



GCE A LEVEL

A520U30-1



ECONOMICS – A level component 3
Evaluating Economic Models and Policies

FRIDAY, 15 JUNE 2018 – MORNING

2 hours 30 minutes

ADDITIONAL MATERIALS

A WJEC pink 16-page answer booklet.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Answer **one** question from Section A.

Answer **one** question from Section B.

Answer **one** question from Section C.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the need for good English and orderly, clear presentation in your answers.

SECTION A

Answer one question from this section.

1. CHANGES IN PRICE AND DEMAND AFFECT MARKETS IN DIFFERENT WAYS

- (a) Explain why demand curves slope downwards from left to right and supply curves slope upwards from left to right. [10]
- (b) “A rise in price always leads to a fall in quantity demanded but a rise in demand always leads to a rise in price and a rise in quantity.” With the aid of diagrams evaluate this statement. [20]

2. SHORTAGES OF CHEFS CAUSING CRISIS FOR UK CURRY RESTAURANTS

- (a) Explain, using diagrams, the reasons that profit maximising firms in monopolistic competition might decide to increase their prices. [10]
- (b) To what extent is monopolistic competition a more desirable market structure than perfect competition? [20]

SECTION B

Answer one question from this section.

3. DEFLATIONARY PRESSURES REMAIN IN THE EU AND JAPAN

- (a) Outline two measures of inflation in the UK and explain how they are calculated. [10]
- (b) “Deflation is more of a concern than inflation.” Discuss. [20]

4. UNEMPLOYMENT IN EUROZONE REMAINS HIGH

- (a) Explain why unemployment creates social and economic costs. [10]
- (b) “It is possible to reduce the natural rate of unemployment/NAIRU but not possible to reduce unemployment below the natural rate/NAIRU.” Evaluate this statement. [20]

SECTION C

Answer one question from this section.

5. FALLING POUND WORSENS TERMS OF TRADE AND FAILS TO REDUCE THE TRADE DEFICIT

- (a) Explain the factors that might cause a country's exchange rate to depreciate. [10]
- (b) To what extent would an improvement in the terms of trade improve the balance of trade? [20]

6. SOUTH AMERICA: MARKET-BASED REFORMS HAVE PRODUCED MIXED RESULTS

- (a) Explain the main ways in which countries can protect their domestic industries from foreign competition. [10]
- (b) How effective are moves towards more free-market based systems involving internal and external liberalisation likely to be in raising living standards in LEDCs? [20]

END OF PAPER

Surname	<i>StemUp Model Solution</i>
Answer booklet	Write the question number in the left-hand margin at the start of each answer.

Question
number

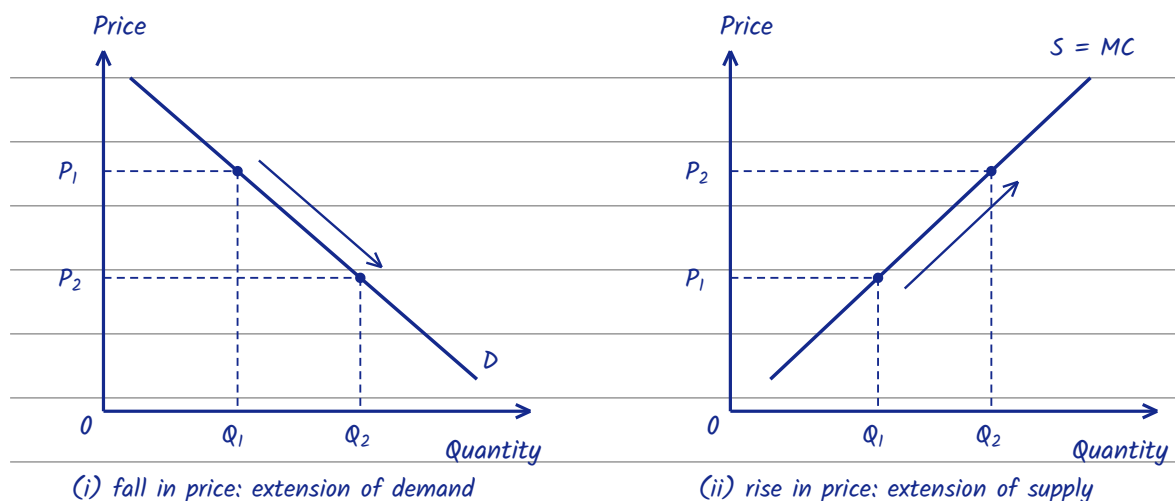
1 (a)

Demand is the quantity of a good that consumers are willing and able to buy at each price in a given time period. The law of demand states that, ceteris paribus, there is an inverse relationship between price and quantity demanded, so the demand curve slopes downwards from left to right. Supply is the quantity that producers are willing and able to sell at each price, and the law of supply states a positive relationship, so the supply curve slopes upwards.

Demand: marginal utility. The demand curve is derived from consumers' marginal utility. Because of the law of diminishing marginal utility, each extra unit consumed adds less satisfaction than the one before. A rational, utility-maximising consumer buys a good up to the point where the marginal utility of the last unit equals its price. Since the marginal utility of extra units falls, consumers will only buy more if the price falls, so the demand curve slopes downwards.

Substitution effect. When the price of a good falls from P_1 to P_2 , it becomes relatively cheaper compared with its substitutes, whose prices are now relatively higher. Consumers switch towards the cheaper good, so quantity demanded extends from Q_1 to Q_2 , a movement along the demand curve, as in diagram (i).

Income effect. A fall in price also raises consumers' real income (purchasing power), because their money income now buys more. If the product is a normal good (positive income elasticity of demand), consumers buy more of it. For normal goods the income and substitution effects work in the same direction, so demand definitely slopes downwards. Even for most inferior goods the substitution effect outweighs the negative income effect.



Supply: the profit motive. Firms aim to maximise profit. At a higher price each unit sold earns a bigger profit margin, so existing firms have an incentive to increase quantity supplied, and resources are switched from producing other, now relatively less profitable, goods. Price therefore acts as a signal and an incentive: in diagram (ii) a rise in price from P_1 to P_2 extends quantity supplied from Q_1 to Q_2 .

Supply: rising marginal cost. In the short run at least one factor of production, such as capital, is fixed. As firms add more units of a variable factor such as labour, the law of diminishing marginal returns sets in: each extra worker adds less output than the previous one, so the marginal cost of producing each extra unit rises. A profit-maximising firm produces where $P = MC$, so its supply curve is its marginal cost curve (above AVC). Firms will only supply extra units if the price rises enough to cover the higher marginal cost of producing them, so the supply curve slopes upwards from left to right.

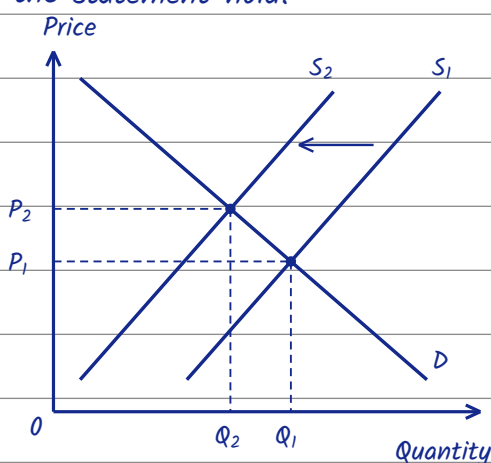
1 (b)

The statement depends on the difference between a movement along a curve and a shift of a curve. A change in the price of the good itself causes a movement along the demand curve (an extension or contraction of quantity demanded). A change in any other determinant of demand, such as income, tastes, advertising or the price of substitutes and complements, shifts the whole

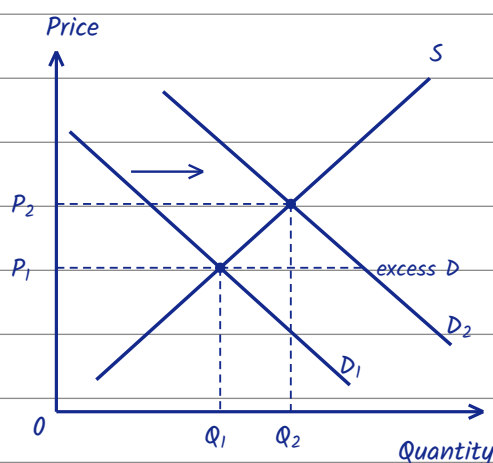
demand curve. A rise in price must therefore come from the supply side, for example higher costs of production.

Analysis supporting the first part. In diagram (1), higher raw material costs shift supply left from S_1 to S_2 . At the old price P_1 there is excess demand, so price rises to P_2 and quantity demanded contracts from Q_1 to Q_2 , a movement up the demand curve. This is caused by the substitution effect (the good is now relatively more expensive than substitutes, so consumers switch away) and the income effect (real income falls, so less of a normal good is bought). This supports the first half of the statement.

Analysis supporting the second part. In diagram (2), a rise in incomes or a successful advertising campaign shifts demand right from D_1 to D_2 . Price cannot stay at P_1 , because at P_1 quantity demanded is now greater than quantity supplied, creating excess demand (a shortage). Consumers compete for the limited goods and bid the price up. The higher price rations the good, contracting demand along D_2 , and signals to firms that supplying more is profitable, extending supply along S . A new equilibrium is reached at a higher price P_2 and a higher quantity Q_2 . With normal-shaped curves, then, both halves of the statement hold.



(1) S shifts left: P rises, Q_d contracts

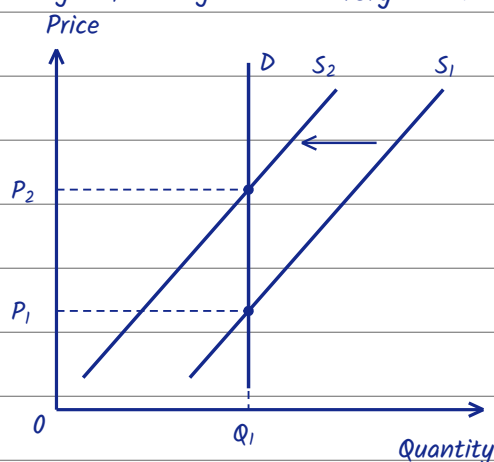


(2) D shifts right: P and Q rise

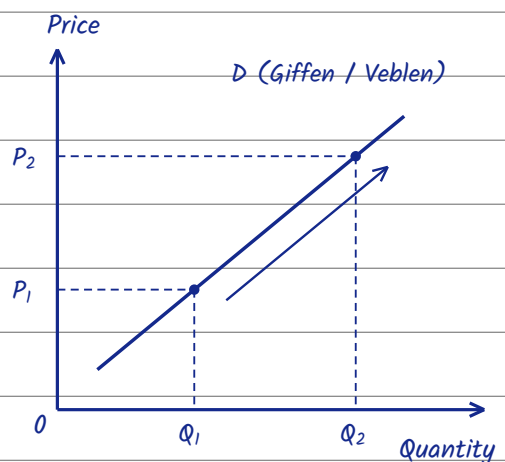
Evaluation of the first part. A rise in price does not always reduce quantity demanded. If demand is perfectly price inelastic ($PED = 0$), for example for a life-saving drug such as insulin, or a product with no substitutes, consumers buy

exactly the same quantity at any price. In diagram (3), supply falls from S_1 to S_2 , price rises from P_1 to P_2 but quantity stays at Q_1 . In reality demand for necessities and addictive goods such as cigarettes is relatively inelastic, so quantity falls only slightly.

Perverse demand curves are a further exception, shown in diagram (4). A Giffen good is a strongly inferior staple, such as rice for very poor households, on which a large share of income is spent. When its price rises, real income falls so much that households can no longer afford better foods such as meat and buy even more of the staple: the negative income effect outweighs the substitution effect, so a rise in price from P_1 to P_2 raises quantity demanded from Q_1 to Q_2 . A Veblen good, such as a designer handbag or luxury watch, is bought for conspicuous consumption, so a higher price makes it more desirable as a status symbol and quantity demanded rises. Also, if a price rise creates expectations of further rises, as in housing or share markets, buyers may purchase more now. These cases show that the word 'always' is not accurate, although Giffen goods are very rare.



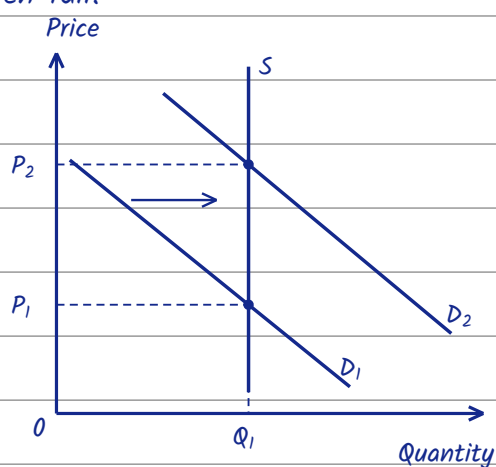
(3) $PED = 0$: P rises, Q_d unchanged



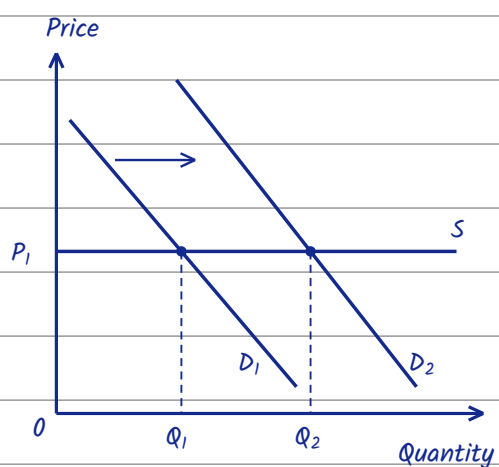
(4) perverse demand: P and Q_d rise

Evaluation of the second part. The effect of a rise in demand depends on the price elasticity of supply. If supply is perfectly inelastic ($PES = 0$), as with seats in a football stadium, tickets for a concert or land in the very short run, quantity cannot increase, so a rise in demand from D_1 to D_2 raises only the price, from P_1 to P_2 (diagram 5). If supply is perfectly elastic ($PES = \infty$), for

example when firms have a lot of spare capacity, for a digital product with near-zero marginal cost, or in the long run in a constant-cost industry where new firms enter, the rise in demand raises quantity from Q_1 to Q_2 with no change in price (diagram 6). The time period matters: supply is more inelastic in the momentary period and more elastic in the long run, so a demand increase may first raise price and later mainly raise quantity. In addition, the statement assumes *ceteris paribus*; if supply increases at the same time as demand, for example because of new technology, price could stay the same or even fall.



(5) $PES = 0$: only price rises



(6) $PES = \infty$: only quantity rises

Judgement. The statement is accurate for most goods most of the time, because demand curves normally slope downwards and supply curves upwards, so the simple model in diagrams (1) and (2) applies. However, it is not true 'always'. It fails when demand is perfectly inelastic or perverse (Giffen and Veblen goods), and when supply is perfectly inelastic or perfectly elastic. These extreme elasticities are rare in practice, so the more realistic conclusion is that the size of the changes in price and quantity depends on the price elasticities of demand and supply and the time period: the more inelastic supply is, the more a rise in demand shows up in price rather than quantity. The statement is therefore a useful general rule rather than a law that holds in all circumstances.

3 (a)

Inflation is a sustained rise in the general price level, measured as the percentage change in a price index over twelve months. The two main UK measures are the Consumer Prices Index (CPI) and the Retail Prices Index (RPI).

CPI. The CPI is the official measure used for the Bank of England's 2% symmetric inflation target (since 2003). It is the UK version of the EU harmonised index (HICP), so it can be compared internationally. It covers the spending of all households, including the very richest and poorest, institutional households and foreign visitors, but it excludes owner occupiers' housing costs such as mortgage interest payments and council tax. It combines prices mainly using the geometric mean, which allows for consumers switching to cheaper substitutes. Since 2013 the ONS has also produced CPIH, which adds owner occupiers' housing costs measured by rental equivalence.

RPI. The RPI is the older measure, still used for index-linked gilts, regulated rail fares and student loan interest. It has wider commodity coverage, because it includes mortgage interest payments, council tax and house depreciation, but a narrower population base, because it excludes the top 4% of income households and pensioner households mainly dependent on state benefits. It uses the arithmetic mean (including the Carli formula), so it is usually higher than the CPI. RPIJ replaced the Carli with the geometric (Jevons) mean, giving a lower figure.

How they are calculated. Both use the same fixed basket approach. The Living Costs and Food Survey shows what households spend their money on, and a basket of around 650 to 700 representative goods and services is chosen. The basket is fixed within each year, so monthly changes reflect only price changes, and it is reviewed annually as spending patterns change. Each month around 180,000 price quotes are collected from over 20,000 outlets in around 140 locations, plus internet prices, with quality adjustments and carefully chosen replacements when items disappear.

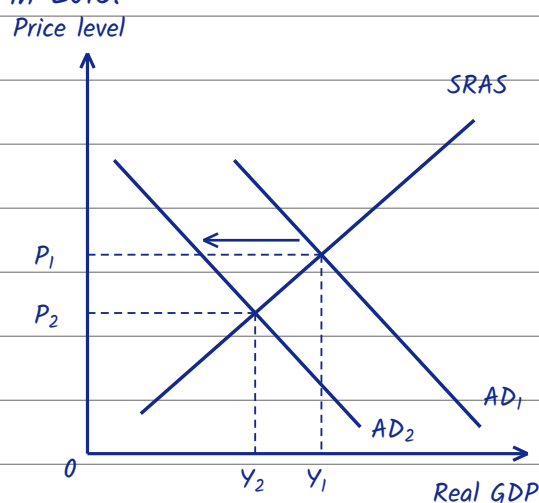
Each item is given a weight according to the proportion of household spending on it, and its price is expressed as an index relative to the base year (= 100). The weighted index is the sum of (weight × price index) divided by the total weights. For example, if food has a weight of 0.2 and an index of 110, and all other goods a weight of 0.8 and an index of 102, the index is $(0.2 \times 110) + (0.8 \times 102) = 22 + 81.6 = 103.6$, so prices have risen by 3.6% since the base year. The inflation rate is then $(\text{index this year} - \text{index last year}) \div \text{index last year} \times 100$; for example, a rise from 102.5 to 105.0 gives $2.5 \div 102.5 \times 100 = 2.4\%$.

3 (b)

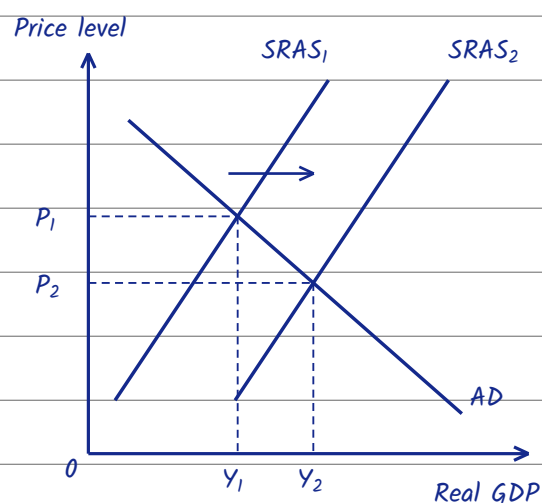
Inflation is a sustained rise in the general price level, whereas deflation is a sustained fall in the general price level, so the inflation rate is negative. Deflation is different from disinflation, which is a fall in the rate of inflation while prices are still rising. Which is more of a concern depends on their causes, size, duration and whether they are anticipated.

Costs of inflation. Inflation redistributes income and wealth arbitrarily: people on fixed incomes, such as some pensioners, and savers lose if interest rates are below inflation, while borrowers gain as the real value of debt falls. Fiscal drag transfers income from households to the government as frozen tax thresholds pull more income into higher tax bands. Firms face menu costs of changing prices, and shoe leather costs arise from managing money balances. Uncertainty about future prices damages business confidence, so investment and FDI fall, reducing long-run growth. If UK inflation is higher than that of trading partners, exports become less price competitive, the current account worsens and there is downward pressure on the exchange rate. Inflation also interferes with the price mechanism, disguising relative price signals and inefficiency. The central bank may have to raise interest rates, and cost-push inflation can lead to a wage-price spiral and rising unemployment. In extreme cases hyperinflation, as in Zimbabwe in 2008, destroys money as a medium of exchange.

Costs of deflation. The main danger of deflation is a deflationary spiral. If consumers expect prices to keep falling, they defer spending on durable goods such as cars, so AD falls, as shown in diagram (a). Firms' revenues and profits fall, so they cut investment and lay off workers, unemployment rises, incomes fall and prices fall further. Deflation also raises the real burden of debt: household, firm and government debts are fixed in nominal terms, so their real value increases, borrowers cut spending to repay debt and AD falls further, and the real value of the national debt rises. Because nominal interest rates cannot fall much below zero, real interest rates rise as prices fall (real rate = nominal rate - inflation), creating a liquidity trap in which monetary policy becomes powerless. If nominal wages are sticky downwards, real wages rise above the market-clearing level, causing real wage unemployment. Japan's 'lost decades' since the 1990s show how persistent deflation can cause economic stagnation, and fears of the same in the eurozone led the ECB to start quantitative easing in 2015.



(a) demand-side (malign) deflation



(b) supply-side (benign) deflation

Evaluation. First, the cause matters. Demand-side deflation, in diagram (a), where AD falls from AD_1 to AD_2 , lowers both the price level and real GDP, so it is associated with recession and rising unemployment. Supply-side deflation, in diagram (b), where SRAS shifts right because of falling commodity prices, new technology or productivity gains, lowers the price level while real GDP rises from Y_1 to Y_2 . This 'good' deflation raises real incomes and competitiveness: when UK

CPI inflation fell to -0.1% in 2015 because of the fall in oil prices, consumer spending actually grew. However, even supply-side deflation carries the risk of second round effects if it changes expectations. Similarly, inflation caused by demand-pull at around 2% is a sign of healthy growth, whereas cost-push inflation, as in the 1970s when UK inflation reached about 25%, causes stagflation.

Second, the size, duration and expectations matter. Mild, anticipated inflation of around 2% has few costs, because wages, pensions and interest rates can be index-linked, and it even 'greases the wheels' of the labour market by allowing real wages to fall without cutting nominal wages. This is why the Bank of England targets 2% rather than 0%: to leave a buffer against deflation. High, accelerating or unexpected inflation is far more damaging than a short, mild fall in prices.

Third, there is an asymmetry in policy. Inflation can always be reduced by raising interest rates, as shown in the UK in the early 1990s, even if this is painful. Deflation is harder to cure because interest rates are constrained by the zero lower bound, and deflationary expectations, once entrenched, are very hard to reverse, as Japan found despite years of near-zero rates and QE. Deflation is also more dangerous when private and public debt levels are high, as they are today.

In conclusion, the statement is largely correct when deflation is demand-side and persistent, because it is self-reinforcing through deferred spending and rising real debt, and it disables the main tool of monetary policy, so it is more of a concern than moderate inflation. However, it is not always true: benign, supply-side deflation can be beneficial and is less of a concern than high or hyperinflation. The overall judgement therefore depends on the underlying cause, and on the scale and duration of each.

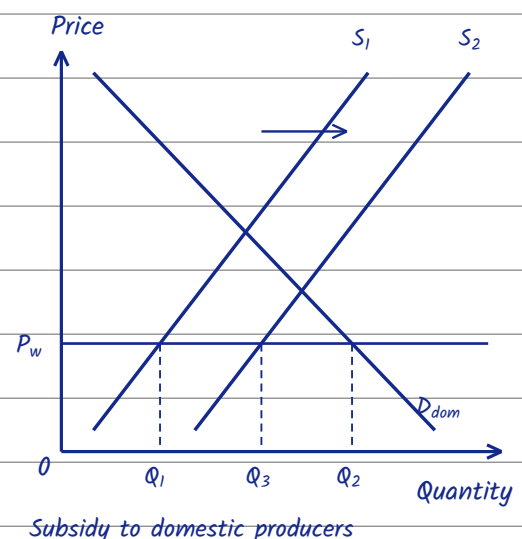
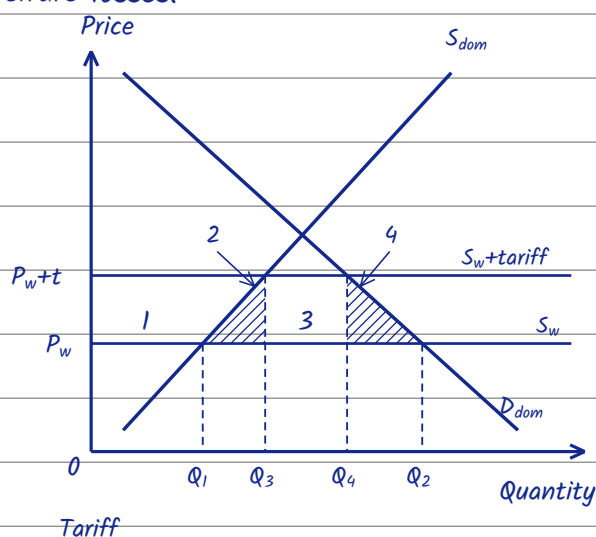
6 (a)

Protectionism is the use of measures by governments to restrict imports and

protect domestic industries from foreign competition, so that domestic firms can sell at a higher price, gain market share and make more profit.

Tariffs. A tariff is a tax on imported goods, either specific (per unit) or ad valorem (a percentage of price), such as the 25% US tariff on steel imports in 2018. In the tariff diagram, under free trade the country can import any amount at the world price P_w , so domestic producers supply only Q_1 , consumers buy Q_2 , and imports are Q_1Q_2 . A tariff raises the price of imports to P_w+t .

Domestic supply extends to Q_3 , demand contracts to Q_4 , and imports fall to Q_3Q_4 . Domestic firms now sell more output at a higher price, so their producer surplus rises by area 1, increasing their profits and market share. The government gains tariff revenue (area 3), while areas 2 and 4 are deadweight welfare losses.



Quotas. A quota is a physical limit on the quantity of a good that can be imported, such as the EU quotas on Chinese textile imports in 2005. Restricting imports reduces total supply in the domestic market, so the domestic price rises above the world price. Domestic firms can then sell a larger share of the market at a higher price than would otherwise be the case. Unlike a tariff, the government gains no revenue: the gain (quota rent) goes to the importers holding licences. Tariff quotas allow a limited quantity of imports in at a low tariff, with a higher tariff above that quantity.

Subsidies to domestic producers. A subsidy lowers domestic firms' costs, shifting

domestic supply right from S_1 to S_2 in the subsidy diagram. At the world price P_w , domestic output rises from Q_1 to Q_3 and imports fall from Q_1Q_2 to Q_3Q_2 , so domestic firms expand their market share and profits, as with EU Common Agricultural Policy support for farmers. Consumers still pay P_w , but taxpayers bear the cost.

Other measures. Embargoes and precautionary bans prevent imports altogether, for example the EU ban on hormone-treated US beef. Regulations and product standards, or slow administrative procedures, raise the costs of foreign firms so that domestic firms can undercut them. Governments can also manage the exchange rate at an artificially low level, raising the domestic price of imports and making exports cheaper, and favour domestic firms in government procurement. Each measure works by raising the price or limiting the availability of imports, so domestic firms gain market share and profitability.

6 (b)

Internal liberalisation means reducing the role of the state within the economy through privatisation, deregulation, removing price controls and reducing government sector debt by cutting government spending. External liberalisation means opening the economy to the rest of the world: removing trade barriers such as tariffs and quotas, allowing free movement of capital, floating the exchange rate and removing restrictions on FDI. These market-based reforms, often called the Washington Consensus, were promoted by the IMF and World Bank as conditions for loans in structural adjustment programmes. Living standards include real GDP per capita, health and education (HDI).

How liberalisation can raise living standards. Taken together these are supply-side reforms intended to strengthen the economic base of LEDCs and shift LRAS to the right. Reducing public sector debt should reduce crowding out: lower government borrowing means lower interest rates, stimulating private sector investment, and money previously spent on debt interest can be directed to growth-promoting areas. Privatisation and deregulation introduce the profit motive

and competition, driving up X-efficiency, productive efficiency and productivity, which should lower prices and improve the quality of services. External liberalisation allows countries to specialise according to comparative advantage, gain economies of scale by selling to larger world markets and buy cheaper imports, raising real incomes. Foreign competition forces domestic firms to become more efficient and outward looking. FDI fills the savings gap (in the Harrod-Domar model, higher investment raises growth), creates jobs, transfers technology and skills, and has positive supply chain spin-offs and multiplier effects. In all cases GDP should rise in the long run, so living standards should in principle rise.

There is evidence for this. China's gradual liberalisation since 1978, with special economic zones, privatisation from the 1990s, liberalised rules on FDI and WTO entry in 2001, lifted around 800 million people out of extreme poverty. Chile is often cited as a South American success story, with the highest GDP per capita in the region.

Why liberalisation may not raise living standards. However, the track record in LEDCs has been far more mixed than in MEDCs such as the UK and US.

External liberalisation has allowed the dumping of subsidised agricultural surpluses from the US and EU, such as EU dairy products in Jamaica and groundnuts in Senegal, putting local farmers out of business and creating food dependency. Infant industries cannot compete with established foreign firms before they gain economies of scale, and countries can become dependent on a few primary exports with volatile prices and declining terms of trade (the Prebisch-Singer hypothesis). Free capital flows expose LEDCs to hot money and financial crises, as in the 1997 Asian crisis and Argentina's crisis in 2001.

Multinationals may repatriate profits, use transfer pricing to avoid tax and exploit low-wage labour and weak environmental rules.

Internal liberalisation has also had costs. Cuts in government spending to reduce debt have reduced spending on health and education, damaging living standards in the short run, as in the Ivory Coast in the late 1990s. Privatisation

programmes have often fallen prey to corruption and maladministration, with state assets sold below market value, and private monopolies raising the price of basic products, as when water prices rose sharply after privatisation in Cochabamba, Bolivia, in 2000. Even when average GDP rises, inequality may increase, so living standards for the poorest do not improve, which is why the results in South America have been mixed.

Evaluation. The effectiveness of liberalisation depends on several factors. First, the stage of development: it is more appropriate for countries that have reached a platform for growth, with infrastructure, an educated workforce, a stable legal system and secure property rights, than for the least developed economies, where markets and institutions are weak. Second, the pace and sequencing of reform: China liberalised slowly and kept capital controls and state control of key sectors, whereas rapid 'shock therapy', as in Russia in the 1990s, led to falling output and the sale of state assets to a few oligarchs; IMF reforms were often introduced over too short a time scale. Third, governance and complementary policies: privatisation works only with effective regulation of natural monopolies, and spending cuts are less harmful if health, education and safety nets are protected. Fourth, the type of liberalisation: trade liberalisation and FDI have generally brought greater gains than rapid capital account liberalisation. Finally, the time scale: the costs tend to come first, while the efficiency and growth gains appear in the long run.

In conclusion, moves towards more free-market systems can be effective in raising living standards in LEDCs in the long run, as China and Chile show, because they raise efficiency, investment and trade. However, they are likely to be much less effective, and can reduce living standards, when imposed rapidly on the poorest countries without strong institutions, regulation and protection for health and education spending. On balance, liberalisation is moderately effective: it is a necessary part of development but works best when it is gradual, well sequenced and combined with an active role for the state.