

Midterm Exam October 17 2007

Do all 3 questions. All count equally.

1. If individuals had the same preferences, and differed only in “ability” (the amount of output that a person can produce per hour), illustrate what outcomes can be achieved (i) by lump-sum taxation based on people’s abilities and (ii) by an income tax levied on people’s (endogenous) labour income (under which each person is given the same income tax schedule).

2. Derive a formula for the excess burden of a commodity tax system which taxes good 1 at the (proportional) rate τ_1 , and good 2 at the (proportional) rate τ_2 , and leaves good 3 untaxed, if the taxpayer’s expenditure function were

$$E(q_1, q_2, q_3, u) = q_1^a q_2^b q_3^{1-a-b} u$$

where a and b are positive parameters with $a + b < 1$, if the producer prices of the goods were $p_1 = p_2 = p_3 = 1$.

3. What should the marginal personal income tax rate be at the highest observed income in a country? Explain briefly.