

YORK UNIVERSITY Faculty of LAPS

Final Examination December 15, 2013

**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. differential tax incidence
2. lifetime tax incidence
3. excess burden of a subsidy
4. flat (single bracket) income tax
5. mortgage deductibility
6. non-refundable tax credit
7. realized capital gains
8. “gross-up” of dividend income
9. economic depreciation
10. exemption (“separate accounting”) method of treating income of subsidiaries of multinational corporations

**B : 60 % ( 15 % per question )**

Answer any 4 of the following 8 questions.

1. What, if anything, do partial equilibrium models of tax incidence contribute to the analysis of the most important taxes currently levied in Canada?

2. What is the excess burden (also known as the deadweight loss) of a \$4 tax on clothing, if the price of food were \$1, the original (no-tax) price of clothing were \$1, the consumer's income were \$40, the consumer's preferences could be represented by the utility function

$$U(F, C) = F + 10\sqrt{C}$$

where  $C$  is the quantity consumed of clothing and  $F$  the quantity consumed of food, and her compensated demand curve for clothing had the equation

$$C = \frac{25}{(P_C)^2}$$

where  $P_C$  is the (tax-included) price that she pays for clothing?

[Note : you will not need to use all the information given above in order to answer the question.]

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

$$F = (P_F)^{-1/3}(P_C)^{1/3}$$

$$C = (P_F)^{2/3}(P_C)^{-2/3}$$

where  $P_F$  and  $P_C$  are the prices paid by the consumer for food and clothing?

**continued**

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

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

- the basic tax rate is 20 percent
- the first \$10,000 of a person’s income is not subject to tax [so that the basic tax rate of 20 percent applies only on income in excess of \$10,000]
- parents gets a non–refundable tax credit of \$5000 per year, for each of the three children
- if the taxpayer’s income is greater than \$80,000, then this child tax credit is reduced by 10 cents **per child** for each dollar of income in excess of \$80,000
- all income over \$150,000 is subject to an additional tax, equal to 25 percent of any income in excess of \$150,000

6. How would a tax of 50 percent on the return to saving affect the amount saved by a person who earned (exogenous) income  $Y_p$  of 600 when young, earned no income when old, faced a before–tax return to saving of 100 percent, and had preferences over current consumption  $C_p$  and future consumption  $C_f$  which could be represented by the utility function

$$U(C_p, C_f) = C_p C_f \quad ?$$

**continued**

7. How would an increase in the corporate income tax rate affect a firm's investment decisions, if the corporate tax rules (i) allowed the firm to deduct all its expenses — including capital expenses — from taxable income in the year in which the expenses were incurred, and also (ii) allowed the firm to deduct 50% of its finance costs (debt or equity) from its taxable income? Explain briefly.

8. How should the Canadian corporate income tax system treat the earnings of American subsidiaries of Canadian corporations, if we wanted to maximize total Canadian income? Explain briefly.