Income Distribution: Size, spread, base

Income standard **summarizes entire distribution x in a single 'representative' income s(x)**

Ex: Mean, median, mean of lower 40%, Sen mean, geometric mean

Inequality measures – Twin incomes standards s_L and s_U with $s_L \leq s_U$

$I = (s_U - s_L)/s_U$ (or another transformation such as $I = s_U/s_L$)

Usually s_U = mean and s_L is "bottom sensitive": $I = (\mu - s_L)/\mu$

Allows interpretation of $s_L = \mu(1-I)$ as **inequality adjusted mean**

$m = \mu(1-I)$ where I measures skewness

$\mu_{40} = \mu(1-I)$ where I is a linked to Palma, WB Shared Prosperity

$S = \mu(1-I)$ where I = Gini

$g = \mu(1-A)$ where I = Atkinson

Track inequality directly by growth in s_L vs growth in μ

Source of different inequality trends: s_L and transformation

Relative inequality targets? Is it good to burn rich incomes?

Argue: Development target should be s_L not I

Which one? Simplicity suggests m or μ_{40} ; properties suggest S or g

Digression on horizontal inequality and inequality of opportunities

Apply I or s_L to "smoothed" distribution – removes within group inequality

Between group inequality has greater salience – ethically or politically

income standard analogous to HOI of the World Bank

However implementation tough – which circumstances or groups?

Multidimensional Distributions: Size, spread, base
Difficulties galore: ordinal variables, comparing across dimensions
HDI = mean of means
IHDI = geometric mean of geometric means   bottom sensitive md standard

$I = (HDI - IHDI)/HDI$, and so $IHDI = HDI(1-I)$

However, many assumptions needed
Alternative: Focus on deprivations and attainments across multiple dimensions
Need: a **cutoff** for each dimension; a **value** for each deprivation/attainment
Construct distribution of deprivations or attainments
Applying poverty gap measure to the distribution of attainments yields M_0

Ex MPI, Mexico, Colombia while Bhutan, WEAI use $1-M_0$

Can disaggregate by population subgroup

Break down by dimensions

Key properties for multilevel development goals
Measure of "base" of multidimensional distribution
Measures of size and spread can be also obtained
Apply the inequality/income standard methodology to distribution of attainments

Geometric mean and mean log deviation

Capture Atkinson/Bourguignon cross dimensional inequality

Work in progress
Side event at UN General Assembly Sep 24 on Multidimensional Poverty

Led by President Santos of Colombia, Sabina Alkire, and OPHI's network

https://openknowledge.worldbank.org/handle/10986/13731