

6 May 2021 9.30 to 11.10

Module 3E1

BUSINESS ECONOMICS

*Answer not more than **two** questions.*

All questions carry the same number of marks.

*The **approximate** percentage of marks allocated to each part of a question is indicated in the right margin.*

*Write your candidate number **not** your name on the cover sheet.*

STATIONERY REQUIREMENTS

Single-sided script paper

SPECIAL REQUIREMENTS TO BE SUPPLIED FOR THIS EXAM

CUED approved calculator allowed

10 minutes reading time is allowed for this paper at the start of the exam.

You may not start to read the questions printed on the subsequent pages of this question paper until instructed to do so.

1

- (a) If the US were to ban the export of wheat, what would be the effect on the price of rice in Japan? Explain with diagrams. [25%]

This is a chance to explore the comparative statics of supply and demand. A good answer would examine the market diagram for wheat in Japan and rice in Japan and explain the relationship between wheat and rice as substitute goods. Banning exports would raise the price wheat globally and in Japan, causing a rise in both the demand for and price of rice in Japan. A really good answer might also mention the effect on Japanese rice producers who would see higher prices and expand production along their short run marginal cost curves.

- (b) If the US were to ban the export of wheat, what would be the effect on wheat producers in the US? Explain with diagrams. [25%]

This is now a chance to look at the US. A market supply and demand diagram is required to show a lowering of demand as export demand is removed. This then leads to lower output and prices. A firm cost curve diagram can be used to show the actual effect on producers, who would lower production along their short run marginal cost curves. A really good answer might discuss the impact on a low cost profitable farmer and on a farmer who was initially just breaking even, one would lower output but stay in business, the other would exit wheat production in the long run.

- (c) Explain with diagrams how advertising affects the demand curve for a product. [25%]

This involves a discussion of how advertising impacts the demand curve. The reasonable answer will discuss how advertising shifts the demand curve out and that it would be better if it increased willingness to pay in the price setting part of the market more. A really good answer would explain further that advertising was about changing preferences and rotating indifference curves.

- (d) Contrast how technological progress and an increase in regulation affect the supply curve in an industry. [25%].

Technological progress lowers the supply curve, regulation usually shifts it up. Good answers should explain why this would happen and that this is about the effect on underlying costs, which lie behind the supply curve. Really good answers might explain that behind the shifting curves the position of the isoquants were changing and that this was what moved the total cost curve, marginal costs and hence the supply curves of firms and the whole industry.

2

- (a) Give an example of a game with two Nash equilibria and explain what economic situation it might be modelling [25%]

We discussed this example in the lectures. This might be modelling for instance a situation where two large firms in a market benefit from product differentiation or from coordination on a common standard. A really good answer will explain examples of such firms and the sort of coordination they were engaged in and also how historically the observed equilibrium came about (e.g. Samsung and Apple). It is important to make sure that the off equilibrium payoffs make sense and relate to the example that you choose.

- (b) Explain carefully, and with real examples, how the Cournot and Stackelberg models of oligopoly differ. [25%]

We discussed these examples in lectures. The key thing was that Cournot firms revealed their strategies at the same time, but a Stackelberg leader got to move first. The Cournot firms were the same size, while the leader in Stackelberg was larger than the follower. We gave the example of supermarkets often exhibiting either Cournot or Stackelberg characteristics in different towns.

- (c) Give three examples of second-degree price discrimination, in case highlight what exactly allows such price discrimination to take place. [25%]

Possible examples are: block pricing of electricity, mobile phone tariffs, 'Buy 2 get the second at half price' offers etc. The key was quantity differentiation of average pricing and that all bundles were freely available. A good answer would show in a diagram how this could raise profits. A really good answer might note that the ability to prevent bulk buyers reselling was important. It is important not give examples which are actually third degree price discrimination (e.g. discriminating across time, space or identifiable characteristics such as credit worthiness or student status) or examples of vertical product differentiation where the quality of product is being differentiated (e.g. business class seats).

- (d) Why might the University of Cambridge have monopsony buying power in certain labour markets in Cambridge? Explain and Discuss. [25%]

A good answer should present and discuss the monopsony diagram and state that this is about the University being able to reduce employment and wages in order to maximise its own producer surplus. People like living in Cambridge and the University is a large employer in a small town. Given that it purchases most of the cleaners, administrators and support staff then it would be expected to be able to have monopsony buying power. A really good answer, might explain that this might be much less for academics who are more mobile and can work remotely or commute to London easily.

3

- (a) Explain, with the use of diagram, why the government might introduce a congestion charge for traffic in a large city. [25%]

A good answer will draw the congestion diagram discussed in lectures and show that there is an externality to be priced. It is important to label the diagram correctly and clearly show the optimal congestion charge. Better answers might make explicit reference to London or Singapore and discuss how fixed costs are important and also what can be done with the money raised.

- (b) Is there likely to be more or less use of congestion charging for transport in the future? Discuss your answer with reference to the potential move away from the internal combustion engine. [25%]

There is no right answer to this question. More congestion charging might be necessary because EVs will be even cheaper to use per mile and hence will have to be priced in order to prevent grid lock. The government might also be under pressure to raise tax revenue to compensate for the loss of fuel duty. Less congestion charging might be necessary if high fuel taxes actually increase public transport use, walking etc., so we move away from private transport. Explicitly showing either or both of these within the congestion diagram would make for a much better answer.

- (c) Explain the components of the GDP expenditure equation. [25%]

We discussed this in lectures. Y, C, I, G, X, M . A good answer gets them all right and discusses their rough relative size in a typical economy and makes the explicit link to GDP. Better answers would explain that G is only government production of goods and services (not transfer payments, which show up in consumption or investment) and explain the difference between GDP measured at market and basic prices.

- (d) Using the GDP expenditure equation, contrast the impact of the Brexit referendum of 2016 and the COVID-19 pandemic of 2020 on the UK economy [25%]

Good answers should discuss the impact of Brexit and COVID-19 in terms of ability to spend on consumption and investment, government expenditure and net exports. A really good answer would suggest that the two are of completely different magnitude (say 3% vs up to 25% of GDP). In class, we discussed how the Brexit did reduce the growth of investment and created some uncertainty for consumers, though the fall in the value of the pound should have promoted net exports. The best answers would spot that both impact investment but COVID-19 really hits consumption, while the net impact of both on net exports is relatively small.

END OF PAPER