

Homework #4

(Econ 512M)

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I. Consider Homework #2 again:

- (i) In problem II, Show excess burden.
- (ii) In problem III, find the excess burden using the elasticity formula at the initial equilibrium.

II. For the same per unit tax, the higher the elasticity of supply the higher would be the excess burden. State true or false and explain.

III. If the (compensated) demand curve is perfectly inelastic the excess burden is zero. State true or false and explain.

IV. You are to divide \$120 between Amy and Bart. Find the optimal distribution in each of the following cases where MU_a and MU_b denote Amy's and Bart's marginal utility of income (x) respectively if

- (i) Social Welfare Function (SWF) is utilitarian and $MU_a = 100 - 2x_a$, $MU_b = 100 - x_b$.
- (ii) Social Welfare Function (SWF) is utilitarian and $MU_a = 100 - 2x_a$, $MU_b = 20$.
- (iii) Social Welfare Function (SWF) is utilitarian and $MU_a = 30$, $MU_b = 20$.
- (iv) What would the division be if the SWF is Rawlsian and Amy and Bart have identical preferences?

V. In year 2010, tax rates, standard deduction and exemptions in the U.S. were:

Marginal Tax Rate	Single Returns	Joint Returns
10%	\$0–\$8,375	\$0–\$16,750
15%	\$8,376–\$34,000	\$16,751–\$68,000
25%	\$34,001–\$82,400	\$68,001–\$137,300
28%	\$82,401–\$171,850	\$137,301–\$209,250
23%	\$171,851–\$373,650	\$209,251–\$373,650
35%	\$373,651–	\$373,651–
Standard Deduction	\$5,700	\$11,400
Personal exemption	\$3,650	\$3,650

Handsome and Pretty are going to get married. Determine, under each scenario below, whether Handsome and Pretty end up with paying a marriage tax or getting a marriage dowry.

- (i) Handsome and Pretty both earn \$15,000 each.
- (ii) Handsome and Pretty both earn \$150,000 each.
- (iii) Handsome earns \$200,000 and Pretty does not work.
- (iv) Handsome earns \$40,000 and Pretty \$115,000.