Economics
Higher level
Paper 3

9 November 2023

Zone A afternoon | **Zone B** afternoon | **Zone C** afternoon

1 hour 45 minutes

Candidate session number

Instructions to candidates

- Write your session number in the boxes above.
- You are permitted access to a calculator for this paper.
- Do not open this examination paper until instructed to do so.
- Answer all the questions.
- Answers must be written within the answer boxes provided.
- Unless otherwise stated in the question, all numerical answers must be given exactly or correct to two decimal places.
- You must show all your working.
- Use fully labelled diagrams where appropriate.
- The maximum mark for this examination paper is **[60 marks]**.
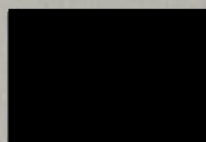
Answer **all** the questions. Answers must be written within the answer boxes provided.

1. (a) (i) Define the term *common pool resources (common access resources)*. [2]

(ii) The phrase "tragedy of the commons" is associated with examples of common pool resources (common access resources). Using a production externalities diagram, explain the meaning of this phrase. [4]

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Turn over

(Question 1 continued)

The following information is about Portugal's gross national income (GNI) and European seabass* consumption.

Table 1

Year	GNI per capita (PPP US$)
2015	29 960
2016	31 607
2017	33 044
2018	34 928
2019	36 172

Table 2

	Household consumption of European seabass (kilograms, thousands)	Price (euro/kilogram)	Expenditures (euros, thousands)
2016	3303	7.03	23 220.09
2017	4504	6.27	28 240.08
2018	5587		33 522.00
2019	6262	6.66	41 704.92

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* European seabass: fish native to Europe's western coast

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(Question 1 continued)

(iii) Using the data in **Table 2**, calculate the price elasticity of demand for European
seabass following the change in price from 2017 to 2018.

[3]

(iv) Using the data in **Table 1** and **Table 2**, calculate the income elasticity of demand
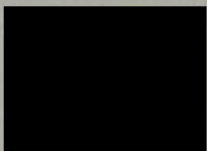for European seabass when per capita incomes in Portugal changed from
2017 to 2018.

[2]

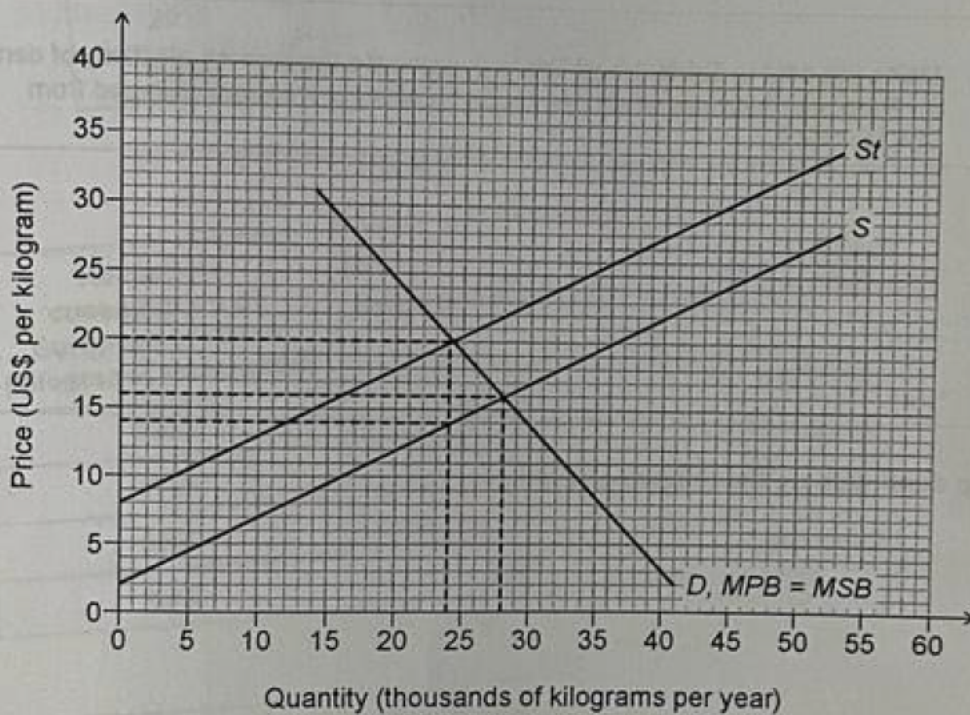**(This question continues on the following page)**

(Question 1 continued)

Fisheries in the open sea are considered an example of a common pool resource. According to the World Bank almost 90% of global marine fish stocks are now either fully exploited or overfished. Today, each person eats on average 19.2 kg of fish a year – around twice as much as 50 years ago.

The government of a small island nation decides to impose a tax on pollock, the top fish catch in the world, in an attempt to limit overfishing.

Figure 1 illustrates the domestic pollock market, where S is the domestic supply, St is the domestic supply after the tax is imposed, D is the domestic demand, MPB is the marginal private benefit and MSB is the marginal social benefit.

Figure 1

Quantity (thousands of kilograms per year)

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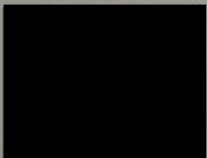
(Question 1 continued)

(v)   Using **Figure 1**, calculate the impact of this tax on the producer surplus for the island nation's fishermen.   **[2]**

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A politician was quoted stating that this tax is regressive and, therefore, unfair.

(vi)   Explain why this tax is regressive.   **[2]**

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The same politician argued that regulating the behaviour of the local fishermen would be more effective than imposing a tax.

(vii)   State **one** kind of regulation this island nation could adopt to decrease the risk of depleting the pollock fish stock in its sea.   **[1]**

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(Question 1 continued)

It has been reported that:

- The European Union (EU) is implementing fishing quotas as part of a strategy to limit overfishing. However, it has been reported that some EU shipping companies catch more than their EU fish quota as they are registered in countries outside the control of the EU. Policies instituted by governments are not effective in international waters, where no government has legal power.
- Sustainable Development Goal (SDG) 14 is to 'conserve and sustainably use the oceans, seas, and marine resources for sustainable development'. However, many governments pay subsidies that encourage overcapacity and overfishing. Global fishery subsidies are estimated at US$35 billion annually and two thirds of that is used to increase fishing capacity. Efforts by the World Trade Organization (WTO) to limit these subsidies have yet to succeed.
- The lobster fishery in the United States (US) state of Maine is an example of successful collective self-governance of a common pool resource. Collective self-governance is often successful but is applicable to only some common pool resources.

(viii) Explain why collective self-governance can, under certain conditions, lead to sustainable management of common pool resources. [4]

The following information relates to the risk of fisheries being depleted around the world.

- In fishing industries around the world, taxes on the quantity of fish caught are used. Taxes do raise revenue for governments, but if the tax is too high it may lead to problems, such as the under-declaring of the size of the catch and increased sales in unregulated markets.
- Several countries, including New Zealand, have introduced transferable quotas that are similar to tradable permits. Canada has also successfully adopted such a system to control the sea scallop fishery off its Atlantic Ocean coast.

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(Question 1 continued)

(b) Using the text/data provided and your knowledge of economics, recommend a policy which could be introduced to limit the unsustainable use of fisheries around the world. [10]

2. The Czech Republic is a member of the European Union (a common market) but not of the Eurozone (a monetary union).

(a) (i) Distinguish between a common market and a monetary union. [3]

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(ii) Outline **one** disadvantage of joining a monetary union. [1]

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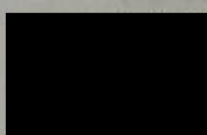**(Question 2 continued)**

The data in **Table 3** show the prices of the items included in the basket of goods that the typical consumer in the Czech Republic buys in Czech Koruna (CZK), the currency of the Czech Republic. The quantities purchased are used as weights.

Table 3

	Quantities purchased (kg per year)	Prices in CZK (per kilogram)		
		2018	2019	2020
Rice	6	37	36	35
Spaghetti	12	35	36	35
Beef	18	208	222	228
Butter	4	171	205	152
Apples	30	30	27	34

Table 4 shows the cost of the basket of goods that the typical consumer in the Czech Republic buys in 2018 and in 2020 in CZK as well as the consumer price index (CPI) for 2019.

Table 4

	2018	2019	2020
Annual expenditures (CZK)	5970		6362
Consumer price index (CPI)		105.09	

(iii) Using **Table 3**, calculate the expenditures of the typical consumer in the Czech Republic in 2019. Enter your results in **Table 4**. [1]
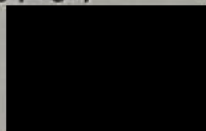
(iv) Using **Table 4** and assuming 2018 is the base year, calculate the CPI for the Czech Republic for 2020. Enter your results in **Table 4**. [1]

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(Question 2 continued)

    (v)   Using **Table 4**, calculate the rate of inflation in the Czech Republic for 2019 and for 2020.

[2]

    (vi)   Using your answer to part (a)(v), calculate the real rate of interest in 2019, given that the nominal interest rate was 12.44%.

[1]

    (vii) Explain **two** limitations of using the CPI to measure inflation.

[4]

    (viii) If in 2018 US$ 1.00 = CZK 22.72, calculate how many US dollars (US$) an American would need in order to buy the same basket of goods that the typical Czech consumer bought in 2018.

[1]

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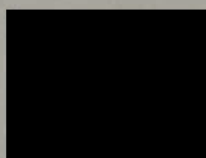
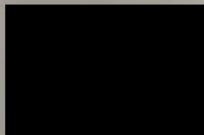**(Question 2 continued)**

The following relates to Kenya, a country in East Africa with its coastline on the Indian Ocean.

- Kenya experienced steady economic growth between 2014 and 2018 as real gross domestic product (GDP) increased by an average of 5.6% annually. In 2019, growth slowed down primarily due to weak investment. The weakening of investment was a result of crowding out as the budget deficit grew to 7.7% of GDP in 2018.

- Structural reforms in the banking sector are necessary to accelerate growth. Transforming the large number of small banks in Kenya to a small number of larger banks would decrease lending risks and permit the larger banks to benefit from economies of scale, potentially leading to lower interest rates charged on loans.

- Continued lack of access to credit and high borrowing costs for small and medium-sized enterprises (SMEs) are reported. SMEs account for about 90% of all enterprises in the country.

- Kenya's infrastructure is lacking. Public expenditures of almost US$4 billion per year are required to meet the country's infrastructure needs. The World Bank estimates that improving infrastructure could increase Kenya's per capita growth rate by three percentage points.

- Taxes in Kenya amounted to 17.3% of GDP in 2019, which was higher than the average for African countries.

- According to the World Bank, corruption in Kenya is one of the biggest obstacles for Kenya's business sector, scaring away foreign investors. Public service corruption makes starting a business very costly and complying with administrative requirements extremely time-consuming.

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(Question 2 continued)

(ix)   Define the term *crowding out*.

[2]

(x)   Using an appropriate diagram, explain the impact of deteriorating infrastructure on Kenya's potential output.

[4]

(Question 2 continued)
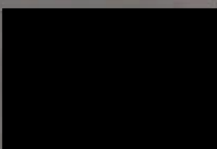
(b)   Using the text/data provided and your knowledge of economics, recommend a policy to the government of Kenya that would lead to higher investment.

[10]