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**Economics
Higher level
Paper 3**

15 May 2023

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

Candidate session number

1 hour 45 minutes

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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 **[58 marks]**.



Answer **all** the questions. Answers must be written within the answer boxes provided. Use fully labelled diagrams where appropriate.

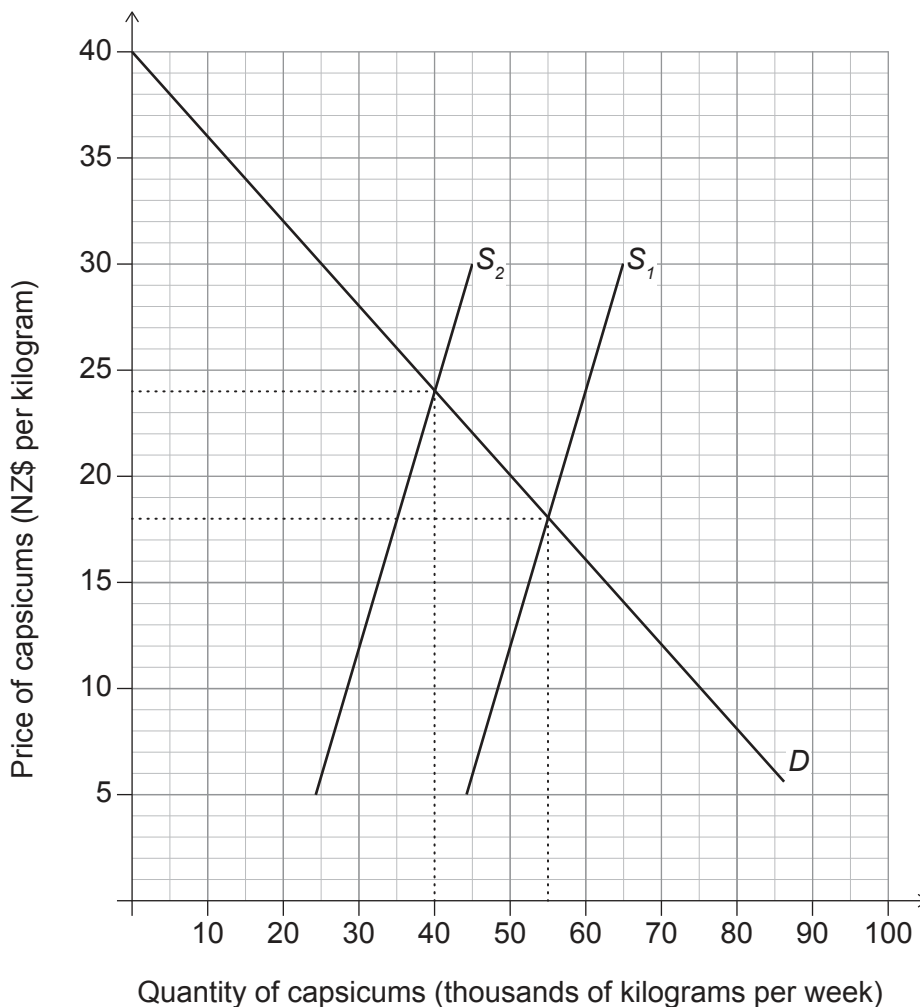
1. Capsicum prices reach NZ\$24 per kilogram

The price of capsicums, a common vegetable in New Zealand, reached an all-time high of NZ\$24 per kilogram (kg) in 2021. Vegetable prices in New Zealand rose 15% in 2021, driven by higher prices for cucumbers, lettuce, capsicums and broccoli.

A consumer prices analyst said “prices for many vegetables typically rise in winter. However, we are seeing larger rises than usual for this time of the year and for a greater number of vegetables.” It has been suggested that price increases are larger than usual because of the market power of the supermarkets in New Zealand.

Figure 1 illustrates a decrease in supply in the market for capsicums in New Zealand.

Figure 1



(This question continues on the following page)



(Question 1 continued)

- (a) (i) Using the information in **Figure 1**, calculate the price elasticity of demand for capsicums when the price increases from NZ\$18 per kg to NZ\$24 per kg. [2]

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- (ii) Calculate the loss in consumer surplus resulting from the increase in the price of capsicums from NZ\$18 per kg to NZ\$24 per kg. [2]

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Assume that the rate of indirect tax on capsicums in New Zealand is 20%. The price of capsicums includes the indirect tax.

- (iii) Calculate the revenue per kilogram (after tax has been paid) to producers (supermarkets) when the price is NZ\$24 per kg. [2]

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16EP04

(Question 1 continued)

- (iv) With reference to **Figure 1**, explain why the price elasticity of demand for capsicums would change if the price continued to increase beyond NZ\$24 per kg. [4]

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High profits: New Zealand considers breaking up supermarket duopoly¹

New Zealand’s supermarket industry is dominated by two huge firms, Foodstuffs and Woolworths. Together, their stores control about 85% of the total market, giving them significant market power.

A report by the New Zealand Commerce Commission has found that these supermarkets are making huge profits and charging some of the highest prices in the OECD².

A government official said the government would “do whatever it takes to make sure New Zealanders get a fair deal at the checkout”.

The major retailers appear to avoid competing strongly with each other, particularly on price. Meanwhile, competitors wanting to enter the market or expand face significant barriers to entry, including a lack of suitable sites for large scale stores.

The government has strict regulations limiting the sites that can be used for building supermarkets. The big supermarkets have been buying the limited sites in order to prevent competitors from entering the market.

It has been reported that the entry of a German retailer into the Australian supermarket industry, which was also dominated by two firms, has increased competition, cut prices by around 13% and saved customers more than NZ\$2 billion per year.

¹ duopoly: a market dominated by two firms

² OECD: The Organisation for Economic Co-operation and Development

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Turn over

(Question 1 continued)

(v) Define the term *market power*.

[2]

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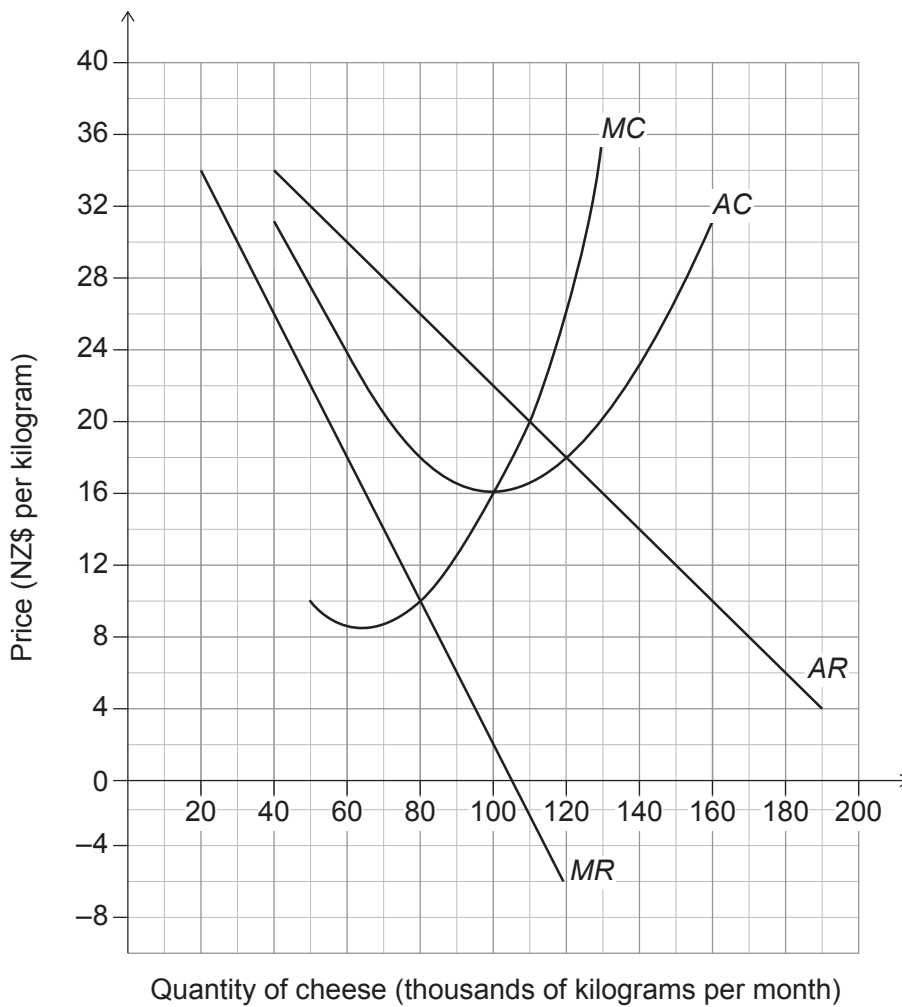
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Figure 2 illustrates a market in which two firms act as a monopolist in the market for cheese by colluding on the price they charge.

Figure 2



(This question continues on the following page)



16EP06

(Question 1 continued)

- (vi) With specific reference to the information in **Figure 2**, explain how two firms acting as a monopolist by colluding on price could lead to market failure. [4]

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- (vii) Using the data provided in **Figure 2**, calculate the profit earned by these firms if they are operating at the profit-maximizing level of output in the market for cheese. [2]

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(viii)

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16EP08

- 2. Experts have predicted that the naira (Nigeria’s currency), which operates under a fixed exchange rate system, will be devalued in the coming months.

Many Nigerians convert their savings into foreign currencies as protection against the falling value of the naira and surging inflation, according to a recent research paper published by the Central Bank of Nigeria.

Africa’s largest economy devalued the naira twice last year after a crash in the price of oil. While oil contributes less than 10 % to Nigeria’s gross domestic product (GDP), it accounts for nearly all foreign exchange earnings.

The naira has lost 66 % of its official value since 2009 when it exchanged at ₦149 per US dollar (US\$).

An economics professor predicts that the naira will be further devalued due to foreign investors selling their currency and choosing to invest elsewhere.

Another economist says that the naira has fallen in value due to the balance of trade deficit. Most of the rice consumed in Nigeria is imported because domestic production is not sufficient to satisfy the needs of the population. Consumer goods such as cooking oil, cars, fuel and clothes are mostly imported.

The economist recommends, “If you have naira, you should go and exchange into dollars or pounds or any foreign exchange.”

Table 1: Selected economic data for Nigeria

	Consumer Price Index	Nominal GDP (billion naira)	GDP deflator	Population (million)
2020	310.2	142 588	202.67	206
2021	361.2	160 056	230.09*	212

* estimated

- (a) (i) Using the information provided in **Table 1**, calculate the inflation rate for Nigeria between 2020 and 2021.

[2]

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16EP10

(Question 2 continued)

- (ii) Using the information provided in **Table 1**, calculate the real GDP in naira for Nigeria in 2020. [2]

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- (iii) Using the information provided in **Table 1** and your answer to part (a)(ii), calculate the real GDP per capita in naira for Nigeria in 2020. [2]

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16EP11

Turn over

(Question 2 continued)

Nigeria’s fixed exchange rate

Nigeria maintains a fixed exchange rate for its currency, despite demands for reform from the International Monetary Fund and The World Bank. These institutions say a floating naira would help the economy withstand future shocks. But Nigerian authorities fear inflation stemming from a sharp depreciation could throw millions into poverty. Inflation has risen steadily since mid-2019, reaching nearly 18% in May 2021. Although inflationary pressure is partly due to cost-push factors, it is also caused by the government’s expansionary fiscal policy.

The global recession and oil price crash damaged Africa’s largest economy, 90% of whose foreign exchange earnings come from oil exports, pushing it into its second recession in four years. The recession ended by the fourth quarter, but the drop in oil revenues led to a current account deficit of US\$16 billion last year and has depleted its foreign reserves.

Table 2

Year	Official Exchange Rate (Naira per US\$)
2018	306.5
2020	379.5

- (iv) A Nigerian business pays US\$14 000 every year to a consultant in the United States. Using the information in **Table 2**, calculate the increase in the cost of this payment (in naira) between 2018 and 2020. [2]

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It is estimated that if the naira were floating, the exchange rate would be ₦470 per US\$ in 2020 and therefore the currency is overvalued at the official exchange rate.

- (v) Define the term *overvalued currency*. [2]

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(Question 2 continued)

- (vi) Using an exchange rate diagram, explain how the Central Bank of Nigeria might attempt to maintain a fixed exchange rate.

[4]

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16EP13

Turn over

(Question 2 continued)

In 2020 an American importer purchased a shipment of garments from Nigeria costing ₦800 000.

(vii) Calculate the cost of this shipment in US\$ at the official exchange rate (**Table 2**). [2]

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(viii) Using an AD/AS diagram and information from **Table 2**, explain how the change in the official value of the naira between 2018 and 2020 might have influenced the rate of inflation for Nigeria. [4]

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16EP14

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References:

1. Taunton, E., Stuff Limited, 2021. *Capsicums hit \$24 a kilo as vegetables lead sharp rise in food prices* [online] Available at: <https://www.stuff.co.nz/business/125735364/capsicums-hit-24-a-kilo-as-vegetables-lead-sharp-rise-in-food-prices> [Accessed 15 March 2022] Source adapted.

McClure, T., 2021. *'Extraordinary profits': New Zealand considers breaking up supermarket duopoly* [online] Available at: <https://www.theguardian.com/world/2021/jul/29/extraordinary-profits-new-zealand-considers-breaking-up-supermarket-duopoly-woolworths-foodstuffs> [Accessed 15 March 2022] Source adapted. Copyright Guardian News & Media Ltd 2023.

Ryan, P., 2019. *ALDI's attack on the supermarket duopoly has 'helped strangle inflation'* [online] Available at: <https://www.abc.net.au/news/2019-05-02/aldi-breaks-supermarket-duopoly-kills-inflation/11073342> [Accessed 15 March 2022] Source adapted.
2. National Bureau of Statistics, 2021. *CPI and Inflation Report December 2021* [online] Available at: <https://nigerianstat.gov.ng/elibrary/read/1241113> [Accessed 12 July 2023] Source adapted.

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