Inequality in Health

Prof. Martin Karlsson, Ph.D. martin.karlsson@uni-due.de
TA Nikolaos Prodromidis, M.Sc. nikolaos.prodromidis@uni-due.de

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Tutorial 2: Income Inequality

I. Income Distributions

1. Open the dataset *"dataset1_s10.dta"* in Stata and merge it with *"deciles1_s10.dta"*.
2. What is the difference between wage and income?
3. Why is it reasonable to consider **equivalent incomes** in income comparisons?
4. Plot the income distribution of India using a **histogram** with 30 bins.
5. Plot the same distribution using **kernel density estimation**.
6. Plot the income distribution of India by sex.

II. Measurement of Income Inequality

1. Compare the **top decile income shares** of India and South Africa.
2. Plot the **Lorenz curves** for India and South Africa and add a 45° line. How does the notion of **Lorenz dominance** apply in this setting?
3. What is the **Gini coefficient**?
4. What is the **Theil index**?

5. Calculate the Gini coefficient and the Theil index for India and South Africa.

III. Concentration Curve

1. What is the difference between a **Lorenz** curve and a **concentration** curve?
2. Plot the concentration curve of equivalent income with respect to household income for India.
3. Plot the concentration curve and the Lorenz curve for India in one figure. Explain the result.

IV. Income Transfers

1. What is the income of the richest person in India? What is the income of the poorest person in India?
2. **Transfer** an amount of \$1,000 per person from the richest decile to the second richest decile in India. How do the Gini coefficient and the Theil index respond to the transfer?
3. Explain how the Lorenz curve responds to the transfer.