

UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4620 – Public Economics I**

Date of exam: Monday, May 26, 2014

Grades are given: June 11, 2014

Time for exam: 09.00 a.m. – 12.00 noon

The problem set covers 2 pages

Resources allowed:

- No resources allowed (except if you have been granted use of a dictionary from the Faculty of Social Sciences)

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

Problem 1 (weight 35%)

Suppose a country has a linear income tax on labour earnings.

- Define the marginal tax rate.
- Explain how the tax can be progressive.
- Explain how the tax can be distortionary, preferably by making use of a simple model.

Suppose there is a continuum of agents, each characterised by obtaining an exogenous wage rate, w . Denote by $f(w)$ the density of the distribution. For each value of w , let $y(w)$ denote the labour earnings, $\varepsilon(w)$ denote the labour supply elasticity, $\alpha(w)$ denote the net social marginal valuation of income, and t denote the marginal tax rate. Then consider the optimal tax condition

$$\frac{t}{1-t} = - \frac{\text{cov}(\alpha(w), y(w))}{\int y(w)\varepsilon(w)f(w)dw}$$

- Explain the economic contents of the optimal tax condition.

Problem 2 (weight 15%)

What is a value added tax? Describe the main properties of the tax.

Problem 3 (weight 20%)

The politicians in a country debate whether tax payers should be allowed to deduct commuting costs when determining their taxable income. You are working in the Ministry of Finance and are being asked to write a brief report on this issue based on insights from public economics.

Problem 4 (weight 30%)

Changes in tax policy influence the distribution of income. This influence can be measured and described in several ways.

Give an outline of how you would proceed in order to discuss distributional effects of a tax reform given that you have micro data for individuals at hand. An example may be the Norwegian tax reform of 2006. The empirical procedure may involve choice of an index which measures tax redistributive effects and a discussion of how you would handle data to make income comparable across households or individuals.