METRICS FOR MANAGEMENT

Jordan

EquityTool: Released July 30, 2019

Source data: Jordan DHS 2016-2017

# of survey questions in original wealth index: 32
# of variables in original index: 69

# of survey questions in EquityTool: 14
# of variables in EquityTool: 14

Questions:

	Question	Option 1	Option 2
Q1	Does your household have… a washing machine?	Yes	No
Q2	…a refrigerator?	Yes	No
Q3	…a fan?	Yes	No
Q4	…a water cooler?	Yes	No
Q5	…air conditioning?	Yes	No
Q6	…a microwave?	Yes	No
Q7	Does your household own …any computers?	Yes	No
Q8	…any cars?	Yes	No
Q9	…any beds?	Yes	No
Q10	Does any member of this household have a bank account?	Yes	No
Q11	What kind of toilet facility do members of your household usually use?	Flush to piped sewer system	Other

Q12	What type of housing do you live in?	Apartment	Other
Q13	What is the main material of the roof?	Concrete	Other
Q14	What is the main material of the floor?	Marble tiles	Other

Technical notes:

We were unable to achieve agreement of kappa>=0.75 between the original DHS wealth index and a simplified index using our standard simplification process, detailed in this article. Using a revised approach, described below, high agreement (kappa>0.75 for both urban and national indices) was achieved.

To create the EquityTool, we simplify the original full wealth index that is found in the relevant benchmark dataset, usually using published factor weights. We attempted to recreate the original wealth index, using the published factor weights, but found inconsistencies in the creation of multiple variables which formed part of the original wealth index. First, the shared toilet facility variable was based on the incorrect question. Second, there were two variables which we could not recreate with the dataset and factor weights. We therefore recreated the full wealth index using a process in line with guidance from ICF. In this process we transformed four continuous variables from the original wealth index into categorical variables. This decision is based on the fact that the EquityTool methodology is optimized for categorical variables; in addition, the DHS wealth index process transforms numerous continuous variables into categorical variables to minimize error and so we mirrored their typical process. We used the factor weight derived from this recreated wealth index to identify important variables, and as the basis for scoring in our EquityTool analysis. Syntax and factor weights available upon request.

Level of agreement:

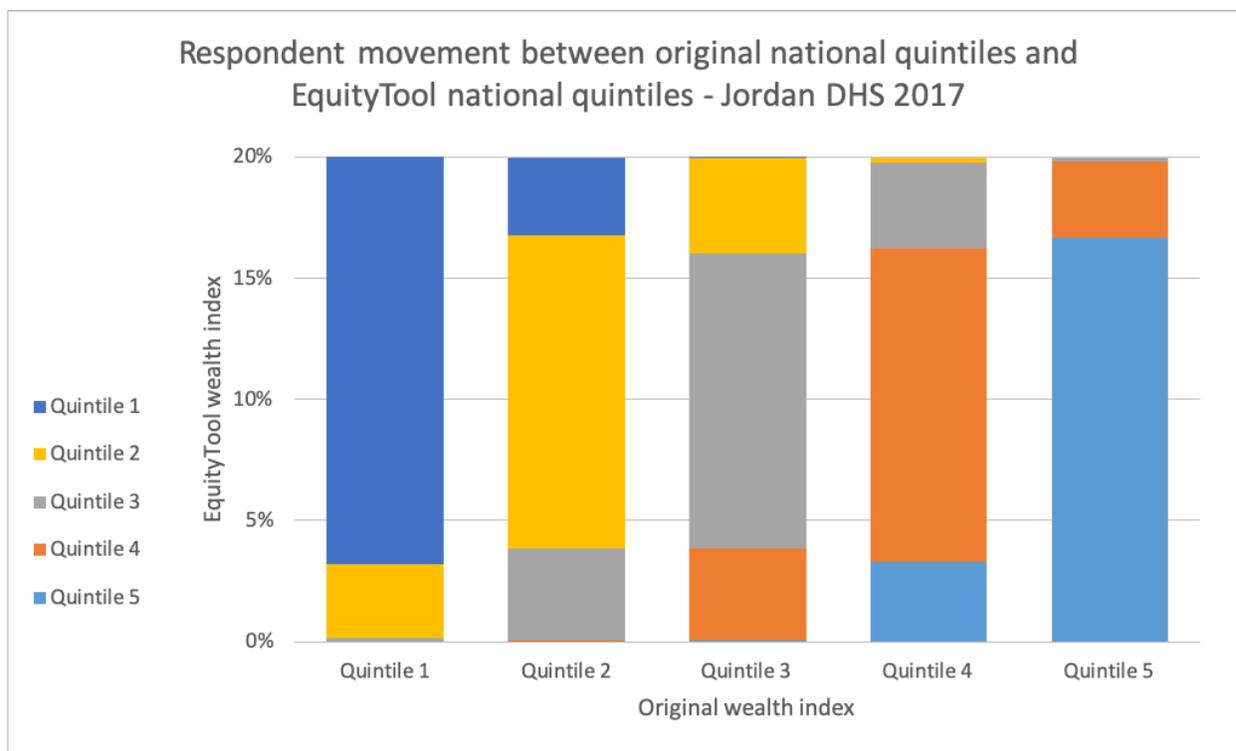|	National Population (n=18,802)	Urban only population (n=14,944)
% agreement	84.2%	84.9%
Kappa statistic	0.753	0.764

Respondents in the original dataset were divided into three groups for analysis – 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 the same three groups for analysis against the original data in the full DHS. 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 those people (20% of the population) originally identified as being in the poorest quintile, approximately 84% are still identified as being in the poorest quintile when we use the simplified index. However, approximately 15% 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 14 questions produces results that are not identical to using all 32 questions in the original survey.

Respondent movement between original national quintiles and EquityTool national quintiles - Jordan DHS 2017

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					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Original DHS National Quintiles	Quintile 1	16.79%	3.06%	0.15%	0.01%	0.00%	20%
	Quintile 2	3.21%	12.90%	3.80%	0.07%	0.00%	20%
	Quintile 3	0.03%	3.93%	12.19%	3.81%	0.04%	20%
	Quintile 4	0.00%	0.20%	3.57%	12.95%	3.28%	20%
	Quintile 5	0.00%	0.00%	0.16%	3.16%	16.67%	20%
	Total	20.04%	20.10%	19.87%	20.00%	19.9%	100%

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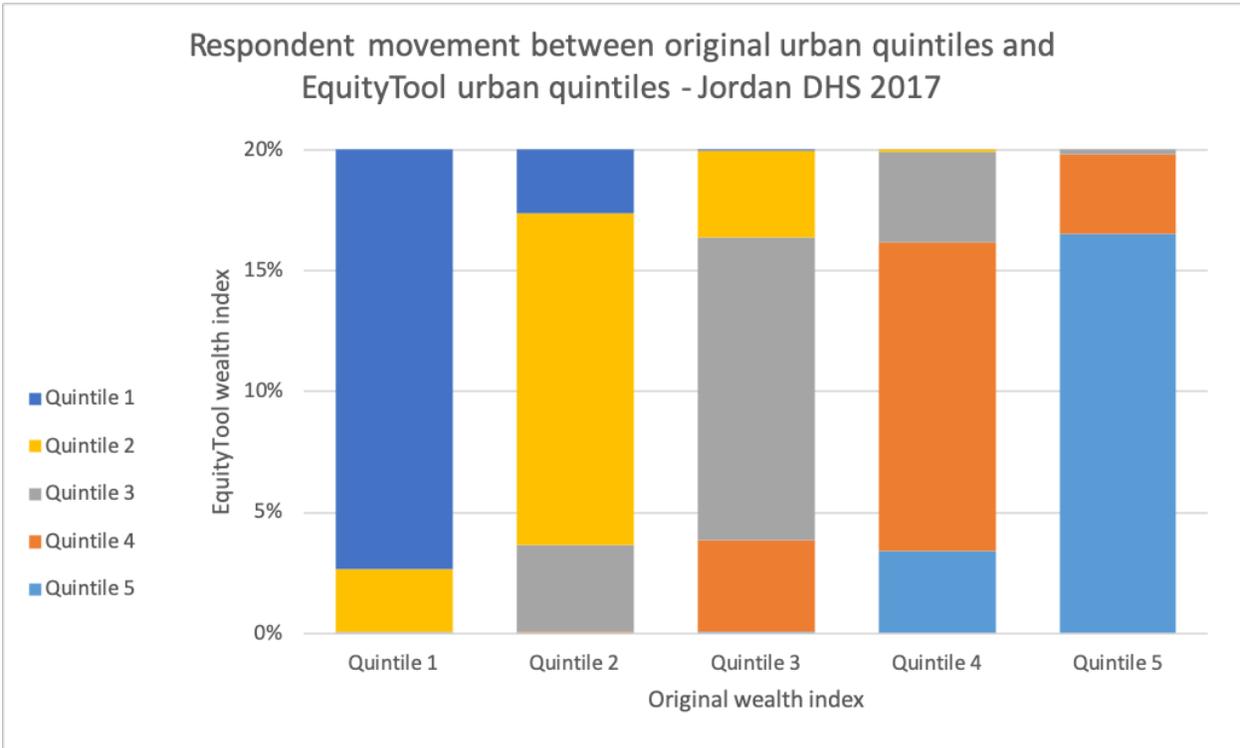
The following table provides the same information on the movement between urban quintiles when using the EquityTool versus the original DHS wealth index:

		EquityTool Urban Quintiles					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Original DHS Urban Quintiles	Quintile 1	17.36%	2.58%	0.06%	0.00%	0.00%	20%
	Quintile 2	2.63%	13.74%	3.55%	0.09%	0.00%	20%
	Quintile 3	0.02%	3.56%	12.55%	3.80%	0.05%	20%
	Quintile 4	0.00%	0.11%	3.71%	12.79%	3.40%	20%
	Quintile 5	0.00%	0.00%	0.18%	3.30%	16.52%	20%
	Total	20.01%	19.99%	20.05%	19.98%	19.97%	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 0.1% of people in Jordan live below $1.90/day[1]. 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 Jordan, 22.2% of people living in urban areas are in the richest national quintile, compared to only 2.2% of those living in rural areas[2].
   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 Governorates in Jordan 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 a car dealership, 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 support@equitytool.org and we will assist you.

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

[2] From the Jordan DHS 2017 dataset household recode, available at http://dhsprogram.com/