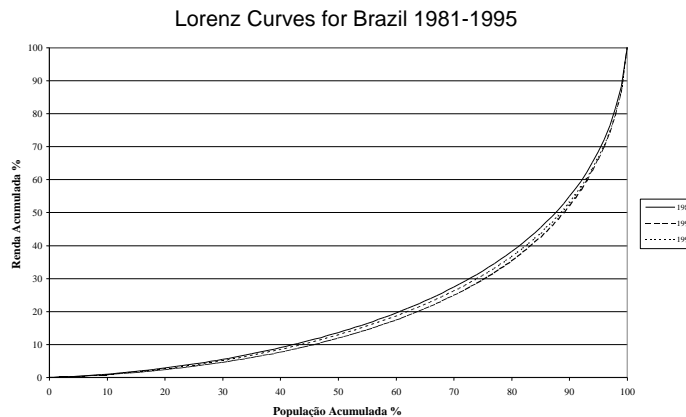


Lorenz Curve

Look carefully at the y-axis. The Lorenz curve gives the cumulative share of income held by the poorest p% of the population. The y-axis is percentage of total income.



The Lorenz curve is very useful as it enables us to determine the level of inequality in society. The closer the Lorenz curve is to the 45-degree line, the less inequality a society has. Note that if you compare Lorenz curves across countries or across time periods, it may not be the case that one curve is strictly above or below another curve. That is, Lorenz curves may cross.

Interpreting Linear Regression

$$W_i = \alpha + \beta X_i + \varepsilon_i \quad (i = 1, \dots, n)$$

The interpretation of β is that as X goes by one unit, W goes up by β units. However, can we say that it is the change in X that caused the change in W ? Not, necessarily. Consider the example of relationship between education and income. Usually more educated people earn higher incomes. Does that mean that higher education leads people to have higher income? One would hope so. But let us think about who are those people who have high education.

Is there something specific about them?

Are they intrinsically different from those who don't have higher education? How?

Would these people have still gotten high income had they not gone to college?

→ "Correlation does not imply causation"

Willingness to Pay for Healthcare

$$W_i = \alpha + \beta Y_i + \gamma HC_i + \varepsilon_i$$

$HC_i = 1$ if you have health care, and 0 if you don't have healthcare

If we have healthcare,

$$W_i = \alpha + \beta Y_i + \gamma + \varepsilon_i$$

Average welfare when you have health care:

$$AvW1 = \alpha + \beta AvY1 + \gamma$$

If we don't have healthcare,

$$W_i = \alpha + \beta Y_i + \varepsilon_i$$

Average welfare when you do not have health care:

$$AvW0 = \alpha + \beta AvY0$$

If the welfare with and without health care are equalized:

$$AvW0 = AvW1$$

$$\beta AvY0 = \beta AvY1 + \gamma$$

What is the difference between the average incomes when people with and without health care are equally happy? Which of the two scenarios gives a higher average income?

Income vs Consumption

Permanent Income Hypothesis: a person's consumption at a point in time is determined not just by their current income but also by their expected income in future years—their "permanent income". People like *more equal* consumption over time than not. They save and then draw on their savings to *smoothen* their consumption.

For example:

Period 1	Period 2	Period 3	Period 4	Period 5
\$500	\$600	\$300	\$200	\$1000

I would like to smoothen my consumption over time, that is make my annual consumption to be equal to \$520. **What are the saving and dissaving in each period?**

Note that here we assume that saving and dissaving are costless. **When might this not be the case?**

Can you think of an example from real life where people smoothen their consumption?

Let's go back to our hypothetical economy. If the poverty line depends on income and is set at \$500 per annum, the person would be considered poor in periods 1, 3 and 4. But if we consider consumption, with same the same poverty line, the person is not considered to be poor in any period.

Which will tend to have higher inequality (*ceteris paribus*), income or consumption?

Why is measurement error likely to be higher with income?