

ECON4620 Spring 2013. Guidelines for Marking.

Problem 1

Distortions are discussed in many parts of the curriculum. Linear income tax is addressed in Kaplow: The theory of taxation....

A linear income tax is given by

$$T = ty - b$$

where T is the tax liability, y denotes gross income and t and b are parameters.

- i. The marginal tax rate is t , i.e. dT / dy .
- ii. The tax is progressive if $d(T / y) / dy > 0$. This is obtained by setting $b > 0$.
- iii. Distortions should be discussed by comparing the first best allocation and the market where an income tax is imposed. Setting up a small model is desirable.
- iv. The condition characterises the optimal tax setting when maximising welfare with respect to the tax parameters for a fixed tax revenue requirement. The meaning of the numerator (capturing distributional effects) and the denominator (capturing efficiency effects) of the ratio on the right hand side and the trade-off between the effects should be explained. One should explain the role of the elasticity in determining the magnitude of the inefficiency, and the importance of the number of agents (the density) and the income where the elasticity is large (or small).

Problem 2 (weight 20%)

The VAT is presented in the article of Keen and Smith on the reading list.

A value added tax is a consumption tax remitted (normally) by all firms in the production chain. A firm charges VAT on sales to other firms and consumers, but can reclaim the VAT it pays on inputs purchased from other firms. The net tax it pays is therefore a tax on the value added it creates (remuneration to labour and capital plus profits). One should also explain what is meant by exemptions and zero-rating. Candidates should be rewarded for thorough presentation and extensions to other relevant aspects of the VAT system.

Problem 3

This is a test of the candidate's ability to reason about social efficiency (and conceivably distribution). Different perspectives may be possible.

One may first consider whether the cost of commuting (prior to any deduction) reflects the true social cost. There might for instance be (uninternalised) externalities in transport (congestion) or pricing above marginal cost, but assuming away such problems, perhaps after mentioning them, would seem ok. Making commuter cost deductible will lower the private cost of commuting, and in a sense subsidise it. This means that the commuter will not face the full cost of commuting. In the absence of relevant distortions or externalities this is inefficient as social efficiency requires that agents face the true social costs. Taking as given that people work in a particular place and choose how far away to live it is inefficient to stimulate people to commute a long distance. However, there may be relevant distortions and externalities. People may choose how far to commute from where they live in order to earn a larger income. Then there may be positive externalities for instance in terms of agglomeration externalities (cf Venables' article on the reading list). This is a case for a subsidy. Also since there is a tax, commuters will not reap the full additional income obtained by commuting – the private gain falls short of the social gain. This tax distortion may be mitigated by subsidising the cost of working (including commuter cost).

I find it less important also to discuss distribution, but one may argue that *cet.par.* those who incur a larger cost of working enjoy a lower standard of living. Utility generating income is income net of the cost of acquiring the income. A different point of view may be that commuter cost is expenditure on residential attractiveness or rent saving.

Problem 4

The candidate should discuss aggregation of data over household members, mention equivalence scales. Regarding measures of redistribution, the Reynolds-Smolensky index, which is simply the difference between pre-tax and post-tax income inequality, measured by the Gini coefficient. Further descriptions of the derivation of the Gini coefficient is a plus; also if the candidate mentions other possible indices, as the Blackorby-Donaldson index (based on the Atkinson measure).

Further, a good score requests that the candidate at least mentions the problem of identifying the tax policy contributions (in contrast to effects of the business cycle, demographical changes, etc). On that point they are informed about the fixed income approach (tax-benefit model simulation procedure), but the curriculum is more focused on the transplant-and-compare method. The latter is more complicated than the income-fixed method. On this point it is most important that the candidate is aware of the challenge, and have some ideas how to comply.

According to the learning outcomes of the course, the course participants are supposed to

- * achieve knowledge of central concepts and basic models of modern public economics based on second best welfare theory, cf. problems 1, 2 and 4.

- * acquire relevant knowledge of actual policies cf. problem 4

- * acquire abilities to explain the economic contents and trade-offs captured by the models, cf. 2, iv.

- * identify and analyse policy problems in public economics, cf. problem 3.

To pass the exam, the students should demonstrate that they have acquired at least some basic insights *from the course*. They should be able to contribute to analysis/discussions of the questions in a way not expected from students not having taken the course. Also they should not reveal ignorance, misperceptions and misunderstandings that would prove “disastrous” in professional analysis and discussions.

To achieve a top mark a student should leave no major question unanswered and should commit no serious error. In particular, one should expect a top student to provide a well structured answer to the more open questions, and to show mature insights into (in)efficiency effects of taxes, and demonstrate ability to solve problems requiring some own thinking as in problem 3. Some less serious errors and imperfections are tolerated if the candidate in most respects shows excellent analytical skills, a solid and mature understanding and originality; i.e. there is no doubt that this is an excellent public finance economist.