

Econ 431-01: Public Finance
Prof. Sarah West
Homework 3
50 points

1. (25 points) *Income Redistribution:*

State whether each of the following is true, false, or uncertain. Then explain each of your answers, using equations when appropriate.

- a. A risk-neutral individual will prefer to live in a society governed using a utilitarian social welfare function rather than one which uses a Rawlsian social welfare function.
- b. A society governed using a Rawlsian social welfare function will redistribute to attain a perfectly equal income distribution.
- c. A redistribution that makes everyone worse off except for the worst-off (who becomes better off) satisfies Rawlsian goals.
- d. Maximizing an additive utilitarian social welfare function is equivalent to maximizing average utility.
- e. In Thurow's model, as long as some individuals prefer an income distribution that is more equal than the current one, income should be redistributed to attain greater equality.

2. (25 points) *Income Redistribution*

An economy consists of two individuals, Pete and Karine, whose utility levels are given by U_P and U_K , and incomes are I_P and I_K respectively. Pete's and Karine's utilities are given by:

$$U_P = 600 I_P - I_P^2$$

$$U_K = 600 I_K - I_K^2$$

Pete's income plus Karine's income = 500.

Consider two social welfare functions:

$$(1) W = U_P + U_K$$

$$(2) W = \min [U_P, U_K]$$

Show (mathematically) that given the above specification of utility functions, maximization of welfare function (1) yields the same results as maximization of welfare function (2).