

Colombia

EquityTool: Released 9 December 2015

Source data: [DHS 2010](#)

of survey questions in original wealth index: 27

of variables in original index: 81

of survey questions in EquityTool: 13

of variables in EquityTool: 14



Questions:

	Question	Option 1	Option 2	Option 3
Q1	Which of the following public, private, or communal services do you have in your home?: access to sewerage?	Yes	No	
Q2	... an aqueduct?	Yes	No	
Q3	... garbage collection?	Yes	No	
Q4	... natural gas connected to a public network?	Yes	No	
Q5	Does your household have a bath or shower?	Yes	No	
Q6	Does your household have... a refrigerator?	Yes	No	
Q7	... a landline telephone?	Yes	No	
Q8	What type of fuel does your household use for cooking?	Natural gas connected to a public network	Wood, straw, charcoal	Any other
Q9	What type of toilet does your household use?	Flush toilet to sewer	Any other	
Q10	Where is the latrine/toilet your household uses located?	Inside dwelling	Outside dwelling	
Q11	What type of water supply does your household mainly use to wash their hands and the dishes?	Piped water from a utility company	Any other type of supply	
Q12	What type of material are the floor made of in your household?	Vinyl, asphalt strip, brick floor	Any other material	

Q13	What type of material are the walls made of in your household?	Brick, cement block, stone, wood finished walls	Any other material
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Technical notes:

The standard simplification process was applied to achieve high agreement with the original wealth index. Kappa was greater than 0.75 for the national and urban indices. Details on the standard process can be found [in this article](#). The data used to identify important variables comes from the [factor weights](#) released by ICF.

The variable ‘SHAREA’ was used to determine urban / rural status in the analysis rather than the standard urban / rural variable HV025 in the Colombia DHS 2010 dataset. This variable was used in the analysis to create urban quintiles. This is because the separation of respondents into urban and rural in the original wealth index, according to the numbers in the ICF published factor weight file, corresponded to SHAREA and not to HV025.

Level of agreement:

	National Population (n=51,447)	Urban only population (n=45,307)
% agreement	86.4%	87.9%
Kappa statistic	0.789	0.811

Respondents in the original dataset were divided into 3 groups – those in the 1st and 2nd quintiles (poorest 40%), those in the 3rd quintile, and those in the 4th and 5th quintiles (richest 40%). After calculating their wealth using the simplified index, they were again divided into 3 groups. Agreement between the original data and our simplified index is presented above.

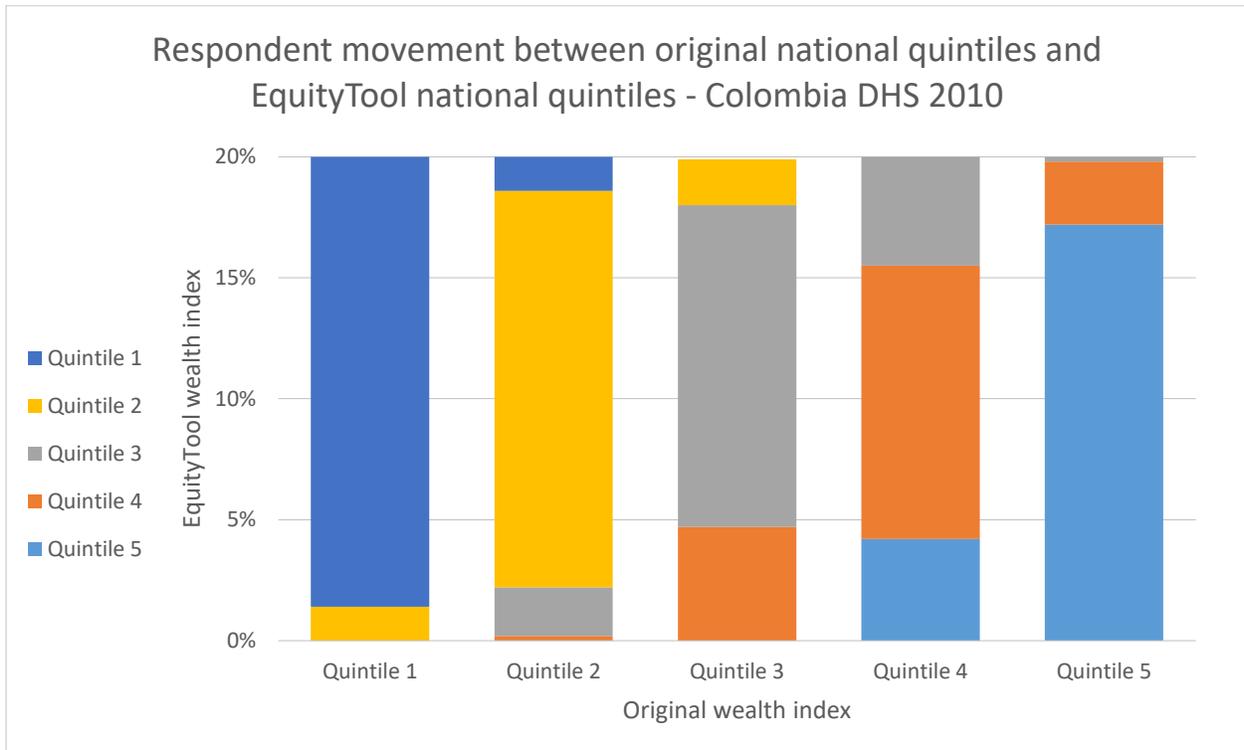
What does this mean?

When shortening and simplifying the index to make it easier for programs to use to assess equity, it no longer matches the original index with 100% accuracy. At an aggregate level, this error is minimal, and this methodology was deemed acceptable for programmatic use by an expert panel. However, for any given individual, especially those already at a boundary between two quintiles, the quintile the EquityTool assigns them to may differ to their quintile according to the original DHS wealth index.

The graph below illustrates the difference between the EquityTool generated index and the full DHS wealth index. Among all of the people (20% of the population) originally identified as being in the poorest quintile, approximately 93% are still identified as being in the poorest quintile when we use the simplified index. However, approximately 7% of people are now classified as being in Quintile 2. From a practical standpoint, all of these people are relatively poor. Yet, it is



worthwhile to understand that the simplified index of 13 questions produces results that are not identical to using all 27 questions in the original survey.

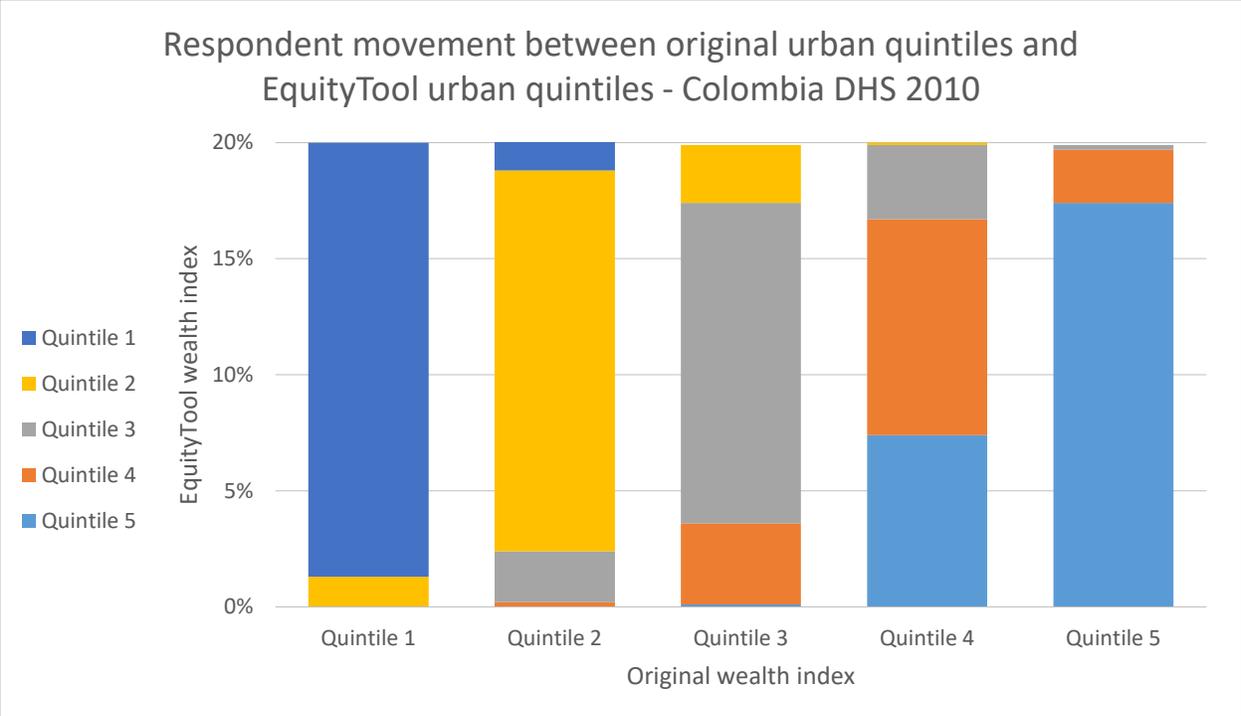


The following table provides the same information on the movement between national quintiles when using the EquityTool versus the original DHS wealth index:

		EquityTool National Quintiles					Total
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	
Original DHS National Quintiles	Quintile 1	18.6%	1.4%	0.0%	0.0%	0.0%	20%
	Quintile 2	1.4%	16.4%	2.0%	0.2%	0.0%	20%
	Quintile 3	0.0%	1.9%	13.3%	4.7%	0.0%	20%
	Quintile 4	0.0%	0.0%	4.5%	11.3%	4.2%	20%
	Quintile 5	0.0%	0.0%	0.2%	2.6%	17.2%	20%
	Total	20.0%	19.7%	20.0%	18.8%	21.4%	100%

The following graph provides information on the movement between urban quintiles when using the EquityTool versus the original DHS wealth index:





The following table provides the same information on the movement between urban quintiles when using the EquityTool versus the original DHS wealth index:

		EquityTool Urban Quintiles					Total
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	
Original DHS Urban Quintiles	Quintile 1	18.7%	1.3%	0.0%	0.0%	0.0%	20%
	Quintile 2	1.3%	16.4%	2.2%	0.2%	0.0%	20%
	Quintile 3	0.0%	2.5%	13.8%	3.5%	0.1%	20%
	Quintile 4	0.0%	0.1%	3.2%	9.3%	7.4%	20%
	Quintile 5	0.0%	0.0%	0.2%	2.3%	17.4%	20%
	Total	20.0%	20.3%	19.5%	15.3%	24.9%	100%

Data interpretation considerations:

1. This tool provides information on relative wealth – ‘ranking’ respondents within the national or urban population. The most recent available data from the WorldBank



indicates that 6.1% of people in Colombia live below \$1.90/day¹. This information can be used to put relative wealth into context.

2. People who live in urban areas are more likely to be wealthy. In Colombia, 26.6% of people living in urban areas are in the richest national quintile, compared to 0% of those living in rural areas².
 - a. If your population of interest is predominantly urban, we recommend you look at the urban results to understand how relatively wealthy or poor they are, in comparison to other urban dwellers.
 - b. If the people you interviewed using the EquityTool live in rural areas, or a mix of urban and rural areas, we recommend using the national results to understand how relatively wealthy or poor they are, in comparison to the whole country.
3. Some departments in Colombia are wealthier than others. It is important to understand the country context when interpreting your results.
4. In most cases, your population of interest is not expected to be equally distributed across the five wealth quintiles. For example, if your survey interviewed people exiting a shopping mall, you would probably expect most of them to be relatively wealthy.

Metrics for Management provides technical assistance services to those using the EquityTool, or wanting to collect data on the wealth of their program beneficiaries. Please contact equitytool@m4mgmt.org and we will assist you.

¹ From povertydata.worldbank.org, reporting Poverty headcount ratio at \$1.90/day at 2011 international prices.

² From the Colombia DHS 2010 dataset household recode, available at <http://dhsprogram.com/>

