

YORK UNIVERSITY
Faculty of Graduate Studies
Annual Examination
December 9, 2003
Economics 5300.03A : Public Economics I
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time=2 hours

Answer any **five** of the following eight questions.

1. How would taxation of the return to saving affect the saving of a person who lived for two periods, who earned most (but not all) of her income in the first period of life, and who had a Cobb–Douglas utility function

$$U(C_p, C_f) = (C_p)^a (C_f)^{1-a}$$

over consumption C_p in the present and consumption C_f in the future?

2. Suppose an individual can allocate her wealth between a safe asset with a certain rate of return r_0 , and a risky asset with a stochastic rate of return \tilde{r} . How would her allocation of wealth between these two assets be affected by a tax at the rate t on any **excess** return $\tilde{r} - r_0$ on the risky asset, with full loss offset if that excess is negative? (That is, if the actual return on the risky asset turns out to be r , and she has invested A in the risky asset, she pays taxes of $t(r - r_0)A$, with full loss offset if $r < r_0$.)

3. Derive an expression for the marginal excess burden of the tax on some good, when many goods are subject to taxation.

4. What would be the relation between optimal commodity tax rates on goods 2 and 3 if revenue could be raised only by taxes on goods 2 and 3, if all people in the economy were identical, and if everyone's expenditure function had the form

$$E(q_1, q_2, q_3, u) = q_1 u + \sqrt{q_1 q_2} + q_1 \ln\left(\frac{q_3}{q_1}\right)$$

where q_i is the price paid for good i , and u is the consumer's level of utility?

5. How should a firm finance an investment project, if the corporate tax rate were 25 percent, the personal income tax rate on interest income were 50 percent, and the personal income tax on the return to equity were 25 percent?

continued

6. What are the main differences between the Haig–Simons (or “comprehensive”) definition of income, and the definition of income used to calculate personal income taxes in Canada?

7. Would multinational corporations have any incentives to manipulate transfer prices between the “home” corporation and a foreign subsidiary if the home country used the credit system or the deduction system to account for foreign subsidiary income? Discuss briefly.

8. How does reliance on source–based taxation of a mobile tax base affect the size of a jurisdiction’s public sector?

the end