Economics 448
Lecture 17
Poverty and Malnutrition

25 March 2014
Underdevelopment

- Poverty is the most visible characteristic of underdevelopment.

- Easy to give description of the development process that lead to poverty.

- Book title: *The Bottom Billion* “the billion people of live and die in 14th century conditions . . .”

- But it is not easy to describe the horrors of poverty and its attendant antecedents: illiteracy, undernutrition, ill health, and the utter bleakness of the future.

- Poverty is of intrinsic and functional significance.
Outline

Four sections:

1. Concept of poverty.
2. Correlates of poverty.
4. Policies to alleviate poverty.
Basic notion

- **Poverty line** a threshold of income, consumption, or, access to goods and services below which individuals are considered poor.
- Poverty line — minimum level of “acceptable” economic participation in a given society at point in time.
- Poverty line could be based on legal minimum wage (e.g., full-time employment at minimum wage).
- Based on cost of an adequate diet, cost of shelter, cloth of clothing.
Nutrition Based poverty line

US poverty line originally based on estimates by Orshansky of minimum budget for daily food requirements.

\[ \text{Poverty} = 3 \times \text{food expenditure} \]

The scale factor of 3 to proxy cost of rent and clothing. That is, poor spend one-third of their monthly expenditures on food.
Word of Caution

Poverty lines are an approximation. And those based on food expenditure are best suited for the poorest countries.

Why?

In the poorest countries food expenditures represent large share of household expenditures and there is little variation in the food share.
Some fundamental Concerns

- Overall expenditure or item–by–item consumption?
- Absolute or relative?
- Temporary or chronic?
- Households or individuals?
Fundamental Concerns: Overall expenditure

Base threshold on observed consumption of particular nutrients?

Or when food expenditures fall below the cost to obtain consumption standards?

Consumption item–by–item costly to measure.

Income represents the capacity to consume.

Income more readily available. (And hence, most commonly used)
Poverty: Absolute or Relative Concept?

- Absolute or relative within each society?
- What does it mean to be poor, within the local context?
- Absolute: Lack of adequate food, clothing, and housing.
- No consensus on lack of a radio, TV? Internet? Ownership of an iPod/iphone? Perhaps in Beverly Hills or Fairfield county CT. (What kind of yacht . . . ?)
- Absolute within country (personal opinion)
Time Horizon

- Chronic or **structural** poverty is most pernicious.
- The continuous stress of living hand to mouth. No hope for relief.
- Longitudinal data relatively scare in all countries, but especially developing countries until recently.
- Large share of the population in developing countries rural areas, with livelihoods tied to agricultural sector. Sensitive to climate.
- Wide short–term fluctuations of income. Need to measure temporary poverty.
Define at Household or Individual level?

- Conceptually would like to measure at individual level. Can then aggregate to household level (or any other grouping).
- Tradeoff between what we would like and feasibility and cost of measuring.
- Distribution of income within household may be and frequently is unequal. Elderly and females most commonly harmed.
- Yet, difficult to obtain detailed consumption for each person within the household.
- Most common to adjust for household size (adult equivalence scale) and define poverty line at the household level.
Why a poverty line?

Intended to capture those who are vulnerable and have inadequate living conditions.

Think of poverty as an approximation of well-being by those with the least call or access to resources within a society.

Don’t memorize poverty measures “to third decimal place”.
### Poverty Guidelines in U.S. 2012

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Poverty measures

Will use the same notation as before: $y$ denotes income and subscripts $i, j, \ldots$ refers to individuals. And $N$ is the number of people in the population.

Denote by $p$ the poverty line, and by $m$ the mean income in the economy.

$p$ is denominated in local currency – expenditure needed for “adequate” participation in economic life.
Headcount and Headcount ratio

Most natural measure: count the number of people below the poverty line.

Let $\ell(y_i < p) = 1$ if $y_i < p$, 0 otherwise.

$$\text{HC} = \sum_{i=1}^{N} \ell(y_i < p)$$

Headcount ratio (or relative incidence of poor)

$$\text{HCR} = \frac{\text{HC}}{N}$$
Limitation of Headcount

Obvious limitation of the Head count is that provides no information on the distribution of income among the poor.

Yet, magnitude of gap between own income $y_i$ and $p$ is important.

HC and HCR give an incentive to target poor immediately below $p$. 
Poverty gap ratio

The poverty gap ratio (PGR) is the ratio of the average income of all the poor people to the poverty line, divided by mean income of the society.

\[
PGR = \frac{\sum_{y_i < p} (p - y_i)}{mN}
\]

Dividing by \( m \) may be misleading in highly unequal but wealthy societies. Common to use income gap ratio:

\[
IGR = \frac{\sum_{y_i < p} (p - y_i)}{pHC}
\]

where, \( HC \) is the count of the number of poor. PGR and IGR not susceptible to same distortion as HC and HCR.
Demographic Features

See World Development Report 2001
Rural and Urban poverty

See World Development Reports 2001
Assets

Assets are much harder to measure.

In the poorest countries, the poor are most commonly among the landless or near–landless.

As these people lack or nearly lack the basic asset needed as a means of income within an agricultural society.

Significant difference in poverty once we move from negligible or near–negligible holds of land to more moderate buildings. Seen in Latin America and East and South Asia.

Lack of human capital also significant correlative of poverty among urban populations. Literacy rates high, and only primary schooling.
Nutrition I

- Individuals who are undernourished for long period of time experience stunting.

- Fogel “Could see the classes in Britain as you walked down the street.” The poor from the east end of London were several inches shorter than middle class.

- NYT (9/29/08) South Koreans three inches taller (on average) than North Koreans.

- Not simply intake, but growth responds to net nutritional position, after work demands.
Nutrition II

- First call: Basil metabolism (breathing, circulation, etc.).
- Second call: Energy available for work. (Lumberjack versus typist)
- Interaction between infection and nutrition. Battling infections requires energy. So undernourished are more prone to infectious disease.
- Gain in life expectancy during 19th century due to improved net nutrition (not medical advances).
Function Impact of Poverty

- **Exclusion** from credit (chapter 14), insurance (chapter 15) markets.

- **Efficiency wages** Higher wages cause productivity to increase, rather than reflect higher productivity of the worker.

- Poverty and the Household. Individual consumption not identical within households. Losers for sure, maybe winners.

- Discuss in detail in subsequent lectures.