2.4 | 1.0 | 1.2 | 1.6 |
| 40–44 | +0.4 | 0.9 | 1.1 | 1.4 |
| 45–49 | +1.1 | 0.7 | 0.8 | 1.0 |
| 50–54 | +2.1 | 0.4 | 0.4 | 0.5 |
| 55–59 | +0.5 | 0.4 | 0.4 | 0.6 |
| 60–64 | +0.4 | 0.2 | 0.2 | 0.3 |
| 65–69 | +0.3 | 0.4 | 0.5 | 0.6 |
| 70–74 | –0.4 | 0.4 | 0.4 | 0.5 |
| 75–79 | –0.1 | 0.1 | 0.1 | 0.2 |
| 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 |

## Figure 10 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2006 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.3 | 45.9 | 58.4 | 73.6 |
| 4 | +1.9 | 17.2 | 22.3 | 34.6 |
| 8 | +1.9 | 11.9 | 15.2 | 21.6 |
| 16 | +2.0 | 8.8 | 10.9 | 15.2 |
| 32 | +1.8 | 6.1 | 7.2 | 9.8 |
| 64 | +1.8 | 4.2 | 5.1 | 6.5 |
| 128 | +1.7 | 3.1 | 3.7 | 4.9 |
| 256 | +1.7 | 2.2 | 2.7 | 3.6 |
| 512 | +1.7 | 1.6 | 1.9 | 2.5 |
| 1,024 | +1.7 | 1.1 | 1.3 | 1.6 |
| 2,048 | +1.7 | 0.8 | 1.0 | 1.2 |
| 4,096 | +1.7 | 0.6 | 0.7 | 0.9 |
| 8,192 | +1.7 | 0.4 | 0.5 | 0.6 |
| 16,384 | +1.8 | 0.3 | 0.3 | 0.4 |

## Figure 12 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2006 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +2.4 | 57.3 | 100.0 | 101.8 |
| 4 | +2.5 | 31.9 | 39.2 | 52.1 |
| 8 | +3.2 | 21.0 | 25.9 | 36.1 |
| 16 | +2.9 | 15.3 | 18.0 | 25.7 |
| 32 | +3.0 | 10.7 | 12.9 | 16.9 |
| 64 | +2.9 | 7.9 | 9.3 | 12.1 |
| 128 | +2.7 | 5.5 | 6.6 | 8.7 |
| 256 | +2.6 | 4.1 | 4.7 | 5.9 |
| 512 | +2.5 | 2.8 | 3.3 | 4.2 |
| 1,024 | +2.5 | 1.9 | 2.3 | 3.1 |
| 2,048 | +2.6 | 1.4 | 1.6 | 2.1 |
| 4,096 | +2.6 | 1.0 | 1.2 | 1.6 |
| 8,192 | +2.6 | 0.7 | 0.8 | 1.1 |
| 16,384 | +2.6 | 0.5 | 0.6 | 0.7 |

## Figure 14 ($2.50/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2006 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.3 | 6.3 | 0.1 | 93.3 | 93.6 | –88.6 |
| 5–9 | 0.9 | 5.8 | 0.4 | 92.9 | 93.8 | –67.8 |
| 10–14 | 1.6 | 5.1 | 1.2 | 92.1 | 93.7 | –33.8 |
| 15–19 | 2.5 | 4.2 | 2.8 | 90.5 | 93.0 | +18.0 |
| 20–24 | 3.5 | 3.2 | 5.6 | 87.7 | 91.2 | +15.9 |
| 25–29 | 4.4 | 2.3 | 10.8 | 82.6 | 86.9 | –62.0 |
| 30–34 | 5.1 | 1.6 | 17.5 | 75.8 | 80.9 | –163.1 |
| 35–39 | 5.6 | 1.0 | 24.9 | 68.5 | 74.1 | –273.7 |
| 40–44 | 6.1 | 0.6 | 33.7 | 59.6 | 65.7 | –406.9 |
| 45–49 | 6.4 | 0.2 | 44.1 | 49.2 | 55.7 | –562.8 |
| 50–54 | 6.5 | 0.1 | 54.6 | 38.8 | 45.3 | –719.6 |
| 55–59 | 6.6 | 0.1 | 64.0 | 29.3 | 35.9 | –862.2 |
| 60–64 | 6.6 | 0.1 | 72.3 | 21.0 | 27.6 | –986.4 |
| 65–69 | 6.6 | 0.0 | 79.4 | 13.9 | 20.5 | –1,093.5 |
| 70–74 | 6.7 | 0.0 | 85.2 | 8.1 | 14.8 | –1,180.1 |
| 75–79 | 6.7 | 0.0 | 89.0 | 4.3 | 11.0 | –1,237.8 |
| 80–84 | 6.7 | 0.0 | 91.3 | 2.1 | 8.7 | –1,271.1 |
| 85–89 | 6.7 | 0.0 | 92.3 | 1.0 | 7.7 | –1,286.8 |
| 90–94 | 6.7 | 0.0 | 93.1 | 0.3 | 6.9 | –1,298.3 |
| 95–100 | 6.7 | 0.0 | 93.3 | 0.0 | 6.7 | –1,302.3 |

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

## Figure 15 ($2.50/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2006 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.4 | 80.2 | 5.1 | 4.0:1 |
| 5–9 | 1.3 | 67.6 | 13.0 | 2.1:1 |
| 10–14 | 2.8 | 56.2 | 23.8 | 1.3:1 |
| 15–19 | 5.3 | 46.8 | 37.6 | 0.9:1 |
| 20–24 | 9.1 | 38.3 | 52.2 | 0.6:1 |
| 25–29 | 15.2 | 28.9 | 65.9 | 0.4:1 |
| 30–34 | 22.6 | 22.6 | 76.7 | 0.3:1 |
| 35–39 | 30.5 | 18.5 | 84.6 | 0.2:1 |
| 40–44 | 39.8 | 15.3 | 91.4 | 0.2:1 |
| 45–49 | 50.5 | 12.7 | 96.5 | 0.1:1 |
| 50–54 | 61.1 | 10.7 | 97.9 | 0.1:1 |
| 55–59 | 70.6 | 9.3 | 98.7 | 0.1:1 |
| 60–64 | 78.9 | 8.4 | 99.2 | 0.1:1 |
| 65–69 | 86.1 | 7.7 | 99.7 | 0.1:1 |
| 70–74 | 91.9 | 7.2 | 99.9 | 0.1:1 |
| 75–79 | 95.7 | 7.0 | 100.0 | 0.1:1 |
| 80–84 | 97.9 | 6.8 | 100.0 | 0.1:1 |
| 85–89 | 99.0 | 6.7 | 100.0 | 0.1:1 |
| 90–94 | 99.7 | 6.7 | 100.0 | 0.1:1 |
| 95–100 | 100.0 | 6.7 | 100.0 | 0.1:1 |

# National Food Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 (National food line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +1.0 | 8.4 | 10.2 | 13.2 |
| 5–9 | +2.6 | 5.3 | 6.6 | 8.3 |
| 10–14 | +7.1 | 6.0 | 7.2 | 9.1 |
| 15–19 | –0.8 | 5.8 | 6.8 | 9.2 |
| 20–24 | –13.5 | 9.3 | 9.7 | 10.7 |
| 25–29 | –3.3 | 3.8 | 4.5 | 5.9 |
| 30–34 | +9.8 | 2.1 | 2.6 | 3.3 |
| 35–39 | +9.4 | 1.3 | 1.5 | 2.1 |
| 40–44 | +2.9 | 1.3 | 1.5 | 2.1 |
| 45–49 | +2.7 | 0.9 | 1.1 | 1.5 |
| 50–54 | –5.5 | 3.8 | 4.0 | 4.4 |
| 55–59 | +1.1 | 0.6 | 0.7 | 0.9 |
| 60–64 | +0.4 | 0.1 | 0.2 | 0.2 |
| 65–69 | +1.5 | 0.1 | 0.2 | 0.2 |
| 70–74 | –1.6 | 1.4 | 1.6 | 1.8 |
| 75–79 | –0.3 | 0.4 | 0.5 | 0.5 |
| 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 |

**Figure 10 (National food line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.1 | 53.4 | 64.0 | 90.7 |
| 4 | +1.2 | 28.8 | 36.1 | 48.3 |
| 8 | +1.4 | 21.2 | 26.4 | 40.6 |
| 16 | +1.1 | 16.1 | 19.7 | 27.5 |
| 32 | +1.2 | 11.6 | 14.0 | 19.6 |
| 64 | +1.4 | 8.5 | 9.9 | 13.7 |
| 128 | +1.6 | 5.8 | 6.9 | 9.3 |
| 256 | +1.7 | 4.3 | 5.0 | 6.3 |
| 512 | +1.7 | 2.9 | 3.6 | 4.5 |
| 1,024 | +1.6 | 2.0 | 2.4 | 3.2 |
| 2,048 | +1.6 | 1.4 | 1.7 | 2.2 |
| 4,096 | +1.6 | 1.1 | 1.3 | 1.6 |
| 8,192 | +1.6 | 0.8 | 0.9 | 1.2 |
| 16,384 | +1.6 | 0.5 | 0.6 | 0.9 |

**Figure 12 (National food line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –1.2 | 100.0 | 100.0 | 100.0 |
| 4 | +0.9 | 41.5 | 56.6 | 76.8 |
| 8 | +1.5 | 32.1 | 38.9 | 54.3 |
| 16 | +1.1 | 21.8 | 27.9 | 37.4 |
| 32 | +1.3 | 16.4 | 19.4 | 26.9 |
| 64 | +1.6 | 11.5 | 13.7 | 18.9 |
| 128 | +1.8 | 8.1 | 9.8 | 12.3 |
| 256 | +1.8 | 5.9 | 7.1 | 9.3 |
| 512 | +1.8 | 4.2 | 5.0 | 6.3 |
| 1,024 | +1.7 | 2.8 | 3.3 | 4.7 |
| 2,048 | +1.7 | 2.0 | 2.4 | 2.9 |
| 4,096 | +1.7 | 1.4 | 1.7 | 2.2 |
| 8,192 | +1.7 | 1.0 | 1.2 | 1.6 |
| 16,384 | +1.7 | 0.7 | 0.9 | 1.2 |

## Figure 14 (National food line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.5 | 13.5 | 0.1 | 85.9 | 86.4 | –92.2 |
| 5–9 | 1.5 | 12.5 | 0.3 | 85.7 | 87.2 | –76.6 |
| 10–14 | 2.9 | 11.2 | 0.8 | 85.2 | 88.0 | –53.7 |
| 15–19 | 4.6 | 9.5 | 1.9 | 84.0 | 88.6 | –21.3 |
| 20–24 | 6.5 | 7.5 | 4.0 | 82.0 | 88.5 | +21.5 |
| 25–29 | 8.9 | 5.1 | 8.0 | 77.9 | 86.9 | +42.7 |
| 30–34 | 10.5 | 3.6 | 13.8 | 72.2 | 82.6 | +1.8 |
| 35–39 | 11.8 | 2.2 | 20.8 | 65.1 | 76.9 | –48.4 |
| 40–44 | 12.8 | 1.3 | 29.7 | 56.3 | 69.0 | –111.6 |
| 45–49 | 13.4 | 0.6 | 39.4 | 46.6 | 60.0 | –180.5 |
| 50–54 | 13.8 | 0.2 | 49.3 | 36.7 | 50.5 | –251.0 |
| 55–59 | 14.0 | 0.1 | 58.7 | 27.2 | 41.2 | –318.5 |
| 60–64 | 14.0 | 0.0 | 67.1 | 18.9 | 32.9 | –377.8 |
| 65–69 | 14.0 | 0.0 | 73.1 | 12.9 | 26.9 | –420.9 |
| 70–74 | 14.0 | 0.0 | 78.3 | 7.7 | 21.7 | –457.6 |
| 75–79 | 14.0 | 0.0 | 82.0 | 4.0 | 18.0 | –483.9 |
| 80–84 | 14.0 | 0.0 | 83.9 | 2.0 | 16.1 | –498.1 |
| 85–89 | 14.0 | 0.0 | 85.0 | 1.0 | 15.0 | –505.7 |
| 90–94 | 14.0 | 0.0 | 85.8 | 0.1 | 14.2 | –511.5 |
| 95–100 | 14.0 | 0.0 | 86.0 | 0.0 | 14.0 | –512.5 |

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

## Figure 15 (National food line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 87.9 | 3.6 | 7.3:1 |
| 5–9 | 1.8 | 84.2 | 10.7 | 5.3:1 |
| 10–14 | 3.7 | 78.1 | 20.3 | 3.6:1 |
| 15–19 | 6.5 | 70.0 | 32.4 | 2.3:1 |
| 20–24 | 10.5 | 62.0 | 46.5 | 1.6:1 |
| 25–29 | 17.0 | 52.6 | 63.6 | 1.1:1 |
| 30–34 | 24.3 | 43.2 | 74.6 | 0.8:1 |
| 35–39 | 32.6 | 36.2 | 84.2 | 0.6:1 |
| 40–44 | 42.5 | 30.1 | 91.0 | 0.4:1 |
| 45–49 | 52.8 | 25.4 | 95.7 | 0.3:1 |
| 50–54 | 63.1 | 21.9 | 98.3 | 0.3:1 |
| 55–59 | 72.7 | 19.2 | 99.5 | 0.2:1 |
| 60–64 | 81.1 | 17.3 | 99.8 | 0.2:1 |
| 65–69 | 87.1 | 16.1 | 99.9 | 0.2:1 |
| 70–74 | 92.3 | 15.2 | 99.9 | 0.2:1 |
| 75–79 | 96.0 | 14.6 | 100.0 | 0.2:1 |
| 80–84 | 98.0 | 14.3 | 100.0 | 0.2:1 |
| 85–89 | 99.0 | 14.2 | 100.0 | 0.2:1 |
| 90–94 | 99.9 | 14.1 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 14.0 | 100.0 | 0.2:1 |

# National Capacity Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 (National capacity line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –8.5 | 5.3 | 5.4 | 5.7 |
| 5–9 | +1.8 | 5.1 | 6.1 | 8.2 |
| 10–14 | +7.5 | 5.4 | 6.1 | 8.3 |
| 15–19 | +8.3 | 6.2 | 7.3 | 9.5 |
| 20–24 | –9.4 | 7.0 | 7.4 | 8.2 |
| 25–29 | –3.8 | 3.9 | 4.7 | 6.3 |
| 30–34 | +15.7 | 2.6 | 3.0 | 3.9 |
| 35–39 | +12.4 | 2.0 | 2.3 | 2.9 |
| 40–44 | +3.7 | 1.7 | 2.0 | 2.7 |
| 45–49 | +5.2 | 1.1 | 1.3 | 1.6 |
| 50–54 | –4.2 | 3.2 | 3.4 | 3.7 |
| 55–59 | +3.2 | 0.7 | 0.8 | 1.1 |
| 60–64 | +0.3 | 0.4 | 0.4 | 0.6 |
| 65–69 | +1.8 | 0.2 | 0.3 | 0.3 |
| 70–74 | –1.4 | 1.4 | 1.5 | 1.8 |
| 75–79 | –0.3 | 0.4 | 0.5 | 0.6 |
| 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 |

**Figure 10 (National capacity line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.1 | 57.4 | 71.0 | 89.8 |
| 4 | +2.5 | 30.2 | 37.1 | 46.6 |
| 8 | +3.0 | 22.2 | 27.7 | 44.0 |
| 16 | +2.7 | 18.1 | 22.9 | 31.2 |
| 32 | +3.0 | 12.8 | 16.3 | 22.1 |
| 64 | +3.3 | 9.7 | 11.8 | 15.3 |
| 128 | +3.5 | 6.3 | 7.9 | 10.3 |
| 256 | +3.6 | 4.9 | 5.6 | 7.2 |
| 512 | +3.6 | 3.3 | 4.1 | 5.3 |
| 1,024 | +3.5 | 2.4 | 2.8 | 3.9 |
| 2,048 | +3.5 | 1.7 | 2.0 | 2.7 |
| 4,096 | +3.5 | 1.2 | 1.4 | 1.9 |
| 8,192 | +3.5 | 0.8 | 1.0 | 1.3 |
| 16,384 | +3.5 | 0.6 | 0.7 | 0.9 |

## Figure 12 (National capacity line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –2.4 | 100.0 | 100.0 | 100.0 |
| 4 | +1.3 | 44.9 | 54.8 | 73.7 |
| 8 | +2.3 | 34.2 | 39.9 | 55.2 |
| 16 | +2.0 | 24.9 | 30.0 | 38.9 |
| 32 | +2.2 | 17.8 | 20.7 | 28.6 |
| 64 | +2.4 | 12.9 | 15.3 | 20.3 |
| 128 | +2.5 | 9.1 | 10.8 | 13.6 |
| 256 | +2.6 | 6.2 | 7.4 | 10.0 |
| 512 | +2.6 | 4.4 | 5.3 | 7.3 |
| 1,024 | +2.4 | 3.2 | 3.7 | 4.7 |
| 2,048 | +2.5 | 2.3 | 2.7 | 3.5 |
| 4,096 | +2.5 | 1.6 | 1.9 | 2.4 |
| 8,192 | +2.5 | 1.1 | 1.3 | 1.8 |
| 16,384 | +2.4 | 0.8 | 1.0 | 1.3 |

## Figure 14 (National capacity line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.6 | 19.0 | 0.0 | 80.4 | 81.0 | –94.2 |
| 5–9 | 1.6 | 17.9 | 0.2 | 80.3 | 82.0 | –82.5 |
| 10–14 | 3.2 | 16.4 | 0.5 | 80.0 | 83.1 | –65.2 |
| 15–19 | 5.2 | 14.3 | 1.3 | 79.2 | 84.4 | –40.1 |
| 20–24 | 7.7 | 11.8 | 2.8 | 77.7 | 85.4 | –6.5 |
| 25–29 | 11.0 | 8.5 | 5.9 | 74.5 | 85.6 | +43.4 |
| 30–34 | 13.4 | 6.1 | 10.9 | 69.6 | 83.0 | +44.3 |
| 35–39 | 15.7 | 3.9 | 17.0 | 63.5 | 79.1 | +13.0 |
| 40–44 | 17.3 | 2.3 | 25.2 | 55.3 | 72.6 | –29.0 |
| 45–49 | 18.4 | 1.1 | 34.4 | 46.1 | 64.5 | –76.2 |
| 50–54 | 19.1 | 0.5 | 44.0 | 36.5 | 55.5 | –125.3 |
| 55–59 | 19.4 | 0.2 | 53.3 | 27.1 | 46.5 | –173.1 |
| 60–64 | 19.5 | 0.1 | 61.6 | 18.9 | 38.3 | –215.4 |
| 65–69 | 19.5 | 0.0 | 67.6 | 12.8 | 32.3 | –246.3 |
| 70–74 | 19.5 | 0.0 | 72.8 | 7.7 | 27.2 | –272.6 |
| 75–79 | 19.5 | 0.0 | 76.5 | 4.0 | 23.5 | –291.6 |
| 80–84 | 19.5 | 0.0 | 78.5 | 2.0 | 21.5 | –301.7 |
| 85–89 | 19.5 | 0.0 | 79.5 | 1.0 | 20.5 | –307.2 |
| 90–94 | 19.5 | 0.0 | 80.3 | 0.1 | 19.7 | –311.4 |
| 95–100 | 19.5 | 0.0 | 80.5 | 0.0 | 19.5 | –312.1 |

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

## Figure 15 (National capacity line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 95.1 | 2.8 | 19.5:1 |
| 5–9 | 1.8 | 91.5 | 8.4 | 10.7:1 |
| 10–14 | 3.7 | 86.4 | 16.1 | 6.3:1 |
| 15–19 | 6.5 | 80.1 | 26.7 | 4.0:1 |
| 20–24 | 10.5 | 73.5 | 39.6 | 2.8:1 |
| 25–29 | 17.0 | 65.1 | 56.5 | 1.9:1 |
| 30–34 | 24.3 | 55.2 | 68.5 | 1.2:1 |
| 35–39 | 32.6 | 48.0 | 80.2 | 0.9:1 |
| 40–44 | 42.5 | 40.7 | 88.5 | 0.7:1 |
| 45–49 | 52.8 | 34.8 | 94.2 | 0.5:1 |
| 50–54 | 63.1 | 30.2 | 97.6 | 0.4:1 |
| 55–59 | 72.7 | 26.6 | 99.2 | 0.4:1 |
| 60–64 | 81.1 | 24.0 | 99.7 | 0.3:1 |
| 65–69 | 87.1 | 22.4 | 99.8 | 0.3:1 |
| 70–74 | 92.3 | 21.1 | 99.9 | 0.3:1 |
| 75–79 | 96.0 | 20.3 | 100.0 | 0.3:1 |
| 80–84 | 98.0 | 19.9 | 100.0 | 0.2:1 |
| 85–89 | 99.0 | 19.7 | 100.0 | 0.2:1 |
| 90–94 | 99.9 | 19.6 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 19.5 | 100.0 | 0.2:1 |

# National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 (National asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +0.4 | 0.6 | 0.7 | 1.0 |
| 5–9 | –2.8 | 1.7 | 1.7 | 1.7 |
| 10–14 | +5.7 | 4.3 | 5.0 | 6.4 |
| 15–19 | –2.1 | 2.9 | 3.4 | 4.5 |
| 20–24 | –3.6 | 3.7 | 4.3 | 5.5 |
| 25–29 | +0.9 | 2.7 | 3.2 | 4.4 |
| 30–34 | +1.8 | 3.1 | 3.9 | 4.9 |
| 35–39 | +18.2 | 3.0 | 3.6 | 4.7 |
| 40–44 | +5.7 | 2.8 | 3.3 | 4.2 |
| 45–49 | +15.4 | 2.4 | 2.9 | 3.7 |
| 50–54 | –1.7 | 2.6 | 3.2 | 4.2 |
| 55–59 | +0.6 | 2.4 | 2.7 | 3.5 |
| 60–64 | +0.4 | 1.7 | 2.0 | 2.5 |
| 65–69 | +4.0 | 1.0 | 1.1 | 1.5 |
| 70–74 | –0.2 | 1.2 | 1.5 | 1.9 |
| 75–79 | +1.7 | 0.6 | 0.7 | 0.9 |
| 80–84 | +0.1 | 1.1 | 1.3 | 1.6 |
| 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 |

**Figure 10 (National asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –0.6 | 68.5 | 78.2 | 89.1 |
| 4 | +1.5 | 39.6 | 46.4 | 60.8 |
| 8 | +3.0 | 30.9 | 36.9 | 49.3 |
| 16 | +3.1 | 21.7 | 26.3 | 36.8 |
| 32 | +3.5 | 16.4 | 19.5 | 26.7 |
| 64 | +3.6 | 12.0 | 13.9 | 18.2 |
| 128 | +4.1 | 8.4 | 10.1 | 13.4 |
| 256 | +4.3 | 5.9 | 7.3 | 9.6 |
| 512 | +4.4 | 4.5 | 5.2 | 6.5 |
| 1,024 | +4.5 | 3.1 | 3.7 | 4.8 |
| 2,048 | +4.5 | 2.2 | 2.6 | 3.5 |
| 4,096 | +4.5 | 1.5 | 1.8 | 2.6 |
| 8,192 | +4.5 | 1.1 | 1.3 | 1.7 |
| 16,384 | +4.5 | 0.8 | 0.9 | 1.2 |

**Figure 12 (National asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| *n* | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –2.9 | 100.0 | 100.0 | 100.0 |
| 4 | –0.6 | 53.2 | 64.6 | 82.0 |
| 8 | +1.0 | 39.8 | 49.7 | 62.8 |
| 16 | +1.1 | 29.1 | 35.2 | 48.6 |
| 32 | +0.6 | 21.3 | 26.3 | 36.8 |
| 64 | +0.4 | 15.9 | 18.5 | 24.1 |
| 128 | +0.9 | 11.5 | 13.9 | 18.1 |
| 256 | +1.1 | 7.9 | 9.5 | 13.0 |
| 512 | +1.1 | 5.9 | 6.7 | 8.7 |
| 1,024 | +1.1 | 4.0 | 4.6 | 6.2 |
| 2,048 | +1.1 | 2.8 | 3.2 | 4.3 |
| 4,096 | +1.1 | 2.0 | 2.3 | 3.1 |
| 8,192 | +1.1 | 1.4 | 1.7 | 2.2 |
| 16,384 | +1.1 | 1.0 | 1.2 | 1.6 |

## Figure 14 (National asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.6 | 39.0 | 0.0 | 60.5 | 61.0 | –97.1 |
| 5–9 | 1.8 | 37.8 | 0.0 | 60.5 | 62.2 | –91.0 |
| 10–14 | 3.6 | 36.0 | 0.1 | 60.4 | 63.9 | –81.8 |
| 15–19 | 6.2 | 33.4 | 0.3 | 60.1 | 66.3 | –67.9 |
| 20–24 | 9.6 | 29.9 | 0.9 | 59.6 | 69.2 | –49.0 |
| 25–29 | 15.0 | 24.6 | 2.0 | 58.5 | 73.4 | –19.2 |
| 30–34 | 20.3 | 19.2 | 3.9 | 56.5 | 76.8 | +12.7 |
| 35–39 | 25.4 | 14.1 | 7.2 | 53.2 | 78.6 | +46.8 |
| 40–44 | 30.4 | 9.1 | 12.1 | 48.4 | 78.8 | +69.4 |
| 45–49 | 34.1 | 5.4 | 18.7 | 41.8 | 75.9 | +52.7 |
| 50–54 | 36.9 | 2.7 | 26.2 | 34.3 | 71.1 | +33.7 |
| 55–59 | 38.4 | 1.1 | 34.3 | 26.2 | 64.6 | +13.3 |
| 60–64 | 39.1 | 0.4 | 42.0 | 18.5 | 57.6 | –6.1 |
| 65–69 | 39.4 | 0.2 | 47.8 | 12.7 | 52.1 | –20.8 |
| 70–74 | 39.5 | 0.1 | 52.8 | 7.6 | 47.1 | –33.6 |
| 75–79 | 39.5 | 0.0 | 56.5 | 4.0 | 43.5 | –42.9 |
| 80–84 | 39.5 | 0.0 | 58.4 | 2.0 | 41.6 | –47.8 |
| 85–89 | 39.5 | 0.0 | 59.5 | 1.0 | 40.5 | –50.5 |
| 90–94 | 39.5 | 0.0 | 60.3 | 0.1 | 39.7 | –52.6 |
| 95–100 | 39.5 | 0.0 | 60.5 | 0.0 | 39.5 | –53.0 |

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

## Figure 15 (National asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 99.9 | 1.5 | 1,320.7:1 |
| 5–9 | 1.8 | 99.2 | 4.5 | 122.3:1 |
| 10–14 | 3.7 | 97.5 | 9.0 | 39.1:1 |
| 15–19 | 6.5 | 95.0 | 15.6 | 19.0:1 |
| 20–24 | 10.5 | 91.6 | 24.4 | 11.0:1 |
| 25–29 | 17.0 | 88.2 | 37.9 | 7.5:1 |
| 30–34 | 24.3 | 83.7 | 51.4 | 5.2:1 |
| 35–39 | 32.6 | 77.8 | 64.3 | 3.5:1 |
| 40–44 | 42.5 | 71.5 | 76.9 | 2.5:1 |
| 45–49 | 52.8 | 64.6 | 86.3 | 1.8:1 |
| 50–54 | 63.1 | 58.4 | 93.2 | 1.4:1 |
| 55–59 | 72.7 | 52.8 | 97.2 | 1.1:1 |
| 60–64 | 81.1 | 48.2 | 98.9 | 0.9:1 |
| 65–69 | 87.1 | 45.2 | 99.5 | 0.8:1 |
| 70–74 | 92.3 | 42.8 | 99.8 | 0.7:1 |
| 75–79 | 96.0 | 41.2 | 99.9 | 0.7:1 |
| 80–84 | 98.0 | 40.3 | 100.0 | 0.7:1 |
| 85–89 | 99.0 | 39.9 | 100.0 | 0.7:1 |
| 90–94 | 99.9 | 39.6 | 100.0 | 0.7:1 |
| 95–100 | 100.0 | 39.5 | 100.0 | 0.7:1 |

# 125% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 (125% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +0.0 | 0.0 | 0.0 | 0.0 |
| 5–9 | –1.6 | 1.0 | 1.0 | 1.0 |
| 10–14 | –2.1 | 1.3 | 1.3 | 1.4 |
| 15–19 | –3.5 | 2.2 | 2.3 | 2.4 |
| 20–24 | +1.3 | 3.5 | 4.1 | 5.3 |
| 25–29 | –0.6 | 1.9 | 2.3 | 3.2 |
| 30–34 | +3.2 | 2.9 | 3.4 | 4.7 |
| 35–39 | +8.3 | 2.9 | 3.5 | 4.9 |
| 40–44 | +3.5 | 2.9 | 3.3 | 4.3 |
| 45–49 | +15.0 | 2.9 | 3.6 | 4.7 |
| 50–54 | +0.9 | 2.8 | 3.5 | 4.3 |
| 55–59 | –0.7 | 2.6 | 3.0 | 3.9 |
| 60–64 | +0.8 | 2.2 | 2.5 | 3.2 |
| 65–69 | +5.9 | 1.5 | 1.9 | 2.5 |
| 70–74 | +0.6 | 1.6 | 1.9 | 2.5 |
| 75–79 | +0.4 | 1.4 | 1.8 | 2.3 |
| 80–84 | –3.2 | 2.8 | 3.1 | 3.8 |
| 85–89 | +0.2 | 0.0 | 0.0 | 0.0 |
| 90–94 | +1.6 | 0.0 | 0.0 | 0.1 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

## Figure 10 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –1.1 | 68.6 | 80.5 | 92.2 |
| 4 | +1.5 | 40.0 | 50.5 | 62.2 |
| 8 | +2.9 | 32.9 | 39.3 | 46.6 |
| 16 | +2.9 | 23.5 | 27.5 | 36.1 |
| 32 | +3.0 | 17.2 | 20.7 | 26.2 |
| 64 | +2.9 | 12.1 | 14.6 | 20.1 |
| 128 | +3.2 | 8.9 | 10.4 | 14.3 |
| 256 | +3.5 | 6.3 | 7.4 | 10.1 |
| 512 | +3.5 | 4.5 | 5.4 | 7.0 |
| 1,024 | +3.5 | 3.2 | 3.9 | 4.9 |
| 2,048 | +3.5 | 2.2 | 2.7 | 3.6 |
| 4,096 | +3.5 | 1.6 | 1.9 | 2.5 |
| 8,192 | +3.5 | 1.1 | 1.4 | 1.8 |
| 16,384 | +3.5 | 0.8 | 1.0 | 1.3 |

**Figure 12 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| *n* | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –1.4 | 100.0 | 100.0 | 101.4 |
| 4 | +1.0 | 57.1 | 69.2 | 86.9 |
| 8 | +2.8 | 41.8 | 48.9 | 66.9 |
| 16 | +1.9 | 31.6 | 37.5 | 47.8 |
| 32 | +1.4 | 21.8 | 25.7 | 33.7 |
| 64 | +1.0 | 15.7 | 18.9 | 26.4 |
| 128 | +1.3 | 11.9 | 13.8 | 17.8 |
| 256 | +1.7 | 8.1 | 10.0 | 13.5 |
| 512 | +1.8 | 6.0 | 7.1 | 9.3 |
| 1,024 | +1.8 | 4.1 | 5.1 | 6.8 |
| 2,048 | +1.7 | 3.0 | 3.7 | 4.9 |
| 4,096 | +1.6 | 2.1 | 2.5 | 3.2 |
| 8,192 | +1.6 | 1.5 | 1.8 | 2.3 |
| 16,384 | +1.6 | 1.1 | 1.3 | 1.8 |

## Figure 14 (125% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.6 | 50.3 | 0.0 | 49.1 | 49.7 | –97.7 |
| 5–9 | 1.8 | 49.1 | 0.0 | 49.1 | 50.9 | –93.0 |
| 10–14 | 3.6 | 47.2 | 0.0 | 49.1 | 52.8 | –85.7 |
| 15–19 | 6.4 | 44.5 | 0.1 | 49.0 | 55.4 | –74.7 |
| 20–24 | 10.1 | 40.7 | 0.4 | 48.7 | 58.8 | –59.4 |
| 25–29 | 15.9 | 34.9 | 1.0 | 48.1 | 64.0 | –35.3 |
| 30–34 | 22.1 | 28.7 | 2.1 | 47.0 | 69.1 | –8.8 |
| 35–39 | 28.6 | 22.3 | 4.1 | 45.1 | 73.7 | +20.4 |
| 40–44 | 35.3 | 15.5 | 7.1 | 42.0 | 77.4 | +53.0 |
| 45–49 | 41.0 | 9.8 | 11.8 | 37.4 | 78.4 | +76.8 |
| 50–54 | 45.4 | 5.4 | 17.6 | 31.5 | 77.0 | +65.3 |
| 55–59 | 48.2 | 2.6 | 24.5 | 24.7 | 72.9 | +51.9 |
| 60–64 | 49.7 | 1.2 | 31.4 | 17.8 | 67.4 | +38.3 |
| 65–69 | 50.3 | 0.5 | 36.8 | 12.4 | 62.7 | +27.7 |
| 70–74 | 50.6 | 0.2 | 41.6 | 7.5 | 58.2 | +18.1 |
| 75–79 | 50.8 | 0.1 | 45.2 | 3.9 | 54.7 | +11.1 |
| 80–84 | 50.8 | 0.0 | 47.1 | 2.0 | 52.8 | +7.3 |
| 85–89 | 50.9 | 0.0 | 48.2 | 1.0 | 51.8 | +5.2 |
| 90–94 | 50.9 | 0.0 | 49.0 | 0.1 | 51.0 | +3.6 |
| 95–100 | 50.9 | 0.0 | 49.1 | 0.0 | 50.9 | +3.3 |

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

## Figure 15 (125% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 100.0 | 1.1 | 7,164.2:1 |
| 5–9 | 1.8 | 99.9 | 3.5 | 703.1:1 |
| 10–14 | 3.7 | 99.5 | 7.1 | 185.1:1 |
| 15–19 | 6.5 | 97.8 | 12.5 | 44.3:1 |
| 20–24 | 10.5 | 96.0 | 19.9 | 24.1:1 |
| 25–29 | 17.0 | 93.8 | 31.3 | 15.3:1 |
| 30–34 | 24.3 | 91.2 | 43.5 | 10.4:1 |
| 35–39 | 32.6 | 87.6 | 56.2 | 7.1:1 |
| 40–44 | 42.5 | 83.2 | 69.5 | 5.0:1 |
| 45–49 | 52.8 | 77.7 | 80.7 | 3.5:1 |
| 50–54 | 63.1 | 72.1 | 89.4 | 2.6:1 |
| 55–59 | 72.7 | 66.4 | 94.9 | 2.0:1 |
| 60–64 | 81.1 | 61.3 | 97.7 | 1.6:1 |
| 65–69 | 87.1 | 57.8 | 99.0 | 1.4:1 |
| 70–74 | 92.3 | 54.9 | 99.6 | 1.2:1 |
| 75–79 | 96.0 | 52.9 | 99.9 | 1.1:1 |
| 80–84 | 98.0 | 51.9 | 100.0 | 1.1:1 |
| 85–89 | 99.0 | 51.3 | 100.0 | 1.1:1 |
| 90–94 | 99.9 | 50.9 | 100.0 | 1.0:1 |
| 95–100 | 100.0 | 50.9 | 100.0 | 1.0:1 |

# 150% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 (150% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +0.0 | 0.0 | 0.0 | 0.0 |
| 5–9 | +0.0 | 0.1 | 0.1 | 0.1 |
| 10–14 | –1.1 | 0.7 | 0.7 | 0.7 |
| 15–19 | –1.4 | 1.1 | 1.2 | 1.3 |
| 20–24 | –2.7 | 1.8 | 1.9 | 2.0 |
| 25–29 | –1.1 | 1.0 | 1.2 | 1.5 |
| 30–34 | +1.9 | 2.6 | 3.2 | 4.1 |
| 35–39 | +7.6 | 2.9 | 3.4 | 4.3 |
| 40–44 | +1.7 | 2.5 | 3.0 | 3.7 |
| 45–49 | +3.6 | 2.8 | 3.4 | 4.8 |
| 50–54 | +0.1 | 2.7 | 3.3 | 4.3 |
| 55–59 | –1.4 | 2.6 | 3.2 | 4.0 |
| 60–64 | –1.1 | 2.5 | 3.0 | 3.9 |
| 65–69 | +3.5 | 2.2 | 2.6 | 3.2 |
| 70–74 | +2.3 | 2.1 | 2.4 | 3.1 |
| 75–79 | +1.7 | 3.0 | 3.7 | 4.6 |
| 80–84 | –5.0 | 4.0 | 4.3 | 4.7 |
| 85–89 | –3.7 | 3.6 | 3.9 | 4.6 |
| 90–94 | –0.1 | 2.1 | 2.4 | 3.0 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –0.2 | 63.6 | 77.9 | 91.1 |
| 4 | +0.3 | 39.6 | 48.6 | 62.6 |
| 8 | +1.7 | 31.6 | 37.9 | 47.3 |
| 16 | +1.5 | 23.2 | 27.2 | 35.0 |
| 32 | +1.2 | 16.9 | 20.1 | 24.9 |
| 64 | +1.0 | 11.7 | 14.1 | 18.5 |
| 128 | +1.1 | 8.3 | 9.9 | 13.3 |
| 256 | +1.2 | 6.0 | 7.2 | 10.0 |
| 512 | +1.3 | 4.4 | 5.2 | 6.6 |
| 1,024 | +1.3 | 3.1 | 3.6 | 4.8 |
| 2,048 | +1.2 | 2.1 | 2.5 | 3.4 |
| 4,096 | +1.3 | 1.5 | 1.7 | 2.3 |
| 8,192 | +1.3 | 1.1 | 1.3 | 1.6 |
| 16,384 | +1.3 | 0.8 | 0.9 | 1.3 |

**Figure 12 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| *n* | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.0 | 100.0 | 100.0 | 103.5 |
| 4 | –0.0 | 54.0 | 64.6 | 86.2 |
| 8 | +1.5 | 39.7 | 47.5 | 64.2 |
| 16 | +0.9 | 30.3 | 36.0 | 51.9 |
| 32 | +0.2 | 21.7 | 25.7 | 35.7 |
| 64 | –0.1 | 15.5 | 19.2 | 24.8 |
| 128 | +0.2 | 11.2 | 13.3 | 17.3 |
| 256 | +0.3 | 7.8 | 9.3 | 11.8 |
| 512 | +0.4 | 5.6 | 6.8 | 9.2 |
| 1,024 | +0.5 | 3.9 | 4.7 | 6.0 |
| 2,048 | +0.5 | 2.8 | 3.4 | 4.4 |
| 4,096 | +0.5 | 1.9 | 2.2 | 3.0 |
| 8,192 | +0.4 | 1.4 | 1.7 | 2.2 |
| 16,384 | +0.5 | 1.0 | 1.2 | 1.7 |

## Figure 14 (150% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.6 | 59.4 | 0.0 | 40.0 | 40.6 | –98.1 |
| 5–9 | 1.8 | 58.2 | 0.0 | 40.0 | 41.8 | –94.1 |
| 10–14 | 3.6 | 56.3 | 0.0 | 40.0 | 43.7 | –87.8 |
| 15–19 | 6.4 | 53.6 | 0.1 | 39.9 | 46.4 | –78.5 |
| 20–24 | 10.3 | 49.7 | 0.2 | 39.8 | 50.1 | –65.3 |
| 25–29 | 16.4 | 43.6 | 0.6 | 39.4 | 55.8 | –44.4 |
| 30–34 | 23.1 | 36.9 | 1.2 | 38.9 | 62.0 | –21.0 |
| 35–39 | 30.3 | 29.7 | 2.3 | 37.7 | 68.0 | +5.0 |
| 40–44 | 38.0 | 22.0 | 4.5 | 35.5 | 73.5 | +34.1 |
| 45–49 | 45.2 | 14.8 | 7.6 | 32.4 | 77.6 | +63.4 |
| 50–54 | 51.0 | 9.0 | 12.1 | 28.0 | 79.0 | +79.9 |
| 55–59 | 55.3 | 4.7 | 17.4 | 22.6 | 77.9 | +71.0 |
| 60–64 | 57.7 | 2.3 | 23.4 | 16.6 | 74.3 | +61.0 |
| 65–69 | 58.8 | 1.2 | 28.3 | 11.7 | 70.5 | +52.8 |
| 70–74 | 59.5 | 0.5 | 32.8 | 7.2 | 66.7 | +45.3 |
| 75–79 | 59.8 | 0.2 | 36.2 | 3.8 | 63.6 | +39.6 |
| 80–84 | 59.9 | 0.1 | 38.1 | 1.9 | 61.8 | +36.5 |
| 85–89 | 60.0 | 0.0 | 39.1 | 0.9 | 60.9 | +34.8 |
| 90–94 | 60.0 | 0.0 | 39.9 | 0.1 | 60.1 | +33.5 |
| 95–100 | 60.0 | 0.0 | 40.0 | 0.0 | 60.0 | +33.3 |

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

## Figure 15 (150% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 100.0 | 1.0 | 7,164.2:1 |
| 5–9 | 1.8 | 99.9 | 3.0 | 980.7:1 |
| 10–14 | 3.7 | 99.9 | 6.1 | 1,054.8:1 |
| 15–19 | 6.5 | 98.8 | 10.7 | 83.8:1 |
| 20–24 | 10.5 | 97.9 | 17.2 | 47.0:1 |
| 25–29 | 17.0 | 96.6 | 27.3 | 28.7:1 |
| 30–34 | 24.3 | 95.3 | 38.5 | 20.1:1 |
| 35–39 | 32.6 | 92.9 | 50.5 | 13.0:1 |
| 40–44 | 42.5 | 89.4 | 63.3 | 8.5:1 |
| 45–49 | 52.8 | 85.5 | 75.3 | 5.9:1 |
| 50–54 | 63.1 | 80.9 | 85.0 | 4.2:1 |
| 55–59 | 72.7 | 76.1 | 92.2 | 3.2:1 |
| 60–64 | 81.1 | 71.2 | 96.2 | 2.5:1 |
| 65–69 | 87.1 | 67.5 | 98.0 | 2.1:1 |
| 70–74 | 92.3 | 64.5 | 99.2 | 1.8:1 |
| 75–79 | 96.0 | 62.3 | 99.6 | 1.6:1 |
| 80–84 | 98.0 | 61.1 | 99.9 | 1.6:1 |
| 85–89 | 99.0 | 60.5 | 100.0 | 1.5:1 |
| 90–94 | 99.9 | 60.1 | 100.0 | 1.5:1 |
| 95–100 | 100.0 | 60.0 | 100.0 | 1.5:1 |

# USAID "Extreme" Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 (USAID "extreme" line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –1.2 | 8.4 | 10.2 | 13.2 |
| 5–9 | +2.3 | 5.7 | 6.9 | 9.2 |
| 10–14 | +5.5 | 6.0 | 7.2 | 9.4 |
| 15–19 | +5.5 | 6.0 | 7.1 | 9.3 |
| 20–24 | –0.8 | 5.1 | 6.2 | 8.0 |
| 25–29 | –4.6 | 4.3 | 4.6 | 6.1 |
| 30–34 | +16.5 | 2.3 | 2.7 | 3.5 |
| 35–39 | +9.8 | 2.0 | 2.4 | 3.0 |
| 40–44 | +1.7 | 1.7 | 2.0 | 2.6 |
| 45–49 | +6.1 | 1.1 | 1.3 | 1.8 |
| 50–54 | –2.6 | 2.3 | 2.5 | 3.3 |
| 55–59 | +4.1 | 0.8 | 0.9 | 1.2 |
| 60–64 | +0.7 | 0.4 | 0.5 | 0.6 |
| 65–69 | +1.9 | 0.4 | 0.5 | 0.6 |
| 70–74 | –1.5 | 1.4 | 1.5 | 1.8 |
| 75–79 | –0.3 | 0.4 | 0.5 | 0.6 |
| 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 |

## Figure 10 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –0.4 | 55.9 | 66.1 | 85.6 |
| 4 | +2.5 | 32.7 | 38.6 | 51.2 |
| 8 | +3.0 | 22.8 | 29.6 | 43.5 |
| 16 | +2.8 | 18.7 | 21.9 | 29.9 |
| 32 | +3.0 | 12.6 | 15.3 | 22.4 |
| 64 | +3.3 | 9.5 | 11.4 | 15.7 |
| 128 | +3.6 | 6.4 | 7.8 | 11.0 |
| 256 | +3.6 | 4.6 | 5.6 | 7.3 |
| 512 | +3.6 | 3.2 | 4.0 | 5.2 |
| 1,024 | +3.6 | 2.3 | 2.7 | 3.7 |
| 2,048 | +3.6 | 1.6 | 1.9 | 2.5 |
| 4,096 | +3.6 | 1.2 | 1.4 | 1.8 |
| 8,192 | +3.6 | 0.8 | 1.0 | 1.2 |
| 16,384 | +3.6 | 0.6 | 0.7 | 0.9 |

## Figure 12 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –1.9 | 100.0 | 100.0 | 100.0 |
| 4 | +1.9 | 45.8 | 58.2 | 76.2 |
| 8 | +2.4 | 35.4 | 41.6 | 54.9 |
| 16 | +2.3 | 25.4 | 30.6 | 39.8 |
| 32 | +2.2 | 18.1 | 21.4 | 27.3 |
| 64 | +2.5 | 13.1 | 15.3 | 20.6 |
| 128 | +2.8 | 9.0 | 10.6 | 13.9 |
| 256 | +2.9 | 6.2 | 7.3 | 10.4 |
| 512 | +2.9 | 4.2 | 5.4 | 7.0 |
| 1,024 | +2.9 | 3.1 | 3.8 | 5.0 |
| 2,048 | +2.9 | 2.1 | 2.5 | 3.3 |
| 4,096 | +2.9 | 1.5 | 1.8 | 2.3 |
| 8,192 | +2.9 | 1.0 | 1.3 | 1.7 |
| 16,384 | +2.9 | 0.8 | 0.9 | 1.2 |

## Figure 14 (USAID "extreme" line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.5 | 18.4 | 0.1 | 81.0 | 81.5 | –94.2 |
| 5–9 | 1.5 | 17.4 | 0.3 | 80.8 | 82.3 | –82.7 |
| 10–14 | 2.9 | 16.1 | 0.8 | 80.3 | 83.1 | –65.6 |
| 15–19 | 4.6 | 14.3 | 1.9 | 79.2 | 83.8 | –41.3 |
| 20–24 | 6.9 | 12.1 | 3.7 | 77.4 | 84.3 | –8.1 |
| 25–29 | 9.8 | 9.1 | 7.1 | 74.0 | 83.8 | +41.6 |
| 30–34 | 12.3 | 6.7 | 12.0 | 69.1 | 81.3 | +36.6 |
| 35–39 | 14.5 | 4.4 | 18.1 | 63.0 | 77.5 | +4.4 |
| 40–44 | 16.4 | 2.5 | 26.1 | 55.0 | 71.4 | –37.8 |
| 45–49 | 17.6 | 1.4 | 35.3 | 45.8 | 63.4 | –86.2 |
| 50–54 | 18.3 | 0.6 | 44.7 | 36.3 | 54.6 | –136.3 |
| 55–59 | 18.7 | 0.2 | 54.0 | 27.1 | 45.8 | –185.2 |
| 60–64 | 18.8 | 0.1 | 62.2 | 18.9 | 37.7 | –228.6 |
| 65–69 | 18.9 | 0.0 | 68.2 | 12.8 | 31.7 | –260.4 |
| 70–74 | 18.9 | 0.0 | 73.4 | 7.7 | 26.6 | –287.5 |
| 75–79 | 18.9 | 0.0 | 77.1 | 4.0 | 22.9 | –307.0 |
| 80–84 | 18.9 | 0.0 | 79.0 | 2.0 | 21.0 | –317.5 |
| 85–89 | 18.9 | 0.0 | 80.1 | 1.0 | 19.9 | –323.1 |
| 90–94 | 18.9 | 0.0 | 80.9 | 0.1 | 19.1 | –327.5 |
| 95–100 | 18.9 | 0.0 | 81.1 | 0.0 | 18.9 | –328.2 |

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

## Figure 15 (USAID "extreme" line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 87.9 | 2.7 | 7.3:1 |
| 5–9 | 1.8 | 83.6 | 7.9 | 5.1:1 |
| 10–14 | 3.7 | 78.5 | 15.1 | 3.6:1 |
| 15–19 | 6.5 | 71.0 | 24.4 | 2.4:1 |
| 20–24 | 10.5 | 65.3 | 36.3 | 1.9:1 |
| 25–29 | 17.0 | 58.1 | 52.0 | 1.4:1 |
| 30–34 | 24.3 | 50.5 | 64.7 | 1.0:1 |
| 35–39 | 32.6 | 44.6 | 76.8 | 0.8:1 |
| 40–44 | 42.5 | 38.6 | 86.6 | 0.6:1 |
| 45–49 | 52.8 | 33.2 | 92.7 | 0.5:1 |
| 50–54 | 63.1 | 29.0 | 96.8 | 0.4:1 |
| 55–59 | 72.7 | 25.7 | 98.8 | 0.3:1 |
| 60–64 | 81.1 | 23.2 | 99.5 | 0.3:1 |
| 65–69 | 87.1 | 21.7 | 99.8 | 0.3:1 |
| 70–74 | 92.3 | 20.5 | 99.9 | 0.3:1 |
| 75–79 | 96.0 | 19.7 | 100.0 | 0.2:1 |
| 80–84 | 98.0 | 19.3 | 100.0 | 0.2:1 |
| 85–89 | 99.0 | 19.1 | 100.0 | 0.2:1 |
| 90–94 | 99.9 | 19.0 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 18.9 | 100.0 | 0.2:1 |

# $1.25/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 ($1.25/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –9.5 | 9.3 | 11.2 | 14.1 |
| 5–9 | –10.9 | 8.7 | 9.4 | 10.5 |
| 10–14 | +0.5 | 2.5 | 2.9 | 4.2 |
| 15–19 | +2.0 | 1.4 | 1.7 | 2.2 |
| 20–24 | –0.7 | 1.3 | 1.6 | 2.1 |
| 25–29 | –3.4 | 2.6 | 2.8 | 3.1 |
| 30–34 | +0.8 | 0.5 | 0.6 | 0.8 |
| 35–39 | –0.3 | 0.5 | 0.6 | 0.8 |
| 40–44 | –0.1 | 0.4 | 0.4 | 0.5 |
| 45–49 | –0.4 | 0.5 | 0.6 | 0.7 |
| 50–54 | –0.0 | 0.2 | 0.2 | 0.2 |
| 55–59 | +0.1 | 0.1 | 0.1 | 0.2 |
| 60–64 | +0.0 | 0.1 | 0.1 | 0.1 |
| 65–69 | +0.4 | 0.1 | 0.1 | 0.1 |
| 70–74 | –1.6 | 1.5 | 1.6 | 1.8 |
| 75–79 | –0.3 | 0.4 | 0.4 | 0.5 |
| 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 |

## Figure 10 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.6 | 2.9 | 4.4 | 59.9 |
| 4 | –0.4 | 6.7 | 14.6 | 29.1 |
| 8 | –0.4 | 6.8 | 10.1 | 17.9 |
| 16 | –0.3 | 5.4 | 7.2 | 11.0 |
| 32 | –0.4 | 3.9 | 5.5 | 7.7 |
| 64 | –0.3 | 2.8 | 3.6 | 4.7 |
| 128 | –0.3 | 2.0 | 2.4 | 3.1 |
| 256 | –0.4 | 1.5 | 1.9 | 2.5 |
| 512 | –0.4 | 1.1 | 1.3 | 1.8 |
| 1,024 | –0.4 | 0.8 | 0.9 | 1.3 |
| 2,048 | –0.4 | 0.5 | 0.7 | 0.9 |
| 4,096 | –0.4 | 0.4 | 0.5 | 0.6 |
| 8,192 | –0.4 | 0.3 | 0.3 | 0.5 |
| 16,384 | –0.4 | 0.2 | 0.2 | 0.3 |

## Figure 12 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +0.9 | 0.1 | 1.6 | 100.0 |
| 4 | –0.2 | 10.2 | 24.7 | 49.7 |
| 8 | –0.1 | 10.7 | 17.3 | 31.7 |
| 16 | –0.1 | 8.6 | 12.4 | 18.8 |
| 32 | –0.1 | 6.4 | 8.4 | 12.9 |
| 64 | +0.0 | 4.5 | 5.6 | 7.3 |
| 128 | +0.1 | 3.1 | 3.8 | 5.6 |
| 256 | +0.1 | 2.3 | 2.7 | 3.7 |
| 512 | +0.1 | 1.6 | 2.0 | 2.6 |
| 1,024 | +0.1 | 1.1 | 1.3 | 1.7 |
| 2,048 | +0.1 | 0.8 | 0.9 | 1.3 |
| 4,096 | +0.1 | 0.6 | 0.7 | 0.9 |
| 8,192 | +0.1 | 0.4 | 0.5 | 0.6 |
| 16,384 | +0.1 | 0.3 | 0.3 | 0.4 |

## Figure 14 ($1.25/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.3 | 2.0 | 0.3 | 97.5 | 97.7 | –61.8 |
| 5–9 | 0.6 | 1.7 | 1.2 | 96.6 | 97.1 | +6.0 |
| 10–14 | 0.8 | 1.4 | 2.8 | 94.9 | 95.8 | –27.2 |
| 15–19 | 1.1 | 1.1 | 5.4 | 92.4 | 93.5 | –143.4 |
| 20–24 | 1.3 | 0.9 | 9.2 | 88.6 | 89.9 | –313.2 |
| 25–29 | 1.6 | 0.6 | 15.3 | 82.4 | 84.1 | –590.2 |
| 30–34 | 1.8 | 0.5 | 22.5 | 75.3 | 77.0 | –911.8 |
| 35–39 | 1.9 | 0.3 | 30.7 | 67.1 | 69.0 | –1,281.5 |
| 40–44 | 2.1 | 0.2 | 40.4 | 57.4 | 59.4 | –1,718.0 |
| 45–49 | 2.1 | 0.1 | 50.7 | 47.1 | 49.2 | –2,179.9 |
| 50–54 | 2.1 | 0.1 | 60.9 | 36.9 | 39.0 | –2,640.0 |
| 55–59 | 2.2 | 0.0 | 70.5 | 27.3 | 29.4 | –3,072.1 |
| 60–64 | 2.2 | 0.0 | 78.9 | 18.9 | 21.1 | –3,447.5 |
| 65–69 | 2.2 | 0.0 | 84.9 | 12.9 | 15.1 | –3,719.7 |
| 70–74 | 2.2 | 0.0 | 90.1 | 7.7 | 9.9 | –3,951.7 |
| 75–79 | 2.2 | 0.0 | 93.8 | 4.0 | 6.2 | –4,118.2 |
| 80–84 | 2.2 | 0.0 | 95.8 | 2.0 | 4.2 | –4,207.4 |
| 85–89 | 2.2 | 0.0 | 96.8 | 1.0 | 3.2 | –4,255.3 |
| 90–94 | 2.2 | 0.0 | 97.6 | 0.1 | 2.4 | –4,292.1 |
| 95–100 | 2.2 | 0.0 | 97.8 | 0.0 | 2.2 | –4,298.4 |

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

## Figure 15 ($1.25/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 46.0 | 12.0 | 0.9:1 |
| 5–9 | 1.8 | 32.1 | 25.7 | 0.5:1 |
| 10–14 | 3.7 | 22.5 | 37.0 | 0.3:1 |
| 15–19 | 6.5 | 16.7 | 48.9 | 0.2:1 |
| 20–24 | 10.5 | 12.7 | 60.4 | 0.1:1 |
| 25–29 | 17.0 | 9.6 | 72.9 | 0.1:1 |
| 30–34 | 24.3 | 7.3 | 79.2 | 0.1:1 |
| 35–39 | 32.6 | 5.9 | 86.7 | 0.1:1 |
| 40–44 | 42.5 | 4.8 | 92.6 | 0.1:1 |
| 45–49 | 52.8 | 4.0 | 95.7 | 0.0:1 |
| 50–54 | 63.1 | 3.4 | 96.7 | 0.0:1 |
| 55–59 | 72.7 | 3.0 | 98.3 | 0.0:1 |
| 60–64 | 81.1 | 2.7 | 98.9 | 0.0:1 |
| 65–69 | 87.1 | 2.5 | 99.3 | 0.0:1 |
| 70–74 | 92.3 | 2.4 | 99.4 | 0.0:1 |
| 75–79 | 96.0 | 2.3 | 100.0 | 0.0:1 |
| 80–84 | 98.0 | 2.3 | 100.0 | 0.0:1 |
| 85–89 | 99.0 | 2.2 | 100.0 | 0.0:1 |
| 90–94 | 99.9 | 2.2 | 100.0 | 0.0:1 |
| 95–100 | 100.0 | 2.2 | 100.0 | 0.0:1 |

# $2.50/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to the 2005 ENIGH

**Figure 8 ($2.50/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2005 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –4.7 | 8.8 | 10.6 | 14.7 |
| 5–9 | +1.4 | 6.4 | 8.0 | 10.3 |
| 10–14 | –5.2 | 6.5 | 7.6 | 9.8 |
| 15–19 | –5.6 | 5.2 | 5.7 | 7.7 |
| 20–24 | –2.7 | 4.6 | 5.4 | 7.1 |
| 25–29 | –4.0 | 3.5 | 3.7 | 4.3 |
| 30–34 | +7.6 | 1.5 | 1.8 | 2.2 |
| 35–39 | +4.3 | 1.1 | 1.3 | 1.9 |
| 40–44 | +2.2 | 0.7 | 0.8 | 1.2 |
| 45–49 | +1.0 | 0.7 | 0.8 | 1.0 |
| 50–54 | –1.9 | 1.7 | 1.8 | 2.0 |
| 55–59 | +1.0 | 0.2 | 0.3 | 0.4 |
| 60–64 | +0.1 | 0.1 | 0.1 | 0.1 |
| 65–69 | +1.2 | 0.1 | 0.1 | 0.2 |
| 70–74 | –1.6 | 1.4 | 1.6 | 1.8 |
| 75–79 | –0.3 | 0.4 | 0.4 | 0.5 |
| 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 |

## Figure 10 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –0.3 | 50.0 | 56.2 | 83.2 |
| 4 | +0.4 | 23.4 | 29.0 | 42.0 |
| 8 | +0.3 | 16.3 | 21.7 | 30.1 |
| 16 | +0.3 | 12.4 | 16.0 | 21.8 |
| 32 | +0.5 | 9.3 | 11.4 | 15.5 |
| 64 | +0.5 | 6.5 | 7.6 | 10.4 |
| 128 | +0.6 | 4.4 | 5.3 | 7.6 |
| 256 | +0.7 | 3.3 | 3.9 | 5.1 |
| 512 | +0.8 | 2.3 | 2.8 | 3.4 |
| 1,024 | +0.8 | 1.6 | 1.9 | 2.7 |
| 2,048 | +0.8 | 1.2 | 1.4 | 1.7 |
| 4,096 | +0.8 | 0.8 | 1.0 | 1.2 |
| 8,192 | +0.8 | 0.6 | 0.7 | 0.9 |
| 16,384 | +0.8 | 0.4 | 0.5 | 0.7 |

## Figure 12 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2005 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| *n* | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –0.8 | 100.0 | 100.0 | 101.8 |
| 4 | +0.0 | 35.3 | 47.0 | 67.1 |
| 8 | +0.1 | 25.3 | 31.0 | 44.2 |
| 16 | +0.1 | 17.5 | 22.4 | 31.7 |
| 32 | +0.5 | 12.4 | 15.5 | 21.7 |
| 64 | +0.6 | 8.8 | 10.2 | 14.2 |
| 128 | +0.8 | 6.3 | 7.6 | 10.1 |
| 256 | +0.9 | 4.5 | 5.5 | 7.2 |
| 512 | +0.9 | 3.3 | 3.9 | 4.9 |
| 1,024 | +0.9 | 2.3 | 2.8 | 3.8 |
| 2,048 | +0.9 | 1.6 | 1.9 | 2.5 |
| 4,096 | +0.9 | 1.1 | 1.4 | 1.7 |
| 8,192 | +0.9 | 0.8 | 1.0 | 1.3 |
| 16,384 | +0.9 | 0.6 | 0.7 | 0.9 |

## Figure 14 ($2.50/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2005 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.5 | 8.9 | 0.1 | 90.5 | 91.0 | –88.8 |
| 5–9 | 1.3 | 8.1 | 0.5 | 90.2 | 91.5 | –66.9 |
| 10–14 | 2.4 | 7.0 | 1.3 | 89.4 | 91.8 | –35.6 |
| 15–19 | 3.6 | 5.7 | 2.9 | 87.8 | 91.4 | +8.2 |
| 20–24 | 4.9 | 4.5 | 5.6 | 85.0 | 89.9 | +39.9 |
| 25–29 | 6.4 | 2.9 | 10.5 | 80.1 | 86.5 | –12.4 |
| 30–34 | 7.3 | 2.1 | 17.0 | 73.7 | 81.0 | –81.1 |
| 35–39 | 8.0 | 1.3 | 24.6 | 66.0 | 74.1 | –162.6 |
| 40–44 | 8.7 | 0.7 | 33.8 | 56.8 | 65.5 | –260.8 |
| 45–49 | 9.1 | 0.3 | 43.7 | 46.9 | 56.0 | –366.9 |
| 50–54 | 9.2 | 0.1 | 53.8 | 36.8 | 46.1 | –474.5 |
| 55–59 | 9.3 | 0.0 | 63.4 | 27.3 | 36.6 | –576.6 |
| 60–64 | 9.3 | 0.0 | 71.7 | 18.9 | 28.3 | –665.6 |
| 65–69 | 9.4 | 0.0 | 77.8 | 12.9 | 22.2 | –730.2 |
| 70–74 | 9.4 | 0.0 | 82.9 | 7.7 | 17.1 | –785.3 |
| 75–79 | 9.4 | 0.0 | 86.6 | 4.0 | 13.4 | –824.8 |
| 80–84 | 9.4 | 0.0 | 88.6 | 2.0 | 11.4 | –846.0 |
| 85–89 | 9.4 | 0.0 | 89.7 | 1.0 | 10.3 | –857.3 |
| 90–94 | 9.4 | 0.0 | 90.5 | 0.1 | 9.5 | –866.1 |
| 95–100 | 9.4 | 0.0 | 90.6 | 0.0 | 9.4 | –867.6 |

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

## Figure 15 ($2.50/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2005 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.6 | 81.3 | 5.0 | 4.3:1 |
| 5–9 | 1.8 | 73.6 | 14.0 | 2.8:1 |
| 10–14 | 3.7 | 65.4 | 25.5 | 1.9:1 |
| 15–19 | 6.5 | 56.0 | 38.8 | 1.3:1 |
| 20–24 | 10.5 | 46.5 | 52.3 | 0.9:1 |
| 25–29 | 17.0 | 37.9 | 68.7 | 0.6:1 |
| 30–34 | 24.3 | 30.1 | 77.8 | 0.4:1 |
| 35–39 | 32.6 | 24.6 | 85.9 | 0.3:1 |
| 40–44 | 42.5 | 20.4 | 92.6 | 0.3:1 |
| 45–49 | 52.8 | 17.2 | 96.8 | 0.2:1 |
| 50–54 | 63.1 | 14.7 | 98.7 | 0.2:1 |
| 55–59 | 72.7 | 12.8 | 99.5 | 0.1:1 |
| 60–64 | 81.1 | 11.5 | 99.7 | 0.1:1 |
| 65–69 | 87.1 | 10.7 | 99.8 | 0.1:1 |
| 70–74 | 92.3 | 10.1 | 99.9 | 0.1:1 |
| 75–79 | 96.0 | 9.8 | 100.0 | 0.1:1 |
| 80–84 | 98.0 | 9.6 | 100.0 | 0.1:1 |
| 85–89 | 99.0 | 9.5 | 100.0 | 0.1:1 |
| 90–94 | 99.9 | 9.4 | 100.0 | 0.1:1 |
| 95–100 | 100.0 | 9.4 | 100.0 | 0.1:1 |

# National Food Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 (National food line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –9.3 | 6.5 | 6.6 | 7.1 |
| 5–9 | +8.9 | 7.3 | 8.9 | 11.7 |
| 10–14 | +8.5 | 6.1 | 7.3 | 9.6 |
| 15–19 | +4.6 | 3.9 | 4.9 | 6.4 |
| 20–24 | +9.5 | 3.6 | 4.3 | 5.6 |
| 25–29 | +6.8 | 2.6 | 3.1 | 4.0 |
| 30–34 | +7.0 | 2.0 | 2.4 | 3.1 |
| 35–39 | –0.2 | 1.7 | 2.1 | 2.9 |
| 40–44 | +2.7 | 1.2 | 1.4 | 2.0 |
| 45–49 | +1.9 | 1.1 | 1.2 | 1.6 |
| 50–54 | +0.5 | 1.1 | 1.3 | 1.6 |
| 55–59 | +1.8 | 0.3 | 0.3 | 0.4 |
| 60–64 | +0.9 | 0.2 | 0.2 | 0.3 |
| 65–69 | +0.4 | 0.3 | 0.4 | 0.5 |
| 70–74 | +0.1 | 0.1 | 0.1 | 0.2 |
| 75–79 | –1.3 | 1.3 | 1.4 | 1.7 |
| 80–84 | –0.0 | 0.0 | 0.1 | 0.1 |
| 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 |

**Figure 10 (National food line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +3.5 | 59.5 | 67.8 | 86.6 |
| 4 | +2.8 | 29.9 | 36.0 | 46.5 |
| 8 | +2.3 | 21.8 | 26.3 | 32.5 |
| 16 | +2.8 | 15.0 | 18.4 | 24.0 |
| 32 | +3.0 | 11.1 | 13.2 | 17.4 |
| 64 | +3.0 | 7.7 | 8.9 | 11.6 |
| 128 | +2.9 | 5.5 | 6.4 | 8.3 |
| 256 | +2.8 | 3.7 | 4.6 | 6.0 |
| 512 | +2.8 | 2.7 | 3.2 | 4.2 |
| 1,024 | +2.8 | 2.0 | 2.5 | 3.2 |
| 2,048 | +2.8 | 1.4 | 1.7 | 2.2 |
| 4,096 | +2.8 | 1.0 | 1.2 | 1.7 |
| 8,192 | +2.8 | 0.7 | 0.9 | 1.1 |
| 16,384 | +2.8 | 0.5 | 0.6 | 0.8 |

**Figure 12 (National food line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +6.1 | 98.6 | 104.0 | 108.3 |
| 4 | +3.3 | 44.7 | 55.3 | 73.6 |
| 8 | +3.7 | 29.8 | 36.6 | 52.0 |
| 16 | +4.0 | 22.2 | 25.8 | 33.1 |
| 32 | +4.3 | 15.1 | 18.7 | 24.6 |
| 64 | +4.3 | 10.8 | 13.2 | 17.7 |
| 128 | +4.0 | 7.5 | 9.3 | 12.5 |
| 256 | +3.8 | 5.3 | 6.2 | 8.3 |
| 512 | +3.8 | 3.9 | 4.6 | 6.1 |
| 1,024 | +3.7 | 2.8 | 3.3 | 4.6 |
| 2,048 | +3.7 | 1.9 | 2.3 | 3.3 |
| 4,096 | +3.7 | 1.4 | 1.7 | 2.2 |
| 8,192 | +3.7 | 1.0 | 1.2 | 1.6 |
| 16,384 | +3.7 | 0.7 | 0.8 | 1.1 |

## Figure 14 (National food line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.7 | 13.3 | 0.1 | 86.0 | 86.6 | –90.0 |
| 5–9 | 1.8 | 12.2 | 0.3 | 85.7 | 87.5 | –72.0 |
| 10–14 | 2.9 | 11.1 | 1.0 | 85.1 | 87.9 | –52.0 |
| 15–19 | 4.8 | 9.2 | 2.8 | 83.3 | 88.0 | –11.7 |
| 20–24 | 6.7 | 7.2 | 5.5 | 80.5 | 87.2 | +35.7 |
| 25–29 | 8.6 | 5.3 | 10.0 | 76.1 | 84.7 | +28.6 |
| 30–34 | 10.6 | 3.3 | 17.1 | 68.9 | 79.5 | –22.7 |
| 35–39 | 12.1 | 1.8 | 26.1 | 60.0 | 72.1 | –86.9 |
| 40–44 | 12.9 | 1.1 | 35.1 | 50.9 | 63.8 | –151.8 |
| 45–49 | 13.5 | 0.5 | 45.7 | 40.3 | 53.8 | –227.9 |
| 50–54 | 13.8 | 0.2 | 55.4 | 30.6 | 44.4 | –297.3 |
| 55–59 | 13.9 | 0.1 | 64.2 | 21.8 | 35.7 | –360.2 |
| 60–64 | 13.9 | 0.1 | 72.0 | 14.1 | 27.9 | –416.1 |
| 65–69 | 13.9 | 0.0 | 77.4 | 8.7 | 22.6 | –454.7 |
| 70–74 | 13.9 | 0.0 | 81.1 | 4.9 | 18.8 | –481.7 |
| 75–79 | 13.9 | 0.0 | 83.4 | 2.6 | 16.6 | –498.0 |
| 80–84 | 13.9 | 0.0 | 85.1 | 0.9 | 14.9 | –510.2 |
| 85–89 | 13.9 | 0.0 | 85.6 | 0.4 | 14.4 | –513.7 |
| 90–94 | 13.9 | 0.0 | 85.9 | 0.1 | 14.1 | –516.0 |
| 95–100 | 13.9 | 0.0 | 86.1 | 0.0 | 13.9 | –516.9 |

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

## Figure 15 (National food line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 90.9 | 4.7 | 9.9:1 |
| 5–9 | 2.1 | 84.2 | 12.8 | 5.3:1 |
| 10–14 | 3.8 | 74.8 | 20.5 | 3.0:1 |
| 15–19 | 7.5 | 63.2 | 34.2 | 1.7:1 |
| 20–24 | 12.2 | 54.8 | 48.0 | 1.2:1 |
| 25–29 | 18.6 | 46.4 | 61.8 | 0.9:1 |
| 30–34 | 27.7 | 38.3 | 76.0 | 0.6:1 |
| 35–39 | 38.2 | 31.7 | 86.8 | 0.5:1 |
| 40–44 | 48.0 | 26.9 | 92.4 | 0.4:1 |
| 45–49 | 59.2 | 22.8 | 96.7 | 0.3:1 |
| 50–54 | 69.2 | 19.9 | 98.9 | 0.2:1 |
| 55–59 | 78.1 | 17.7 | 99.3 | 0.2:1 |
| 60–64 | 85.9 | 16.2 | 99.5 | 0.2:1 |
| 65–69 | 91.3 | 15.2 | 99.8 | 0.2:1 |
| 70–74 | 95.1 | 14.6 | 99.8 | 0.2:1 |
| 75–79 | 97.4 | 14.3 | 100.0 | 0.2:1 |
| 80–84 | 99.1 | 14.1 | 100.0 | 0.2:1 |
| 85–89 | 99.6 | 14.0 | 100.0 | 0.2:1 |
| 90–94 | 99.9 | 14.0 | 100.0 | 0.2:1 |
| 95–100 | 100.0 | 13.9 | 100.0 | 0.2:1 |

# National Capacity Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 (National capacity line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –7.5 | 4.8 | 5.0 | 5.2 |
| 5–9 | –1.2 | 4.7 | 5.5 | 7.2 |
| 10–14 | –0.8 | 5.2 | 6.1 | 7.8 |
| 15–19 | +5.3 | 4.0 | 4.7 | 6.0 |
| 20–24 | +1.0 | 3.6 | 4.4 | 5.8 |
| 25–29 | +5.6 | 2.8 | 3.3 | 4.3 |
| 30–34 | +6.8 | 2.3 | 2.7 | 3.7 |
| 35–39 | +1.5 | 2.0 | 2.5 | 3.3 |
| 40–44 | +0.6 | 1.8 | 2.1 | 2.6 |
| 45–49 | +4.7 | 1.3 | 1.5 | 2.0 |
| 50–54 | +1.3 | 1.3 | 1.6 | 2.1 |
| 55–59 | +2.7 | 0.8 | 0.9 | 1.2 |
| 60–64 | +1.8 | 0.3 | 0.4 | 0.5 |
| 65–69 | +0.8 | 0.3 | 0.4 | 0.5 |
| 70–74 | +0.4 | 0.1 | 0.1 | 0.2 |
| 75–79 | –1.3 | 1.3 | 1.4 | 1.7 |
| 80–84 | +0.4 | 0.0 | 0.1 | 0.1 |
| 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 |

**Figure 10 (National capacity line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +2.2 | 62.1 | 73.7 | 84.2 |
| 4 | +2.2 | 34.0 | 40.1 | 53.6 |
| 8 | +2.4 | 24.2 | 28.5 | 34.8 |
| 16 | +2.6 | 17.1 | 20.1 | 26.3 |
| 32 | +2.8 | 12.4 | 14.5 | 20.0 |
| 64 | +2.8 | 8.9 | 10.6 | 13.4 |
| 128 | +2.5 | 6.2 | 7.4 | 9.6 |
| 256 | +2.5 | 4.3 | 5.1 | 7.0 |
| 512 | +2.6 | 3.0 | 3.6 | 4.6 |
| 1,024 | +2.5 | 2.2 | 2.6 | 3.3 |
| 2,048 | +2.5 | 1.6 | 1.9 | 2.5 |
| 4,096 | +2.5 | 1.2 | 1.3 | 1.7 |
| 8,192 | +2.6 | 0.8 | 1.0 | 1.2 |
| 16,384 | +2.6 | 0.6 | 0.7 | 0.9 |

**Figure 12 (National capacity line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +5.0 | 101.6 | 105.1 | 106.9 |
| 4 | +3.3 | 47.5 | 59.0 | 77.7 |
| 8 | +4.2 | 33.7 | 41.1 | 54.1 |
| 16 | +3.8 | 24.8 | 29.3 | 39.5 |
| 32 | +4.0 | 17.0 | 20.6 | 26.7 |
| 64 | +4.0 | 12.9 | 15.8 | 19.0 |
| 128 | +3.6 | 9.0 | 10.9 | 14.0 |
| 256 | +3.5 | 6.1 | 7.2 | 9.7 |
| 512 | +3.6 | 4.2 | 5.0 | 6.9 |
| 1,024 | +3.4 | 3.1 | 3.6 | 4.8 |
| 2,048 | +3.4 | 2.1 | 2.5 | 3.4 |
| 4,096 | +3.4 | 1.6 | 1.9 | 2.4 |
| 8,192 | +3.4 | 1.1 | 1.3 | 1.8 |
| 16,384 | +3.4 | 0.8 | 0.9 | 1.2 |

## Figure 14 (National capacity line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.7 | 19.6 | 0.0 | 79.7 | 80.4 | –93.0 |
| 5–9 | 2.0 | 18.3 | 0.1 | 79.5 | 81.5 | –79.9 |
| 10–14 | 3.3 | 17.0 | 0.5 | 79.2 | 82.4 | –65.0 |
| 15–19 | 5.7 | 14.6 | 1.8 | 77.9 | 83.6 | –34.6 |
| 20–24 | 8.6 | 11.8 | 3.7 | 76.0 | 84.6 | +2.4 |
| 25–29 | 11.4 | 8.9 | 7.1 | 72.5 | 84.0 | +47.8 |
| 30–34 | 14.6 | 5.7 | 13.1 | 66.5 | 81.1 | +35.3 |
| 35–39 | 17.0 | 3.3 | 21.2 | 58.5 | 75.4 | –4.5 |
| 40–44 | 18.4 | 1.9 | 29.6 | 50.1 | 68.5 | –45.9 |
| 45–49 | 19.4 | 0.9 | 39.8 | 39.9 | 59.3 | –95.9 |
| 50–54 | 20.0 | 0.3 | 49.2 | 30.5 | 50.4 | –142.5 |
| 55–59 | 20.2 | 0.1 | 57.9 | 21.8 | 42.0 | –185.1 |
| 60–64 | 20.2 | 0.1 | 65.6 | 14.1 | 34.3 | –223.2 |
| 65–69 | 20.3 | 0.0 | 71.0 | 8.7 | 29.0 | –249.7 |
| 70–74 | 20.3 | 0.0 | 74.8 | 4.9 | 25.2 | –268.2 |
| 75–79 | 20.3 | 0.0 | 77.1 | 2.6 | 22.9 | –279.5 |
| 80–84 | 20.3 | 0.0 | 78.8 | 0.9 | 21.2 | –287.8 |
| 85–89 | 20.3 | 0.0 | 79.2 | 0.4 | 20.8 | –290.2 |
| 90–94 | 20.3 | 0.0 | 79.6 | 0.1 | 20.4 | –291.8 |
| 95–100 | 20.3 | 0.0 | 79.7 | 0.0 | 20.3 | –292.4 |

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

## Figure 15 (National capacity line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 96.2 | 3.5 | 25.4:1 |
| 5–9 | 2.1 | 92.9 | 9.7 | 13.2:1 |
| 10–14 | 3.8 | 85.9 | 16.2 | 6.1:1 |
| 15–19 | 7.5 | 76.2 | 28.3 | 3.2:1 |
| 20–24 | 12.2 | 69.9 | 42.1 | 2.3:1 |
| 25–29 | 18.6 | 61.5 | 56.3 | 1.6:1 |
| 30–34 | 27.7 | 52.6 | 71.8 | 1.1:1 |
| 35–39 | 38.2 | 44.4 | 83.5 | 0.8:1 |
| 40–44 | 48.0 | 38.3 | 90.6 | 0.6:1 |
| 45–49 | 59.2 | 32.8 | 95.7 | 0.5:1 |
| 50–54 | 69.2 | 28.9 | 98.3 | 0.4:1 |
| 55–59 | 78.1 | 25.8 | 99.3 | 0.3:1 |
| 60–64 | 85.9 | 23.6 | 99.6 | 0.3:1 |
| 65–69 | 91.3 | 22.2 | 99.9 | 0.3:1 |
| 70–74 | 95.1 | 21.3 | 99.9 | 0.3:1 |
| 75–79 | 97.4 | 20.9 | 100.0 | 0.3:1 |
| 80–84 | 99.1 | 20.5 | 100.0 | 0.3:1 |
| 85–89 | 99.6 | 20.4 | 100.0 | 0.3:1 |
| 90–94 | 99.9 | 20.3 | 100.0 | 0.3:1 |
| 95–100 | 100.0 | 20.3 | 100.0 | 0.3:1 |

# National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 (National asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –1.3 | 0.6 | 0.6 | 0.6 |
| 5–9 | –2.4 | 1.4 | 1.4 | 1.4 |
| 10–14 | –3.0 | 2.2 | 2.3 | 2.6 |
| 15–19 | +0.9 | 2.2 | 2.6 | 3.3 |
| 20–24 | +0.2 | 2.4 | 2.8 | 3.7 |
| 25–29 | –1.1 | 2.3 | 2.7 | 3.2 |
| 30–34 | +1.0 | 2.3 | 2.8 | 3.6 |
| 35–39 | +0.6 | 2.3 | 2.7 | 3.5 |
| 40–44 | +7.4 | 2.5 | 2.9 | 4.0 |
| 45–49 | +10.2 | 2.2 | 2.6 | 3.4 |
| 50–54 | +4.1 | 2.1 | 2.6 | 3.2 |
| 55–59 | +4.0 | 1.9 | 2.3 | 3.2 |
| 60–64 | +4.5 | 1.3 | 1.5 | 2.2 |
| 65–69 | +3.6 | 0.9 | 1.1 | 1.4 |
| 70–74 | +2.2 | 0.4 | 0.5 | 0.6 |
| 75–79 | –2.1 | 1.9 | 2.0 | 2.3 |
| 80–84 | +1.7 | 0.3 | 0.4 | 0.5 |
| 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 |

**Figure 10 (National asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +2.3 | 65.0 | 72.6 | 88.1 |
| 4 | +2.4 | 37.5 | 44.2 | 55.8 |
| 8 | +3.2 | 27.7 | 31.4 | 38.8 |
| 16 | +3.4 | 19.2 | 22.8 | 29.7 |
| 32 | +3.9 | 13.4 | 16.0 | 21.2 |
| 64 | +3.8 | 10.2 | 11.9 | 14.3 |
| 128 | +3.5 | 7.2 | 8.4 | 10.6 |
| 256 | +3.3 | 4.9 | 5.8 | 7.2 |
| 512 | +3.3 | 3.6 | 4.1 | 5.6 |
| 1,024 | +3.2 | 2.4 | 3.1 | 4.0 |
| 2,048 | +3.2 | 1.8 | 2.0 | 2.7 |
| 4,096 | +3.2 | 1.3 | 1.5 | 1.9 |
| 8,192 | +3.2 | 0.9 | 1.0 | 1.4 |
| 16,384 | +3.2 | 0.6 | 0.8 | 1.0 |

**Figure 12 (National asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.4 | 104.3 | 104.8 | 100.0 |
| 4 | +2.9 | 52.1 | 63.1 | 79.7 |
| 8 | +3.6 | 37.8 | 44.3 | 58.5 |
| 16 | +3.4 | 27.3 | 33.1 | 43.0 |
| 32 | +4.2 | 19.9 | 23.2 | 31.3 |
| 64 | +4.3 | 13.8 | 16.8 | 21.7 |
| 128 | +4.1 | 9.8 | 11.3 | 15.2 |
| 256 | +3.8 | 7.0 | 8.2 | 11.0 |
| 512 | +3.8 | 5.2 | 6.1 | 8.2 |
| 1,024 | +3.7 | 3.4 | 4.2 | 5.4 |
| 2,048 | +3.7 | 2.3 | 2.8 | 3.8 |
| 4,096 | +3.7 | 1.7 | 2.0 | 2.7 |
| 8,192 | +3.7 | 1.2 | 1.5 | 1.9 |
| 16,384 | +3.7 | 0.9 | 1.1 | 1.4 |

## Figure 14 (National asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.7 | 40.0 | 0.0 | 59.3 | 60.0 | –96.4 |
| 5–9 | 2.1 | 38.6 | 0.0 | 59.2 | 61.3 | –89.6 |
| 10–14 | 3.8 | 37.0 | 0.1 | 59.2 | 62.9 | –81.4 |
| 15–19 | 7.2 | 33.6 | 0.4 | 58.9 | 66.0 | –63.9 |
| 20–24 | 11.2 | 29.5 | 1.0 | 58.2 | 69.5 | –42.5 |
| 25–29 | 16.3 | 24.4 | 2.2 | 57.0 | 73.4 | –14.3 |
| 30–34 | 22.7 | 18.1 | 5.0 | 54.2 | 76.9 | +23.7 |
| 35–39 | 28.8 | 11.9 | 9.3 | 49.9 | 78.8 | +64.5 |
| 40–44 | 33.2 | 7.6 | 14.8 | 44.4 | 77.6 | +63.6 |
| 45–49 | 36.8 | 4.0 | 22.4 | 36.8 | 73.6 | +44.9 |
| 50–54 | 38.8 | 1.9 | 30.4 | 28.9 | 67.7 | +25.4 |
| 55–59 | 39.9 | 0.8 | 38.1 | 21.1 | 61.1 | +6.5 |
| 60–64 | 40.4 | 0.3 | 45.4 | 13.8 | 54.2 | –11.5 |
| 65–69 | 40.6 | 0.1 | 50.6 | 8.6 | 49.3 | –24.3 |
| 70–74 | 40.7 | 0.1 | 54.4 | 4.9 | 45.6 | –33.4 |
| 75–79 | 40.7 | 0.0 | 56.6 | 2.6 | 43.4 | –39.0 |
| 80–84 | 40.7 | 0.0 | 58.3 | 0.9 | 41.7 | –43.1 |
| 85–89 | 40.7 | 0.0 | 58.8 | 0.4 | 41.2 | –44.3 |
| 90–94 | 40.7 | 0.0 | 59.1 | 0.1 | 40.9 | –45.1 |
| 95–100 | 40.7 | 0.0 | 59.3 | 0.0 | 40.7 | –45.4 |

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

## Figure 15 (National asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 100.0 | 1.8 | 4,555.5:1 |
| 5–9 | 2.1 | 99.4 | 5.2 | 177.7:1 |
| 10–14 | 3.8 | 98.0 | 9.2 | 49.6:1 |
| 15–19 | 7.5 | 94.9 | 17.6 | 18.5:1 |
| 20–24 | 12.2 | 91.7 | 27.5 | 11.0:1 |
| 25–29 | 18.6 | 88.0 | 40.1 | 7.3:1 |
| 30–34 | 27.7 | 81.9 | 55.7 | 4.5:1 |
| 35–39 | 38.2 | 75.5 | 70.8 | 3.1:1 |
| 40–44 | 48.0 | 69.1 | 81.4 | 2.2:1 |
| 45–49 | 59.2 | 62.1 | 90.3 | 1.6:1 |
| 50–54 | 69.2 | 56.1 | 95.3 | 1.3:1 |
| 55–59 | 78.1 | 51.2 | 98.0 | 1.0:1 |
| 60–64 | 85.9 | 47.1 | 99.2 | 0.9:1 |
| 65–69 | 91.3 | 44.5 | 99.8 | 0.8:1 |
| 70–74 | 95.1 | 42.8 | 99.9 | 0.7:1 |
| 75–79 | 97.4 | 41.8 | 100.0 | 0.7:1 |
| 80–84 | 99.1 | 41.1 | 100.0 | 0.7:1 |
| 85–89 | 99.6 | 40.9 | 100.0 | 0.7:1 |
| 90–94 | 99.9 | 40.8 | 100.0 | 0.7:1 |
| 95–100 | 100.0 | 40.7 | 100.0 | 0.7:1 |

# 125% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 (125% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –1.3 | 0.6 | 0.6 | 0.6 |
| 5–9 | –1.0 | 0.8 | 0.8 | 0.9 |
| 10–14 | –2.2 | 1.2 | 1.2 | 1.2 |
| 15–19 | –1.3 | 1.2 | 1.3 | 1.7 |
| 20–24 | –2.9 | 2.1 | 2.1 | 2.3 |
| 25–29 | –1.0 | 1.6 | 1.9 | 2.4 |
| 30–34 | –0.3 | 1.8 | 2.1 | 2.8 |
| 35–39 | +0.7 | 2.1 | 2.4 | 3.1 |
| 40–44 | +5.1 | 2.5 | 3.1 | 4.0 |
| 45–49 | +12.4 | 2.4 | 2.8 | 3.7 |
| 50–54 | +7.6 | 2.4 | 2.7 | 3.9 |
| 55–59 | +6.9 | 2.2 | 2.7 | 3.7 |
| 60–64 | +4.9 | 2.1 | 2.5 | 3.2 |
| 65–69 | +7.6 | 1.2 | 1.5 | 1.9 |
| 70–74 | +4.4 | 0.9 | 1.0 | 1.3 |
| 75–79 | +0.5 | 1.5 | 1.7 | 2.2 |
| 80–84 | +0.8 | 1.6 | 1.8 | 2.3 |
| 85–89 | +0.0 | 0.0 | 0.0 | 0.0 |
| 90–94 | –5.4 | 6.4 | 7.2 | 8.5 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.2 | 66.2 | 76.5 | 88.9 |
| 4 | +2.7 | 36.5 | 42.6 | 55.5 |
| 8 | +3.8 | 26.2 | 30.1 | 39.3 |
| 16 | +4.1 | 18.7 | 22.9 | 29.7 |
| 32 | +4.4 | 13.3 | 15.2 | 20.0 |
| 64 | +4.4 | 9.4 | 10.8 | 14.2 |
| 128 | +4.1 | 6.8 | 8.1 | 10.6 |
| 256 | +3.9 | 4.7 | 5.5 | 7.6 |
| 512 | +3.9 | 3.5 | 4.2 | 5.4 |
| 1,024 | +3.8 | 2.4 | 2.9 | 4.1 |
| 2,048 | +3.8 | 1.7 | 2.0 | 2.6 |
| 4,096 | +3.8 | 1.2 | 1.4 | 1.9 |
| 8,192 | +3.8 | 0.8 | 1.0 | 1.3 |
| 16,384 | +3.8 | 0.6 | 0.7 | 1.0 |

## Figure 12 (125% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.6 | 103.0 | 105.4 | 108.7 |
| 4 | +2.7 | 50.6 | 63.8 | 82.4 |
| 8 | +4.0 | 37.6 | 45.2 | 60.8 |
| 16 | +4.5 | 27.3 | 32.8 | 44.8 |
| 32 | +5.1 | 18.5 | 23.9 | 29.8 |
| 64 | +5.3 | 13.3 | 15.7 | 20.3 |
| 128 | +4.9 | 9.7 | 11.8 | 15.6 |
| 256 | +4.8 | 6.6 | 8.4 | 11.0 |
| 512 | +4.8 | 4.9 | 5.9 | 7.8 |
| 1,024 | +4.7 | 3.4 | 4.1 | 5.5 |
| 2,048 | +4.7 | 2.3 | 2.8 | 3.6 |
| 4,096 | +4.7 | 1.7 | 2.0 | 2.7 |
| 8,192 | +4.7 | 1.2 | 1.4 | 1.8 |
| 16,384 | +4.7 | 0.9 | 1.0 | 1.4 |

## Figure 14 (125% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.7 | 50.9 | 0.0 | 48.4 | 49.1 | –97.2 |
| 5–9 | 2.1 | 49.5 | 0.0 | 48.3 | 50.5 | –91.8 |
| 10–14 | 3.8 | 47.8 | 0.0 | 48.3 | 52.1 | –85.2 |
| 15–19 | 7.4 | 44.2 | 0.1 | 48.2 | 55.6 | –71.1 |
| 20–24 | 11.8 | 39.8 | 0.4 | 48.0 | 59.8 | –53.4 |
| 25–29 | 17.5 | 34.1 | 1.1 | 47.3 | 64.8 | –30.1 |
| 30–34 | 25.1 | 26.5 | 2.6 | 45.8 | 70.9 | +2.3 |
| 35–39 | 33.0 | 18.7 | 5.2 | 43.2 | 76.1 | +37.8 |
| 40–44 | 39.0 | 12.7 | 9.0 | 39.3 | 78.3 | +68.4 |
| 45–49 | 44.4 | 7.2 | 14.8 | 33.5 | 77.9 | +71.3 |
| 50–54 | 47.8 | 3.9 | 21.4 | 26.9 | 74.7 | +58.5 |
| 55–59 | 49.9 | 1.8 | 28.2 | 20.2 | 70.1 | +45.4 |
| 60–64 | 51.0 | 0.7 | 34.9 | 13.4 | 64.4 | +32.4 |
| 65–69 | 51.4 | 0.2 | 39.9 | 8.5 | 59.9 | +22.8 |
| 70–74 | 51.5 | 0.1 | 43.5 | 4.8 | 56.3 | +15.7 |
| 75–79 | 51.6 | 0.1 | 45.8 | 2.6 | 54.2 | +11.4 |
| 80–84 | 51.6 | 0.0 | 47.4 | 0.9 | 52.6 | +8.2 |
| 85–89 | 51.6 | 0.0 | 47.9 | 0.4 | 52.1 | +7.2 |
| 90–94 | 51.6 | 0.0 | 48.2 | 0.1 | 51.8 | +6.6 |
| 95–100 | 51.6 | 0.0 | 48.4 | 0.0 | 51.6 | +6.4 |

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

## Figure 15 (125% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 100.0 | 1.4 | 4,555.5:1 |
| 5–9 | 2.1 | 99.5 | 4.1 | 215.7:1 |
| 10–14 | 3.8 | 99.5 | 7.4 | 194.3:1 |
| 15–19 | 7.5 | 98.2 | 14.3 | 54.6:1 |
| 20–24 | 12.2 | 96.7 | 22.9 | 29.7:1 |
| 25–29 | 18.6 | 94.3 | 33.9 | 16.5:1 |
| 30–34 | 27.7 | 90.7 | 48.7 | 9.7:1 |
| 35–39 | 38.2 | 86.4 | 63.9 | 6.4:1 |
| 40–44 | 48.0 | 81.2 | 75.5 | 4.3:1 |
| 45–49 | 59.2 | 75.0 | 86.0 | 3.0:1 |
| 50–54 | 69.2 | 69.0 | 92.5 | 2.2:1 |
| 55–59 | 78.1 | 63.9 | 96.6 | 1.8:1 |
| 60–64 | 85.9 | 59.3 | 98.7 | 1.5:1 |
| 65–69 | 91.3 | 56.3 | 99.5 | 1.3:1 |
| 70–74 | 95.1 | 54.2 | 99.8 | 1.2:1 |
| 75–79 | 97.4 | 53.0 | 99.9 | 1.1:1 |
| 80–84 | 99.1 | 52.1 | 100.0 | 1.1:1 |
| 85–89 | 99.6 | 51.9 | 100.0 | 1.1:1 |
| 90–94 | 99.9 | 51.7 | 100.0 | 1.1:1 |
| 95–100 | 100.0 | 51.6 | 100.0 | 1.1:1 |

# 150% of the National Asset Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 (150% of national asset line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | +0.0 | 0.0 | 0.0 | 0.0 |
| 5–9 | +0.5 | 0.6 | 0.7 | 0.9 |
| 10–14 | –1.9 | 0.9 | 0.9 | 0.9 |
| 15–19 | –1.3 | 0.9 | 1.0 | 1.1 |
| 20–24 | –1.4 | 1.1 | 1.2 | 1.4 |
| 25–29 | –0.5 | 1.3 | 1.5 | 1.9 |
| 30–34 | +1.2 | 1.6 | 1.9 | 2.6 |
| 35–39 | –0.5 | 1.7 | 2.0 | 2.6 |
| 40–44 | +3.1 | 2.3 | 2.8 | 3.6 |
| 45–49 | +8.8 | 2.3 | 2.8 | 3.8 |
| 50–54 | +5.2 | 2.4 | 2.8 | 4.0 |
| 55–59 | +8.7 | 2.6 | 3.1 | 4.0 |
| 60–64 | +3.5 | 2.5 | 3.0 | 4.3 |
| 65–69 | +10.6 | 1.6 | 1.9 | 2.5 |
| 70–74 | +4.0 | 2.2 | 2.6 | 3.4 |
| 75–79 | +2.5 | 2.3 | 2.7 | 3.4 |
| 80–84 | +2.7 | 1.7 | 2.0 | 2.5 |
| 85–89 | +0.0 | 0.0 | 0.0 | 0.0 |
| 90–94 | –5.4 | 6.4 | 7.2 | 8.5 |
| 95–100 | +0.0 | 0.0 | 0.0 | 0.0 |

**Figure 10 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +2.6 | 65.0 | 77.7 | 91.0 |
| 4 | +2.2 | 34.8 | 42.6 | 53.0 |
| 8 | +2.8 | 26.3 | 30.8 | 39.9 |
| 16 | +3.2 | 17.6 | 21.5 | 28.0 |
| 32 | +3.4 | 12.7 | 15.1 | 20.8 |
| 64 | +3.6 | 9.2 | 11.0 | 14.9 |
| 128 | +3.6 | 6.8 | 8.0 | 11.0 |
| 256 | +3.4 | 4.7 | 5.5 | 7.2 |
| 512 | +3.4 | 3.3 | 3.9 | 5.1 |
| 1,024 | +3.4 | 2.2 | 2.7 | 3.6 |
| 2,048 | +3.4 | 1.6 | 1.9 | 2.6 |
| 4,096 | +3.4 | 1.1 | 1.3 | 2.0 |
| 8,192 | +3.4 | 0.8 | 1.0 | 1.3 |
| 16,384 | +3.4 | 0.6 | 0.7 | 0.9 |

**Figure 12 (150% of national asset line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH**

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| *n* | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +4.3 | 104.5 | 105.7 | 108.2 |
| 4 | +2.2 | 50.5 | 61.3 | 80.7 |
| 8 | +3.3 | 37.7 | 44.4 | 55.8 |
| 16 | +3.8 | 25.7 | 30.7 | 39.7 |
| 32 | +4.5 | 17.8 | 21.9 | 28.5 |
| 64 | +4.7 | 12.8 | 15.1 | 18.8 |
| 128 | +4.7 | 9.0 | 10.9 | 15.1 |
| 256 | +4.6 | 6.6 | 7.8 | 9.8 |
| 512 | +4.7 | 4.7 | 5.5 | 7.1 |
| 1,024 | +4.5 | 3.2 | 3.8 | 5.2 |
| 2,048 | +4.6 | 2.3 | 2.7 | 3.6 |
| 4,096 | +4.6 | 1.6 | 1.9 | 2.6 |
| 8,192 | +4.6 | 1.1 | 1.3 | 1.7 |
| 16,384 | +4.6 | 0.8 | 0.9 | 1.3 |

## Figure 14 (150% of national asset line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.7 | 59.7 | 0.0 | 39.6 | 40.3 | –97.6 |
| 5–9 | 2.1 | 58.3 | 0.0 | 39.6 | 41.7 | –93.0 |
| 10–14 | 3.8 | 56.6 | 0.0 | 39.6 | 43.4 | –87.3 |
| 15–19 | 7.5 | 52.9 | 0.1 | 39.5 | 47.0 | –75.1 |
| 20–24 | 12.0 | 48.4 | 0.2 | 39.4 | 51.4 | –59.8 |
| 25–29 | 18.0 | 42.4 | 0.6 | 39.0 | 57.0 | –39.4 |
| 30–34 | 26.2 | 34.2 | 1.5 | 38.1 | 64.2 | –10.8 |
| 35–39 | 35.0 | 25.4 | 3.2 | 36.4 | 71.5 | +21.2 |
| 40–44 | 42.3 | 18.1 | 5.8 | 33.8 | 76.1 | +49.5 |
| 45–49 | 49.3 | 11.1 | 9.9 | 29.7 | 79.0 | +79.7 |
| 50–54 | 54.2 | 6.2 | 15.0 | 24.6 | 78.7 | +75.1 |
| 55–59 | 57.3 | 3.1 | 20.8 | 18.8 | 76.1 | +65.6 |
| 60–64 | 59.1 | 1.3 | 26.7 | 12.9 | 72.0 | +55.7 |
| 65–69 | 59.9 | 0.6 | 31.4 | 8.1 | 68.0 | +47.9 |
| 70–74 | 60.2 | 0.2 | 34.9 | 4.7 | 64.9 | +42.3 |
| 75–79 | 60.3 | 0.1 | 37.0 | 2.6 | 62.9 | +38.7 |
| 80–84 | 60.4 | 0.0 | 38.7 | 0.9 | 61.3 | +36.0 |
| 85–89 | 60.4 | 0.0 | 39.2 | 0.4 | 60.8 | +35.2 |
| 90–94 | 60.4 | 0.0 | 39.5 | 0.1 | 60.5 | +34.7 |
| 95–100 | 60.4 | 0.0 | 39.6 | 0.0 | 60.4 | +34.4 |

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

## Figure 15 (150% of national asset line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 100.0 | 1.2 | 4,555.5:1 |
| 5–9 | 2.1 | 99.5 | 3.5 | 215.7:1 |
| 10–14 | 3.8 | 99.7 | 6.3 | 390.3:1 |
| 15–19 | 7.5 | 99.1 | 12.4 | 114.6:1 |
| 20–24 | 12.2 | 98.3 | 19.9 | 56.2:1 |
| 25–29 | 18.6 | 96.9 | 29.8 | 31.1:1 |
| 30–34 | 27.7 | 94.4 | 43.3 | 17.0:1 |
| 35–39 | 38.2 | 91.7 | 58.0 | 11.1:1 |
| 40–44 | 48.0 | 88.0 | 70.0 | 7.3:1 |
| 45–49 | 59.2 | 83.3 | 81.6 | 5.0:1 |
| 50–54 | 69.2 | 78.3 | 89.7 | 3.6:1 |
| 55–59 | 78.1 | 73.4 | 94.9 | 2.8:1 |
| 60–64 | 85.9 | 68.9 | 97.9 | 2.2:1 |
| 65–69 | 91.3 | 65.6 | 99.1 | 1.9:1 |
| 70–74 | 95.1 | 63.3 | 99.6 | 1.7:1 |
| 75–79 | 97.4 | 62.0 | 99.9 | 1.6:1 |
| 80–84 | 99.1 | 61.0 | 100.0 | 1.6:1 |
| 85–89 | 99.6 | 60.7 | 100.0 | 1.5:1 |
| 90–94 | 99.9 | 60.5 | 100.0 | 1.5:1 |
| 95–100 | 100.0 | 60.4 | 100.0 | 1.5:1 |

# USAID "Extreme" Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 (USAID "extreme" line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –10.2 | 6.7 | 7.0 | 7.3 |
| 5–9 | +1.8 | 6.9 | 8.6 | 10.7 |
| 10–14 | –1.2 | 5.7 | 6.8 | 8.6 |
| 15–19 | –1.2 | 4.0 | 4.9 | 6.0 |
| 20–24 | +1.7 | 3.6 | 4.4 | 6.4 |
| 25–29 | +3.3 | 2.9 | 3.4 | 4.6 |
| 30–34 | +5.4 | 2.3 | 2.7 | 3.5 |
| 35–39 | –0.9 | 2.1 | 2.6 | 3.4 |
| 40–44 | –0.3 | 1.8 | 2.2 | 2.8 |
| 45–49 | +4.4 | 1.3 | 1.6 | 2.0 |
| 50–54 | +1.9 | 1.3 | 1.6 | 2.0 |
| 55–59 | +3.5 | 0.8 | 1.0 | 1.4 |
| 60–64 | +2.7 | 0.5 | 0.6 | 0.8 |
| 65–69 | +1.1 | 0.3 | 0.4 | 0.5 |
| 70–74 | +0.4 | 0.1 | 0.1 | 0.2 |
| 75–79 | –1.3 | 1.3 | 1.4 | 1.7 |
| 80–84 | +0.4 | 0.1 | 0.2 | 0.2 |
| 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 |

## Figure 10 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.3 | 63.8 | 69.6 | 82.5 |
| 4 | +1.3 | 34.5 | 39.7 | 52.5 |
| 8 | +1.7 | 25.1 | 28.6 | 34.8 |
| 16 | +1.9 | 17.4 | 20.5 | 27.1 |
| 32 | +2.3 | 13.1 | 15.7 | 19.2 |
| 64 | +2.1 | 8.7 | 10.5 | 14.3 |
| 128 | +1.9 | 6.2 | 7.2 | 9.9 |
| 256 | +1.8 | 4.3 | 5.4 | 7.3 |
| 512 | +1.9 | 3.1 | 3.6 | 4.7 |
| 1,024 | +1.8 | 2.2 | 2.8 | 3.5 |
| 2,048 | +1.8 | 1.6 | 1.9 | 2.6 |
| 4,096 | +1.8 | 1.2 | 1.4 | 1.8 |
| 8,192 | +1.8 | 0.8 | 1.0 | 1.3 |
| 16,384 | +1.8 | 0.6 | 0.7 | 0.8 |

## Figure 12 (USAID "extreme" line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +4.0 | 100.5 | 104.1 | 107.7 |
| 4 | +1.9 | 48.7 | 59.7 | 79.2 |
| 8 | +3.2 | 33.4 | 42.2 | 54.4 |
| 16 | +2.9 | 25.1 | 29.1 | 37.0 |
| 32 | +3.4 | 17.7 | 21.1 | 27.7 |
| 64 | +3.3 | 12.3 | 14.8 | 20.3 |
| 128 | +2.9 | 9.0 | 10.9 | 14.3 |
| 256 | +2.7 | 5.9 | 7.1 | 9.5 |
| 512 | +2.8 | 4.4 | 5.0 | 6.6 |
| 1,024 | +2.6 | 3.2 | 3.9 | 5.0 |
| 2,048 | +2.6 | 2.1 | 2.5 | 3.6 |
| 4,096 | +2.6 | 1.6 | 1.9 | 2.5 |
| 8,192 | +2.6 | 1.1 | 1.3 | 1.9 |
| 16,384 | +2.6 | 0.8 | 0.9 | 1.2 |

## Figure 14 (USAID "extreme" line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.7 | 19.3 | 0.1 | 79.9 | 80.6 | –93.0 |
| 5–9 | 1.8 | 18.2 | 0.3 | 79.7 | 81.6 | –80.2 |
| 10–14 | 3.0 | 17.0 | 0.8 | 79.2 | 82.2 | –65.7 |
| 15–19 | 5.3 | 14.8 | 2.3 | 77.7 | 83.0 | –36.0 |
| 20–24 | 7.8 | 12.2 | 4.4 | 75.6 | 83.4 | +0.2 |
| 25–29 | 10.6 | 9.4 | 8.0 | 72.0 | 82.6 | +45.8 |
| 30–34 | 13.7 | 6.3 | 14.0 | 66.0 | 79.8 | +30.1 |
| 35–39 | 16.3 | 3.7 | 21.8 | 58.2 | 74.5 | –9.2 |
| 40–44 | 17.9 | 2.1 | 30.2 | 49.8 | 67.7 | –50.8 |
| 45–49 | 19.0 | 1.0 | 40.2 | 39.8 | 58.7 | –101.2 |
| 50–54 | 19.6 | 0.4 | 49.7 | 30.3 | 49.9 | –148.3 |
| 55–59 | 19.8 | 0.2 | 58.2 | 21.7 | 41.6 | –191.2 |
| 60–64 | 19.9 | 0.1 | 66.0 | 14.0 | 34.0 | –229.7 |
| 65–69 | 20.0 | 0.0 | 71.3 | 8.7 | 28.6 | –256.6 |
| 70–74 | 20.0 | 0.0 | 75.1 | 4.9 | 24.9 | –275.4 |
| 75–79 | 20.0 | 0.0 | 77.4 | 2.6 | 22.6 | –286.9 |
| 80–84 | 20.0 | 0.0 | 79.1 | 0.9 | 20.9 | –295.3 |
| 85–89 | 20.0 | 0.0 | 79.6 | 0.4 | 20.4 | –297.7 |
| 90–94 | 20.0 | 0.0 | 79.9 | 0.1 | 20.1 | –299.3 |
| 95–100 | 20.0 | 0.0 | 80.0 | 0.0 | 20.0 | –300.0 |

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

## Figure 15 (USAID "extreme" line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 91.9 | 3.4 | 11.4:1 |
| 5–9 | 2.1 | 86.7 | 9.2 | 6.5:1 |
| 10–14 | 3.8 | 79.4 | 15.2 | 3.8:1 |
| 15–19 | 7.5 | 69.6 | 26.2 | 2.3:1 |
| 20–24 | 12.2 | 63.8 | 39.0 | 1.8:1 |
| 25–29 | 18.6 | 57.0 | 52.9 | 1.3:1 |
| 30–34 | 27.7 | 49.6 | 68.7 | 1.0:1 |
| 35–39 | 38.2 | 42.8 | 81.7 | 0.7:1 |
| 40–44 | 48.0 | 37.2 | 89.3 | 0.6:1 |
| 45–49 | 59.2 | 32.1 | 94.9 | 0.5:1 |
| 50–54 | 69.2 | 28.3 | 97.8 | 0.4:1 |
| 55–59 | 78.1 | 25.4 | 99.0 | 0.3:1 |
| 60–64 | 85.9 | 23.2 | 99.6 | 0.3:1 |
| 65–69 | 91.3 | 21.9 | 99.8 | 0.3:1 |
| 70–74 | 95.1 | 21.0 | 99.9 | 0.3:1 |
| 75–79 | 97.4 | 20.5 | 100.0 | 0.3:1 |
| 80–84 | 99.1 | 20.2 | 100.0 | 0.3:1 |
| 85–89 | 99.6 | 20.1 | 100.0 | 0.3:1 |
| 90–94 | 99.9 | 20.0 | 100.0 | 0.3:1 |
| 95–100 | 100.0 | 20.0 | 100.0 | 0.3:1 |

# $1.25/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 ($1.25/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –34.4 | 21.5 | 22.4 | 24.2 |
| 5–9 | +4.0 | 4.1 | 4.9 | 6.4 |
| 10–14 | –1.4 | 4.6 | 5.5 | 7.4 |
| 15–19 | +1.0 | 2.2 | 2.6 | 3.4 |
| 20–24 | –0.4 | 1.8 | 2.2 | 2.9 |
| 25–29 | –0.4 | 1.1 | 1.3 | 1.6 |
| 30–34 | –0.8 | 0.8 | 0.9 | 1.3 |
| 35–39 | –1.3 | 1.0 | 1.1 | 1.3 |
| 40–44 | –0.9 | 0.8 | 0.9 | 1.1 |
| 45–49 | –1.0 | 0.7 | 0.8 | 0.9 |
| 50–54 | –1.1 | 1.0 | 1.1 | 1.2 |
| 55–59 | +0.2 | 0.2 | 0.3 | 0.3 |
| 60–64 | +0.0 | 0.1 | 0.1 | 0.2 |
| 65–69 | –0.1 | 0.1 | 0.2 | 0.2 |
| 70–74 | –0.0 | 0.1 | 0.1 | 0.1 |
| 75–79 | –1.3 | 1.3 | 1.4 | 1.7 |
| 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 |

## Figure 10 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | –0.1 | 4.2 | 6.7 | 58.4 |
| 4 | –0.1 | 8.6 | 15.6 | 28.6 |
| 8 | –0.6 | 10.5 | 13.6 | 19.3 |
| 16 | –0.5 | 7.1 | 8.8 | 12.2 |
| 32 | –0.7 | 5.2 | 6.3 | 8.0 |
| 64 | –0.7 | 3.6 | 4.2 | 5.2 |
| 128 | –0.7 | 2.7 | 3.2 | 4.2 |
| 256 | –0.7 | 1.9 | 2.3 | 2.9 |
| 512 | –0.7 | 1.4 | 1.7 | 2.2 |
| 1,024 | –0.8 | 1.0 | 1.2 | 1.7 |
| 2,048 | –0.7 | 0.7 | 0.9 | 1.2 |
| 4,096 | –0.7 | 0.5 | 0.6 | 0.8 |
| 8,192 | –0.7 | 0.4 | 0.4 | 0.6 |
| 16,384 | –0.7 | 0.3 | 0.3 | 0.4 |

## Figure 12 ($1.25/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.1 | 2.3 | 4.3 | 101.7 |
| 4 | +0.3 | 15.7 | 27.8 | 45.4 |
| 8 | –0.3 | 16.0 | 20.4 | 29.5 |
| 16 | –0.3 | 10.1 | 12.7 | 18.3 |
| 32 | –0.5 | 6.8 | 8.7 | 11.7 |
| 64 | –0.5 | 4.7 | 5.5 | 7.1 |
| 128 | –0.6 | 3.1 | 3.8 | 5.3 |
| 256 | –0.6 | 2.3 | 2.7 | 3.8 |
| 512 | –0.6 | 1.7 | 2.0 | 2.5 |
| 1,024 | –0.6 | 1.2 | 1.5 | 2.0 |
| 2,048 | –0.6 | 0.9 | 1.0 | 1.4 |
| 4,096 | –0.6 | 0.6 | 0.8 | 1.0 |
| 8,192 | –0.6 | 0.4 | 0.5 | 0.7 |
| 16,384 | –0.6 | 0.3 | 0.4 | 0.5 |

## Figure 14 ($1.25/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.4 | 2.2 | 0.4 | 97.1 | 97.4 | –57.1 |
| 5–9 | 0.8 | 1.8 | 1.4 | 96.1 | 96.8 | +12.0 |
| 10–14 | 1.0 | 1.6 | 2.8 | 94.6 | 95.6 | –9.8 |
| 15–19 | 1.3 | 1.3 | 6.3 | 91.2 | 92.5 | –144.1 |
| 20–24 | 1.5 | 1.0 | 10.7 | 86.7 | 88.2 | –317.9 |
| 25–29 | 1.7 | 0.8 | 16.9 | 80.6 | 82.3 | –557.5 |
| 30–34 | 2.0 | 0.6 | 25.7 | 71.7 | 73.7 | –903.5 |
| 35–39 | 2.2 | 0.4 | 36.0 | 61.4 | 63.6 | –1,303.8 |
| 40–44 | 2.3 | 0.3 | 45.7 | 51.7 | 54.0 | –1,682.9 |
| 45–49 | 2.4 | 0.2 | 56.8 | 40.6 | 43.0 | –2,115.8 |
| 50–54 | 2.5 | 0.1 | 66.7 | 30.7 | 33.2 | –2,501.5 |
| 55–59 | 2.5 | 0.0 | 75.5 | 21.9 | 24.4 | –2,845.4 |
| 60–64 | 2.5 | 0.0 | 83.3 | 14.1 | 16.6 | –3,149.3 |
| 65–69 | 2.5 | 0.0 | 88.8 | 8.7 | 11.2 | –3,360.8 |
| 70–74 | 2.5 | 0.0 | 92.5 | 4.9 | 7.5 | –3,507.6 |
| 75–79 | 2.6 | 0.0 | 94.8 | 2.6 | 5.2 | –3,596.7 |
| 80–84 | 2.6 | 0.0 | 96.5 | 0.9 | 3.5 | –3,663.0 |
| 85–89 | 2.6 | 0.0 | 97.0 | 0.4 | 3.0 | –3,681.8 |
| 90–94 | 2.6 | 0.0 | 97.3 | 0.1 | 2.7 | –3,694.2 |
| 95–100 | 2.6 | 0.0 | 97.4 | 0.0 | 2.6 | –3,699.2 |

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

## Figure 15 ($1.25/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 50.8 | 14.5 | 1.0:1 |
| 5–9 | 2.1 | 35.5 | 29.4 | 0.6:1 |
| 10–14 | 3.8 | 26.5 | 39.6 | 0.4:1 |
| 15–19 | 7.5 | 17.0 | 50.0 | 0.2:1 |
| 20–24 | 12.2 | 12.4 | 59.2 | 0.1:1 |
| 25–29 | 18.6 | 9.3 | 67.1 | 0.1:1 |
| 30–34 | 27.7 | 7.2 | 77.4 | 0.1:1 |
| 35–39 | 38.2 | 5.7 | 84.9 | 0.1:1 |
| 40–44 | 48.0 | 4.8 | 89.5 | 0.1:1 |
| 45–49 | 59.2 | 4.0 | 93.5 | 0.0:1 |
| 50–54 | 69.2 | 3.6 | 97.2 | 0.0:1 |
| 55–59 | 78.1 | 3.2 | 98.1 | 0.0:1 |
| 60–64 | 85.9 | 2.9 | 98.7 | 0.0:1 |
| 65–69 | 91.3 | 2.8 | 99.1 | 0.0:1 |
| 70–74 | 95.1 | 2.7 | 99.2 | 0.0:1 |
| 75–79 | 97.4 | 2.6 | 100.0 | 0.0:1 |
| 80–84 | 99.1 | 2.6 | 100.0 | 0.0:1 |
| 85–89 | 99.6 | 2.6 | 100.0 | 0.0:1 |
| 90–94 | 99.9 | 2.6 | 100.0 | 0.0:1 |
| 95–100 | 100.0 | 2.6 | 100.0 | 0.0:1 |

# $2.50/day 2005 PPP Poverty Line Tables

# 2008 Scorecard Applied to the 2004 ENIGH

**Figure 8 ($2.50/day 2005 PPP line): Bootstrapped differences between estimated and true household poverty likelihoods with confidence intervals in a large sample ($n$ = 16,384), 2008 scorecard applied to the 2004 ENIGH**

| | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/– percentage points) | | |
| Score | Diff. | 90-percent | 95-percent | 99-percent |
| 0–4 | –25.8 | 15.0 | 15.2 | 16.0 |
| 5–9 | +10.4 | 7.2 | 9.0 | 11.0 |
| 10–14 | +2.8 | 6.0 | 7.2 | 9.4 |
| 15–19 | –11.3 | 7.7 | 8.0 | 8.8 |
| 20–24 | +11.6 | 3.0 | 3.5 | 4.5 |
| 25–29 | +1.4 | 2.2 | 2.6 | 3.4 |
| 30–34 | +3.5 | 1.5 | 1.8 | 2.4 |
| 35–39 | –1.4 | 1.4 | 1.6 | 2.1 |
| 40–44 | –0.1 | 1.0 | 1.2 | 1.6 |
| 45–49 | +0.2 | 0.8 | 1.0 | 1.2 |
| 50–54 | –0.5 | 1.0 | 1.2 | 1.6 |
| 55–59 | +0.7 | 0.3 | 0.3 | 0.4 |
| 60–64 | +0.5 | 0.1 | 0.1 | 0.2 |
| 65–69 | +0.6 | 0.2 | 0.2 | 0.3 |
| 70–74 | –0.0 | 0.1 | 0.1 | 0.1 |
| 75–79 | –1.3 | 1.3 | 1.4 | 1.7 |
| 80–84 | –0.0 | 0.0 | 0.1 | 0.1 |
| 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 |

## Figure 10 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of poverty rates for groups of households at a point in time, by sample size, 2008 scorecard applied to the 2004 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| n | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +1.1 | 50.0 | 59.4 | 80.8 |
| 4 | +0.5 | 24.1 | 30.8 | 41.8 |
| 8 | +0.0 | 17.9 | 22.0 | 27.9 |
| 16 | +0.4 | 12.5 | 15.2 | 20.5 |
| 32 | +0.5 | 9.6 | 11.1 | 15.7 |
| 64 | +0.6 | 6.4 | 7.5 | 10.8 |
| 128 | +0.5 | 4.4 | 5.4 | 7.6 |
| 256 | +0.5 | 3.2 | 3.9 | 5.1 |
| 512 | +0.5 | 2.3 | 2.6 | 3.4 |
| 1,024 | +0.5 | 1.7 | 2.0 | 2.5 |
| 2,048 | +0.5 | 1.3 | 1.4 | 1.8 |
| 4,096 | +0.5 | 0.9 | 1.0 | 1.4 |
| 8,192 | +0.5 | 0.6 | 0.7 | 0.9 |
| 16,384 | +0.5 | 0.4 | 0.5 | 0.6 |

## Figure 12 ($2.50/day 2005 PPP line): Differences and precision of differences for bootstrapped estimates of changes in group's poverty rates between two points in time, 2008 scorecard applied to the 2008 validation sample and the 2004 ENIGH

| Sample Size | Difference between estimate and true value | | | |
|---|---|---|---|---|
| | | Confidence interval (+/− percentage points) | | |
| $n$ | Diff. | 90-percent | 95-percent | 99-percent |
| 1 | +3.2 | 97.2 | 100.5 | 110.1 |
| 4 | +1.1 | 37.3 | 47.0 | 63.9 |
| 8 | +1.3 | 26.8 | 33.7 | 44.6 |
| 16 | +1.4 | 18.8 | 22.1 | 32.3 |
| 32 | +1.7 | 13.5 | 16.1 | 21.9 |
| 64 | +1.8 | 9.1 | 11.3 | 15.7 |
| 128 | +1.6 | 6.4 | 7.6 | 10.5 |
| 256 | +1.4 | 4.5 | 5.5 | 7.5 |
| 512 | +1.4 | 3.2 | 3.8 | 4.9 |
| 1,024 | +1.3 | 2.3 | 2.9 | 3.4 |
| 2,048 | +1.3 | 1.7 | 2.0 | 2.6 |
| 4,096 | +1.3 | 1.2 | 1.5 | 1.9 |
| 8,192 | +1.3 | 0.9 | 1.0 | 1.4 |
| 16,384 | +1.3 | 0.6 | 0.7 | 0.9 |

## Figure 14 ($2.50/day 2005 PPP line): Households by targeting classification and score, along with "Total Accuracy" and BPAC, 2008 scorecard applied to the 2004 ENIGH

| Score | Inclusion: < poverty line correctly targeted | Undercoverage: < poverty line mistakenly non-targeted | Leakage: => poverty line mistakenly targeted | Exclusion: => poverty line correctly non-targeted | Total Accuracy Inclusion + Exclusion | BPAC See text |
|---|---|---|---|---|---|---|
| 0–4 | 0.6 | 8.9 | 0.1 | 90.4 | 91.0 | –85.8 |
| 5–9 | 1.6 | 7.9 | 0.5 | 89.9 | 91.5 | –61.0 |
| 10–14 | 2.5 | 7.1 | 1.4 | 89.1 | 91.6 | –34.0 |
| 15–19 | 3.9 | 5.6 | 3.7 | 86.8 | 90.7 | +19.9 |
| 20–24 | 5.1 | 4.5 | 7.2 | 83.3 | 88.4 | +24.9 |
| 25–29 | 6.3 | 3.2 | 12.3 | 78.2 | 84.5 | –29.0 |
| 30–34 | 7.5 | 2.1 | 20.3 | 70.2 | 77.7 | –112.5 |
| 35–39 | 8.3 | 1.2 | 29.9 | 60.6 | 68.9 | –213.2 |
| 40–44 | 8.8 | 0.7 | 39.2 | 51.3 | 60.1 | –311.1 |
| 45–49 | 9.2 | 0.3 | 50.0 | 40.5 | 49.7 | –424.7 |
| 50–54 | 9.4 | 0.1 | 59.8 | 30.7 | 40.1 | –527.2 |
| 55–59 | 9.5 | 0.1 | 68.6 | 21.9 | 31.4 | –619.5 |
| 60–64 | 9.5 | 0.0 | 76.4 | 14.1 | 23.6 | –701.2 |
| 65–69 | 9.5 | 0.0 | 81.8 | 8.7 | 18.2 | –758.0 |
| 70–74 | 9.5 | 0.0 | 85.6 | 4.9 | 14.4 | –797.5 |
| 75–79 | 9.5 | 0.0 | 87.8 | 2.6 | 12.2 | –821.5 |
| 80–84 | 9.5 | 0.0 | 89.5 | 0.9 | 10.5 | –839.3 |
| 85–89 | 9.5 | 0.0 | 90.0 | 0.4 | 10.0 | –844.4 |
| 90–94 | 9.5 | 0.0 | 90.3 | 0.1 | 9.7 | –847.7 |
| 95–100 | 9.5 | 0.0 | 90.5 | 0.0 | 9.5 | –849.0 |

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

## Figure 15 ($2.50/day 2005 PPP line): Households below the poverty line and all households at a given score or at or below a given score cut-off, 2008 scorecard applied to the 2004 ENIGH

| Targeting cut-off | % all households who are targeted | % targeted who are poor | % of poor who are targeted | Poor households targeted per non-poor household targeted |
|---|---|---|---|---|
| 0–4 | 0.7 | 86.2 | 6.6 | 6.3:1 |
| 5–9 | 2.1 | 75.3 | 16.7 | 3.0:1 |
| 10–14 | 3.8 | 64.4 | 25.9 | 1.8:1 |
| 15–19 | 7.5 | 51.5 | 40.7 | 1.1:1 |
| 20–24 | 12.2 | 41.5 | 53.3 | 0.7:1 |
| 25–29 | 18.6 | 33.8 | 65.9 | 0.5:1 |
| 30–34 | 27.7 | 26.9 | 78.3 | 0.4:1 |
| 35–39 | 38.2 | 21.8 | 87.3 | 0.3:1 |
| 40–44 | 48.0 | 18.4 | 92.6 | 0.2:1 |
| 45–49 | 59.2 | 15.6 | 96.7 | 0.2:1 |
| 50–54 | 69.2 | 13.6 | 98.9 | 0.2:1 |
| 55–59 | 78.1 | 12.1 | 99.4 | 0.1:1 |
| 60–64 | 85.9 | 11.0 | 99.5 | 0.1:1 |
| 65–69 | 91.3 | 10.4 | 99.7 | 0.1:1 |
| 70–74 | 95.1 | 10.0 | 99.8 | 0.1:1 |
| 75–79 | 97.4 | 9.8 | 100.0 | 0.1:1 |
| 80–84 | 99.1 | 9.6 | 100.0 | 0.1:1 |
| 85–89 | 99.6 | 9.6 | 100.0 | 0.1:1 |
| 90–94 | 99.9 | 9.5 | 100.0 | 0.1:1 |
| 95–100 | 100.0 | 9.5 | 100.0 | 0.1:1 |