

Question Set 1

Section A: Microeconomics

Question 1 (Short questions)

- (1) The production of a unit of x requires $\frac{1}{2}$ a unit of labour and 1 unit of capital. To produce a unit of y one would need 1 unit of labour and $\frac{1}{2}$ a unit of capital. Before sales, the goods must be stored. One unit of storage space can accommodate either 1 unit of x or 1 unit of y (or any linear combination of the two). There are 100 units of labour, 100 units of capital and 110 units of storage space. What would be the opportunity cost of x if the economy efficiently produced 85 units of it? What would be the opportunity cost of x had the economy efficiently produced 10 units of y ? Can the economy efficiently produce these quantities?
- (2) An individual who spends his income on two goods only, spends initially, exactly the same amount on each good. The price of x has risen by 20% while the price of y fell by 20%. The agent will be neither better nor worse off as a result of the changes. True or false, explain.
- (3) Whether or not the income effect under Slutsky's definition of real income is greater or smaller than the equivalent effect under the Hicksian definition of real income depends on whether the good in question is a normal or inferior good. True or false, explain.
- (4) In a production function exhibiting increasing returns to scale everywhere, the marginal cost of the short run will never intersect with the marginal costs of the long run. True or false, explain.
- (5) An increase in the cost of capital facing firms in a competitive industry will cause an increase in the price and fall of output in the short run but will have no effects on the number of firms in the long run. True or false, explain.
- (6) A lump-sum tax on a competitive industry is always efficient. True or false, explain.
- (7) Monopolistic power can only be obtained when the price elasticity of demand is greater than unity. True or false, explain.
- (8) Monopolistic competition is an efficient form of organisation as there are no profits above the normal in the long-run. True or false, explain.
- (9) In an exchange economy of two goods and two agents, if the initial endowment was such that both agents have exactly the same amount of each good as the other, there will be no trade. True or false, explain.

- (10) The fact that there is a group of people who are willing to pay more than others for a particular public good, will have no impact on the overall efficient provision of that good. True or false, explain.

Question 2

A government is concerned about the heating habits of the elderly when there is an increase in fuel prices. Its department of health had warned that people underestimate the amount of heating they need during a cold winter to remain in long term good health. To ensure that the heating habits of the elderly will not be affected by increases in fuel prices, the government proposes to compensate them in such an event. Accordingly, it will pay the elderly the difference between the higher price and the current price for the original level of consumption.

- (a) Describe the initial choice of heating by an elderly individual;
- (b) Analyse the effects of an increase in the cost of heating on the consumption of heating and the well-being of that individual before and after the implementation of government policy;
- (c) Will the policy be effective in maintaining the initial level of heating in the case of an increase in the price of heating?
- (d) Will your answer to (c) depend on whether heating is a normal or inferior good?
- (e) Critics of the government argued that such a policy will not achieve its objectives. Instead, they proposed either a subsidy that will keep the price of heating at its original level or, a subsidy for the actual desired level of heating (say, $x_1 > x_0$ where x_0 is the original level of fuel for heating consumption). Compare the effects of these two proposals to those achieved by the government policy and comment on the critics' claim.

Question 3

A central market for a competitive industry is supplied by firms working in two different locally governed areas (A and B). The distance between them and the centre is the same. The local government in province A proposes to improve the lot of its public by offering a special bonus to all producers in their area.

- (a) Describe the initial set-up of the market;
- (b) Analyse the effects of the local policy on the market in the short-run;
- (c) Assuming that for cultural reasons there is barely any labour mobility across provinces, what would happen to equilibrium price and quantity, the number of firms in each region and the level of each firm's output? Will the government improve the lot of its public?

Question 4

A Company, Celebs are Us, is the only firm to offer individuals an evening with selected celebrities to discuss the Meaning of Life: From Plato to Beckham. It faces two types of demand. The first group of consumers are the old aristocracy who can afford to pay a lot so that they can rub shoulders with the new-money. The second group consists of all the hopefuls who would like to become celebrities but cannot yet fully afford it. The price elasticity of the demand for such evenings by the old aristocracy is less than unity while that of the 'wannabes' is greater than unity. Assuming that the company cannot discriminate in pricing the evenings:

- (a) under which circumstances will the evenings be offered to both groups of consumers?
- (b) under which circumstances will the evenings be offered only to one group of consumers?
- (c) how would your answers to (a) and (b) change if the price elasticity of the old-aristocracy was greater than that of the 'wannabe'?

Question 5

In a proposed cost cutting exercise, a firm offers its workforce the following deal: a cut in regular wages but a considerable increase for all overtime work. Suppose that a labourer initially worked L_0 hours at the going real wage of ω_0 ($\omega = w/p$) and that overtime is paid for all hours above L_0 .

- (a) What will happen to the labour supplied by this individual?
- (b) Does your answer depend on whether the worker was initially at the upward sloping part of his, or her, labour supply or at the backward bending part of it?
- (c) Will the firm end up paying an individual more or less than it did originally? Will workers be better or worse off?

Section B: Macroeconomics**Question 6 (short questions)**

- (1) Let m be the marginal propensity to import, t be the rate of a proportional tax and c the marginal propensity to consume. The effect on output of an increase in government spending will be the same in a closed economy with a proportional tax system and in an open economy with no taxes whenever $m=tc$. True or false, explain.
- (2) "A closed economy cannot be in equilibrium if private savings do not equal investment. For similar reasons, in an open economy, a budget deficit of the same size as the current account deficit will make actual investment entirely dependent on private savings". Comment on these statements.

- (3) There is no 'paradox of thrift' in an open economy without a capital account under a fixed exchange rate regime. True or false, explain.
- (4) In a closed economy with flexible prices and wages, an increase in government spending financed by borrowing will reduce investment by exactly the same amount. True or false, explain.
- (5) The mere wish of the public to keep more of its money in the banks will bring about an increase in the supply of money. True or false, explain.
- (6) An increase in government deficit accompanied by an increase in net imports will leave actual domestic investment intact. True or false, explain.
- (7) "The present value of £10 at the end of every year from now to eternity must be less than 1". True or false, explain.
- (8) The total value of loans in an economy is £400bn and the reserve ratio is 20%. An increase of £50bn in the money which the public keeps in commercial banks together with an increase of the reserve ratio to 25% will increase the total amount of loans only by £50bn. True or false, explain.
- (9) "The Phillips curve is merely a set of observations. Surely it cannot help in explaining anything". True or false, explain.

Question 7

To encourage savings, the government proposes to shift from an income tax system to a system of consumption tax. In a closed economy:

- (a) what will be the effects of the change on the multiplier?
- (b) what will happen to equilibrium levels of income, consumption and savings when wages and prices are fixed?
- (c) how will your answer to (b) change had wages and prices been flexible?

Question 8

In an open economy, the government commits itself to a balanced budget. Equally, it commits a known fraction of its spending for purchases abroad. Suppose that the tax system is based on proportional tax and that the tax is adjusted to spending. Analyse the effects of an increase in the tax rate:

- (a) in an open economy without capital mobility and a fixed exchange rate;
- (b) in an open economy with perfect capital mobility and a fixed exchange rate;
- (c) in an open economy with perfect capital mobility and a flexible exchange rate.

- (d) how would your answer to (a) change had the tax system been based on a lump-sum tax.

Question 9

Some people envisage a sharp increase in the proportion of old age pensioners in the population. Assuming that pensions are paid out by the government and that old age pensioners tend to spend more time abroad than the young, what will be the effects of the increase in their number on the economy:

- (a) when there is no capital mobility and the exchange rate is fixed;
- (b) when there is capital mobility and the exchange rate is fixed;
- (c) when there is capital mobility and the exchange rate is flexible.