

YORK UNIVERSITY, Faculty of LAPS

Final Examination — April 25 2015

**Economics 4080.03MW : Public Finance II**

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**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 public expenditure of any **8** of the following 10 terms.

1. voluntary provision of public goods
2. preference revelation mechanism
3. marginal social cost
4. property rights
5. pairwise majority rule
6. principle of minimum differentiation
7. adverse selection
8. “pay-as-you-go” (unfunded) pension
9. fiscal zoning
10. flypaper effect

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

Answer any 4 of the following 8 questions.

1. Suppose that some community finances a pure public good using Lindahl (or “benefit”) taxation (and that people’s demand curves for the public good are known).

Is it possible that some people in the community might be made better off if someone left the community (and the taxes and public good level were recalculated after the person left)?

Explain briefly.

2. How much tax revenue would be collected by the following “pivot tax” mechanism, if each person tries to use the mechanism to make herself as well off as possible?

The indivisible (“all or nothing”) public project costs \$4000. There are 4 people : each person knows how much she values the project (but nobody else knows her valuation). Person #1 values the project at \$1500, person #2 values it at \$1200, person #3 values the project at \$1100, and person #4 values it at \$800.

The rules of the tax are : the project will be undertaken if and only if the sum of people’s announced valuations exceeds the cost of the project, \$4000. If the project is undertaken, each person will pay the same share, \$1000, of the cost. In addition, if any person is “pivotal” (that is, if her valuation alters the overall result), then she will have to pay a pivot tax, equal to the (absolute value of the) difference between the sum of everyone else’s announced valuations and the sum of the shares of the cost (3000) which they must pay.

**continued**

3. If access to a common property resource can be controlled, by charging a price for the use of the resource, how should the price be set so as to maximize the net value of the resource?

4. Suppose that a jurisdiction is inhabited by people who all have the same preferences, represented by the utility function

$$u(x, z) = x + \ln z$$

where  $x$  is consumption of a private good, and  $z$  is consumption of a public good. People differ only in their (exogenous) income  $y$ .

Suppose as well that the public good must be financed by a proportional income tax.

(i) Are people's preferences single-peaked over the level of public good provision?

Explain briefly.

(ii) How does a person's most preferred level of public good provision vary with her income?

5. Discuss the usefulness of Hotelling's principle of minimum differentiation in explaining public expenditure decisions in Canada.

6. Can the possibility of "adverse selection" (people having better knowledge of their own loss probabilities than anyone else does) justify public provision of some types of insurance?

**continued**

7. Suppose that people's preferences could be represented by the utility function

$$u(C_y, C_o) = C_y C_o$$

where  $C_y$  is consumption when working, and  $C_o$  is consumption when retired.

Suppose that the person could save as much (or as little) as she wanted on private markets, at net rate of return  $r$ . She earns an income of  $Y$  when working (and nothing when retired).

How would her saving choice be affected by a government pension plan, which paid her a pension of  $P$  when retired, and levied taxes of  $aP$  (with  $0 < a < 1$ ) when she was working?

8. Is it efficient for local governments to have responsibility for primary education?

Explain.

**the end**