GCE A LEVEL

1520U40-1

S19-1520U40-1

ECONOMICS – A2 unit 4
Evaluating Economic Models and Policies

THURSDAY, 23 MAY 2019 – 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 necessity for good English and orderly, clear presentation in your answers.

You are reminded that this paper is synoptic and so will test understanding of the connections between the different elements of the subject.

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SECTION A

Answer **one** *question from this section.*

Either,

1. *(a)* Using a numerical example, explain how game theory can be used to illustrate price leadership in oligopolies. [10]

(b) "Oligopoly is the most desirable market structure." Discuss. [20]

Or,

2. *(a)* Explain, using diagrams, why firms in perfect competition are regarded as efficient. [10]

(b) Evaluate the view that competition authorities should ban firms from using price discrimination. [20]

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SECTION B

Answer **one** *question from this section.*

Either,

3. *(a)* Explain, using a diagram, the shape of the short run aggregate supply (SRAS) function and the factors which may cause it to shift. [10]

(b) "Recession can sometimes generate benefits for an economy." Discuss the extent to which governments should pursue contractionary fiscal policies. [20]

Or,

4. *(a)* Explain, using an AD/AS diagram, how quantitative easing should lead to an increase in both economic growth and inflation rates. [10]

(b) Evaluate the view that deflation is always undesirable for an economy. [20]

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SECTION C

Answer **one** *question from this section.*

Either,

5. *(a)* Explain possible causes of a current account deficit. [10]

(b) Evaluate the extent to which increasing integration of the world economy is beneficial to the UK. [20]

Or,

6. *(a)* Explain how international aid and debt relief can help to raise the level of development in an economy. [10]

(b) Discuss the extent to which governments in LEDCs should use protectionist policies to increase living standards. [20]

END OF PAPER

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

Question number

1 (a)

An oligopoly is a market dominated by a small number of large firms, so it has a high concentration ratio (for example the big four UK supermarkets have about 70% of grocery sales). Barriers to entry and exit are reasonably high, products may be homogeneous (petrol) or differentiated (airlines, cereals), firms are price makers and, above all, they are interdependent: each firm's best price depends on how its rivals react. Price leadership is where one firm, usually the dominant or lowest-cost firm, changes its price and the other firms follow. It can be overt, an explicit agreement which is illegal collusion, or tacit, where firms simply copy the leader without communicating, which is legal. In barometric price leadership the leader is followed because it has better information about costs and market conditions, so followers 'free ride' on that information.

Game theory is a mathematical technique used to model interdependence by looking at the strategies available to each firm, the payoffs from each combination and each firm's 'best response' to its rival. The payoff matrix below is a numerical example for a duopoly.

		Firm B (follower)		
		High price	Low price	
Firm A (leader)	High price	£20m, £20m	£5m, £25m	price leadership outcome (boxed)
	Low price	£25m, £5m	£8m, £8m	Nash equilibrium

Payoffs: (Firm A profit, Firm B profit)

If Firm A sets a high price, Firm B earns £25m by setting a low price rather

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than £20m by matching. If A sets a low price, B earns £8m by also going low rather than £5m. So a low price is B's dominant strategy, and by symmetry also A's. The Nash equilibrium is (low, low) with only £8m each, a prisoners' dilemma, which could show a price war or low stable prices. However, both firms would earn £20m, £24m more in total, at (high, high), the joint profit-maximising outcome.

Price leadership is a way of reaching the boxed outcome without an illegal agreement. Firm A raises its price first, signalling its intention. Because the game is repeated, B knows that if it undercuts to gain £25m once, A will retaliate (a tit-for-tat strategy) and both will return to £8m, so following the leader and earning £20m every period is B's best long-run response. The matrix also shows why followers match price cuts: if A cuts its price, B's best response is to cut too (£8m rather than £5m). Following the leader therefore reduces uncertainty about rivals' decisions. Examples include budget airlines matching fares, Aldi and Lidl matching each other's prices, and petrol stations following the major brands.

1 (b)

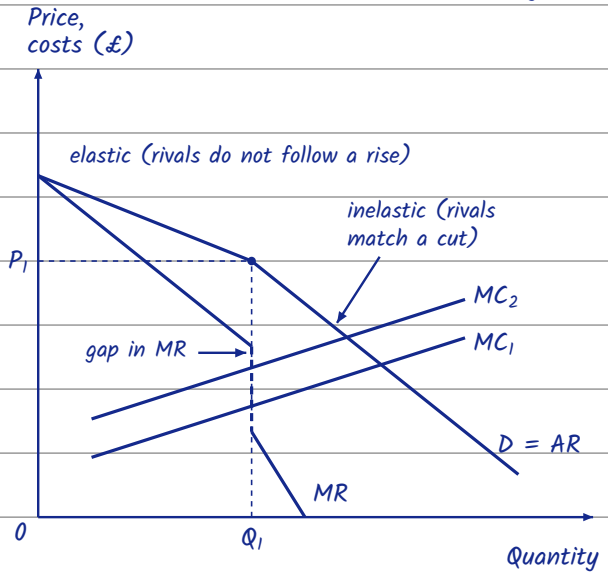
Oligopoly is a market structure in which a few interdependent firms dominate, barriers to entry are high, products may be homogeneous or differentiated and firms are price makers. Whether it is the 'most desirable' structure must be judged against perfect competition, monopolistic competition and monopoly, using criteria such as efficiency, prices, choice, innovation and wider effects on government and the environment.

Firstly, efficiency. Oligopolists are large, so they can exploit economies of scale and operate near the minimum of long-run average cost, giving productive efficiency that small firms in perfect or monopolistic competition cannot achieve in practice. Supernormal profit, protected by barriers to entry, can fund research and development, so oligopolies are often dynamically efficient, for example Apple and Samsung competing through innovation in smartphones, or GSK and AstraZeneca developing new medicines. In contrast, firms in perfect competition

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earn only normal profit in the long run and have no incentive or funds to innovate, while firms in monopolistic competition are neither productively nor allocatively efficient because of excess capacity. On dynamic efficiency, oligopoly is arguably better than all of them, including monopoly, where the lack of rivals may cause complacency and X-inefficiency.

Secondly, prices and consumer surplus. Because firms are interdependent, prices tend to be stable. The kinked demand curve shows why.



As the diagram shows, rivals will not follow a price rise above P_1, so demand is elastic and the firm loses sales, but they will match a price cut, so demand below P_1 is inelastic and revenue falls. MR is discontinuous at Q_1, so marginal cost can rise from MC_1 to MC_2 without changing the profit-maximising price. Stable prices help households to plan, and fierce competition can lead to price wars that raise consumer surplus and help those on low incomes, as in the supermarket price wars after Aldi and Lidl grew. This is better than monopoly, which sets price above MC with a deadweight loss. Thirdly, non-price competition gives consumers wide choice of differentiated products, which may serve consumers better than the identical products of perfect competition, where there is no choice at all.

However, there are serious drawbacks. The game theory payoff matrix shows that firms have a strong incentive to collude, overtly or tacitly, to reach the

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joint profit-maximising price. Collusion pushes price above MC, so there is allocative inefficiency and a transfer of consumer surplus to producers, as with the EU lift cartel fined about €990m and the UK energy 'big six', where loyal customers on standard tariffs paid far more until the price cap. With limited choice, consumers cannot easily switch if prices rise, for example with mobile phone contracts. Heavy spending on advertising and branding raises average costs and duplicates resources, and too much choice can cause information overload that firms exploit. Perfect competition in the long run, by contrast, is both productively and allocatively efficient (P = MC = minimum AC), so in theory it is Pareto efficient.

There are also wider effects. Large, profitable firms are big employers with strong multiplier effects and pay corporation tax that funds public services. However, they may be footloose multinationals that book profits abroad, such as pharmaceutical firms headquartered in Ireland, may replace labour with capital (self-checkouts) and may earn little profit at all during a price war. For the environment, large firms gain volume economies in transport and can collaborate to cut waste, but duplication and excessive packaging and advertising use extra resources.

How desirable oligopoly is depends on several factors. It depends on the number of firms and how far they compete on price: a market with four aggressive rivals behaves very differently from a tight duopoly. It depends on contestability: if entry is possible, as with Aldi and Lidl, incumbents cannot exploit consumers. It depends on effective regulation: the CMA can fine cartels, block mergers and impose price caps. Finally, collusion is inherently unstable because each firm has an incentive to cheat, so high prices are less likely to persist than under monopoly.

In conclusion, perfect competition is the most desirable structure in theory, but it rarely exists and cannot deliver the economies of scale or innovation that modern industries such as cars, telecoms and pharmaceuticals need. Compared with the structures that do exist, a competitive and well-regulated oligopoly is

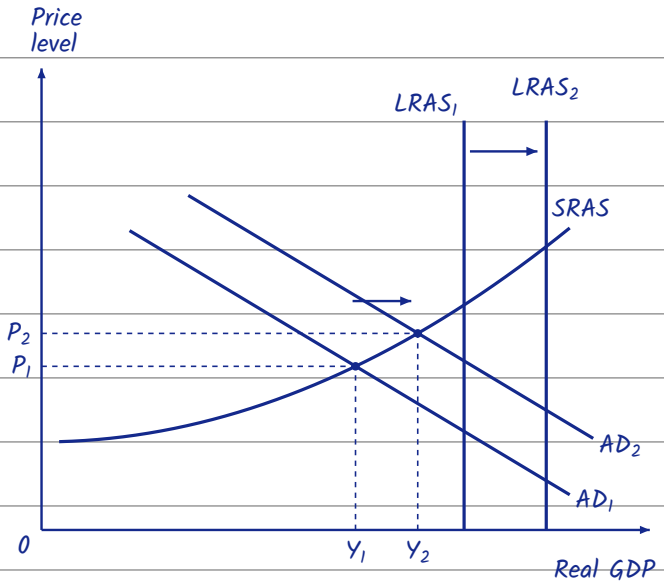
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arguably the most desirable, because it combines economies of scale, dynamic efficiency and choice with enough rivalry to keep prices close to costs. However, an oligopoly that colludes is little better than a monopoly, so oligopoly is only the most desirable structure where competition authorities keep it competitive.

4 (a) Quantitative easing (QE) is an unconventional monetary policy in which the central bank creates new electronic money and uses it to buy bonds, mainly government bonds (gilts) but also corporate bonds, from financial institutions such as banks, pension funds and insurers. It is used when Bank Rate is already close to zero and cannot be cut further. The Bank of England bought £375bn of assets by 2012 and a further £70bn from August 2016, and the Federal Reserve, ECB and Bank of Japan used it too. Economic growth in the short run is an increase in real GDP and in the long run an increase in productive potential; inflation is a sustained rise in the general price level, measured in the UK by the CPI.

QE works through several transmission mechanisms. Firstly, the liquidity or bank lending channel: selling bonds raises the reserves of banks and other financial institutions, so they have more loanable funds and are more likely to lend to households and firms, raising consumption (C) and investment (I). Secondly, the interest rate channel: the central bank's demand for bonds pushes up bond prices, and because bond prices and yields are inversely related, long-term interest rates fall. Mortgages and business loans become cheaper and saving less rewarding, so households borrow and spend more. Thirdly, the wealth effect: sellers of bonds buy other assets such as shares and property, raising their prices, so households feel wealthier and consume more. Fourthly, the exchange rate channel: lower interest rates reduce inflows of hot money, so demand for the pound falls and sterling depreciates. Exports become relatively cheaper and imports dearer, so net exports (X - M) rise.

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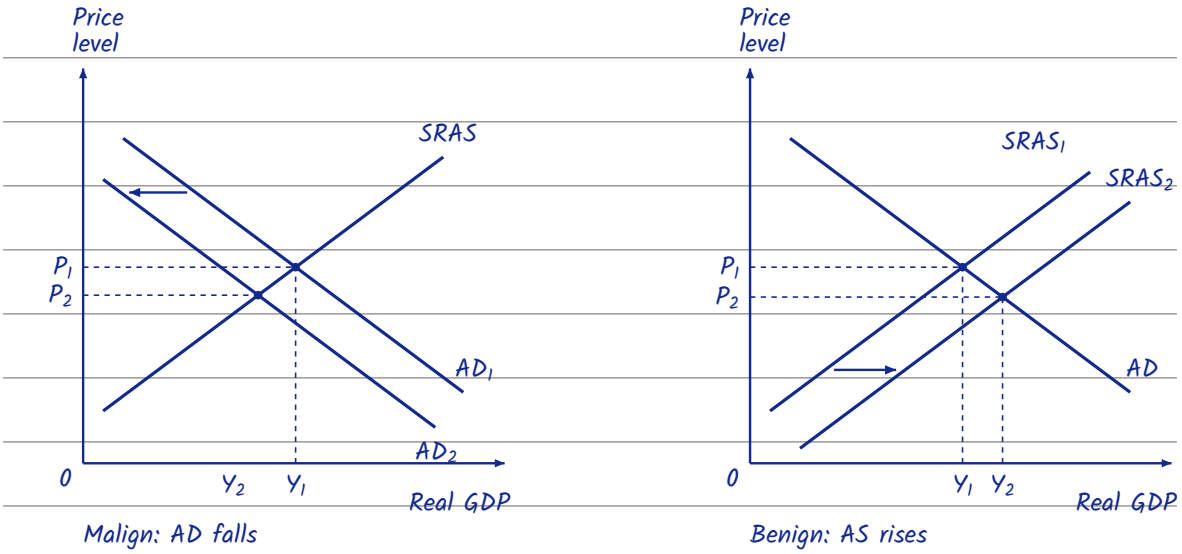


As the diagram shows, rising C, I and (X - M) shift AD to the right from AD_1 to AD_2. Because QE is used when there is spare capacity (Y_1 is below $LRAS_1$), real GDP rises from Y_1 to Y_2, which is economic growth, and through the multiplier the final rise is larger than the initial injection. As the economy moves up the SRAS curve, firms face rising costs and bottlenecks, so the price level rises from P_1 to P_2, which is demand-pull inflation. A weaker pound also raises import prices, adding cost-push inflation and helping to return inflation to the 2% target. In the long run, cheaper finance for investment in capital raises productive capacity, shifting $LRAS_1$ to $LRAS_2$, so QE can raise long-run growth as well.

4 (b)

Deflation is a sustained fall in the general price level, so inflation is negative (in the UK, a fall in the CPI). It should not be confused with disinflation, which is a fall in the rate of inflation while prices are still rising. Deflation can be malign, caused by falling aggregate demand, or benign, caused by rising aggregate supply. The UK briefly had CPI deflation of -0.1% in 2015, mainly due to the fall in oil prices, while Japan has suffered long periods of deflation since the 1990s. Whether deflation is always undesirable depends heavily on its cause.

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As the left diagram shows, malign deflation occurs when AD falls from AD_1 to AD_2, for example in a recession when confidence collapses. The price level falls from P_1 to P_2 but real GDP also falls from Y_1 to Y_2, so unemployment rises. This is clearly undesirable. In contrast, the right diagram shows benign deflation: improved productivity, new technology, cheaper raw materials or successful supply-side policies shift $SRAS_1$ to $SRAS_2$, so prices fall from P_1 to P_2 while real GDP rises from Y_1 to Y_2. This kind of deflation comes with economic growth and higher real incomes, so it can be desirable.

There are strong reasons why deflation is usually undesirable. Firstly, price expectations. If prices are expected to keep falling, consumers delay purchases, especially of durable goods such as cars and furniture, and hoard cash. Consumption falls, firms cut investment, and the negative multiplier and accelerator reduce AD further, causing a deflationary spiral in which falling prices lead to falling output and still lower prices. Japan's 'lost decades' show how hard this is to escape. Secondly, confidence and profits. Falling prices reduce firms' revenues and profits, especially if costs such as wages do not fall at the same rate, so business confidence and investment fall, damaging long-run growth. Thirdly, debt. Deflation raises the real value of debt, so households with mortgages, firms and the government, whose debt in the UK is over 80% of

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GDP, face higher real repayments and cut spending. It redistributes income from borrowers, often younger and poorer households, to savers, who are typically older and better off, so it can worsen inequality. Fourthly, labour markets. Nominal wages are sticky downwards, as Keynes argued, so with deflation real wages rise, firms cut jobs and unemployment rises; workers also 'stay put', reducing labour mobility. Fifthly, it imposes menu costs, as firms reprint price lists, and shoe-leather costs, as consumers search for the lowest prices. Finally, deflation limits monetary policy: nominal interest rates cannot go much below zero, so real interest rates rise as prices fall, which is contractionary exactly when the economy needs a stimulus.

However, deflation is not always undesirable. If it is benign and caused by rising AS, real incomes rise, so households can buy more and living standards improve. The UK's 2015 deflation was driven by cheaper oil and food, so real wages rose and consumer spending actually grew, with no sign of households delaying purchases. Falling prices also improve international competitiveness if they are lower than in trading partners, raising net exports. Savers and those on fixed incomes, such as many pensioners, gain. After hyperinflation, as in Zimbabwe, falling prices restore confidence in the currency and can be very welcome.

The effect therefore depends on several factors. It depends on the cause, AD or AS. It depends on the size and length of deflation: a mild fall of 0.1% for a few months, as in the UK, is very different from years of falling prices in Japan. It depends on expectations and the credibility of the central bank: if people believe the Bank of England will return inflation to its 2% target, they will not delay spending and a spiral will not set in. It also depends on the level of debt in the economy and whether policymakers still have tools, such as QE, to respond.

In conclusion, deflation is not always undesirable. Short-lived, benign deflation caused by rising aggregate supply, with stable price expectations, can raise real incomes and growth. However, persistent malign deflation caused by falling AD is very damaging because of the deflationary spiral, rising real debt and the

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limits on monetary policy. The fact that no central bank targets zero inflation, with the Bank of England targeting 2% ± 1% and the ECB below but close to 2%, suggests that a low, positive rate of inflation is safer, so deflation is undesirable in most, but not all, circumstances.

5 (a) The balance of payments is a record of all of a country's financial transactions with the rest of the world, divided into the current account, the capital account and the financial account. The current account has three parts: the trade balance in goods (visibles) and services (invisibles), net primary income (investment income such as profits, dividends and interest, and compensation of employees) and net secondary income (current transfers such as aid and contributions to international bodies). A current account deficit means that more money flows out of the economy than flows in across these parts. Because the balance of payments must balance, a deficit is financed by a surplus on the financial and capital accounts, for example inward FDI, borrowing or sales of assets to foreigners. The UK has had a current account deficit of about 4% to 5% of GDP in recent years.

A deficit can be caused by a trade deficit, where the value of imports exceeds the value of exports. Firstly, strong economic growth raises incomes, and with a high marginal propensity to import (MPM) consumers buy more imported goods such as cars and electronics, so M rises faster than X. Secondly, exports may be uncompetitive on price, because of high unit labour costs, low productivity or relatively high inflation, or on quality, design and reliability. Thirdly, a strong currency, perhaps due to high interest rates attracting hot money, makes exports dearer abroad and imports cheaper at home. Fourthly, depletion of natural resources such as North Sea oil means raw materials must be imported. Deindustrialisation has also left the UK with a large deficit in goods trade, over £130bn, which its surplus on services only partly offsets.

Secondly, a deficit on net primary income. If a country has attracted large

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amounts of inward FDI, encouraged by low corporation tax, regional policy or stability, foreign owners send profits and dividends home, an outflow. Foreign ownership of UK property and assets also creates outflows of rent and interest, as do wages paid to foreign workers. A fall in income from the country's own overseas investments, for example lower returns on UK investments in oil and mining when commodity prices fell after 2014, turned UK primary income from surplus to deficit.

Thirdly, a deficit on net secondary income. Developed economies normally have a deficit here because of contributions to bodies such as the EU and UN, and overseas aid; the UK has spent 0.7% of GNI on aid. Military aid and migrants' remittances sent abroad add to the outflows. Therefore a current account deficit can come from any combination of these three parts, not only from trade.

5 (b)

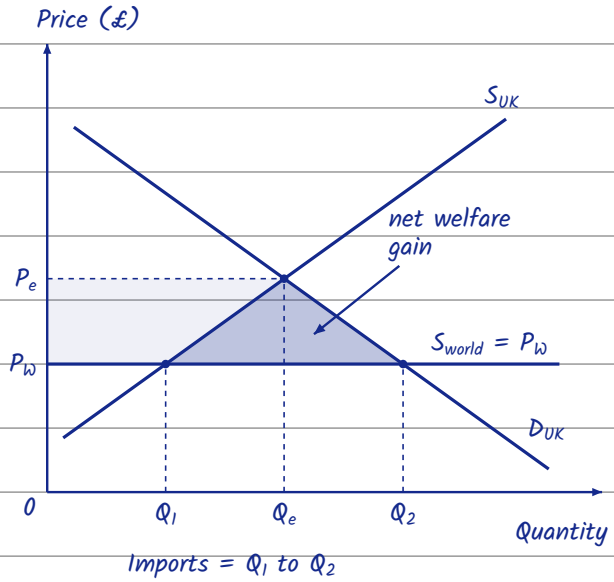
Increasing integration of the world economy, or globalisation, is the process by which national economies become more interconnected. It includes rising volumes of trade, global supply chains, greater mobility of labour and capital, more foreign direct investment (FDI), integrated global financial markets and faster communication through ICT. The UK, as a very open economy with trade worth over 60% of GDP, is strongly affected.

Firstly, integration brings gains from trade. According to comparative advantage, if the UK specialises in what it produces at the lowest opportunity cost, such as financial services, pharmaceuticals, aerospace, creative industries and software, and trades for other goods, total output and consumption rise. Consumers gain access to cheaper imports and wider choice.

Secondly, employment and growth. Rising exports increase AD and, through the multiplier, create jobs, for example in car plants such as Nissan in Sunderland that are part of global supply chains. Inward FDI brings capital, technology and management know-how, so productivity rises and LRAS shifts right, giving long-run growth. UK firms can also raise finance more easily on global financial markets, and London's role as a global financial centre generates large service

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exports. Workers can work abroad or remotely, and small firms can source inputs and expertise from anywhere in the world. Thirdly, efficiency: greater competition forces UK firms to cut costs and innovate, and knowledge transfer spreads better production techniques. Fourthly, government finances: more growth and FDI raise receipts from income tax, VAT and corporation tax and reduce welfare spending.



The diagram illustrates the first point. When the UK market is open to the world price P_W, below the domestic price P_e, consumption rises to Q_2 while domestic output falls to Q_1, and Q_1 to Q_2 is imported. Consumer surplus rises by more than producer surplus falls, giving the shaded net welfare gain. Cheaper imported food, clothing and electronics raise real incomes, especially for lower-income households, and cheaper imported inputs reduce firms' costs, keeping inflation low.

However, integration also brings costs for the UK. Firms can relocate production to countries with lower wages, weaker employment and environmental regulation, or cheaper land, so UK manufacturing jobs have been lost, causing structural unemployment concentrated in former industrial regions such as South Wales and the North East. This widens regional inequality. Inflows of migrant labour increase labour supply and may depress wages in low-skilled jobs, although evidence suggests the effect is small overall. Imports also rise, so net exports

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may fall and the UK has a persistent current account deficit. Integrated financial markets increase systemic risk: the 2008 global financial crisis began in the US sub-prime mortgage market but spread rapidly to UK banks, leading to a deep recession and costly bank bailouts. The UK also loses some control over policy, because imported inflation, for example from oil prices or a weaker pound, is outside the Bank of England's control. Governments may feel pressure to cut corporation tax to attract mobile capital, which could reduce tax revenue, and multinationals may shift profits to low-tax countries. Finally, longer global supply chains increase transport emissions, a negative externality, and countries may free-ride on others' environmental efforts, although integration also spreads green technology.

The extent to which integration benefits the UK depends on several factors. It depends on the sector and the region: high-skilled workers and service industries in London and the South East have gained greatly, while low-skilled workers in manufacturing areas have often lost. It depends on government policy: retraining schemes, regional policy and investment in infrastructure such as broadband and transport can help people adjust and spread the gains. It depends on the time scale: job losses are concentrated and immediate, while gains in productivity and lower prices are spread out and long term. It also depends on the future of trading relationships, as Brexit is likely to reduce labour mobility and raise trade barriers with the UK's largest trading partner.

In conclusion, increasing integration of the world economy has been beneficial to the UK overall, because, as an open economy with a comparative advantage in high-value services, it gains from cheaper imports, greater competition, FDI and access to global markets, which raise real incomes and growth. However, the gains are unevenly distributed and come with greater exposure to global shocks. Integration is therefore most beneficial when it is supported by policies to share the gains, such as retraining and regional investment, and by effective financial regulation to limit systemic risk.