



GCE A LEVEL

A520U30-1



MONDAY, 5 JUNE 2023 – MORNING

ECONOMICS – A level component 3
Evaluating Economic Models and Policies

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.

Either

1. Government considers higher tax on cut-price alcohol

- (a) Using diagrams, explain how different values of price elasticity of demand (PED) might affect the incidence of an indirect tax on different products. [10]
- (b) Discuss, using economic theory, whether a cut in price by a firm is likely to increase its profitability. [20]

Or

2. CMA blocks Sainsbury/Asda merger but Google bid for Fitbit permitted

- (a) Explain, using examples, what is meant by horizontal, vertical and conglomerate mergers. [10]
- (b) Evaluate the costs and benefits of mergers to both firms and their customers. [20]

SECTION B

Answer **one** question from this section.

Either

3. Unemployment rises sharply across the world

- (a) Explain why some economies might have higher rates of unemployment than others. [10]
- (b) Discuss whether achieving low unemployment or low inflation should be the more important policy objective for a government. [20]

Or

4. Economic shocks threaten to scar the UK economy

- (a) Explain the factors that could cause (i) the short run and (ii) the long run aggregate supply curves to shift position. [10]
- (b) Assess the effectiveness of monetary policies for an economy in recession. [20]

SECTION C

Answer **one** question from this section.

Either

5. Sharp fall in the pound after political turmoil

- (a) Explain, using diagrams, why exchange rates can be volatile. [10]
- (b) Discuss whether a policy of keeping a country's exchange rate below its equilibrium level is likely to be economically beneficial for that country. [20]

Or

6. Norway and Iceland both part of the European Union's (EU's) single market

- (a) Explain why a non-EU member such as Norway might become part of the single market. [10]
- (b) Evaluate the effects of membership of the European Monetary Union (EMU) (the eurozone) on an EU member state. [20]

END OF PAPER

Surname *StemUp Model Solution*

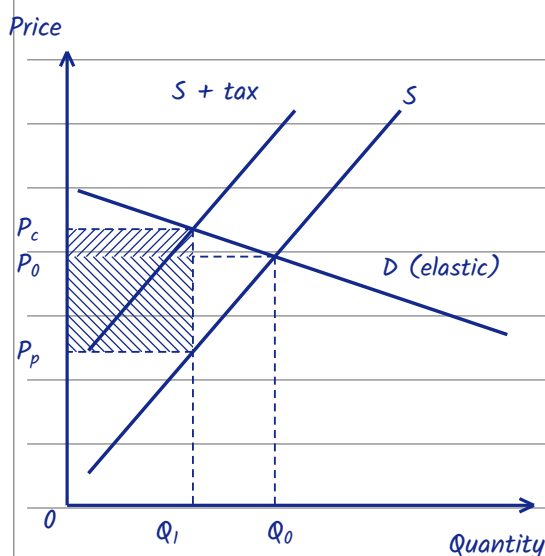
Answer booklet

Write the question number in the left-hand margin at the start of each answer.

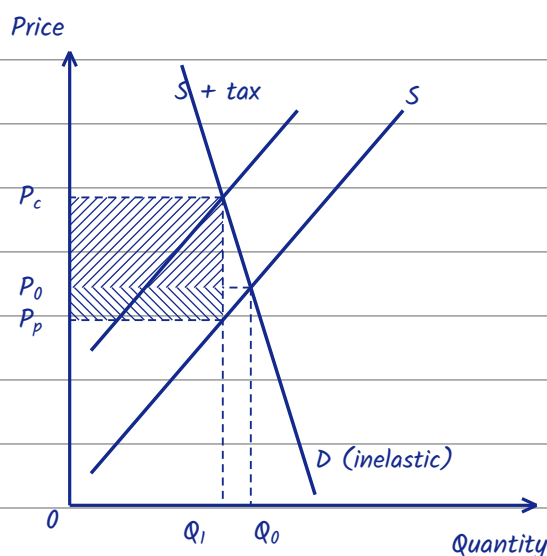
Question
number

1 (a)

Tax incidence is how the burden of an indirect tax is shared between consumers and producers. An indirect tax, such as a specific (per unit) duty on alcohol, is paid to the government by the producer, so it raises firms' costs and shifts the supply curve vertically upwards by the amount of the tax, from S to $S + \text{tax}$. Price elasticity of demand (PED) is the responsiveness of quantity demanded to a change in price, $\% \Delta Q_d \div \% \Delta P$. How the burden is shared depends on how far firms can pass the tax on as a higher price, which depends on PED.



(a) price elastic demand



(b) price inelastic demand

C = consumer burden (upper area), P = producer burden (lower area)

Diagram (a): demand is price elastic ($PED > 1$), for example one brand of cider or lager with many close substitutes. Consumers are not prepared to accept much of a price rise: if the firm tried to raise the price by the full tax, quantity demanded would fall more than proportionately as buyers switched to substitutes. So the market price rises only slightly, from P_0 to P_c , far less

than the tax, while quantity falls a lot, from Q_0 to Q_1 . The consumer burden per unit ($P_c - P_0$, area C) is small. The producer now keeps only P_p per unit after paying the tax, so its burden per unit ($P_0 - P_p$, area P) is large: the producer is forced to absorb most of the tax.

Diagram (b): demand is price inelastic ($PED < 1$), for example cut-price alcohol bought by heavy drinkers, cigarettes or petrol, which have few close substitutes and may be habit-forming. Consumers have no real alternative, so firms can pass most of the tax on: price rises by a high proportion of the tax, from P_0 to P_c , and quantity falls only a little. The consumer burden (area C) is now much larger than the producer burden (area P). Unless demand is perfectly inelastic, producers still absorb some of the tax, but the revenue per unit they keep, P_p , is much closer to P_0 than in the elastic case. Because quantity falls little, tax revenue $(P_c - P_p) \times Q_1$ is also larger.

So the more price inelastic demand is relative to supply, the greater the share of the tax paid by consumers; the more price elastic demand is, the greater the share absorbed by producers. In the extremes, consumers pay all of the tax if demand is perfectly inelastic and producers pay all of it if demand is perfectly elastic. A higher tax on cut-price alcohol, which has inelastic demand, would therefore mainly raise prices for drinkers and raise revenue, but reduce consumption only slightly.

1 (b)

Profit is total revenue minus total cost ($TR - TC$). A price cut affects both sides: it changes total revenue ($P \times Q$) depending on price elasticity of demand, and, because more units are sold, it changes total cost depending on the firm's cost structure. Whether profit rises therefore depends on several factors.

Reasons a price cut may increase profit. First, if demand is price elastic ($PED > 1$), a cut in price causes a more than proportional rise in quantity demanded, so total revenue rises. For example, if PED is -2 , a 10% price cut raises sales by 20%, increasing TR by about 8%. This is likely in competitive markets

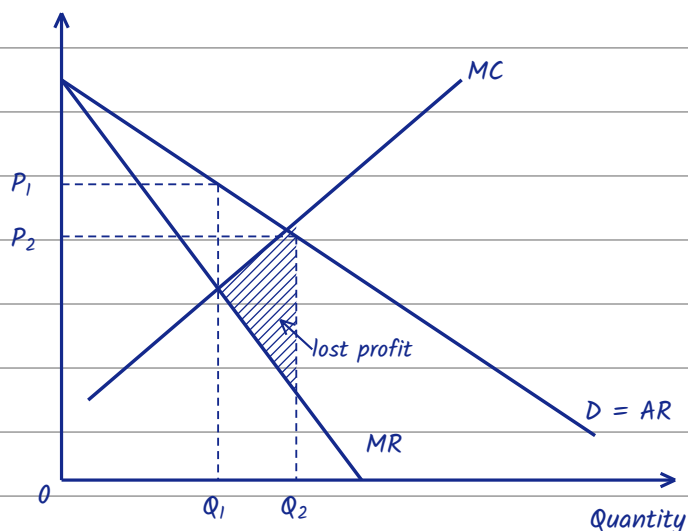
with many substitutes, especially if the firm promotes the cut well so customers notice it. Second, the extra output may lower unit costs. If the firm has spare capacity, fixed costs such as rent and machinery are spread over more units, so average fixed cost falls; if fixed costs are a high proportion of total costs, as for airlines, cinemas or software firms, the marginal cost of an extra sale is very low and almost all extra revenue becomes profit. In the long run, higher sales may allow internal economies of scale, such as bulk-buying (purchasing) economies, so long-run average cost falls and the margin can be maintained despite the lower price. Third, if the firm currently has a high profit margin, with price well above unit cost, there is room to cut price and still make a good profit on every unit.

Pricing strategies also show that a price cut can raise profit, sometimes only in the long run. Penetration pricing builds market share and brand loyalty for a new product. Limit pricing sets price low enough to deter new entrants, protecting long-run supernormal profit. Predatory pricing, setting price below average cost to drive rivals out (illegal in the UK), sacrifices short-run profit to gain monopoly power and higher long-run profits. A price cut aimed at a price elastic group, as part of price discrimination (e.g. student or off-peak fares), raises revenue from customers who would not otherwise buy, as long as price is above marginal cost, and the price cut may follow a price skimming strategy once early adopters have bought.

Reasons a price cut may reduce profit. If demand is price inelastic ($PED < 1$), for example for a product with strong brand loyalty or few substitutes, the rise in quantity is proportionately smaller than the fall in price, so total revenue falls. As output rises, total cost almost certainly rises too, so profit must fall. Even if demand is elastic and TR rises, profit may still fall because the lower price cuts the margin on every unit: if the extra output pushes the firm beyond its optimum, it may face diminishing marginal returns in the short run or diseconomies of scale in the long run, so unit costs rise. If the price is cut below average cost, each extra sale makes a loss.

Profit maximisation theory shows this clearly. A profit-maximising firm already produces Q_1 , where $MC = MR$, at price P_1 . If it cuts price to P_2 and sells Q_2 , every extra unit between Q_1 and Q_2 has $MC > MR$, so each one adds more to cost than to revenue, and profit falls by the hatched area in the diagram.

Costs and revenue



Market structure also matters. In an oligopoly, firms are interdependent: rivals are likely to match a price cut (the kinked demand curve), so the firm's demand is price inelastic below the current price and it gains few customers, while a price war may start that drives prices towards cost and reduces profits for the whole industry, as in UK supermarket price wars. A monopolist faces relatively inelastic demand, so price cuts gain little. In markets where non-price competition dominates, such as luxury goods (e.g. designer handbags), price signals quality, so a cut may reduce demand and damage brand value.

Behavioural economics adds that a price cut can set a new price anchor: consumers come to see the low price as the norm and resist when the firm later raises it again.

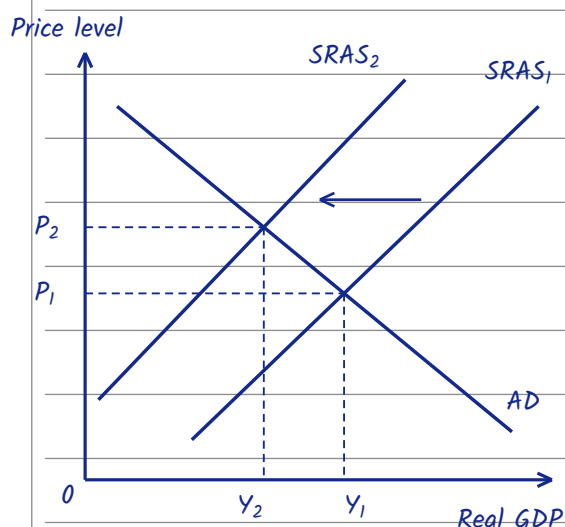
Evaluation. The outcome depends first on PED, which itself depends on the availability of substitutes, the time period (demand is more elastic in the long run) and how rivals react. It depends secondly on the cost structure: spare capacity, a high proportion of fixed costs and scope for economies of scale make a price cut more likely to raise profit, while operating near full capacity

makes it less likely. Thirdly, the size of the cut and the existing margin matter: a small cut from a high margin is low risk, a large cut that takes price close to or below average cost is high risk. Finally, the time scale is crucial: limit or predatory pricing lowers profit in the short run but may raise it in the long run, provided the CMA does not intervene.

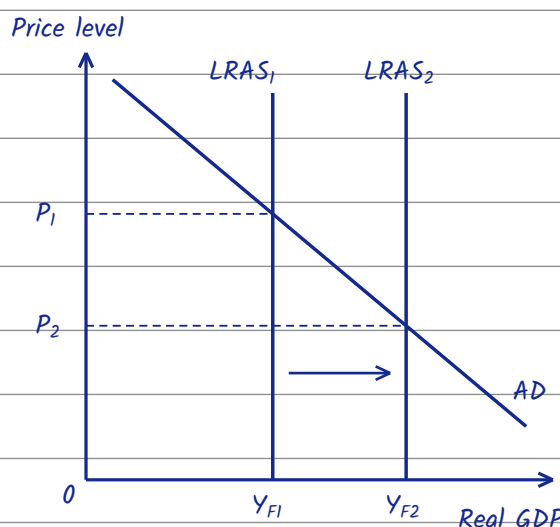
Overall, a price cut is only likely to increase profitability when demand is price elastic, rivals do not retaliate, the firm has spare capacity or falling unit costs, and it is not already at the profit-maximising output. In concentrated oligopoly markets, where rivals are likely to retaliate, or for firms already at $MC = MR$, a price cut is more likely to reduce profit, at least in the short run. So for most firms a price cut is a risky way to raise profit, and it is more likely to work as a long-run strategic decision than as a short-run tactic.

4 (a)

Short run aggregate supply (SRAS) is the total output firms are willing to supply at each price level when the prices of factor inputs, such as money wages, are fixed. Long run aggregate supply (LRAS) is the economy's productive potential, the output that can be produced when all resources are fully employed, which depends on the quantity and quality of factors of production. A diagram shows both shifts.



(a) rise in costs: SRAS shifts left



(b) more or better resources: LRAS shifts right

(i) SRAS shifts when firms' costs of production change at every level of

output. Employment costs: a rise in money wages, the National Living Wage or employers' National Insurance contributions raises unit labour costs, so SRAS shifts left from $SRAS_1$ to $SRAS_2$, as in diagram (a), raising the price level from P_1 to P_2 and reducing real GDP from Y_1 to Y_2 . A rise in labour productivity lowers unit labour costs and shifts SRAS right. Costs of other inputs: higher commodity prices, such as oil, gas or raw materials, raise costs for almost all firms, shifting SRAS left; the 2022 energy price shock is an example. A fall in the exchange rate raises the price of imported components and raw materials, also shifting SRAS left. Government: higher indirect taxes such as VAT or carbon duties, business rates or costly regulations raise costs and shift SRAS left, while subsidies or deregulation shift it right. Supply shocks such as bad harvests or supply chain disruption also shift SRAS left.

(ii) LRAS shifts when there is a change in the quantity or quality of factors of production, which changes productive capacity and the trend growth rate. An increase in the labour force, through net migration or a higher participation rate (e.g. more economically active people of working age), shifts LRAS right. A larger capital stock, from investment, infrastructure spending or inward FDI, raises capacity. Improvements in quality, such as better education and training (human capital), technology and innovation, and enterprise, raise productivity and shift LRAS right from $LRAS_1$ to $LRAS_2$, as in diagram (b), so full-employment output rises from Y_{F1} to Y_{F2} and the price level falls.

Successful supply-side policies, such as lower marginal tax rates, labour market reforms or competition policy, do the same, as does a fall in the natural rate of unemployment. LRAS shifts left after natural disasters, war or a pandemic that destroy capital or reduce the labour force, and after long recessions, when hysteresis means long-term unemployed workers lose skills and become detached from the labour market. Some factors shift both curves: a rise in productivity both lowers unit costs (SRAS) and raises capacity (LRAS).

4 (b)

A recession is a fall in real GDP for two consecutive quarters, with rising

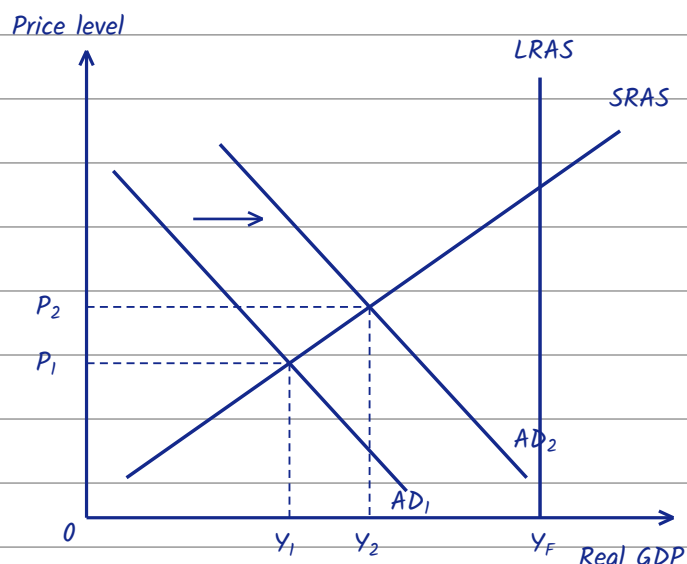
unemployment and spare capacity (a negative output gap). Monetary policy is the use of interest rates, the money supply, credit availability and the exchange rate to influence aggregate demand. In the UK the Bank of England's Monetary Policy Committee (MPC) sets Bank Rate to meet the 2% CPI inflation target. In a recession it would use expansionary monetary policy.

How monetary policy can help. First, a cut in Bank Rate lowers the cost of borrowing for households and firms. Consumers borrow more to buy durable goods such as cars, and firms invest more because more projects now earn a return above the cost of borrowing, so consumption (C) and investment (I) rise. Second, households on variable-rate mortgages face lower monthly repayments, increasing their disposable income and spending. Third, lower interest rates reduce the reward for saving, so households save less and spend more. Fourth, lower rates reduce hot money inflows, so the pound depreciates; exports become cheaper abroad and imports dearer, so net exports ($X - M$) rise. Lower rates also raise asset prices such as houses and shares, creating a positive wealth effect that boosts confidence and spending.

When Bank Rate is close to zero, the Bank can use quantitative easing (QE). It creates money electronically and uses it to buy government bonds from financial institutions. This raises bond prices and lowers bond yields, so long-term interest rates fall, which helps firms' investment and makes borrowing cheaper for the government. QE also increases commercial banks' reserves, so they can lend more. The Bank used £895bn of QE between 2009 and 2021, during the financial crisis and the Covid-19 recession, and it also used forward guidance and schemes such as Funding for Lending to increase the supply of credit.

As C , I and $(X - M)$ rise, AD shifts right from AD_1 to AD_2 , as the diagram shows. Because there is spare capacity, real GDP rises from Y_1 towards full employment Y_F , with only a small rise in the price level from P_1 to P_2 , and the multiplier effect magnifies the initial increase in spending. Unemployment falls as firms need more workers.

Monetary policy also has advantages over fiscal policy: the MPC can change interest rates quickly at its monthly meeting, it is independent of political pressures, and it does not increase government borrowing, which is important when the budget deficit is already high during a recession.



Limitations. Monetary policy may be much less effective in a deep recession. If business and consumer confidence is very low (Keynes's animal spirits), firms will not invest and households will not spend, however low rates are, because they fear unemployment and falling sales: demand is interest inelastic.

Households may instead pay off debt. In a financial crisis, banks may be short of funds and unwilling to lend, so even if Bank Rate is cut it is still hard to get a loan, and banks may not pass the cut on to customers in lower lending rates. Many UK homeowners have fixed-rate mortgages, so they do not benefit straight away. There are also time lags: it can take 18 to 24 months for a change in interest rates to have its full effect on output.

Furthermore, if interest rates are already near zero, as in the UK from 2009 to 2021 when Bank Rate was 0.1% to 0.5%, there is little room to cut further: this is the zero lower bound, and the economy may be close to a liquidity trap, where extra money is simply held rather than spent. If the recession causes deflation, real interest rates rise even though nominal rates are low, which reduces the power of monetary policy. The effects of QE are debated: it

may mainly raise asset prices, benefiting wealthy asset holders and widening inequality, rather than boosting real spending, although it probably stopped the 2009 recession becoming a depression. A depreciation will not help a country in a single currency such as the eurozone, and in a global recession weak demand abroad means lower export demand regardless of the exchange rate.

Evaluation. The effectiveness of monetary policy therefore depends on the cause and depth of the recession: in a mild, domestic recession with healthy banks, interest rate cuts can work well, but in a deep, global or balance-sheet recession it is like pushing on a string. It depends on the interest elasticity of consumption and investment, on how high interest rates are at the start (and whether negative rates are possible), on confidence and the state of the banking system, and on whether the recession is caused by a supply shock, such as higher energy costs, which lower AD cannot cure without raising inflation.

Overall, monetary policy is an effective first response to a mild recession because it is fast and flexible, but it is much less effective in a severe recession when interest rates are near zero and confidence is low. In those circumstances it needs to be supported by expansionary fiscal policy, which directly raises AD, as happened in 2020 when QE was combined with the furlough scheme.

6 (a)

The EU single market is an area where there is free movement of goods, services, people (labour) and capital (the four freedoms), with no tariffs or quotas between members and common rules and product standards that remove non-tariff barriers. Norway is not an EU member but is part of the single market through the European Economic Area (EEA). It might choose this for several reasons.

Trade creation. Single market membership gives Norwegian firms frictionless access to a market of about 450 million consumers with no tariffs, quotas or

customs checks on most goods. Norway can then specialise according to its comparative advantage, for example in oil, gas and fish, and import other goods from lower-cost EU producers instead of higher-cost domestic ones. Exports rise and consumers gain from lower prices and more choice.

Economies of scale. Norway has only about 5.5 million people, so its domestic market is small. Access to a much larger 'domestic market' lets Norwegian firms expand output and exploit internal economies of scale, including technical and marketing economies, and join integrated EU supply chains and just-in-time production. Lower unit costs and greater competition from EU firms lead to lower prices and pressure on inefficient firms to improve, raising productive and dynamic efficiency.

Common standards and lower costs. Common product standards and mutual recognition mean that a product approved in one country can be sold in all, so firms do not have to meet many different sets of rules, which cuts costs, and consumers face less information failure, so they can make more rational choices.

Factor mobility. Free movement of labour allows Norway to recruit skilled and unskilled workers from EU countries to fill skills shortages in sectors such as construction, health care and oil services, helping wage costs to converge and keeping inflation down; mutual recognition of qualifications transfers skills, and workers send remittances home. Free movement of capital increases the supply of capital and attracts FDI, both from EU members and from firms outside Europe that want a base inside the single market, bringing technology transfer, jobs and higher productivity.

Remaining outside the EU. By joining the single market but not the EU, Norway gains most of these benefits while keeping control of policies that matter to it, such as fishing and agriculture (it is outside the Common Fisheries Policy and the Common Agricultural Policy), and it can sign its own trade deals. It can also co-operate on projects of mutual benefit, such as green energy and research programmes. Its contributions are lower than full EU

membership fees, although Norway must still accept EU single market rules without a vote on them.

6 (b)

The European Monetary Union (EMU), or eurozone, is a group of EU countries (20 in 2023) that share a single currency, the euro, with one monetary policy set by the European Central Bank (ECB), which targets inflation of 2%. To join, a member state must meet the convergence criteria, for example inflation and long-term interest rates close to the best-performing members, a budget deficit below 3% of GDP and national debt below 60% of GDP.

Benefits of membership. First, there are no transaction costs from converting currencies, which reduces costs for exporters, importers, investors and tourists, and price transparency makes it easier to compare prices across countries, increasing competition. Second, there is no exchange rate uncertainty in trade with other members: firms can predict the cost of imported raw materials and set export prices with confidence, which encourages trade and investment. This allows countries to benefit fully from the single market, increasing trade creation and allowing firms to grow and exploit economies of scale. Third, the eurozone is attractive to FDI from outside the EU, since a multinational in, say, Ireland or Slovakia can sell to the whole euro area without currency risk. Fourth, members benefit from the credibility of the ECB. Countries with a history of high inflation, such as Italy and Greece, gained low inflation and much lower interest rates after joining, which reduced the cost of government and private borrowing; smaller members find it easier to borrow. The rules on deficits and debt put pressure on governments to manage public finances carefully. Fifth, there is financial support in a crisis: the ECB can act as a lender of last resort and the European Stability Mechanism provides rescue packages, and during Covid-19 the ECB's pandemic bond-buying programme kept borrowing costs low for weaker members. Membership also reduces the risk of speculative attacks on a small national currency, protecting against external shocks.

Costs of membership. The biggest cost is the loss of an independent monetary policy. The ECB sets one interest rate for the whole eurozone, which may be wrong for a particular member: before 2008 low rates fuelled housing booms and inflation in Ireland and Spain, while rates were set mainly with the larger economies, such as Germany, in mind. A member cannot devalue its currency to restore competitiveness. Greece and Germany use the same currency, so after the 2008 crisis Greece could not depreciate to boost exports and instead had to cut costs by internal devaluation, cutting wages and prices, which caused deep recession and unemployment above 25%.

Fiscal policy is also constrained. The Stability and Growth Pact limits budget deficits and debt, so governments cannot easily use expansionary fiscal policy in a recession, and members may have to contribute to bail-outs of struggling states. Critics argue that the ECB has a deflationary bias, keeping inflation low at the expense of higher unemployment. New members may need rapid structural reforms to stay competitive, causing structural unemployment, and there are set-up costs such as changing prices, cash machines and accounting systems. Leaving is extremely costly, with risks of bank runs and capital flight, as the Greek crisis of 2015 showed.

Evaluation. The effects depend on whether the eurozone is an optimal currency area. One interest rate suits members only if their economic cycles are synchronised, labour is mobile between countries, wages and prices are flexible and there is a fiscal union to transfer money to regions in recession. The eurozone meets these conditions only partly: language and cultural barriers limit labour mobility and there is no large central budget, so asymmetric shocks hit some members much harder than others. The effects therefore vary from country to country. Small, open economies that trade heavily with other members and have flexible economies, such as Estonia, Slovakia or the Netherlands, have done well, while larger southern economies with lower productivity growth, such as Italy and Greece, have struggled with slow growth and high debt. Germany is often said to have gained, because a euro weaker

than the old Deutschmark made its exports more competitive. The effects also depend on time scale: the benefits of lower transaction costs and stable prices are permanent but modest, while the costs of a badly fitting interest rate appear mainly during crises.

Overall, EMU membership is likely to be beneficial for a member state whose economy is closely integrated with and similar to the core eurozone economies, with flexible labour markets and sound public finances. For a member with a different economic cycle, low productivity or high debt, the loss of monetary policy and the exchange rate as tools can be very costly. On balance, membership is positive for most members in normal times, but its success in the long run depends on greater fiscal union and continued support from the ECB.