Paper 1: Part 2B

Supervision assignment 2

Course: Second Best Theory
Topics: Production efficiency and Ramsey taxes
Suggested for marking: question 2.

1. Suppose that the marginal deadweight cost associated with the value added tax (VAT) levied on car seats for children (at 5 percent) is three times smaller than the marginal deadweight cost associated with the VAT levied on highchairs for children (at 20 percent).

   (a) Does this imply that it would be optimal to lower the VAT on highchairs and increase the VAT on car seats?

   (b) One argument in favour of differential VAT rates is that it gives the tax system a "pro-poor" bias. Evaluate this rationale and discuss alternative ways to give the tax system such a bias.

2. (a) A public enterprise produces two outputs x_1 and x_2. The marginal cost of production for each output is constant and there is a fixed cost of production that must be covered to break even. How should the regulator of the public enterprise price the two goods from a social point of view under the assumption that x_1 and x_2 are independent in demand? Does the policy rule that Pareto conditions should be satisfied in independent markets hold? Explain your answer carefully.

   (b) Suppose that there is a third consumption good, x_3, which is produced by a private monopoly with constant marginal costs. The monopoly is unregulated. Good x_1 and x_3 are substitutes in consumption while good x_2 and x_3 are complements. The regulator of the public enterprise cannot regulate the private monopoly. Should the regulator adjust the prices of the two goods produced by the public enterprise and if so, how? Explain your answer carefully.

3. A small open economy imports two goods x and y. Both goods are also produced domestically with labour and a fixed factor of production as the main inputs. All markets are competitive. The government has a revenue requirement R that it needs to satisfy. The government levies a profit tax of 100% but this is not sufficient to raise R and it is unable or unwilling to use lump sum taxes to fill the gap. Good x is more price elastic than good y and the two goods are substitutes in consumption. There are no other distortions in the economy and the government can apply a full set of tax intruments.

a. What are the conditions underlying the Diamond-Mirrlees production efficiency result? Are they satisfied in the situation described above?

b. A utilitarian government considers two alternatives ways to raise the revenue: tariffs or consumption taxes. Which of the two would you recommend and why?

c. Suppose that the country, as part of an international agreement, must levy a tariff on good x. The tariff revenue raised in this way is along with the profit tax sufficient to satisfy the overall revenue requirement and you may assume that any extra revenue raised can be reimbursed to consumers in a non-distortionary way. Would it be optimal to levy either a consumption tax or a tariff on good y? Explain your reasoning carefully and consider if it makes a difference if (i) there are no other sectors in the economy than sector x and y or (ii) if there are many other sectors such that the reallocation of labor to and from sector x and y has no effect on the wage rate of the economy.

Readings
(For full references to textbooks, see course outline)

Lecture notes 6 and 7-8.
Hindriks and Myles, chapter 14 (sections 6 to 8), chapter 15 (sections 3-5).
Stiglitz and Rosengard, chapter 20.
Cullis and Jones, chapter 7 (section 6), chapter 15 (sections 1 to 3).
Atkinson and Stiglitz, chapter 15 (section 15.3).
Diamond. P. and J.A. Mirrlees, 1971. Optimal taxation and Public Production I. American Economic Review, 61, 8-27.
Ramsey, F. (1927), A Contribution to the Theory of Taxation, Economic Journal, 37, 47-61.