

Final Exam
(100 points)

- (13 pts) 1. Define the terms "public goods" and "market failure." State why the first term is an instance of the second. Clearly define all concepts you employ in your discussion.
- (11 pts) 2. What are the Kaldor and Hicks tests, and in what way are they 2 instances of a broader "class" of tests? Include technical details.
- (7 pts) 3. What exactly does the Arrow impossibility theorem tell us?
- (18 pts) 4. Discuss the potential use of taxation as a means to confront an externality situation and generalize your treatment so that it includes subsidy incentives.
- (18 pts) 5. Some economists argue that if market rates of interest indicate that the opportunity cost of current funds is $x\%$, then $x\%$ should be used as the discount rate in cost-benefit analysis. Your reaction?
6. In a segregated society, men own all of a productive input, E. The other productive input, capital or K, is jointly owned by men and women. Of the two outputs produced in this economy, women prefer y more so than x, and men have an opposite preference. Suppose that aggregated men and aggregated women (2 separate agents) behave according to the following preference structures:

$$U_m = x_m^3 y_m \quad \text{and} \quad U_w = x_w^{1/3} y_w.$$

m owns 40 units of E and \$16 worth of K (the natural numeraire good). w also owns \$16 worth of K.

Production of x and y is accomplished according to the following production functions:

$$x = E_x^{0.5} K_x^{0.5} \quad \text{and} \quad y = E_y + 2K_y.$$

- (28 pts) a. Find the competitive equilibrium.
- (5 pts) b. What are your expectations regarding the efficiency of your findings in part (a) and why?
- (new part) c. To investigate how this society performs under various degrees of segregation, recompute the competitive equilibrium assuming that there are 40 units of E and that $\alpha\%$ of it is owned by men while the rest belongs to women. What aspects of the equilibrium are altered? Are any parts of your findings surprising?