YORK UNIVERSITY

Faculty of Arts

Final Examination

April 16 2004

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. non–rival good

2. voluntary provision

3. externality

4. pairwise majority rule

5. logrolling

6. adverse selection

7. pay–as–you–go pension plan

8. Old Age Security Pension (OAS)

9. local public good

10. Canada Health and Social Transfer (CHST)

B : 60 % (15 % per question)

Answer any **4** of the following 8 questions.

1. Would people ever be willing to reveal truthfully their willingness to pay for a pure public good, if they were aware that this information would affect the taxes they pay? Explain briefly.

2. Suppose that person 1 can spend her income on food or tobacco, and that her tobacco consumption imposes a negative externality on person 2, who consumes only food. The preferences of the two people can be represented by the utility functions

$$U^1(F_1, T_1) = F_1 T_1$$

$$U^2(F_2, T_1) = 10F_2 - (T_1)^2$$

where F_i and T_i are person i's consumption of food and tobacco respectively. Each person's income is 20, and the prices of food and tobacco are both 1.

a What would be the allocation (F_1, F_2, T_1) if each person ignored the other person, and made consumption decisions based only on her or his own well–being?

b Find an allocation (F_1, F_2, T_1) which **both** people would prefer to the allocation described in your answer to part *a*.

3. Suppose that a three–person committee is choosing the level of spending on defense. The committee votes on proposals using pairwise majority rule. Each committee member expects her district to pay for one third of the cost of defense. Committee member i has preferences

$$U_i = X_i + a_i \ln D$$

where X_i is the net disposable income in her district, after taxes, D is total defense spending, and a_i is a positive parameter : $a_1 = 10$, $a_2 = 30$ and $a_3 = 40$. Each district's total income (available for taxes or for disposable income) is 100.

What level of defense spending would the committee choose? Explain briefly.

4. State Arrow's impossibility theorem.

5. Would the chief of a government department want a budget for her department which was larger than the actual cost of the services provided by the department? Explain briefly.

6. If the federal government did not provide employment insurance, would firms provide some form of private employment insurance in Canada? If so, how would this private insurance differ from what the government provides currently? If not, why not?

7. If each person's preference over private consumption and consumption of a local public good could be represented by a utility function

$$U(X, Z) = 100X + a \ln Z$$

where X was her consumption of the private good, Z the level provided of the local public good in her jurisdiction, and a some positive parameter, what would the local public sector be like in a metropolitan area, if there were many people, each of whose value of a was one of $\{10, 30, 80, 100, 200\}$?

Explain briefly.

8. Describe briefly the system of equalization grants provided by the federal government to the provinces.

the end