

# Poverty Estimation: Measuring nonfood consumption



Designing Household Surveys to Measure Poverty

Perugia, Italy

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# Overview – nonfood consumption

- Durables – consume them multiple times over long period of time
  - Contrast with food
  - Some with shorter life and/or relatively small in value (e.g. clothes, some kitchen items)
  - Some with longer life and/or relatively large in value (e.g. car, motorcycle, some kitchen items)
  - Dwelling – renters and owners
- Health expenditures (goods and “bads”)

# Consumption Aggregate: Guiding principles

- **FOOD component:** include food consumed by household from all possible sources:
  - purchases (with cash, by barter),
  - consumption from home production
  - transfers (gifts, payment in kind)
- **NONFOOD component:**
  - Estimate “use-value” of durable goods -- anything that is not completely depleted within the time period (eg. year) when consumed
  - Very similarly, smooth lumpy expenditures when feasible (i.e. large and infrequent)
  - avoid items for which value is hard to estimate accurately (e.g. public goods)
  - distinguish between investments and consumption;

# Welfare aggregate: nonfood consumption

## Non-food items in general:

### include:

- ✓ Frequently purchased goods and services (e.g. soap, transport expenditure, airtime, etc.)
- ✓ Less frequently but regularly purchased items (e.g. clothing, kitchen equipment, etc.)

### exclude:

- ✓ Business-related expenses
- ✓ Large occasional expenditures such as marriages, funerals (why?)
- ✓ Remittances paid; gifts and transfers out
- ✓ Taxes paid
- ✓ Repayment of loans, interest payments, purchase of financial assets
- ✓ Purchase price of assets (e.g. home and durable goods)

# Durables

A durable good is a consumption good that *can deliver useful services to a consumer through repeated use over an extended period of time* (Diewert, 2009)

# Why Measure Durables?

- Long-lived goods (automobiles, appliances, furniture) have a positive and significant impact on living standards.
  - Time-saving (e.g. household appliances, transport means)
  - Entertainment (TV, DVD, etc) and communications (Phones)
- Everyone devotes some expenditures to non-food items, their inclusion helps us to get the right level of consumption, improves link to utility concept.
- As the world grows richer, nonfood expenditures are also increasing

# Why Measure Durables?

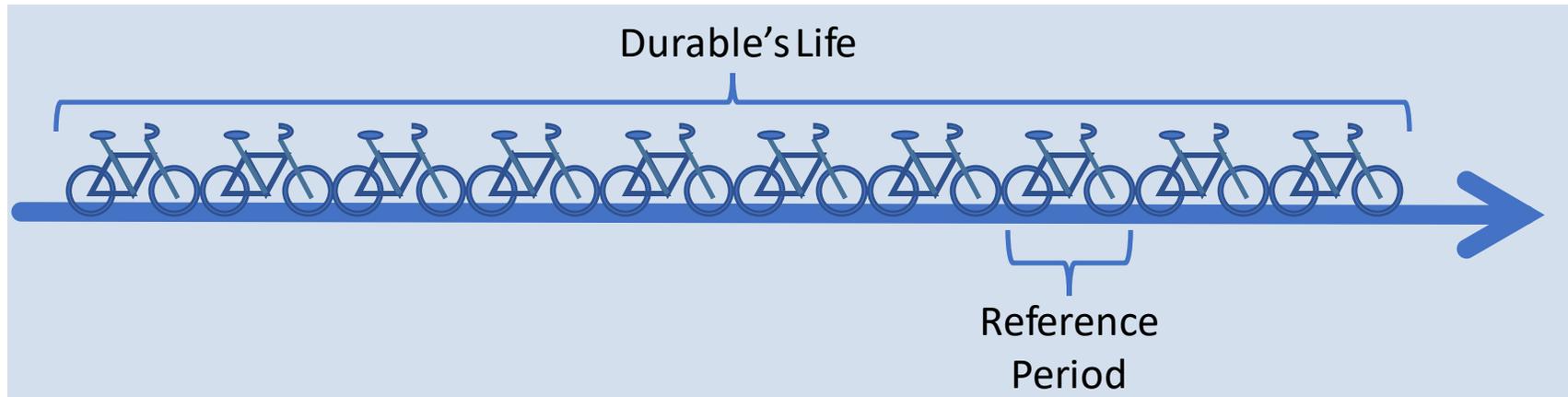
- Perhaps the most frequently used analysis is the profile of the poor (what are the socio, economic, demographic attributes of the poor).
- Successfully sorting (distinguishing) the poor from the nonpoor. And, nonfood items tend to be where people most distinguish their economic status.
  - Geely (China), Tata (India), Trabant (E. Germany), Lada (Soviet); Mercedes (Germany), BMW (Germany)
- More dispersion in nonfood consumption, means greater distance between people (as measured by consumption), often means an improved ability to separate rich from poor.

<i>GINI (measure of dispersion)</i>	Afghanistan, 2011-12	Bangladesh, 2010	Iraq 2012	West Bank and Gaza	Malawi
Food consumption	0.34	0.29	0.32	0.30	0.34
Nonfood consumption	0.44	0.48	0.41	0.39	0.47
Total consumption	0.37		0.36	0.32	0.37

# How to Measure Durables

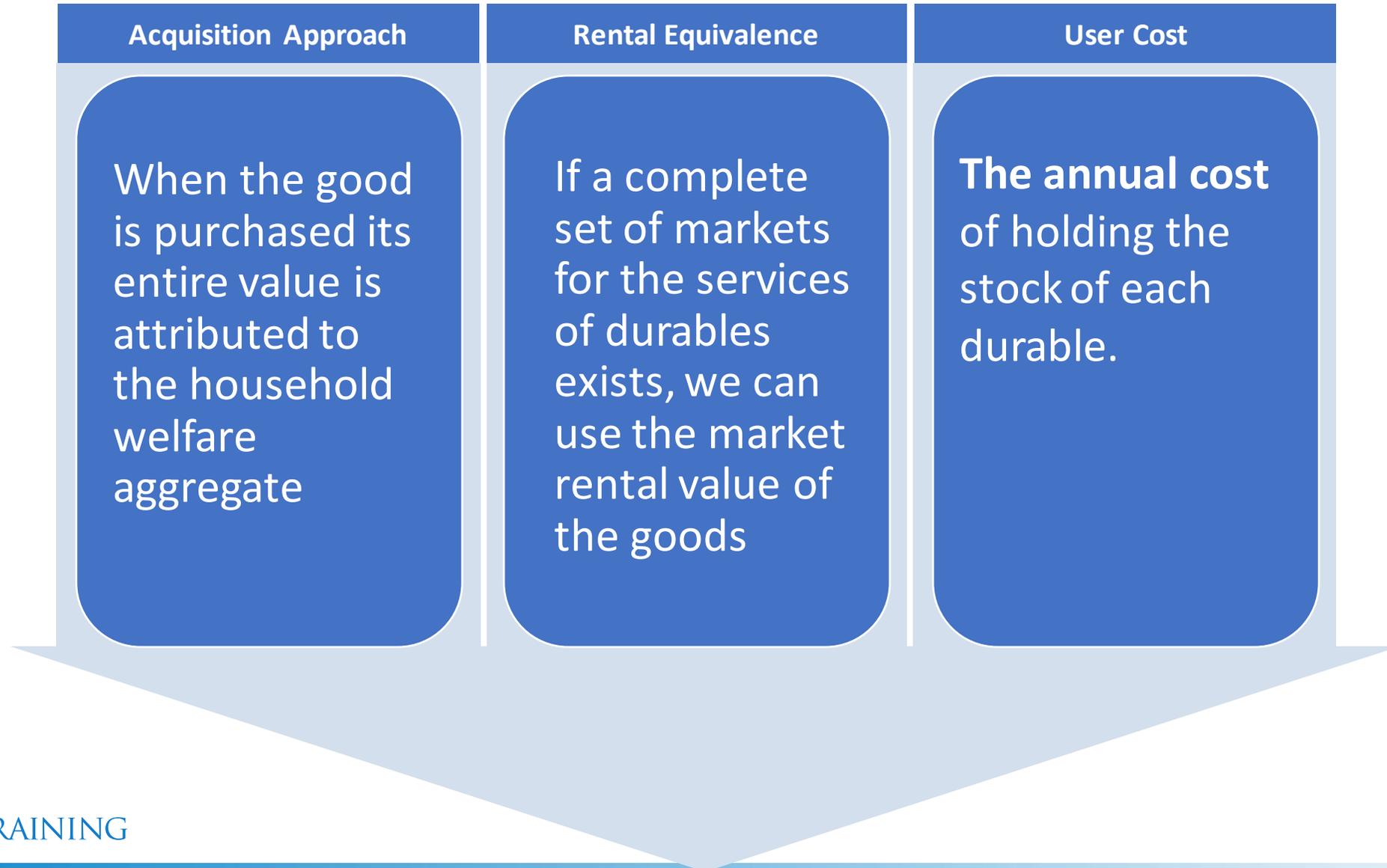
- NOT appropriate to use purchase prices of durables
- Principle: measure in monetary terms the **flow of services** that the household receives from durable good(s)

# How to Measure Durables



- The durables' service flow exceeds the reference period of the welfare aggregate
- The purchasing price reflects the value of the durable for its entire life
- Need to capture the value of the flow of the service during the reference period

# Theoretical Framework



# How to Measure Durables continued

- We need to add *the annual cost* of holding the stock of each durable.
  - Based on a conceptual experiment in which the household buys the durable good at the beginning of each year, and then sell it at year's end
  - This will depend on prices at the beginning and end of year, interest rates (opportunity cost) and the rate of depreciation

# Welfare aggregate: Durables

- Not appropriate to include purchases of durables consumption aggregate!
- Instead, include only amount of durable consumed during the year, plus “cost” of locking money in the asset.
- It can be approximated by the following formula:

$$v_t^d * (i_t - \pi_t + \delta^d)$$

$$v_t^d * (r_t + \delta^d)$$

- Where
  - $v_t^d$  = current value
  - $r_t$  = real interest rate, accounting for inflation
  - $i_t$  = nominal interest rate,  $\pi_t$  = inflation rate
  - $\delta^d$  = depreciation rate

# Welfare aggregate: Durables

## Example – purchase a car in 2015 for \$10,000

*When we used \$10,000 to purchase the car, we “lost” the opportunity to invest that money in something else; Let’s assume that we could have loaned that money to someone and charged them interest of 5%. Conceptually we could have invested that \$10,000 (or loaned it out) and earned an annual real rate of return of 5%. This means we forewent earning about \$500/year when we made the decision to purchase the car. (Analogous to interest payments if we had needed to borrow money to purchase the car.)*

*Now assume that in 2016, if the person were to try to re-sell the car, it would be worth \$9,000. This means that the car depreciated by \$1,000, or another way to say this is that we used up (destroyed) \$1,000 worth of car during the year. If depreciation is linear (or “flat line”), it would be completely used up in 10 years.*

=> Annual “use-value” of the car =  $10,000 * ((0.05 + 0.1)) = \$500 + \$1,000 = \$1,500$

# A Quick Exercise

Calculate the (annual) user cost of a watch that you purchased at \$25 a year ago and is worth \$22.50 right now. Assume that real interest rate is 4%. (Another way to think of this is to say that the watch has a lifespan of 10 years and a flat-line depreciation, i.e. 10% per year.)

What is the use-value of the watch last year?

$v_t^d * (r_t) =$  this is the opportunity cost of having bought the watch (\$1)

$v_t^d * (\delta^d) =$  this is how much it depreciated (\$2.5)

$v_t^d * (r_t + \delta^d) = \$3.5$

# Data requirements and estimation approach: Scenario 1

- From the survey:
  - **Current Value for each item** =  $p_t$
  - Age of each item in years =  $T$
  - Initial Value for each item =  $p_{t-T}$
  - What can we estimate from this data?
- From other sources:
  - Nominal interest rate =  $r_t$
  - Inflation rate =  $\pi_t$

# Empirical Implementation: - Scenario I

- Estimate rate of depreciation;  $f(\text{initial value, current value, age})$

$$\delta - \pi = 1 - \left( \frac{p_t}{p_{t-T}} \right)^{1/T}$$

- Household-specific values are not recommended; why?
- Mean or median value? (Median reduces influence of outliers)
- Spatial differences?

# Data requirements and estimation approach: Scenario 2

- Questionnaire: current value, age (Nigeria)
- Estimate lifespan & rate of depreciation;  $f(\text{current value, age})$ 
  - From the survey you have
    - Current Value for each item =  $p_t^d$
    - Age of each item in years =  $T$
  - From other sources:
    - Nominal interest rate =  $r_t$
    - Inflation rate =  $\pi_t$

# Empirical Implementation: Scenario II

- Calculate the *remaining life* of each good =  $2\bar{T} - T$ 
  - Where  $\bar{T}$  is the average age for each durable good
  - $2\bar{T}$  is assumed to be the average *lifetime* of each durable good
  - This is clever; is it reasonable? (pattern of purchases, common lifespan)
- A rough estimate of annual depreciation:

$$V_d^h = \sum_{d=1}^D \frac{p_t^d}{2\bar{T} - T}$$

Consider something new in life,  $T=1$  and  $2\bar{T}=11$ ; current value=200. Annual depreciation estimate: 200/10 or 20/year.

# Data requirements and estimation approach: Scenario 3

- Questionnaire: current value
- Assume lifespan & estimate rate of depreciation;  $f(\text{current value})$ 
  - Depreciation, flatline based on assumed lifespan; 10 years  $\Rightarrow d = 10\%/year$
  - Current value\*assumed depreciation
  - Current value\*real interest rate from external source

# Questionnaire Examples: Food & Nonfood items

# Asset - Ghana Living Standards Survey (2012/2013)

SECTION 12: CREDIT, ASSETS AND SAVINGS

PART B: ASSETS AND DURABLE CONSUMER GOODS

ITEM	CODE	1 Does any member of the household own .....?  Yes, working...1 Yes, not Working.....2 No.....3 (>> Next Item)			2 How long ago was ..... obtained?  LESS THAN ONE YEAR: 00  ITEM			3 What was its purchase price? (IF GIFT PUT ZERO) C = CURRENCY CODE						4 How much could you sell it now in Ghana cedis?  ITEM		
		A	B	C	ITEM - A	C	ITEM - B	C	ITEM - C	C	A	B	C			
		A	B	C	YEARS			AMOUNT (GH¢)						VALUE (GH¢)		
		A	B	C												
Furniture	301															
Sewing machine	302															
Stove (kerosene)	303															
Stove (electric)	304															
Stove (gas)	305															
Refrigerator	306															

## Asset - Nigeria GHS-Panel Wave 3 (2015)

		1.	2.		3.	4.
		How many of the following items does your household own? WRITE THE TOTAL NUMBER OF ITEMS THAT THE HOUSEHOLD POSSESSES. IF NONE PUT '0'	Who is the person that owns this item? WRITE THE ID OF THE PERSON WHO OWNS THE ITEM. IF THE ITEM IS OWNED BY THE HOUSEHOLD IN COMMON, WRITE "98".		How long ago was [ITEM] acquired? (IF LESS THAN ONE YEAR, PUT '0')  IF MORE THAN ONE, REFER TO NEWEST	If you wanted to sell one of this [ITEM] today, how much would you receive?  IF MORE THAN ONE, REFER TO NEWEST
ITEM CODE	ITEM	NUMBER OF ITEMS	ID CODE	ID CODE	NUMBER OF YEARS	NAIRA
301	Furniture (3/4 piece sofa set)					
302	Furniture (chairs)					
303	Furniture (table)					
304	Mattress					

# Asset - Jordan Household Expenditure and Income Survey 2006 (MENA)

## 3. AVAILABILITY OF HOUSEHOLD APPLIANCES AND PRIVATE CAR

		YES	NO	NO.
		X	X	X
302	WASHING MACHINE	1	2	
303	REFRIGERATOR	1	2	
304	FREEZER	1	2	
305	COOKING STOVE & OVEN	1	2	
306	OVEN	1	2	
307	COOKING STOVE	1	2	
308	MICROWAVE OVEN	1	2	
309	DISHWASHER	1	2	
310	VACUUM CLEANER	1	2	
311	TV SET	1	2	
312	SATELLITE RECEIVER & DISH	1	2	
313	RADIO OR RADIO WITH RECORDER	1	2	
314	VIDEO	1	2	
315	VIDEO CAMERA	1	2	
316	COMPUTER	1	2	
317	INTERNET CONNECTION	1	2	
318	TELEPHONE	1	2	
319	MOBILE PHONE	1	2	
320	FAX	1	2	
321	AIR CONDITIONER	1	2	

Captures only ownership and number owned.

No current per unit price is captured

# Housing

- Concept is the same as with durables. In fact, a house is a perfect example of an asset that significantly affects wellbeing and distinguishes wellbeing.
- So, of course purchase of a house should not be included in the aggregate; rather we want to include the use-value of the house.
- Usually there are two type of households in surveys: renters & owners
  - Renters report actual rent.
  - Owners are typically asked to report their estimate of the current value and age of the house. Sometimes also asked to report “implicit rental value” – how much it would costs them if they had to rent the dwelling in which they reside.
  - If housing were identical, we’d just use method 2 for durables and estimate use-value.
  - But, not all houses are the same; depending on their attributes (material of roof, floor, walls; size, number of rooms, location; infrastructure, indoor plumbing, wiring; etc.), their worth and then many attributes of the house.

# Housing

## Empirical implementation

- For renters: actual reported rent
  - ✓ However, it is important to check if this is an accurate value. What if renters are primarily in urban areas? What if there is rent control?
- For non-renters: the challenge is to impute what they would be paying if they were renting instead of owning
  - Different options:
    - ✓ Self-reported rent: many household surveys asked non-renters this “implicit rental value” → is this a credible number? In urban areas? In rural areas?
    - ✓ Self-reported current value: → is this a credible number? In urban areas? In rural areas?
    - ✓ “Hedonic” housing regression, Regress value or rent on housing attributes; create predicted current values for all (fill in missing values with predictions based on attributes).
    - ✓ From predicted current value, follow method 2 or 3 to estimate use value.

# Housing

- Hedonic regression approach

- Estimate an econometric model:

$$\log(y) = X\boldsymbol{\beta} + \varepsilon$$

$y$ : rent (actual and/or self-assessed by owners)

$X$ : housing characteristics (number of rooms, roof, floor, wall, type of toilet, location variables)

- Predict for **the rest of the population**

$$\hat{y} = X\hat{\boldsymbol{\beta}}$$

# Housing, Example from Afghanistan

## Consumption—housing (8% of total)

- Housing: rents
  - Few households report rents (less than 5%)
  - Many households report value of house (48% in urban, 38% rural, 38% Kuchi)
  - Imputed housing value from dwelling characteristics (>99% of households have sufficient household characteristics)
  - Separate urban and rural models
  - Est. rent = value \* depreciation \* interest rate

# Housing, Example from Afghanistan Housing Regression Model

$\log \text{ value} = f(\text{dwelling characteristics})$

Dwelling characteristics	Urban dwelling	Rural dwelling
Number of rooms	3.9	3.3
Access through footpath (%)	14	31
Access through paved Road (%)	30	3
Built 5 -< 10 years ago (%)	10	15
Traditional covered latrine (%)	73	58
Flush latrine (%)	13	0
Fired brick/stone wall (%)	17	6
Concrete wall (%)	5	0
Mud bricks/ mud wall (%)	77	89
Number of observations	1,562	5,927
Regression R-square	0.51	0.48

# Housing, Example from Afghanistan Predicted & Reported value

Dwelling type	Actual	Predicted
Urban dwelling	700,000	654,463
Rural dwelling	100,000	101,751
Tents	9,000	7,385

*Note:* Medians of predicted and actual housing values of households that reported housing values.

# Housing, Example from Afghanistan Imputed & Reported Rent

Dwelling type	Actual rent	Imputed rent		
		Rate of 4%	Rate of 4.5%	Rate of 5%
Urban dwelling	3,170	2,765	3,110	3,456
Rural dwelling	1,493	495	557	618
Total	2,816	2,285	2,571	2,857

*Note:* Means of predicted rental values. Figures shown based on households that reported actual rents. Rate is the sum of depreciation and interest rate.

# Housing, Example from Afghanistan Urban rents from CPI data

Monthly rent	Kabul	Herat	Jalalabad	Mazar -e-sharief	Khost	Kandahar
Rent, 4 rooms non-concrete	8,042	4,667	5,333	5,500	3,500	5,500
Rent, house 2 rooms concrete	5,433	3,167	3,333	5,000	3,000	5,000
Rent, 2 rooms non-concrete	4,625	2,333	2,500	3,000	1,750	3,000

*Note:* Rent in urban areas from CPI data in February 2009

*Source:* CSO

# Housing - Ghana Living Standards Survey (2012/2013)

**SECTION 7: HOUSING**  
**THE RESPONDENT: THE HEAD OF THE HOUSEHOLD**

Now, I would like to ask you about your dwelling

**PART A: TYPE OF DWELLING**

1. In what type of dwelling does the household live?

- Separate house (Bungalow).....01
- Semi-detached house.....02
- Flat/Apartment.....03
- Compound House.....04
- Huts/Buildings [same Compound].....05
- Huts/Buildings [different Compound].....06
- Tents.....07
- Improvised home (kiosk, container).....08
- Living quarters attached to office/shop.....09
- Uncompleted building.....10
- Other (specify).....11

2. How many rooms does this household occupy? (COUNT LIVING ROOMS, DINING ROOMS, BED ROOMS BUT NOT BATHROOMS, TOILET & KITCHEN)

3. How many of the rooms are used for sleeping? IF MORE THAN 1, GO TO PART B

4. Do other households share this room with you?

- Yes.....1
- No.....2 (>> PART B)

5. How many households, including your household, share this sleeping room?

**PART B: OCCUPANCY STATUS OF THE DWELLING**

1. What is the present holding/tenancy arrangement of the dwelling?

- Owning .....1 (>> 7C Q.7)
- Renting .....2
- Rent-free .....3
- Perching .....4 (>> 7D)
- Squatting .....5

2. Who owns this dwelling?

- Owned by household member.....1
- Being purchased (e.g. Mortgage).....2
- Relative not household member.....3
- Other private individual.....4
- Private employer.....5
- Other private agency.....6
- Public/Government ownership.....7
- Other (specify).....8

**PART C: HOUSING EXPENSES**

1. How much does the household pay in cash towards the rent?  
(IF FREE, PUT ZERO FOR AMOUNT AND THE TIME UNIT)

AMOUNT

TIME UNIT

- |            |                   |                 |
|------------|-------------------|-----------------|
| Time Unit: | Daily.....1       | Monthly.....3   |
|            | Weekly.....2      | Quarterly.....4 |
|            | Half Yearly.....5 | Yearly.....6    |
|            | N/A.....0         |                 |

2. Does your household also supply goods or services in exchange for this dwelling?

Yes.....1

No.....2 (>> 4)

3. What is the appropriate value of these goods and services provided by your household?

VALUE

TIME UNIT

4. Is part or all of the rent paid by someone who is not a member of your household?

Yes, All.....1

Yes, Part.....2

No.....3 (>> 7)

5. Who pays?

- Relative.....1
- Private individual.....2
- Government.....3
- Private employer.....4
- Other (specify).....5

6. How much is paid?

AMOUNT

TIME UNIT

7. How much did your household spend for construction or repair cost and painting in the last 12 months on this dwelling?

# Housing - Ghana Living Standards Survey (2012/2013)

## PART F: CHARACTERISTICS OF THE DWELLING

1. What is the main construction material used for the outer wall?

- Mud bricks/earth.....01
- Wood.....02
- Metal sheet/slate/asbestos.....03
- Stone.....04
- Burnt bricks.....05
- Cement blocks/concrete.....06
- Landcrete.....07
- Bamboo.....08
- Palm leaves/Thatch (grass/Raffia...09
- Other (specify).....10

2. What is the main construction material used for the floor?

- Earth/Mud.....1
- Cement/Concrete.....2
- Stone.....3
- Burnt bricks.....4
- Wood.....5
- Vinyl tiles.....6
- Ceramic/Porcelain/Granite/  
Marble tiles.....7
- Terrazzo/Terrazzo tiles.....8
- Other (specify).....9

3. What is the main material used for the roof?

- Mud bricks/earth.....1
- Wood.....2
- Metal sheet.....3
- Slate/Asbestos.....4
- Cement blocks/concrete.....5
- Bamboo.....6
- Palm leaves/Thatch (grass/Raffia...7
- Roofing Tiles.....8
- Other (specify).....9

# Housing - Nigeria GHS-Panel Wave 3 (2015)

## SECTION 8A - HOUSING

<b>1.</b> Do you own or purchase this dwelling, is it provided to you by an employer, do you use it for free, or do you rent this house?  OWNED.....1 EMPLOYER PROVIDES.....2 (▶Q3) FREE, AUTHORIZED.....3 (▶Q3) FREE, NOT AUTHORIZED.....4 (▶Q3) RENTED.....5 (▶Q4)		<b>2.</b> If you <u>sold this dwelling</u> today, how much would you receive for it?  NAIRA		<b>3.</b> Estimate the rent you could receive if you rented this dwelling?  (▶Q5)  NAIRA		<b>4.</b> How much do you <u>pay to rent</u> this dwelling?  MONTH.....1 YEAR.....2  TIME UNIT		<b>5.</b> In what year was this house built?  IF DON'T KNOW, WRITE 9999  YEAR		<b>6.</b> THE <u>OUTER WALLS</u> OF THE MAIN DWELLING OF THE HOUSEHOLD ARE PREDOMINANTLY MADE OF WHAT MATERIAL?  GRASS.....01 MUD.....02 COMPACTED EARTH.....03 MUD BRICK (UNFIRED).....04 BURNT BRICKS.....05 CONCRETE.....06 WOOD.....07 IRON SHEETS.....08 CONCRETE OR CEMENT BLOCKS.....09 STONE.....10 OTHER (SPECIFY).....11							
<b>7.</b> THE <u>ROOF</u> OF THE MAIN DWELLING IS PREDOMINANTLY MADE OF WHAT MATERIAL? GRASS.....1 IRON SHEETS.....2 CLAY.....3 TILES.....4 CONCRETE.....4 PLASTIC SHEET.....5 ASBESTOS SHEET.....6 OTHER (SPECIFY).....7		<b>8.</b> THE <u>FLOOR</u> OF THE MAIN DWELLING IS PREDOMINANTLY MADE OF WHAT MATERIAL?  SAND/DIRT/STRAW.....1 SMOOTHED MUD.....2 SMOOTH CEMENT.....3 WOOD.....4 TILE.....5 OTHER (SPECIFY).....6		<b>9.</b> How many <u>separate rooms</u> do the members of your household occupy? (DO NOT COUNT BATHROOMS, TOILETS, STOREROOMS, OR GARAGE)  NUMBER OF ROOMS		<b>10.</b> What is your main source of <u>lighting fuel</u> ? COLLECTED FIREWOOD.....1 PURCHASED FIREWOOD.....2 GRASS.....3 KEROSENE.....4 PHCN ELECTRICITY.....5 GENERATOR.....6 GAS.....7 BATTERY/DRY CELL (TORCH).....8 CANDLES.....9 OTHER (SPECIFY).....10		<b>11.</b> What is your main source of <u>cooking fuel</u> ? COLLECTED FIREWOOD.....1 PURCHASED FIREWOOD.....2 COAL.....3 GRASS.....4 KEROSENE.....5 PHCN ELECTRICITY.....6 GENERATOR.....7 GAS.....8 OTHER (SPECIFY).....9		<b>12.</b> Do you ever <u>collect firewood</u> ?  YES...1 NO...2 (▶Q15)		<b>13.</b> Where do you go to collect firewood?  OWN WOODLOT.....1 COMMUNITY WOODLOT.....2 FOREST RESERVE.....3 UNFARMED AREAS OF COMMUNITY.....4 OTHER (SPECIFY).....5		<b>14.</b> How long does it take you to walk from your dwelling to where you usually go to collect firewood? (ONE WAY)  MINUTE...1 HOUR...2  TIME UNIT		<b>15.</b> Of the firewood you used in the past week, how much of it did you purchase?  DID NOT USE FIREWOOD.....1 (▶Q17b) ALL.....2 ALMOST ALL.....3 MORE THAN HALF.....4 HALF.....5 LESS THAN HALF.....6 A LITTLE.....7 NONE.....8	

# Health

# Welfare aggregate: Health

- Exclude if consumption reflects a bad:
  - ✓ If it does not contribute to welfare – “regrettable necessity”.
  - ✓ For example, I get very sick, have to spend a lot of money; consumption goes up, wellbeing goes down.
- Include if consumption reflects a good:
  - ✓ Being able to afford health care may be welfare enhancing; health insurance in particular.
  - ✓ If I spend money on preventative care and health insurance, my consumption goes up and so too does my wellbeing.
- Common recommendation
  - ✓ Include only if there is a strong linkage to the overall total expenditures – high elasticity with respect to total expenditures.
  - ✓ Consumed frequently.

# Welfare aggregate: Health and Education

**Expenditure on health and education are quite regular across the distribution**

**Income gradient in both absolute values and budget shares of education and health**

Table. Share of households with non-zero expenditures on education and health

	non-zero health	non-zero education	non-zero education for household with kids 7-22
bottom	75%	76%	86%
2	83%	74%	87%
3	86%	73%	87%
4	87%	73%	91%
top	92%	66%	92%
Total	85%	72%	89%

Note: household weights are used. Spatially adjusted per adult equivalent welfare aggregate is used.

Table. Expenditure and budget spent on education and health

	Education		Health	
	expenditure per adult equivalent	share	expenditure per adult equivalent	share
bottom	19	3.4	18	3.2
2	33	3.9	34	4.0
3	53	4.6	50	4.4
4	78	5.0	66	4.3
top	161	6.2	119	4.7
Total	69	4.6	58	4.1

Note: household weights are used. Spatially adjusted per adult equivalent welfare aggregate is used.

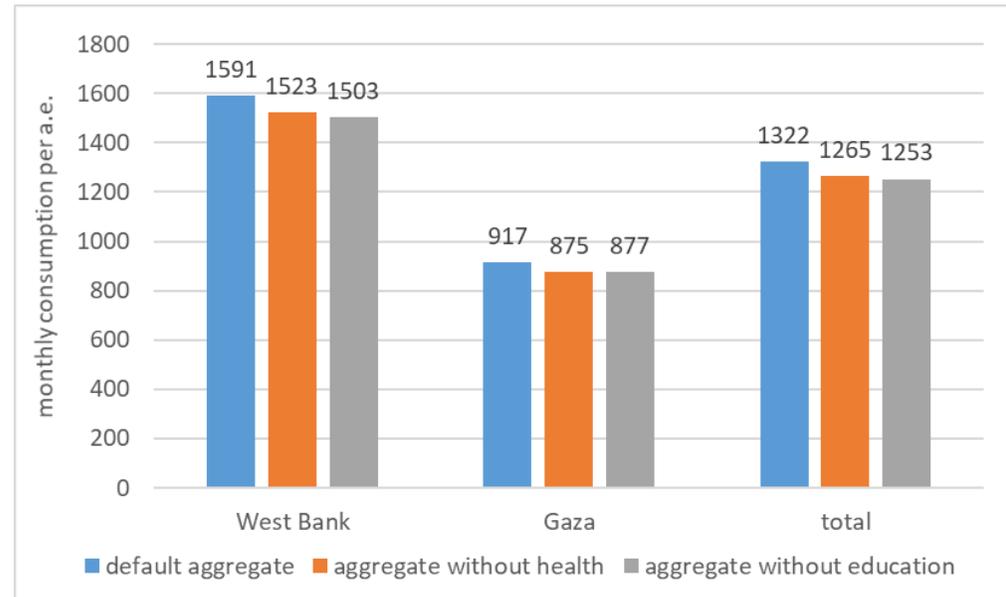
# Welfare aggregate: Health and Education

- Elasticity of health and education expenditure are not significantly different from 1.
- Both expenditure are quite regular
- Keep both in welfare aggregate.
- Welfare aggregate per capita drops approximately by 10 percent if education and health expenditure are excluded (5 percent drop from each component)

Table. Elasticity of health and education expenditure per adult equivalent

	log-log	asinh-asinh
elasticity	dropped zeros	including zero expenditures
health	0.92	1.04
education	0.97	1.00

Note: Education expenditure are only for those with kids 7-22.



# Health Expenditures- Malawi Fourth Integrated Household Survey (IHS4, 2016/17)

D01	D10	D11	D12	D12_1	D13	D14	D15	D16
I D C O D E	How much in total did you spend in the <u>past 4 weeks</u> for <u>all illnesses and injuries</u> , including for medicine, tests, consultation, & in-patient fees, if any?	How much in total did you spend in the <u>past 4 weeks</u> for <u>medical care not related to an illness</u> - preventative health care, pre-natal visits, check-ups, etc., if any?	How much in total did you spend in the <u>past 4 weeks</u> for <u>non-prescription medicines</u> - Panadol, LA, cough syrup, etc.?	How much in total did you spend during the last 12 months for medical insurance?	During the last <u>12 months</u> , were you <u>hospitalized</u> or had an overnight stay(s) in a medical facility?	What was the total cost of your hospitalization(s) or overnight stay(s) in a medical facility during the last <u>12 months</u> ?	How much in total did you spend to travel to the medical facility for overnight stay(s) during the last <u>12 months</u> ?	How much did you spend on food during overnight stay(s) at the medical facility during the last <u>12 months</u> ?
	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.		YES..1 NO...2>>D18	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.
	MK	MK	MK	MK		MK	MK	MK
1								

- All health expenditure questions asked at level of individual
- No distinction between in-cash and in-kind payments
- Distinguish between preventive- and curative-related health expenditures in last 30 days
- D17 captures coping mechanisms/extent to which health expenditures compromised wellbeing

D17	D18	D19	D20	D21
Did you or other members of your household have to borrow money or sell assets in order to pay for these costs during the last <u>12 months</u> ?	During the last <u>12 months</u> , did you stay <u>overnight(s)</u> at a <u>traditional healer's</u> or faith healer's dwelling?	What was the total cost of your stay(s) at the traditional healer's or faith healer's dwelling during the last <u>12 months</u> ?	How much in total did you spend to travel to the traditional healer's or faith healer's dwelling for overnight stay(s) during the last <u>12 months</u> ?	How much did you spend on food during overnight stay(s) at the traditional healer's or faith healer's dwelling during the last <u>12 months</u> ?
YES..1 NO...2	YES..1 NO...2>>D33	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.	INCLUDE ESTIMATED VALUE OF ANY IN-KIND PAYMENTS.
		MK	MK	MK



# Other Non-Food Expenditure: Nigeria GHS-Panel Wave 3 (2015)

7 DAYS				ONE MONTH RECALL			
ITEM	CODE	1. Over the past 7 days, did the household purchase any [...]?	2. How much did the household purchase in total?	ITEM	CODE	3. Over the past 30 days, did the household purchase or pay for any [...]?	4. How much did the household purchase in total?
		YES....1 NO....2 (▶ NEXT ITEM)	NAIRA			YES...1 NO...2 (▶ NEXT ITEM)	NAIRA
Cigarettes or tobacco	101			Petrol	309		
Matches	102			Diesel	310		
Newspaper and magazines	103			Lubricants (oil, grease, etc)	330		
Public transport (bus, rail, boat, etc) EXCLUDE EDUCATION RELATED EXPENSES	104			Light bulbs/globes	311		
				Water	312		
				Soap and Washing powder	313		
				Toilet paper	314		
6 month recall				6 month recall			
ITEM	CODE	5. Over the past 6 months, did the household purchase or pay for any [...]?	6. How much did the household purchase in total?	ITEM	CODE	5. Over the past 6 months, did the household purchase or pay for any [...]?	6. How much did the household purchase in total?
		YES....1 NO....2 (▶ NEXT ITEM)	NAIRA			YES....1 NO....2 (▶ NEXT ITEM)	NAIRA
Infant Clothing	401			Electric kettle	433		
Baby nappies/diapers	402			Coal pot/other non-electric app	434		
Boys Tailored clothes	403			Repairs of appliances	435		
Boys dress (ready made)	404			Torch / flashlight	422		
Girls Tailored clothes	405			Umbrella and raincoat	423		

# References

1. Lisa Smith, Olivier Duriez & Nathalie Troubat, (Feb 2014), Assessment of the Reliability and Relevance of the Food Data Collected in National Household Consumption and Expenditure Surveys, IHSN Working Paper No. 008
2. United Nations Statistical Commission, (2018), “Food data collection in household consumption and expenditure surveys. Guidelines for low- and middle- income countries”, Forty-ninth session
3. M. Deaton & M. Grosh, (1998), Designing Household Survey Questionnaires for Developing Countries: Lessons from Ten Years of LSMS Experience, World Bank