

YORK UNIVERSITY Faculty of LAPS

Final Examination December 20, 2014

Economics 4070.03AF : Public Finance I S. Bucovetsky

time=2 hours

The exam contains two sections, *A* and *B*. Section *A* is worth 40 % of the marks, section *B* 60 %. Note that there is some choice in each section.

A : 40 % (5 % per question)

Explain **briefly** the significance for the economics of taxation of any **8** of the following 10 terms.

1. partial equilibrium tax incidence
2. progressive tax
3. compensating variation to a tax increase
4. “equi-proportional” Ramsey rule
5. imputed income from owner-occupied housing
6. accrued capital gains
7. tax deductibility of mortgage interest
8. “clawback” of benefit payments
9. declining balance (“exponential”) depreciation schedule
10. tax deductibility of corporate borrowing costs

B : 60 % (15 % per question)

Answer any 4 of the following 8 questions.

1. Is it possible that an increase of \$1 in the unit excise tax on some good will lead to the equilibrium price (paid by consumers) of the good increasing by more than \$1? Explain briefly.

2. What would be the deadweight loss (the excess burden) of a tax of \$3 per unit purchased of good Y in the following situation?

Initially, the price of good X is 1, and the price of good Y [initially, without the tax] is 1. There is no tax on good X .

The consumer's expenditure function is

$$e(P_X, P_Y, u) = P_X u + 12\sqrt{P_X P_Y}$$

her compensated ("Hicksian") demand functions for the two goods are

$$X^H(P_X, P_Y, u) = u + 6\sqrt{\frac{P_Y}{P_X}}$$

$$Y^H(P_X, P_Y, u) = 6\sqrt{\frac{P_X}{P_Y}}$$

and her initial level of utility (in the absence of any taxes) is $u = 5$.

3. What is the relation between the optimal tax rate on clothing, and the optimal tax rate on food, for a person whose compensated demand functions for food and clothing are

$$F = \frac{3}{P_F}$$

$$C = \frac{2}{\sqrt{P_C}}$$

where F and C are the quantities demanded of food and clothing, and P_F and P_C are the prices paid by the consumer for food and clothing?

continued

4. Discuss how the marginal income tax rate for a “flat tax” would vary with (i) the government’s revenue requirement ; (ii) the extent of the government’s aversion to inequality and (iii) the ease with which taxpayers substitute consumption for leisure.

[A flat tax is a personal income tax in which there is only one bracket : there is a single marginal tax rate t , and a person’s tax payable is $t(y - E)$ if her income is y , where E is the level of income which is exempt from taxation.]

5. Outline the main differences between the definition of income used in the Canadian personal income tax, and the Haig–Simons (“comprehensive”) definition of income.

6. How does the effective marginal tax rate vary with the taxpayer’s income, if the taxpayer is a single parent with two children, under an (imaginary) income tax system with the following rules? :

- the basic tax rate is 30 percent
- the first \$20,000 of a person’s income is not subject to tax [so that the basic tax rate of 30 percent applies only on income in excess of \$20,000]
- the parent gets a non–refundable tax credit of \$20000 per year (\$10,000 for each child)
- if the parent’s income is greater than \$40,000, then this total tax credit for the 2 children is reduced by 20 cents for each dollar of income in excess of \$40,000
- all income over \$150,000 is subject to an additional tax, equal to 20 percent of any income in excess of \$150,000

continued

7. How could the Canadian corporate tax system be designed, in order to minimize the impact of the corporate tax rate on (domestic) investment by firms?

8. Should Canada continue to use an “exemption” system for subsidiaries of Canadian-owned multinational corporations, in which profits of wholly-owned foreign subsidiaries of Canadian corporations are not taxed in Canada? Explain your answer.