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Surname: StemUp Model Solution | Other names:

Pearson Edexcel Level 3 GCE

Centre Number | Candidate Number

Economics A

Advanced
Paper 3: Microeconomics and Macroeconomics

Friday 15 June 2018 – Morning
Time: 2 hours

Paper Reference
9EC0/03

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- There are two sections in this question paper.
- In Section A, answer **all** questions 1(a) to 1(c) and **one** question from 1(d) or 1(e).
- In Section B, answer **all** questions 2(a) to 2(c) and **one** question from 2(d) or 2(e).
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 100.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Calculators may be used.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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SECTION A

Read Figures 1 to 3 and the following extracts (A, B and C) before answering Question 1.

Answer ALL Questions 1(a) to 1(c), and EITHER Question 1(d) OR 1(e).

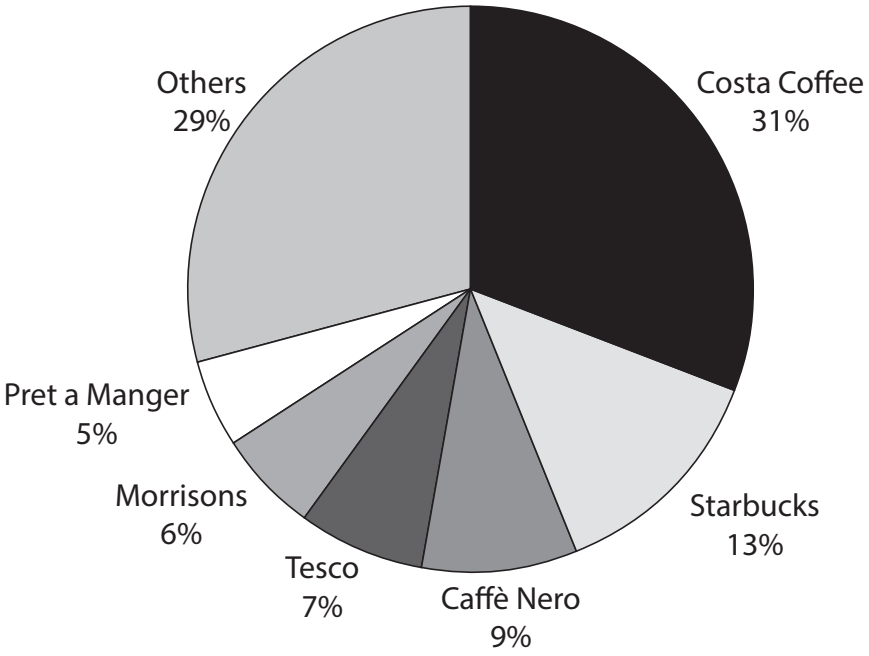
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 1

Branded coffee shops

Figure 1: Market share of UK branded coffee shops, 2015, percentages

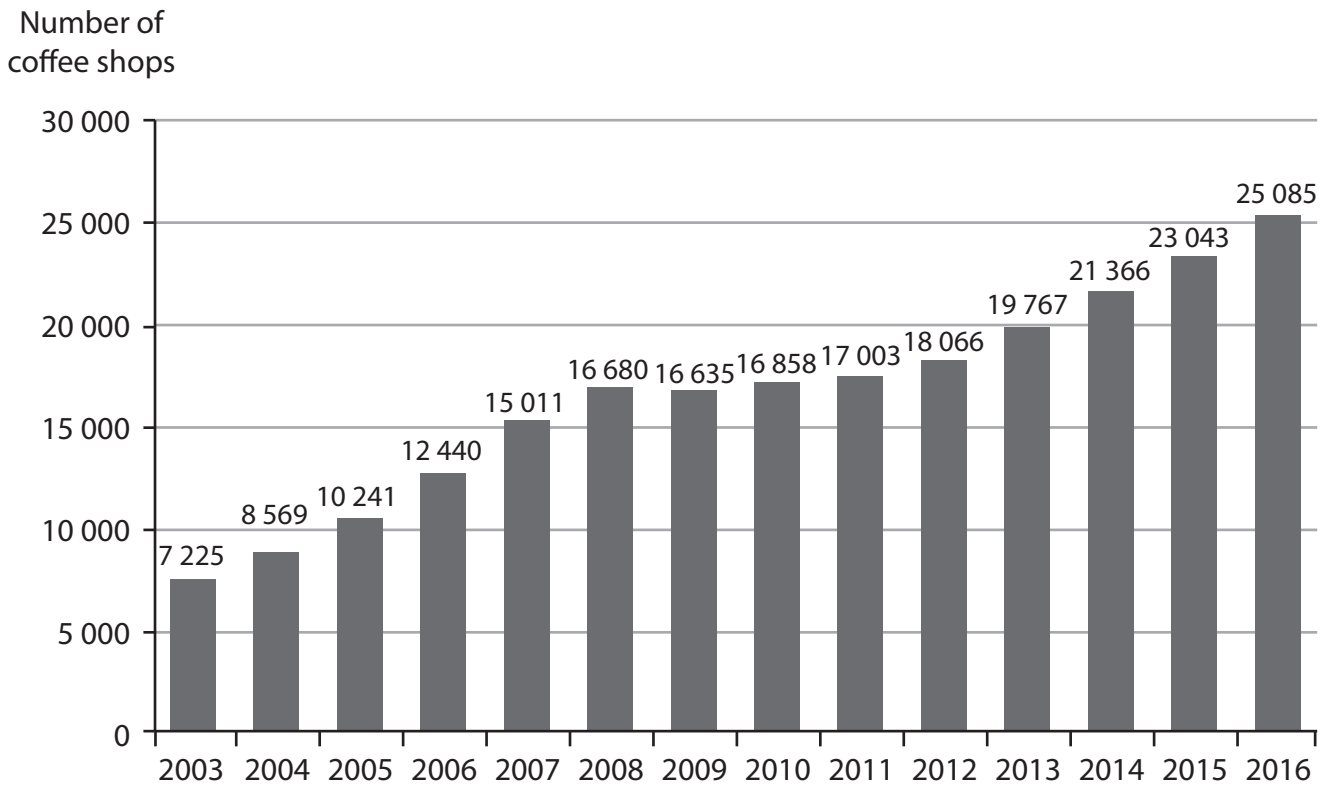


(Source: http://metro.co.uk/2015/12/14/the-uks-most-popular-coffee-shop-has-been-revealed-5564569/)

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Figure 2: Number of Starbucks coffee shops worldwide, 2003–2016



(Source: https://www.statista.com/statistics/266465/number-of-starbucks-stores-worldwide/)

Figure 3: Price comparison in selected London coffee retailers, February 2017

Coffee style	Starbucks	Costa Coffee	Caffè Nero	Greggs	McDonald's
Espresso Double	£2.00	£2.00	£1.70	£1.65	£0.99
Latte Medium	£2.60	£2.50	£2.50	£1.80	£1.79
Latte Large	£2.80	£2.70	£2.80	£2.10	£2.09

(Source: data collected from coffee shops in Holborn, London on 25 February 2017)

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Extract A

Starbucks in Britain – a loss-making business?

Coffee shops are among the most profitable parts of the food and drink industry, and few are doing quite as well as Starbucks, a US-based transnational company. Starbucks may be complaining of adverse global market conditions but that did not stop the world's biggest coffee chain from reporting record annual profits in 2016. It made a profit of almost US$4.2 billion for the year, up 16% on 2015. That was mainly the result of a strong performance in its biggest market, America, where revenue rose 11%. The fastest growth was in the China and Asia Pacific region, with revenue up 23%. Howard Schultz, the CEO of Starbucks, said its Chinese coffee shops were the most efficient and profitable. While Starbucks still makes most of its profit in the US, Mr Schultz has said expansion in China will secure its future for "decades to come" and announced plans to more than double the number of shops in China to 5 000 by 2021.

However its British subsidiary, at first glance, appears to be doing less well. It has announced its first ever profit in Britain in 2015 – of just £1 million – despite opening its first coffee shop in the UK in 1998. It now has 849 UK outlets. The main reason why Starbucks has reported persistent losses in the UK is not due to a lack of demand for its coffee, but to minimise its tax bill. It is claimed that some of Starbucks' revenue earned in the UK is transferred to its Dutch subsidiary, which is charged lower rates of tax.

Starbucks is not finding life as easy in Britain as in the USA. It faces competition from home-grown chains such as Costa and Caffè Nero. Accusations of tax avoidance have also damaged Starbucks' sales to the benefit of its competitors. A survey found that a third less people rated Starbucks as their preferred coffee shop than they did before the tax-avoidance allegations were first published.

These issues have forced Starbucks to change its strategy. It has slowed down its expansion plans in the UK and has closed 67 underperforming coffee shops over the past year. It has also tried to repair its reputation by transferring its European headquarters from Amsterdam to London.

(Sources: adapted from *The Economist* 14 February 2015 http://www.economist.com/news/business-and-finance/21643271-tax and Starbucks company report 2016 and http://s21.q4cdn.com/369030626/files/doc_financials/2015/Starbucks-Fiscal-2015_Financial-Highlights.pdf)

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Extract B

Tax on disposable coffee cups?

Two and a half billion disposable cups are thrown away every year in the UK, that is, seven million every day. Only one in 400 is recycled. The UK Environment Minister has suggested that a coffee cup tax could work in a similar manner to the plastic bag charge. The 5 pence a bag charge has led to an 85% reduction in the number of bags being given out since October 2015. It is estimated that introducing a tax on disposable coffee cups would cut usage by two billion every year. One environment spokesperson, Kate Parminter, said: "We've seen how dramatically a small charge has affected public behaviour when it comes to the plastic bags and it is clearly time to extend it to coffee cups. Most people purchase a tea or coffee and throw away the cup without even thinking about it, but a charge would increase our awareness of the environmental impact."

In response, another MP welcomed her comments but said he did not believe a tax was the solution. He said: "My initial reaction is charging 5p or 10p for the cup will not work. It will not encourage people to take their own cups in if a coffee goes up from £2.60 to £2.65. I suspect a more technological answer is what we need – either the composition of the disposable cups being changed so they're more easily recyclable, or changing the technology in the recycling."

Disposable coffee cups contain a plastic coating inside the cups which prevent them from becoming soggy, making them difficult to recycle. There are just two specialist facilities in the UK that have the required equipment to separate plastic from paper for recycling. Almost no recycled paper is used in the production of disposable cups, meaning that some 43 000 trees must be cut down annually to keep up with the demand. CO_2 emissions of around 83 000 tonnes are generated every year for their production.

(Sources: adapted from http://www.independent.co.uk/news/uk/politics/disposable-coffee-cups-could-be-taxed-like-plastic-bags-environment-minister-says-a6938126.html 05/09/16 and https://www.cchdaily.co.uk/lib-dems-call-5p-plastic-bag-tax-coffee-cups)

Extract C

German city of Freiburg takes action on cutting the use of disposable coffee cups

The 'Freiburg cup', made from dishwasher-proof plastic, can be reused hundreds of times. Cups are issued with a one-euro deposit, and can be returned to any of the participating coffee shops in the German city. The cups, which are provided to coffee shops by local councils, are washed in the cafés and bakeries that have signed up to the scheme before being reused. 56 coffee retailers have signed up, and 10 000 cups are being used.

One of the main obstacles facing a wider-reaching scheme, however, is the number of café chains in Germany that are unwilling to use unbranded multi-use cups, particularly Starbucks and McDonald's. Starbucks already offers a discounted coffee for customers with a multi-use cup, but only if it is bearing the unmistakable Starbucks logo.

(Source: adapted from http://www.dw.com/en/germanys-love-for-coffee-to-go-leaves-environmental-groups-demanding-action/a-36689719)

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1 (a) With reference to Figure 1, briefly explain the market structure that best describes the UK branded coffee shop market.

(5)

(b) With reference to Figure 3 and other information provided, discuss the price and non-price strategies that Starbucks may use to increase profitability.

(12)

(c) Examine the advantages of using an indirect tax as a means of reducing the use of disposable coffee cups.

(8)

EITHER

(d) Evaluate the microeconomic and macroeconomic factors that may influence Starbucks' decision whether to expand in a particular country.

(25)

OR

(e) With reference to the information provided and your own knowledge, evaluate the microeconomic and macroeconomic effects of increased UK demand for coffee at branded coffee shops.

(25)

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(a) With reference to Figure 1, briefly explain the market structure that best describes the UK branded coffee shop market.

(5)

The UK branded coffee shop market is best described as an oligopoly: a market dominated by a few large firms that are interdependent, with barriers to entry and differentiated, branded products.

Figure 1 shows a three-firm concentration ratio of 53% (Costa 31% + Starbucks 13% + Caffè Nero 9%) and a four-firm concentration ratio of 60% (adding Tesco 7%). Costa alone has more than 25% market share, so it has a dominant position. Strong brand names such as Costa, Starbucks and Caffè Nero create brand loyalty, which acts as a barrier to entry.

Because the firms are interdependent, each must consider how rivals will react. High concentration means firms are likely to avoid price wars, so prices are rigid and similar: Figure 3 shows Starbucks, Costa and Caffè Nero all charging £2.50 to £2.80 for a latte. Consumer loyalty means demand is price inelastic, so people are prepared to pay more, and firms compete mainly through non-price competition such as branding and location, so supernormal profits are not competed away. However, 29% of the market is 'Others', so there is also a competitive fringe of smaller independent shops.

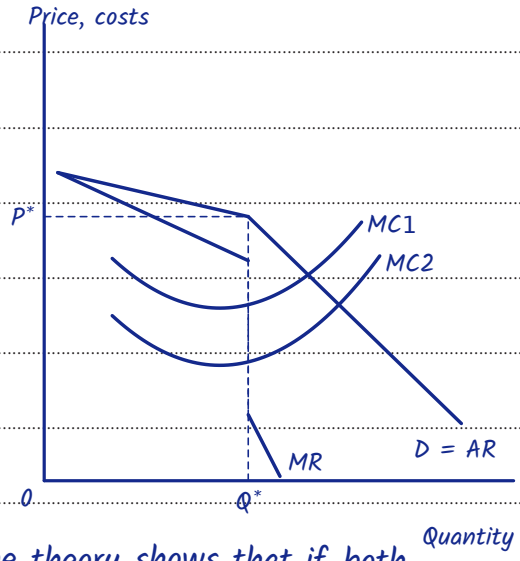
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(b) With reference to Figure 3 and other information provided, discuss the price and non-price strategies that Starbucks may use to increase profitability.

(12)

Profit is total revenue minus total cost, so Starbucks can increase profitability by raising revenue or cutting costs. Because the market is an oligopoly, any strategy must take account of rivals' reactions.

Price strategies: Figure 3 shows Starbucks charging the same as Costa for an espresso (£2.00) and only 10p more for a medium latte (£2.60 compared with £2.50), suggesting price matching or tacit price leadership. The kinked demand curve explains this. If Starbucks raises its price, rivals will not follow, so demand is price elastic and it loses many customers; if it cuts its price, rivals match it, so demand is price inelastic and revenue falls. Prices are therefore rigid at P^*, and, as the diagram shows, costs can change from MC1 to MC2 within the vertical gap in MR without changing the profit-maximising price and output.



Tacit collusion keeps prices and joint profits high. Game theory shows that if both Starbucks and Costa keep prices high, both earn higher profits than if both start a price war, so a pay-off matrix favours cooperation. Starbucks could also use price discrimination, for example a discount for customers with a reusable Starbucks cup (Extract C), which attracts price-sensitive customers without cutting price for everyone. It could use predatory or limit pricing in particular locations to drive out or deter smaller rivals, such as the 29% 'Others', with a view to higher long-run profits. As it expands to 25,085 shops worldwide (Figure 2), economies of scale in buying coffee beans lower average costs and raise its margin. However, Greggs (£1.65) and McDonald's (£0.99) are far cheaper, so competing on price alone would be costly.

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Non-price strategies avoid a damaging price war. Starbucks can strengthen its brand through advertising, focus on quality and extend its product range (food and seasonal drinks), making demand more price inelastic so it can charge a premium. Loyalty schemes, and only allowing its own branded cups for reuse in store, lock customers in. Repairing its reputation is vital, as a third fewer people rated it their preferred coffee shop after the tax-avoidance allegations; moving its European headquarters from Amsterdam to London and promoting recycling or Fairtrade coffee could win customers back. Closing 67 underperforming shops is a rationalisation that cuts costs, while opening shops in central locations near rivals, such as in Holborn, takes market share from them. However, the outcome of each strategy is uncertain. Advertising and new products raise costs and rivals may retaliate, so profits may fall in the short run even if demand rises in the long run. Predatory pricing and collusion are illegal under UK competition law, and CMA fines would reduce profitability, although enforcement is not always effective. Game theory equilibria are unstable because each firm has an incentive to cheat, and limit pricing sacrifices profit now. Loyalty schemes are costly and only work if brand loyalty is strong.

Overall, non-price strategies are likely to be more effective, because price competition in an oligopoly tends to reduce joint profits, and Starbucks' main weakness in the UK is its reputation rather than its prices.

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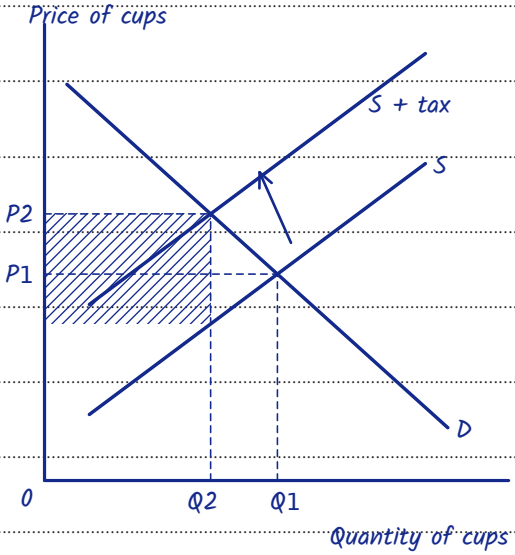
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(c) Examine the advantages of using an indirect tax as a means of reducing the use of disposable coffee cups.

(8)

An indirect tax is a tax on expenditure, such as a specific tax of 5p on each disposable cup, which raises firms' costs of supply.



The first advantage is that it reduces consumption of disposable cups and the negative externalities they create. In the diagram the tax shifts supply up from S to S + tax, so the price rises from P1 to P2 and the quantity of cups falls from Q1 to Q2.

This internalises the external cost: only one in 400 of the 2.5 billion cups thrown away each year is recycled, so cutting use reduces landfill, the 43,000 trees cut down and the 83,000 tonnes of CO2 emitted each year. Consumers switch to substitutes such as reusable cups like the Freiburg cup (Extract C). It is estimated a tax would cut usage by two billion cups a year, and the 5p plastic bag charge led to an 85% fall in bags given out, so a small charge raises awareness and changes behaviour.

The second advantage is that it raises tax revenue, the hatched area, which could fund new recycling facilities (there are only two specialist ones in the UK) or subsidise recyclable and reusable cups. It is also a market-based, soft-touch policy that still allows consumer choice, unlike a ban.

However, 5p is a tiny proportion of a £2.60 coffee (about 2%), and demand may be price inelastic as coffee is a small share of income, so usage may fall little. If firms absorb the tax rather than pass it on, behaviour will not change. The tax is also regressive. Changing the technology of cups or recycling may be more effective.

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EITHER

(d) Evaluate the microeconomic and macroeconomic factors that may influence Starbucks' decision whether to expand in a particular country.

(25)

OR

(e) With reference to the information provided and your own knowledge, evaluate the microeconomic and macroeconomic effects of increased UK demand for coffee at branded coffee shops.

(25)

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Chosen question number: **Question 1(d)** ☒ **Question 1(e)** ☒

Write your answer here:

Question 1(d)

Starbucks is a transnational company that decides whether to expand in a country by comparing expected revenue with expected costs, aiming to maximise long-run profit. Figure 2 shows it expanded from 7,225 shops worldwide in 2003 to 25,085 in 2016, and it plans to more than double its Chinese shops to 5,000 by 2021, yet it has closed 67 shops in the UK. Both microeconomic and macroeconomic factors explain these choices.

The most important microeconomic factor is the level of expected demand and so the prospect for profit. Coffee in branded shops is a normal, even luxury, good with a high income elasticity of demand, so demand grows quickly where incomes are rising. Its Chinese shops are the most efficient and profitable, with revenue up 23% in China and Asia Pacific compared with 11% in the US. Where brand loyalty is strong, demand is price inelastic, allowing a premium price and a high profit margin.

The degree of competition and contestability matters. In the UK Starbucks has only 13% of the market against Costa's 31% (Figure 1), and home-grown chains such as Costa and Caffè Nero enjoy strong brand loyalty, so it is hard to gain market share: its UK business made its first profit, of just £1 million, in 2015 despite 849 outlets. In a less mature market with few branded rivals, first-mover advantage lets it build loyalty and earn supernormal profit. Barriers to entry such as the time and cost of setting up a business, planning permission and licensing, and sunk costs such as shop fit-outs and

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advertising, raise the risk of entry.

Costs of production are also important: rents and land prices for prime high street sites, wage rates and minimum wage laws, the availability of skilled baristas and spare capacity in the labour market, and the cost of importing beans, milk and equipment. Lower costs raise the profit margin on each cup.

Regulation, the legal system and property rights matter too: secure property rights and contract law protect the brand from imitation, while heavy regulation adds costs.

At a macro level, the rate of economic growth and the growth of household incomes determine future demand. China has grown far faster than Western economies, creating a rapidly expanding middle class, whereas the UK market is mature and slow growing. Low unemployment and stable, low inflation give consumers the confidence to spend, while high inflation raises costs and creates uncertainty.

The level of corporation tax and the scope for transfer pricing affect after-tax profit. Extract A says some UK revenue was transferred to Starbucks' Dutch subsidiary, which pays lower tax, so its UK accounts showed persistent losses. Countries with low corporation tax, or in trade blocs such as the EU single market, which allows free movement of goods and capital, are more attractive because Starbucks can supply and manage outlets across many countries from one headquarters.

The value of the currency matters: a weaker local currency makes property cheaper for a US firm, but reduces the dollar value of repatriated profits, and a volatile exchange rate increases risk. Political and social stability, the quality of infrastructure and human capital, and a country's competitiveness and ease of doing business all affect the risk and cost of investing.

However, the weight of each factor depends on Starbucks' strategy. It appears to put long-run demand growth above short-run costs, expanding in China to secure its future 'for decades to come' even though rents in Chinese cities are high and regulation can be heavy. Factors may balance each other out: a fast-growing economy may also have rising wages and rents. Governments can also change the factors, for example by cutting corporation tax significantly, which reduces the gain from transfer pricing.

Reputation is a factor not captured by costs. Tax avoidance damaged Starbucks' UK sales, with a third

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fewer people rating it their preferred coffee shop, so minimising tax may reduce overall profit. This explains why it moved its European headquarters from Amsterdam to London and began reporting UK profits, so its UK slowdown may reflect reputation and competition rather than weak macroeconomic conditions. The evidence is limited too: the £1 million UK profit may understate the true profitability of UK shops because of transfer pricing.

Expected demand is uncertain: forecasts of growth in China could be wrong, a slowdown could leave Starbucks with excess capacity, and cultural preferences such as tea drinking may limit demand.

Different factors affect different firms: a premium brand such as Starbucks relies on high incomes, whereas cheaper rivals such as Greggs or McDonald's rely more on low costs.

In conclusion, the most significant factor is expected demand and profitability, a micro factor driven largely by the macro growth of incomes. Costs, taxes and exchange rates matter, but its expansion in China and retrenchment in the UK show that Starbucks expands where income growth is fast and branded competition is weak, provided the country is stable and its reputation is protected.

Question 1(e)

An increase in UK demand for coffee at branded coffee shops shifts the demand curve to the right. The market is an oligopoly in which Costa (31%), Starbucks (13%) and Caffè Nero (9%) hold 53% of the market (Figure 1), so the effects depend on how these firms respond.

For consumers, in the short run supply is price inelastic because new shops take time to open, so higher demand raises prices and reduces consumer surplus; chains with strong brand loyalty can push prices above the £2.60 to £2.80 already charged for lattes (Figure 3). In the long run firms open more outlets, so supply increases, and competition from cheaper rivals such as Greggs (£1.80) and McDonald's (£1.79) may hold prices down, while consumers gain more choice and convenience.

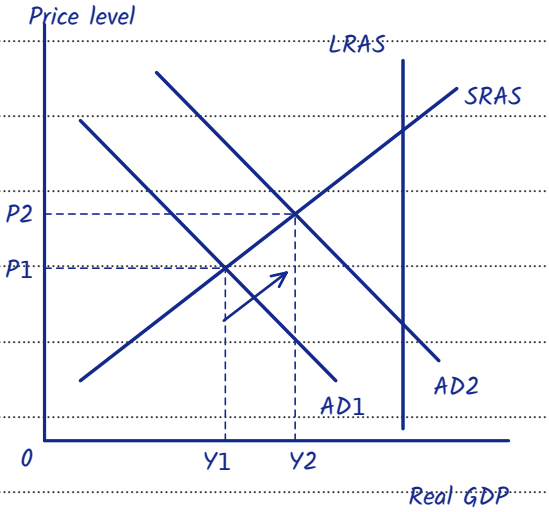
Branded firms gain higher revenue and supernormal profit, and as they expand they

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benefit from internal economies of scale, such as bulk buying of coffee beans, lowering average costs; Starbucks could build on its first UK profit of £1 million in 2015. However, independent coffee shops, part of the 29% 'Others', may lose market share and close as consumers switch to brands. Suppliers such as cup makers, dairies and coffee roasters benefit, and clusters of shops create external economies of scale.

Demand for labour is a derived demand, so demand for baristas and shop staff rises, raising employment and wages, although the cost of employing skilled baristas rises for firms. Many of these jobs are low paid and part-time, and if the supply of labour is elastic, wages rise little.

Higher sales also mean more negative externalities. Already 2.5 billion disposable cups are thrown away each year with only one in 400 recycled (Extract B), causing landfill, the felling of 43,000 trees and 83,000 tonnes of CO2 emissions, so the market overproduces relative to the social optimum unless a cup tax or a scheme like the Freiburg cup is introduced.



At a macro level, higher consumer spending raises consumption, a component of AD (C + I + G + X − M). In the diagram AD shifts from AD1 to AD2, raising real GDP from Y1 to Y2 and the price level from P1 to P2. Firms also invest in fitting out new outlets, and through the multiplier effect the final rise in national income is greater than the initial injection, as baristas and suppliers spend their extra incomes.

Employment in the service sector rises, cutting unemployment, and VAT, income tax and corporation tax revenues rise.

However, there are leakages. Coffee beans are imported from countries such as Brazil and Colombia, so imports rise and the UK current account worsens, although primary

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product producers in developing countries benefit. Starbucks is a US transnational, so profits are repatriated to its parent company, an outflow on the primary income account, and transfer pricing to its Dutch subsidiary means the UK loses corporation tax revenue (Extract A).

The size of these effects depends on the size of the increase in demand: spending on coffee is a small share of total consumer spending, so the effect on AD and GDP is likely to be very small. It also depends on whether spending on coffee is additional or simply replaces spending elsewhere, for example in pubs or restaurants. If consumers substitute away from other goods, there is no net rise in AD, only a reallocation of resources, and jobs lost elsewhere offset the jobs created.

The effect on prices and output depends on spare capacity. Close to full capacity, where SRAS is steep, higher AD mainly causes inflation; with spare capacity, output rises with little inflation. The size of the multiplier depends on the marginal propensities to save, tax and import: because much of the value of a coffee goes on imported beans and repatriated profit, the multiplier is likely to be small.

The effects on firms depend on the price and income elasticity of demand: if branded coffee has a high YED, demand will fall sharply in a recession, so the gains may be temporary. Local high streets may gain footfall, but if chains displace independent shops, local multiplier effects are weaker because profits leave the area. Environmental costs depend on whether firms adopt recyclable cups, reusable cup schemes or new recycling plants.

In conclusion, increased demand for branded coffee mainly has microeconomic effects: higher profits for the large chains and their suppliers, more jobs and more waste. Its macroeconomic effects on growth and employment are likely to be small and partly offset by imports, profit repatriation and displaced spending, so the overall impact depends on whether the spending is additional and how the external costs of cups are

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controlled.

(Total for Question 1 = 50 marks)

TOTAL FOR SECTION A = 50 MARKS

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QUESTION 2 BEGINS ON THE NEXT PAGE.

SECTION B

Read Figures 4 and 5 and the following extracts (D and E) before answering Question 2.

Answer ALL Questions 2(a) to 2(c), and EITHER Question 2(d) OR 2(e).

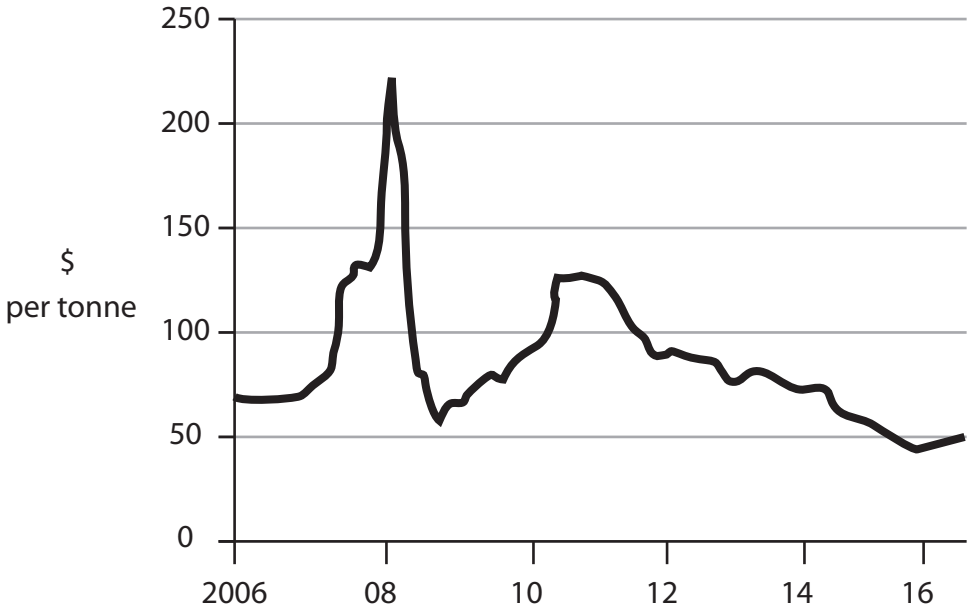
Write your answers in the spaces provided.

You are advised to spend 1 hour on this section.

Question 2

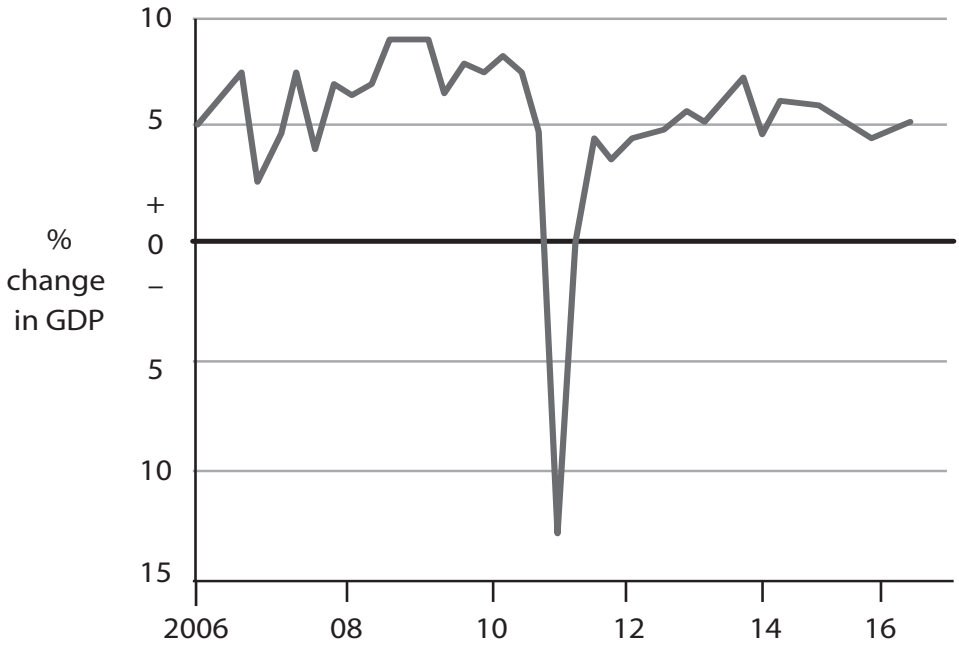
Indonesia

Figure 4: World coal prices, 2006–2016, US dollars per tonne



(Source: http://www.economist.com/news/world-week/21697025-business-week)

Figure 5: Indonesia's real GDP, annual percentage change



(Source: http://www.economist.com/news/world-week/21697025-business-week)

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Extract D

Indonesia's economic outlook

The Indonesian economy is expected to grow by an average of 4.8% a year between 2017 and 2021. Joko Widodo, president of Indonesia since 2014, is increasingly confident in his role and now has enough political support to pass some of his desired supply-side reforms. His government has been aggressively trying to improve the business and investment environment by easing regulations and offering tax incentives, for example to firms investing in special economic zones.

Indonesia receives US$2.3 billion a year in overseas development aid, which is mainly spent on education and healthcare. There is also ongoing aid from international institutions and non-government organisations paying for restructuring after the 2004 Indian Ocean earthquake and tsunami, which led to the loss of over 170 000 lives and much damage to economic livelihood. Aid agencies have supported the Indonesian government in providing healthcare free at the point of access for 88 million of the poorest people, free schooling for 12 years for each child, and tertiary education for students accepted into university. There is a scheme to provide each of Indonesia's 15.5 million poorest households with a cash transfer of 200 000 rupiah (US$14.37) a month. The World Bank has approved US$800 million in infrastructure loans to Indonesia, with another US$950 million as conditional loans. The Asian Development Bank has committed itself to lending US$2 billion. In December Japan's development agency lent Indonesia US$535 million to construct two power stations.

(Sources: adapted from http://country.eiu.com/Indonesia and http://www.economist.com/news/special-report/21693404-after-decades-underinvestment-infrastructure-spending-picking-up-last)

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Extract E

Indonesia's economic policies as commodity prices collapse

Indonesia is the world's fourth largest exporter of coal and the raw material accounts for 11% of its exports. Its other main exports are crude oil, palm oil, rubber and tin. Its main commodity exports tripled in value between 2000 and 2010, and as exports boomed, so did the economy. But the value of commodity exports has fallen by more than half from its peak. Coal now sells for just US$50 per tonne, against US$125 in 2011.

In the decade to 2014, Indonesia's real GDP grew by an annual average of 6%, but the collapse in commodity prices has slowed the economy. In 2015 growth was 4.8%, the slowest rate since 2009. But compared with many other commodity exporters, Indonesia is getting off lightly.

The value of the rupiah, Indonesia's currency, against the US dollar has fallen by 30% since 2013, but has since stabilised. Other emerging market currencies have depreciated even more steeply over that period. Despite the weak exchange rate, Indonesia's inflation rate has mostly remained within the central bank's target range of 3-5%. The main impact of the rupiah's fall has been to curb imports, helping limit Indonesia's current account deficit to around 2% of GDP despite weaker export earnings. A cautious fiscal policy during the boom years has allowed for a modest fiscal expansion to offset the effects of weak exports and investment. The national debt is just 26% of GDP.

Mr Widodo knows that Indonesia cannot raise its long-term growth rate if the economy remains reliant on coal. It needs a broader range of manufacturing and service industries. If new enterprise is to flourish, Indonesia must support local entrepreneurship. The labour market is inflexible. To start a business takes an average of 47 days, compared with four in Malaysia and two in Singapore. The President's supply-side policies are improving the business climate. The average number of days needed to approve a new power plant has declined from 900 to 200. The government recently revised its "negative investment list" of sectors in which foreign ownership is banned or restricted, fully opening up the rubber, film and restaurant sectors, among others. In 2015 he launched a series of measures to try to reduce government failure, including easing some regulations, streamlining licensing procedures for firms on industrial estates and providing tax incentives to invest in special economic zones.

The government has used savings from cutting fuel subsidies, worth over 4% of GDP, to fund extra capital spending. But the budget deficit still widened to 2.8% of GDP, very close to the legal limit of 3%. If public expenditure is to increase further, the government will need to raise more revenue. That will not be easy. Most workers and employers pay little or no tax. Only 27 million of Indonesia's 255 million people are registered taxpayers, and in 2014 just 900 000 of them paid what they owed, leaving it with a tax revenue to GDP ratio of around 10%. Big companies say that they are being squeezed harder by the tax authorities because they are an easier target.

Infrastructure spending will help bring foreign investment and good jobs to Indonesia as well as encouraging exports. Indonesia's infrastructure problem can be summed up as too few roads and congested ports. In the short term, infrastructure spending puts people to work and boosts demand for raw materials. In the longer term this spending offers the chance to make up for decades of neglect and underinvestment. Indonesia has plans for 65 dams, 16 of which are already under construction. In 2015 work started on the Keureuto Dam, designed to boost agricultural productivity in Aceh. Recently fields

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were flooded for the massive Jatigede Dam in West Java, after 20 years of delays. Once complete, the dam will irrigate 90 000 hectares of rice paddy, increasing efficiency by giving farmers two harvests a year instead of one.

(Sources: adapted from http://www.economist.com/news/special-report/21693405-secure-growth-it-needs-indonesia-must-resist-its-protectionist-urges-roll-out and http://www.economist.com/news/special-report/21693404-after-decades-underinvestment-infrastructure-spending-picking-up-last)

2 (a) Using the data in Figure 4 and other information provided, explain the likely change to Indonesia's terms of trade since 2011.

(5)

(b) Examine the likely effects on the profitability of Indonesian rice farmers of the government's increased investment in dams (Extract E, lines 43-48). Use a cost and revenue diagram to support your answer.

(8)

(c) Discuss the benefits of aid to Indonesia.

(12)

EITHER

(d) With reference to the information provided and your own knowledge, evaluate the microeconomic and macroeconomic effects on Indonesia of the volatility of prices of commodities such as coal.

(25)

OR

(e) Evaluate the likely microeconomic and macroeconomic effects of the supply-side policies recently introduced in Indonesia.

(25)

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(a) Using the data in Figure 4 and other information provided, explain the likely change to Indonesia's terms of trade since 2011.

(5)

The terms of trade measure the price of a country's exports relative to the price of its imports: index of export prices ÷ index of import prices × 100.

Indonesia's terms of trade are likely to have worsened (fallen) since 2011. Coal is one of its main exports, accounting for 11% of its exports, and Figure 4 shows the world coal price falling from about US$125 per tonne in 2011 to about US$50 by 2016 (Extract E), a fall of 60%. The prices of its other commodity exports, such as crude oil, palm oil and rubber, have also fallen, as the value of commodity exports has fallen by more than half from its peak, so the index of export prices falls.

In addition, the rupiah has fallen by 30% against the US dollar since 2013, which raises the rupiah price of imports. With export prices falling relative to import prices, the terms of trade index falls, so Indonesia can buy fewer imports for the same amount of exports.

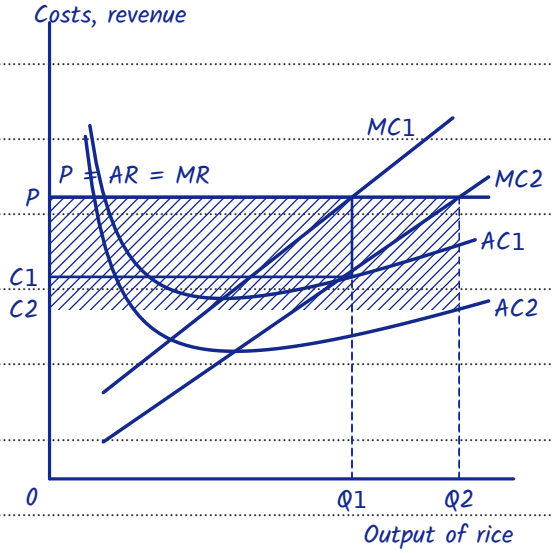
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(b) Examine the likely effects on the profitability of Indonesian rice farmers of the government's increased investment in dams (Extract E, lines 43-48). Use a cost and revenue diagram to support your answer.

(8)

Profit is total revenue minus total cost. Indonesia has plans for 65 dams, 16 of which are already under construction, and the Jatigede Dam will irrigate 90,000 hectares of rice paddy, giving farmers two harvests a year instead of one (Extract E). With irrigation, each farm produces more rice from the same fixed amount of land, so productivity rises: output roughly doubles relative to inputs such as land and labour. This lowers the average cost (AC) and marginal cost (MC) of each tonne of rice. In the diagram, farmers are price takers in a perfectly competitive market, so P = AR = MR. Costs fall from AC1 and MC1 to AC2 and MC2. The profit-maximising output, where MC = MR, rises from Q1 to Q2, and supernormal profit increases from the outlined area (P – C1) × Q1 to the larger hatched area (P – C2) × Q2. Farmers also gain revenue from selling two harvests, and a reliable water supply reduces the risk of crop failure in droughts.



However, the investment takes many years and may not be completed: the Jatigede Dam was delayed for 20 years, so the benefits are long run. The government may raise taxes or water charges on farmers to help pay for the dams, raising their costs. As farmers increase output they may face diminishing returns and higher costs of seed, fertiliser and labour. If all farmers increase output, market supply rises and, because demand for rice is price inelastic, the price falls, so revenue and profit could fall. Other methods, such as better technology, seeds or fertiliser, may raise output more cheaply.

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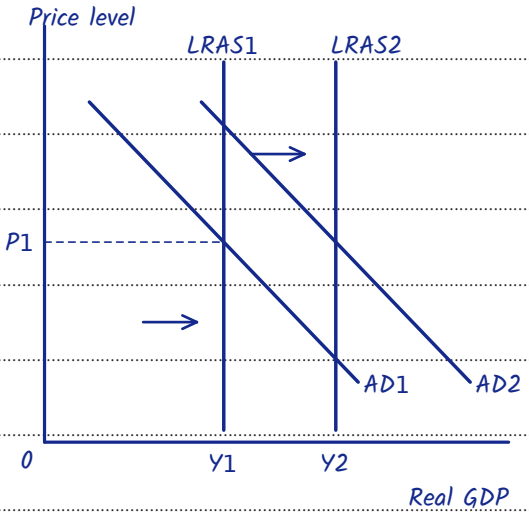
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(c) Discuss the benefits of aid to Indonesia.

(12)

Aid is the voluntary transfer of resources from one country or organisation to another on concessional terms, including grants and loans at below-market interest rates or with softer repayment conditions. Indonesia receives US$2.3 billion a year of overseas development aid, plus loans from the World Bank (US$800 million, with another US$950 million as conditional loans), the Asian Development Bank (US$2 billion) and Japan's development agency (US$535 million).



First, aid is mainly spent on education and healthcare, helping to provide free healthcare for 88 million of the poorest people and 12 years of free schooling for each child. This raises human capital and labour productivity, increasing productive potential and shifting LRAS right from LRAS1 to LRAS2 in the diagram. It also improves development indicators such as life expectancy and literacy, raising Indonesia's HDI.

Second, aid helps to fill the savings gap. The Harrod-Domar model suggests growth depends on the level of savings and investment and the productivity of capital; low incomes mean low savings, so investment is low. Aid finances infrastructure, such as Japan's US$535 million loan for two power stations and the World Bank infrastructure loans, raising the capital stock and long-run growth. Aid also fills the foreign exchange gap, allowing Indonesia to import capital goods without worsening its current account deficit of about 2% of GDP.

This matters because the government struggles to raise revenue itself: the tax to GDP ratio is only about 10% and in 2014 just 900,000 people paid the tax they owed.

Third, the cash transfer of 200,000 rupiah (US$14.37) a month to each of the 15.5 million poorest households reduces absolute poverty and inequality and helps break the poverty trap.

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Poor households have a high marginal propensity to consume, so their spending increases AD from AD1 to AD2 with a multiplier effect, raising real GDP and employment. Aid has also paid for reconstruction after the 2004 tsunami, which killed over 170,000 people, restoring economic livelihoods.

However, aid can create dependency and moral hazard, reducing the government's incentive to reform its weak tax system, and corruption or poor governance may divert funds. Much of the money is loans rather than grants, and it is not clear they are concessionary: conditional loans may impose conditions such as spending cuts, and repaying them with interest increases indebtedness when the budget deficit is already 2.8% of GDP, close to the 3% legal limit. Dependency theory argues aid, especially tied aid, can serve donors' interests. Alternatives such as FDI by TNCs, trade, microfinance or debt relief, and the supply-side reforms in Extract E, may be more sustainable.

Overall, aid benefits Indonesia because it is targeted at education, health, infrastructure and the poorest households, raising both development and long-run growth, but the size of the benefit depends on effective governance and on combining aid with supply-side reform so that the loans can be repaid.

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EITHER

(d) With reference to the information provided and your own knowledge, evaluate the microeconomic and macroeconomic effects on Indonesia of the volatility of prices of commodities such as coal.

(25)

OR

(e) Evaluate the likely microeconomic and macroeconomic effects of the supply-side policies recently introduced in Indonesia.

(25)

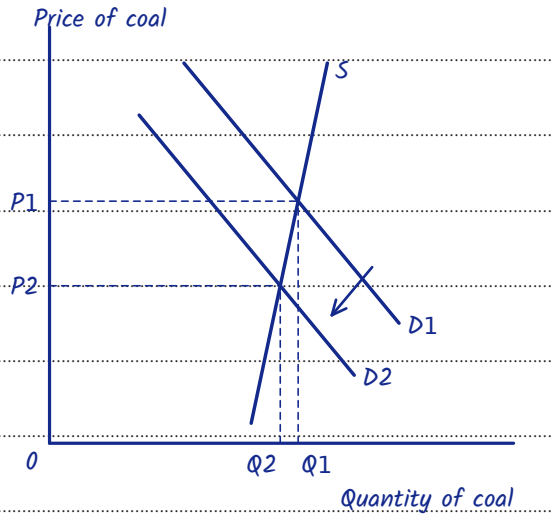
Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Chosen question number: **Question 2(d)** ☒ **Question 2(e)** ☒

Write your answer here:

Question 2(d)

Commodity price volatility means large and unpredictable changes in prices. Figure 4 shows the coal price rising from about US$70 per tonne in 2006 to a peak of about US$220 in 2008, crashing to about US$60 in 2009, rising to about US$125 in 2011 and falling to about US$50 by 2016. Indonesia is the world's fourth largest coal exporter and coal is 11% of its exports, alongside crude oil, palm oil, rubber and tin, so it is highly exposed.



Volatility arises because both demand and supply of commodities are price inelastic in the short run. Supply cannot respond quickly because new mines take years to develop, and demand is inelastic because coal has few substitutes in power generation. As the diagram shows, a small shift in demand from D1 to D2, for example due to a slowdown in China, causes a large fall in price from P1 to P2 with only a small fall in quantity.

For producers, revenue and profit become highly volatile. When prices fall, coal firms' revenue falls sharply; if price falls below average variable cost, mines shut down and less

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efficient firms go out of business. This reduces the derived demand for labour, causing job losses and lower wages in mining regions, and local firms that depend on miners' spending also suffer. Uncertainty makes it hard for firms to plan, discouraging investment. When prices rise, producers earn supernormal profits, but may overexpand. Producers of palm oil and rubber face the same problem, and poor smallholders may fall into poverty.

At a macro level, volatile export earnings cause volatile economic growth. Commodity exports tripled in value between 2000 and 2010, helping real GDP grow by an average of 6% a year in the decade to 2014; since then their value has fallen by more than half from its peak, and growth slowed to 4.8% in 2015, the slowest since 2009. Lower export revenue reduces AD through the negative multiplier, and lower investment through the accelerator; the Harrod-Domar model suggests lower savings and investment reduce long-run growth.

The balance of payments and exchange rate are affected. Lower export prices worsen the terms of trade and the current account, now in deficit by about 2% of GDP. The rupiah has fallen 30% against the dollar since 2013, raising import prices and risking cost-push inflation. Conversely, in the boom high commodity prices pushed up the rupiah, causing 'Dutch disease': manufacturing and service exports became less competitive, increasing dependence on commodities. The Prebisch-Singer hypothesis suggests primary product prices decline in the long run relative to manufactures because of their low income elasticity of demand.

Government finances suffer because tax and royalty revenue from commodity firms falls when prices fall. The budget deficit has widened to 2.8% of GDP, close to the 3% legal limit, limiting spending on infrastructure, health and education, and with a tax to GDP ratio of only 10% Indonesia is especially vulnerable. Volatility also makes it harder for the central bank to keep inflation within its 3 to 5% target, and may lead to calls for protectionism.

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However, the effects should not be overstated. Coal is only 11% of exports, so Indonesia is less dependent than many commodity exporters, and Extract E says it is 'getting off lightly'. Figure 5 shows growth staying at about 5% from 2012 to 2016 despite the coal price halving, although it also shows a sharp one-off contraction around 2011 that is inconsistent with Extract E's 6% average growth, so the data should be treated with caution. Inflation has mostly stayed within the 3 to 5% target despite the depreciation, and the weaker rupiah has helped by curbing imports.

Policy can offset volatility. A cautious fiscal policy during the boom years allowed a modest fiscal expansion to offset weak exports, and national debt is only 26% of GDP, leaving room to borrow. Savings from cutting fuel subsidies, worth over 4% of GDP, funded capital spending. Firms can use futures contracts to hedge against price changes, and buffer stock schemes or a sovereign wealth fund could stabilise incomes, although these are costly and hard to manage.

The effects also depend on the PED and YED of demand in importing countries, especially China, and on whether price changes are temporary or permanent. Volatility brings benefits too: rising prices raise export revenue, profits and tax revenue, and comparative advantage suggests Indonesia should specialise where its opportunity cost is low. Diversification into manufacturing and services, as Mr Widodo recognises, is the long-run answer, and better infrastructure helps farmers get produce to markets when prices are high, but it takes many years.

In conclusion, commodity price volatility has significant microeconomic effects on producers, workers and investment, and macroeconomic effects on growth, the current account and government finances. However, Indonesia's relatively diversified exports, low national debt and prudent fiscal policy mean the impact has been moderate, so the key long-run priority is to reduce dependence on commodities through supply-side reform.

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Question 2(e)

Supply-side policies aim to increase the productive capacity of the economy and the efficiency of markets, shifting LRAS to the right. President Widodo's government has introduced market-based policies (easing regulations, streamlining licensing, tax incentives in special economic zones and opening sectors to foreign ownership by revising the 'negative investment list') and interventionist policies (infrastructure spending on roads, ports, power plants and 65 dams, funded by cutting fuel subsidies worth over 4% of GDP).

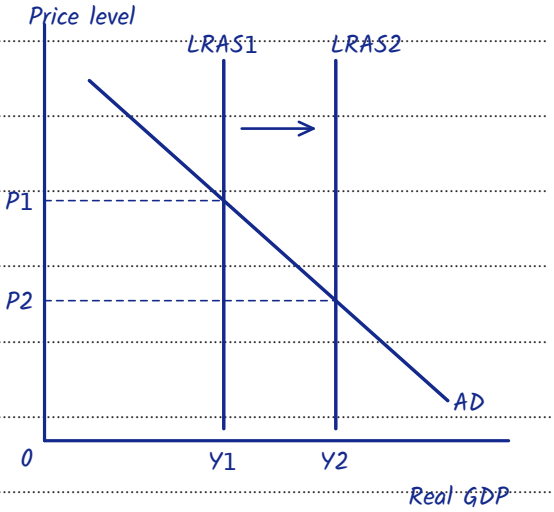
For firms, cutting red tape lowers bureaucratic costs and barriers to entry. Approval for a new power plant has fallen from 900 to 200 days, and streamlined licensing on industrial estates reduces the cost of starting a business, which still takes 47 days compared with four in Malaysia and two in Singapore. More contestable markets increase competition, lowering prices for consumers and encouraging efficiency and innovation. Tax incentives in special economic zones raise post-tax profits, encouraging investment and entrepreneurship, and opening the rubber, film and restaurant sectors to foreign ownership brings FDI, technology and management skills.

Infrastructure reduces firms' costs: more roads and less congested ports cut transport costs and delivery times, new power stations provide reliable energy, and dams raise agricultural productivity, such as the Jatigede Dam giving rice farmers two harvests a year on 90,000 hectares. Education and health reforms, such as 12 years of free schooling and free healthcare for 88 million of the poorest (Extract D), improve the quality of the labour force, raising productivity, wages and employability and reducing occupational immobility.

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At a macro level, these policies increase the quantity and quality of factors of production, shifting LRAS from LRAS1 to LRAS2 in the diagram: real GDP rises from Y1 to Y2 and the price level falls from P1 to P2, so Indonesia can achieve sustainable non-inflationary growth, forecast at 4.8% a year between 2017 and 2021. Infrastructure spending also raises AD directly through government spending and induced investment, with a multiplier effect, putting people to work in the short run. Lower costs improve international competitiveness, raising exports of manufactures and services, improving the current account and diversifying away from coal, while FDI brings a financial account inflow. Higher incomes raise tax revenue, and good jobs reduce poverty and inequality.

However, the effects depend on how successful the policies are. Supply-side policies have long time lags: Jatigede was delayed for 20 years, so benefits may take a decade to appear. Indonesia is making up for decades of underinvestment, so it may still lag neighbours such as Malaysia and Singapore, which also attract investment.



There is a fiscal constraint. The budget deficit has widened to 2.8% of GDP, very close to the 3% legal limit, so further capital spending needs more revenue, which is hard when only 27 million of 255 million people are registered taxpayers and tax revenue is about 10% of GDP. Tax incentives reduce revenue further, and squeezing big companies harder may discourage investment, a policy conflict. Borrowing to fund interventionist policies may crowd out private investment, and if AD rises faster than LRAS, inflation may exceed the 3 to 5% target.

Market-based reforms are only partial: the labour market is still inflexible, so firms may be reluctant to hire, and some sectors remain on the negative investment list. Tax incentives in special zones may relocate rather than create investment and widen regional inequality. There

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is a risk of government failure through poorly chosen projects or corruption, and cutting fuel subsidies raises costs for poor households and transport firms. Results also depend on external factors such as commodity prices and Chinese demand.

In conclusion, Indonesia's supply-side policies are likely to raise productivity, competitiveness and long-run growth and help diversify the economy away from coal. Infrastructure and lower bureaucratic costs should have the largest effects, but success depends on widening the tax base to overcome the fiscal constraint and on further labour market reform, and the full benefits will only be felt in the long run.

(Total for Question 2 = 50 marks)

TOTAL FOR SECTION B = 50 MARKS
TOTAL FOR PAPER = 100 MARKS

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