

AREC 345: Global Poverty & Economic Development

Lecture 1:

Measuring Poverty and Inequality

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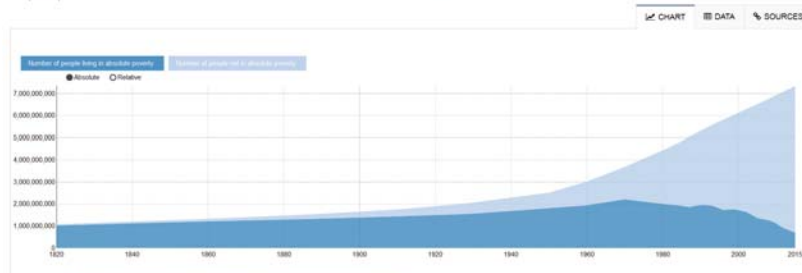
The Good News

Worldwide, the total number of people living in extreme poverty has been declining at an increasing rate since the 1970s

World population living in extreme poverty, 1820-2015

People are considered to live in extreme poverty at a consumption (or income) level below 1.90 International-\$ per day. International \$ are adjusted for price differences between countries and for price changes over time (inflation).

Our World in Data



Data obtained from: World Poverty in absolute numbers (Max Roser based on World Bank and Bourguignon and Morrison (2002))

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Source: Max Roser, Our World in Data (2016)

The Good News

Three Questions:

1. How did we arrive at this number?
2. What do we mean by **extreme poverty**?
3. Where would we find the people living in extreme poverty?

Oxford English Dictionary definition of **poverty**: “lacking sufficient money to live at a standard considered comfortable or normal in society”

- Until recently, the poorest people in every country lived in absolute poverty, unable to afford basic necessities like food, shelter, etc.
- Now we are lucky enough that this is no longer the case (OED example: “people who were too poor to afford a telephone”)

Measuring Inequality

Measuring Inequality

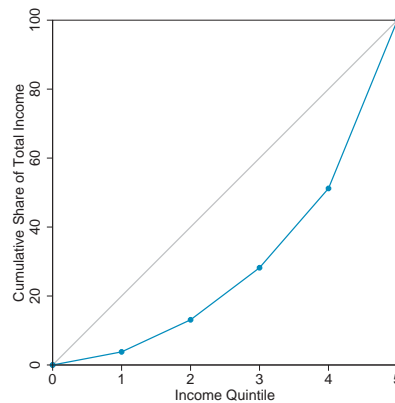
Standard approach to measuring income inequality: examine the share of total income received by each **quintile** (or fifth of the population)

Inequality in the U.S.	
Quintile	Income Share
1	3.8
2	9.3
3	15.1
4	23.0
5	48.8

Source: 2013 data from US Census Bureau

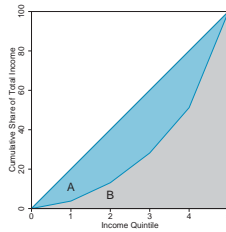
Measuring Inequality

We can present the same information graphically in a **Lorenz curve**, a graph of the cumulative distribution of income or wealth in a country



Source: 2013 data from US Census Bureau

Measuring Inequality: Gini Coefficients



Gini coefficient: $A/(A + B)$, an index of inequality

- A gini coefficient of 0 indicates perfect equality
- A higher gini coefficient indicates greater inequality

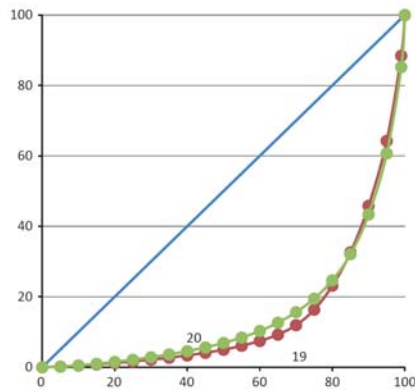
Measuring Inequality: Gini Coefficients

Gini Coefficients by Country

Rank	Country	Gini
1	Seychelles	0.65
2	South Africa	0.65
3	Comoros	0.64
4	Namibia	0.61
5	Botswana	0.61
⋮		
60	United States	0.41
⋮		
150	Austria	0.26
151	Czech Republic	0.26
152	Slovakia	0.26
153	Norway	0.25
154	Sweden	0.25

Source: 2015 data from World Bank

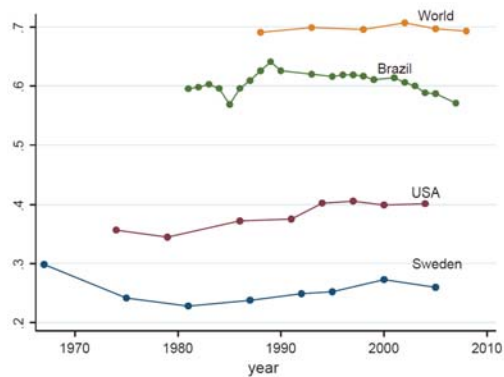
Does Within-Country Inequality Matter?



Source: Milanovic (2013)

Lorenz curve for the entire world shows a high level of global inequality

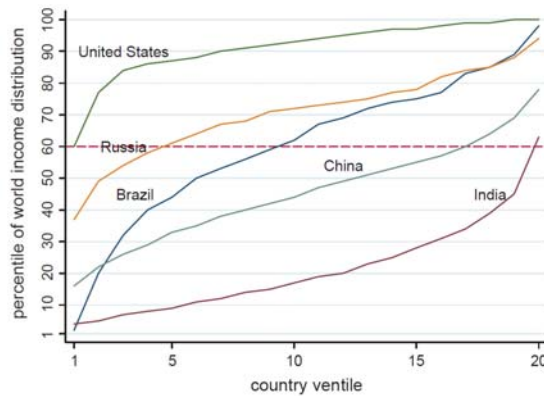
Does Within-Country Inequality Matter?



Source: Milanovic (2013), y-axis indicates estimated Gini coefficient

Fact: the world is far more unequal than almost any one country

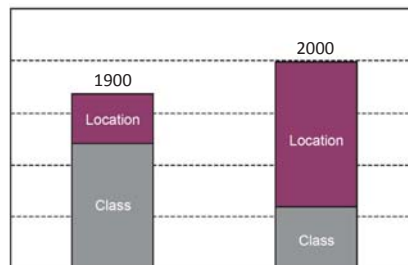
Does Within-Country Inequality Matter?



Source: Milanovic (2013)

The poorest 5 percent of the U.S. population is wealthier than about 60 percent of the global population (and almost everyone in China and India)

Global Inequality: It's Not What Marx Predicted

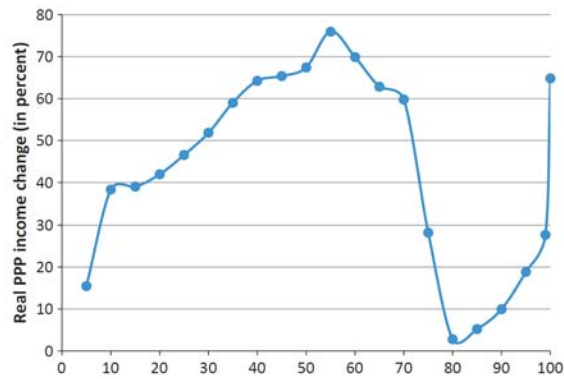


Source: Milanovic (2013)

Location (i.e. country) explains most of the inequality in the world

- There are very few people living in absolute poverty in the U.S., and most of the poor people in the world are in poor countries

So, Inequality in the U.S. Is No Big Deal?



Source: Milanovic (2013)

No, it's a big deal, but not the topic of this course.

Few people in the U.S. in absolute poverty, but over the last 20 years the relatively poor in the U.S. countries have seen their incomes stagnate.

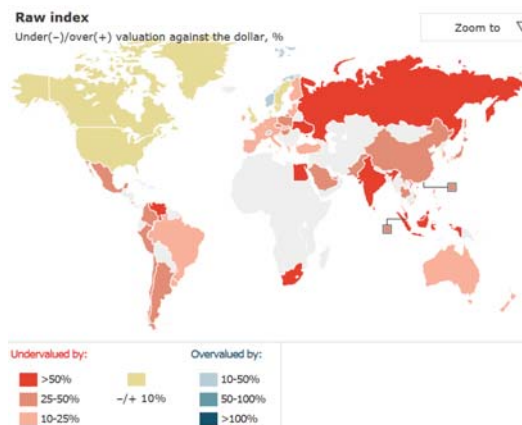
The Big Mac Index

The Big Mac Index



The Big Mac:
A delicious (?) burger
Available in 100+ countries
Prices vary by country – why?

The Big Mac Index

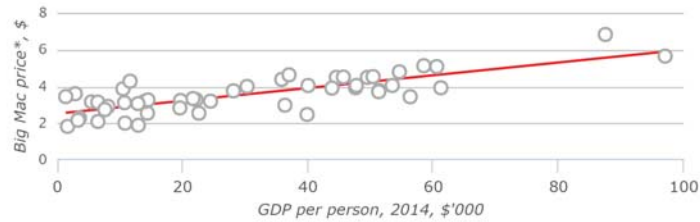


The US is a pretty expensive place: convert your dollars to foreign currency, and you can get more Big Mac for the buck in most of the world

The Big Mac Index

Big Mac prices v GDP per person

Latest



Sources: McDonald's; Thomson Reuters; IMF; *The Economist*

Q: What does the figure tell us?

A:

Purchasing Power Parity Adjustments

World Bank's international poverty line

- 1.90 (PPP-adjusted) US dollars of consumption per day
- What this really means: amount of local currency that you need to purchase a standardized bundle of goods that costs \$1.90 in the US

So, if that **reference bundle** were one Big Mac...

...you would need

...but only

...to be above the poverty line

PPP adjustments scale up real incomes in poor countries to better reflect the fact that non-traded goods are relatively cheap; the purchasing power of one PPP-adjusted dollar is (should be) comparable across countries

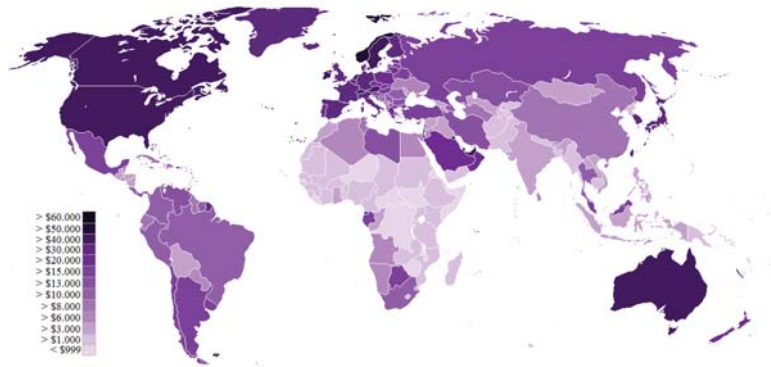
Purchasing Power Parity Adjustments

	Countries Included:	
	High Income	Rest of World
GDP per Capita (2010)	\$34,640	\$3,280
PPP-Adjusted GDP per Capita (2010)	\$35,964	\$7,092

Purchasing power parity adjustments scale up poor country incomes so that \$1 of PPP-adjusted income can buy about as much as \$1 in the U.S.

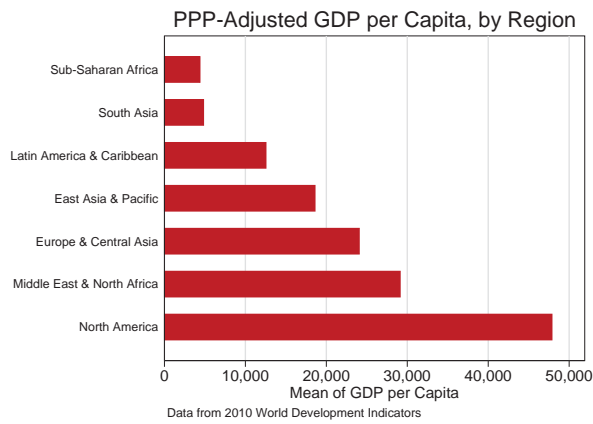
Poverty Measurement

The Global Distribution of Income

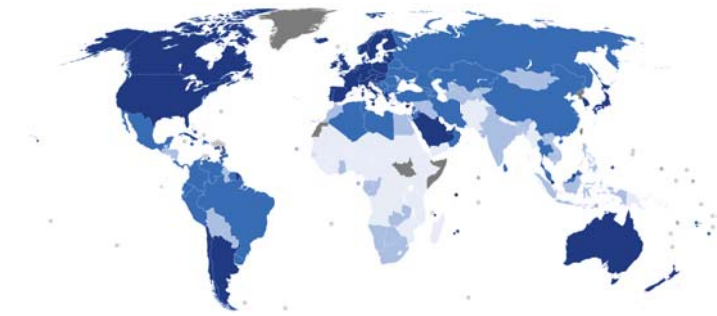


GDP per capita:

The Global Distribution of Income



Developing Countries: by HDI Quartile



United Nations calculates a **Human Development Index (HDI)** captures both economic and social dimensions of development

- HDI is a function of income, education, and health (life expectancy)

Human Development: Life Expectancy

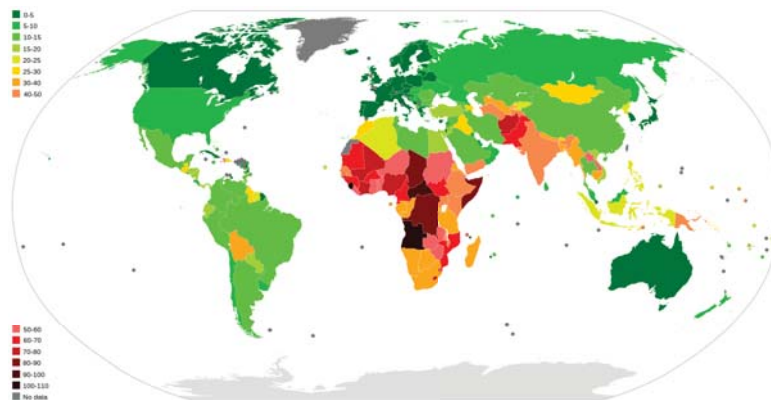


Life expectancy:

Human Development: Life Expectancy

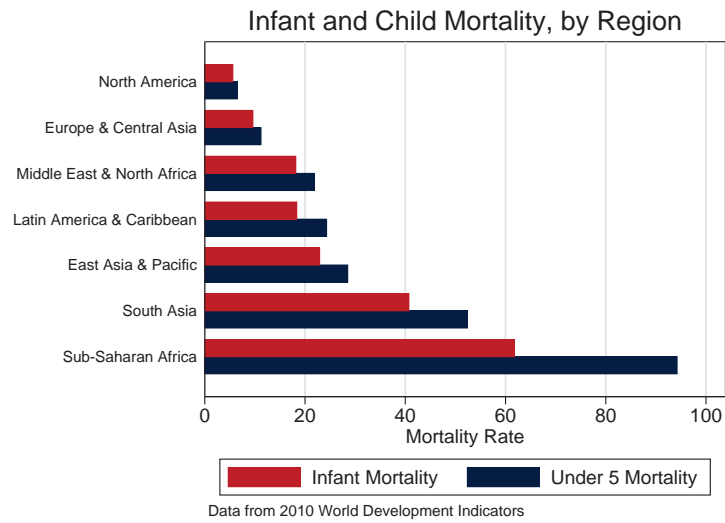
Region	Life Expectancy
Sub-Saharan Africa	54.2
South Asia	65.3
Middle East and North Africa	72.5
East Asia and the Pacific	73.3
Latin America and the Caribbean	74.1
Europe and Central Asia	75.7
North America	78

Human Development: Infant Mortality



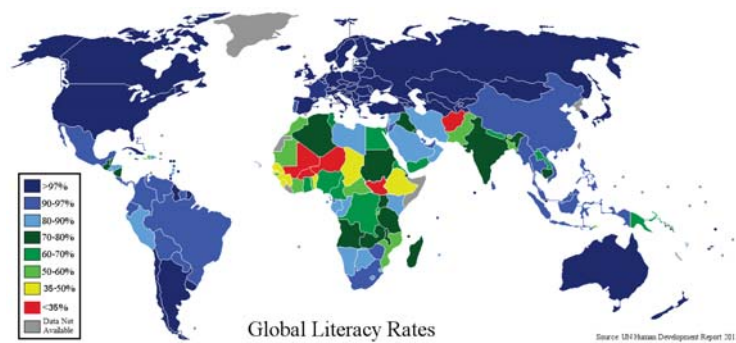
Infant mortality:

Human Development: Infant & Child Mortality



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Human Development: Education



Adult illiteracy is also concentrated in areas where incomes are lowest

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Absolute vs. Relative Poverty

Absolute poverty

- Countries typically define their poverty lines in terms of the amount of money required to purchase enough food for one's family
- International institutions use simple rules of thumb:
 - ▶ The **extremely poor** live on less than a dollar per person per day
 - ▶ The **poor** live on less than \$1.90 per person per day

Absolute poverty is distinct from **relative poverty**, which describes the situation in one doesn't have enough money to participate in society

- Absolute poverty is concentrated in the least developed countries

Measures of Poverty

A typical **poverty line** is the amount of income required to purchase 2,000 calories of food, taking into account local consumption patterns

The World Bank uses an international poverty line of **\$1.90 a day**

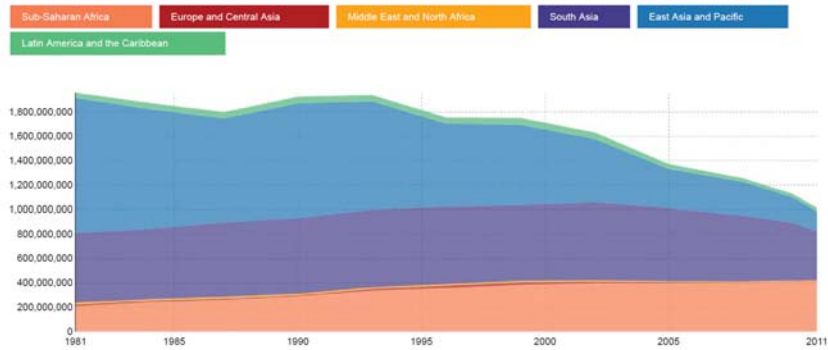
The **poverty headcount ratio** is the proportion of the population below the poverty line: N_{poor}/N_{total}

The **poverty gap** is a measure of the intensity of poverty

- Each person with an income (y) below the poverty line (z) is weighted based on their distance from the poverty line
- If the average income of the poor is \bar{y} , the poverty gap measure is:

Where Are the World's Poor?

Extreme poverty is defined as living with less than 1.25\$ in 2005 International Dollar. International dollars are adjusted for price differences across countries and across time.



Data obtained from: World Bank (Povcal)

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Study Guide: Key Terms

- absolute vs. relative poverty
- Big Mac Index
- GDP per capita
- gini coefficient
- headcount ratio
- Human Development Index (HDI)
- income quintile
- infant mortality
- life expectancy
- Lorenz curve
- poverty gap measure
- poverty line
- purchasing power parity