Indian Statistical Institute, Bangalore
B. Math (Hons.) III year
Economics III

Final Exam   Duration: 3 hours   Total marks: 80   Date: 05th May 2017

PART A

Questions 1 and 2 are compulsory

1. Answer any four.   [5 x 4 = 20]

(a) Give an example of a partial measure of inequality and a complete measure of inequality.

(b) Define the Atkinson measure. What is meant by equally distributed equivalent income?

(c) Draw the Parade of Dwarfs. Why is it a useful measure of inequality?

(d) State any two axioms used in the definition of inequality measures.

(e) Give an illustration of a rightist and a leftist measure of inequality.

2. Answer any two.   [10 x 2 = 20]

(a) What is meant by first order and second order stochastic dominance in inequality measurement?

(b) An inequality measure that satisfies all axioms of inequality is said to be Lorenz consistent. Show that the coefficient of variation is Lorenz consistent.

(c) When we talk of decomposition of inequality by population subgroups, what is meant by subgroup consistency? Give one commonly used inequality measure that is subgroup decomposable.

PART B

3. Answer any four.   [10 x 4 = 40]

i)   [5 + 5]

a) Is wealth inequality likely to be higher or lower than income inequality? Why?

b) "Income inequality is low in India" according to many researchers. Comment.

ii)   [3 + 3 + 4]

a) Can negative and zero incomes be incorporated in a measure of inequality? Illustrate.

b) Which is a better unit of measurement of inequality, a household or a person and why?

c) For a country like South Africa, would you choose a measure of inequality such as variance based on incomes or logarithmic value of incomes?

iii) [5 + 5]

a) What did Kuznets show as the relationship between inequality and development based on time series data?

b) Give an example of inequality by caste in India.

iv) Based on Subramanian and D. Jayaraj (2013), Table 5, what can we say about rural versus urban inequality in wealth in India. [10]

v) Based on the attached Figure 1 from Piketty and Saez, give three features of inequality. [10]

Table 5 Absolute, Relative and Intermediate Measures of Inequality in the Distribution of Assets: India 1961–1962 to 2002–2003.

Year	The relative Gini G^R		The absolute Gini G^A		The intermediate Gini G^I	
	Rural	Urban	Rural	Urban	Rural	Urban
1961–1962	0.6440	–	17,574.76	–	11,318.15	–
1971–1972	0.6564	–	20,177.74	–	13,244.67	–
1981–1982	0.6354	0.7037	22,930.95	28,546.29	14,570.33	20,088.03
1991–1992	0.6207	0.6805	32,009.50	47,333.54	19,868.30	32,210.47
2002–2003	0.6289	0.6643	41,909.90	69,528.30	26,357.13	46.187.65

Note: The absolute and intermediate Gini coefficients are in constant – 1981–1982 – prices. The relative Gini has been computed by the "trapezoidal approximation method" from the grouped data available in the decennial surveys on the distribution of household assets and debt.
Source: Computations based on data available in the published decennial surveys on the distribution of household assets and debt.

Income inequality in Europe and the United States, 1900–2010

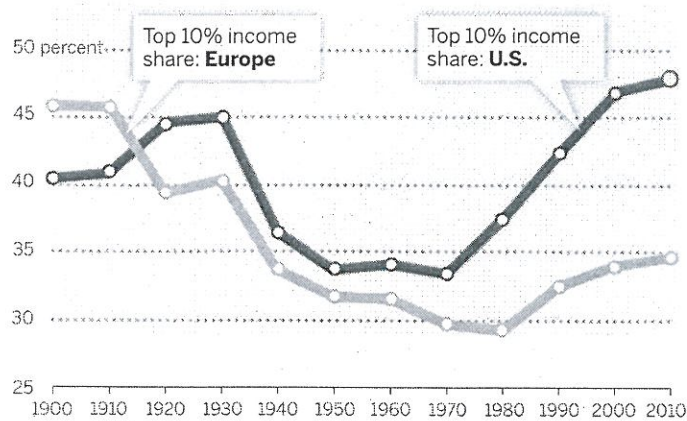Share of top income decile in total pretax income

Fig. 1. Income inequality in Europe and the United States, 1900 to 2010.