ECONOMICS OF PUBLIC SECTOR
Review Questions

Instructor: Anna Rubinchik-Pessach
note: Final will have 3 questions (one from each category).

April 26, 2002

1. Part 1: Appetizer

Evaluate a claim (true / false / partially true). Explain.

1.a. Government spending should be financed by issuing the debt only, as the
debt does not introduce any distortions in the economy, while any tax does.

1.b. FACT: ”Under old AFDC states with lower incomes got federal grants with
higher matching rates. Yet, typically, these states had smaller individual
benefits and stricter eligibility rules than the higher income ones.”

CLAIM: It follows that higher match rates failed to stimulate more spending
by the state governments.

1.c. Local government official outlines his plan. He says it will achieve two objec-
tives. It will benefit low income families and generate some redistribution
of income from the well-off landlords to the low income population, thus
closing the huge gap in income distribution in the county. The plan is: first,
to impose a higher property tax in county X and then to use the proceeds
to finance welfare programs for low income families.

Will this plan achieve the goals stated? (What are conditions under which it
will not?)

1.d See q. 1 from ch. 13 (p.302)
2. Part 2: Main dish

Problem 1. See hw # 5, (the last one) the problem about the income tax of the businessman.

Problem 2. Before 1987, tax payers who itemized their returns could deduct interest payments on consumer loans, such as car loans and credit card debt. Since 1987, such deductions have not been possible. (The only loan the interest payments for which are tax deductible is home equity loan.) How should the non-deductibility of consumer loans affect saving behavior of individuals? Use the model of intertemporal choice, describing the choice of consumption this period and consumption next period, to answer this question. Present your answer graphically. Ignore limits on borrowing.

3. Part 3: Dessert

Problem 1.

Assume three states form a federation. They create an "omnibus bill" that contains projects inducing local benefits to each of the participants while the costs of the three projects will be shared equally between the members of the federation.

Assume that project of size $x$ generated benefit to state $i = 1, 2, 3$ of the federation according to the following formula:

$$B_i(x_i) = 10x_i - \frac{1}{2}x_i^2,$$

so that the marginal benefit is equal to $MB_i(x_i) = 10 - x_i$. Assume that the cost of the project of size $x$ for any state is $2x$, so that the marginal cost is constant and equal to 2.

Calculate the optimal sizes of the projects for each state.

Calculate the sizes of the projects that will appear in the "omnibus bill".

Is the bill socially optimal?

Problem 2.

Example suggested by Condorcet.

Suppose there are eighty-one voters with the following ordering of possible candidates named Peter, Paul, and Jack.

<table>
<thead>
<tr>
<th>Number of voters</th>
<th>30</th>
<th>1</th>
<th>29</th>
<th>10</th>
<th>10</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest ranked</td>
<td>Peter</td>
<td>Peter</td>
<td>Paul</td>
<td>Paul</td>
<td>Jack</td>
<td>Jack</td>
</tr>
<tr>
<td>Second ranked</td>
<td>Paul</td>
<td>Jack</td>
<td>Peter</td>
<td>Jack</td>
<td>Peter</td>
<td>Paul</td>
</tr>
<tr>
<td>Lowest ranked</td>
<td>Jack</td>
<td>Paul</td>
<td>Jack</td>
<td>Peter</td>
<td>Paul</td>
<td>Peter</td>
</tr>
</tbody>
</table>
a. Which candidate will be chosen under Borda rule?

b. Which candidate will be chosen under majority rule?

c. Is there a Condorcet winner?

d. Assume there are only two candidates to choose from: Paul and Peter (Jack is not running.)

   Will your answer to a. change? If so, how?

e. Will your answer to b. change if Jack is not running?

f. Condorcet suggested that the Borda rule is “defective” based on this example.
   Why do you think he claimed it?