Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/41**

Paper 4 Data Response and Essays **October/November 2020**

2 hours 15 minutes

1548064857

You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **three** questions in total:
  Section A: answer Question 1.
  Section B: answer **two** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- You may use a calculator.
- You may answer with reference to any economy you have studied where relevant to the question.

INFORMATION

- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [ ].

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Section A

Answer this question.

1 Divergences in economic performance

A report considered the determinants of long-term economic growth and rated economies on their global competitiveness using an index from 7 to 1. Labour productivity is one influence on the competitiveness of an economy and labour productivity also determines the level of prosperity that a country can achieve. Switzerland, Singapore and the United States (US) were the world's three most competitive economies (see Table 1.1). Countries in the Euro Area were also ranked in the report. The Euro Area is a monetary union of 19 countries that have adopted the euro as their common currency.

Table 1.1 Data related to global competitiveness of selected countries, 2016–17

Country	Global competitiveness		Labour productivity GDP per hour (US$)	Current account balance	
	rank	index		(US$bn)	(% GDP)
Switzerland	1	5.81	64.2	+66.1	+9.4
Singapore	2	5.72	41.6 *(2013)*	+63.0	+21.5
US	3	5.70	68.3	–476.6	–2.6
Euro Area:					
Netherlands	4	5.57	65.4	+59.7	+8.5
Germany	5	5.57	65.5	+296.2	+8.8
Belgium	17	5.25	69.7	+4.8	+0.7
Spain	32	4.68	51.0	+23.5	+1.6
Italy	44	4.50	51.9	+47.8	+2.4
Greece	86	4.00	35.3	–0.2	–0.2

In the Euro Area a strong economy such as Germany has benefited much more from the use of the euro single currency than weaker economies such as Spain and Greece. As these weaker economies do not have their own currencies, they have been forced to adjust their domestic economic policies to tackle balance of payments problems by decreasing wages and reducing government spending instead of devaluation.

The unemployment rate in the weaker economies of the Euro Area remains higher than in the stronger economies. For example, in Spain it was 18.4% in 2016 with 40% of young people out of work. By contrast the unemployment rate in Germany was 3.9%, an all-time low in 2016. Although unemployment across countries in the entire Euro Area decreased from 2013 to 2016, prices have shown a strong upward trend in 2016 which may result in reduced consumer spending. In future this may cause increases in interest rates in an attempt to control inflation.

Sources: The Times, 1 February 2017; World Economic Forum Global Competitiveness Report, 2016; http://time.com

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(a) Explain what is meant by labour productivity and whether the information confirms that countries with higher labour productivity are always more competitive than countries with lower labour productivity. [5]

(b) **(i)** State **three** general macroeconomic aims a government might have. [3]

(ii) Is there evidence in the information that suggests Germany is achieving any of these macroeconomic aims? [4]

(c) The article describes the effects of a single euro currency on the changes in the domestic policies of Spain and Greece.

Discuss the possible effects on the Spanish and Greek economies that these policy changes might have. [8]

Section B

Answer **two** questions.

2 'The existence of externalities is neither a necessary nor a sufficient condition for government intervention to achieve efficiency in the economy.'

Do you support this opinion? [25]

3 **(a)** Compare and contrast the derivation of a consumer's demand curve using Marshall's marginal utility analysis with a consumer's demand curve derived by indifference curves. [12]

(b) Discuss how the effect of a rise in a sales tax (goods and services tax) can be analysed using indifference curve analysis. [13]

4 **(a)** Consider whether in oligopoly the theory proposes that the market price is rigid. [12]

(b) 'Mergers of firms in the same industry are against the public interest. It is better that firms remain small.'

Discuss this opinion. [13]

5 **(a)** In some industries the wage rate is often omitted when a job is advertised.

Explain the role of the marginal revenue product in determining the wage rate in a perfectly competitive firm and consider whether the labour market is likely to be perfect or imperfect if the wage rate is omitted from an advertisement. [12]

(b) Discuss, with the aid of a diagram, whether it is possible for a trades union to increase its members' wage rate without reducing the level of employment. [13]

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6 ‘The use of quantitative easing (QE) has the same effect on the economy as the use of Keynesian fiscal demand management policy. Both policies create employment in the short run at the expense of inflation in the long run.’

How far would you support this view? [25]

7 **(a)** Explain the economic costs of unemployment and consider which is the most important. [12]

(b) ‘Government intervention in supply-side policies will not have a significant impact on unemployment whereas supply-side policies that increase aggregate demand because of a freer market will significantly reduce the level of unemployment.’

Discuss this statement. [13]

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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

Answers for paper 9708/41

1(a) Labour productivity is the output (or value of output) produced per worker per hour worked. Table 1.1 measures it as GDP per hour in US$. Higher productivity lowers unit costs, so firms can sell more and the economy can grow, which tends to make it more competitive.

The information does not confirm that higher productivity always means more competitive. The US (68.3) is ranked above Switzerland (64.2) on productivity but below it on competitiveness, and Belgium has the highest productivity (69.7) yet is ranked only 17th. Singapore is ranked 2nd although its productivity is only 41.6 (and that figure is for 2013). So competitiveness depends on other factors too, such as infrastructure, institutions and innovation.

1(b)(i) Any three of: economic growth; low unemployment; low and stable inflation; a balance of payments equilibrium on the current account (or a stable exchange rate); a more equal distribution of income.

1(b)(ii) Growth: yes, Germany is ranked 5th in the world for global competitiveness (index 5.57) and has fairly high labour productivity of $65.5 per hour, which supports growth.

Low unemployment: yes, its unemployment rate was 3.9% in 2016, an all-time low.

Balance of payments: yes, a very large current account surplus of +$296.2bn (+8.8% of GDP).

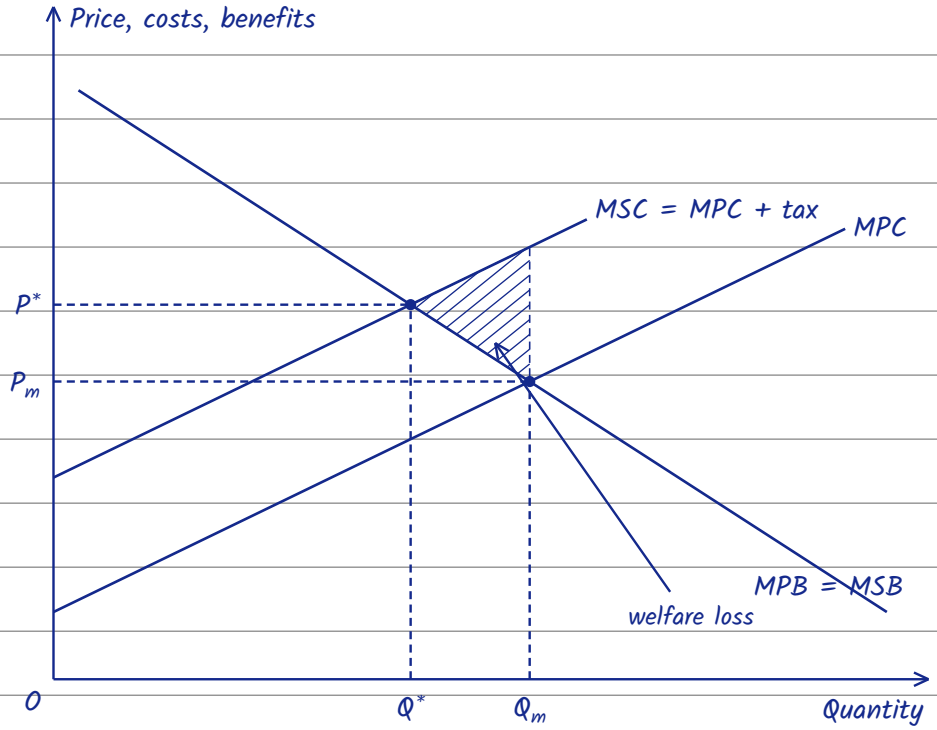
Low inflation: no, prices showed a strong upward trend across the Euro Area in

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	2016. There is no evidence on income distribution.
1(c)	Without their own currencies, Spain and Greece cannot devalue to restore competitiveness, so the article says they have had to decrease wages and reduce government spending (an "internal devaluation"). Lower wages reduce firms' costs, so export prices fall relative to rivals and international competitiveness improves. Exports rise, imports fall and the current account improves (Greece had a deficit of −0.2% of GDP). In the long run lower labour costs may attract investment and create jobs. However, lower wages also reduce disposable income and consumption, so aggregate demand falls; workers may resist cuts, wages are often "sticky" downwards, and success depends on the price elasticity of demand for exports. Lower incomes also increase inequality and poverty. Lower government spending reduces the budget deficit and national debt, which may restore confidence. But it directly reduces aggregate demand, and through the negative multiplier output falls by more than the cut, so unemployment rises. This is already a problem: Spain's unemployment was 18.4% with 40% of young people out of work. Cuts in education, health and infrastructure may also reduce long-run productivity; Greece has the lowest productivity in the table ($35.3) and is ranked only 86th. So the policies may improve the balance of payments in the long run, but at a high short-run cost in lost output and jobs.
2	An externality is a cost or benefit of an activity that falls on a third party who is not part of the transaction and is not reflected in the market price. A negative externality (such as pollution) means marginal social cost (MSC = MPC + external cost) is greater than marginal private cost; a positive externality (such as education) means marginal social benefit (MSB) is greater than marginal private benefit. Efficiency here means allocative efficiency, where resources are allocated

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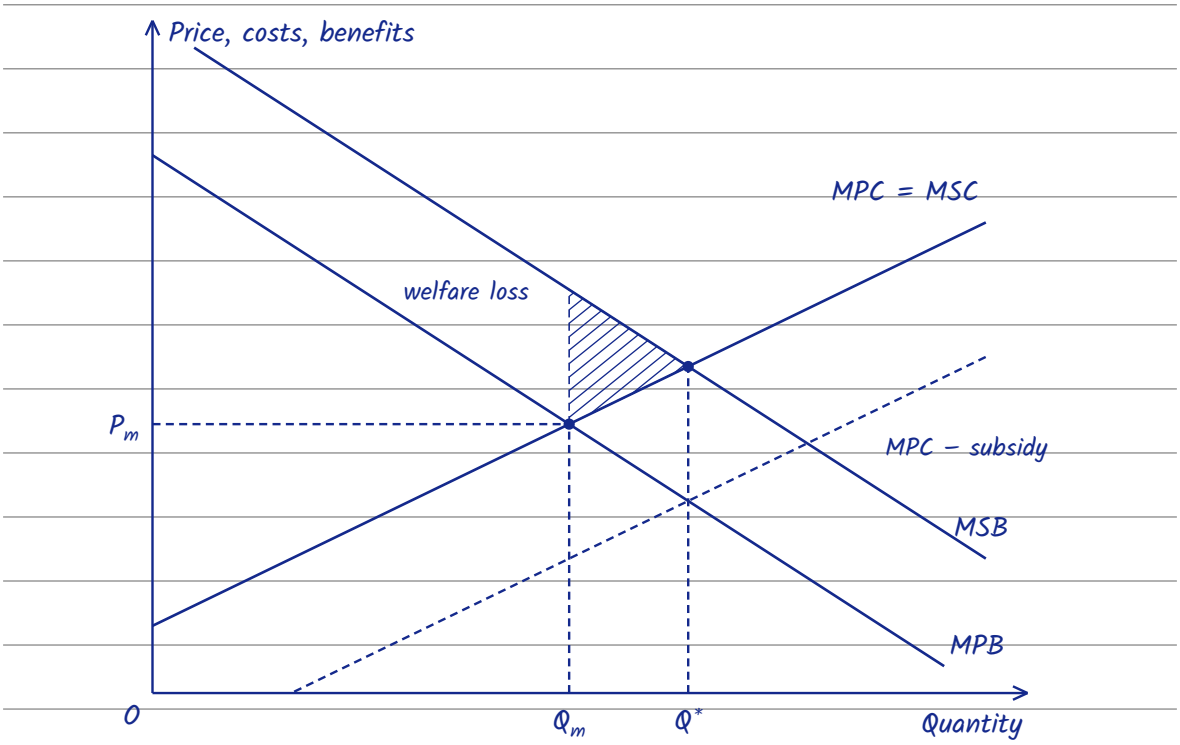
to maximise society's welfare, at MSB = MSC (P = MC when there are no externalities), together with productive efficiency, output at minimum average cost. Pareto optimality is reached when no one can be made better off without making someone else worse off.

Externalities are a strong reason for intervention. With a negative externality the market ignores the external cost and produces where MPB = MPC at Qm, above the social optimum Q^*, so there is over-production and a welfare loss (shaded).



A tax equal to the marginal external cost shifts MPC up to MSC, so output falls to Q^* and efficiency is restored. With a positive externality the market under-produces at Qm, below Q^* where MSB = MSC, and a subsidy can raise output to the optimum.

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"Not a necessary condition": externalities are only one cause of inefficiency, so intervention may be needed even where there are none. Public goods are non-rival and non-excludable, so the free-rider problem means the market may not provide them at all (missing market), and the government must provide them, for example street lighting or defence. Monopoly power leads to P > MC and output below the efficient level, so competition policy or regulation is needed. Information failure leads to under-consumption of merit goods and over-consumption of demerit goods. Factor immobility causes unemployment, which is productive inefficiency, as the economy is inside its PPF. Also, governments intervene for equity, for example progressive taxes, even when there are no externalities. So the statement is right that externalities are not necessary for intervention.

"Not a sufficient condition": the existence of an externality does not guarantee that intervention will achieve efficiency, because of government failure. External costs are very hard to measure and value in money, so the tax may be set too high or too low, and output may move past Q^*. The government lacks information about MSB and MSC, and regulation creates administration and enforcement costs.

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Taxes may be regressive, firms may relocate abroad, and demand for goods such as petrol is price inelastic, so a tax reduces pollution only a little. Political pressure from lobby groups and short-term electoral aims may distort decisions. Also, the Coase theorem suggests that where property rights are clear and bargaining costs low, the parties can negotiate an efficient outcome themselves, so intervention is not always needed. Small externalities may cost more to correct than the welfare loss they cause.

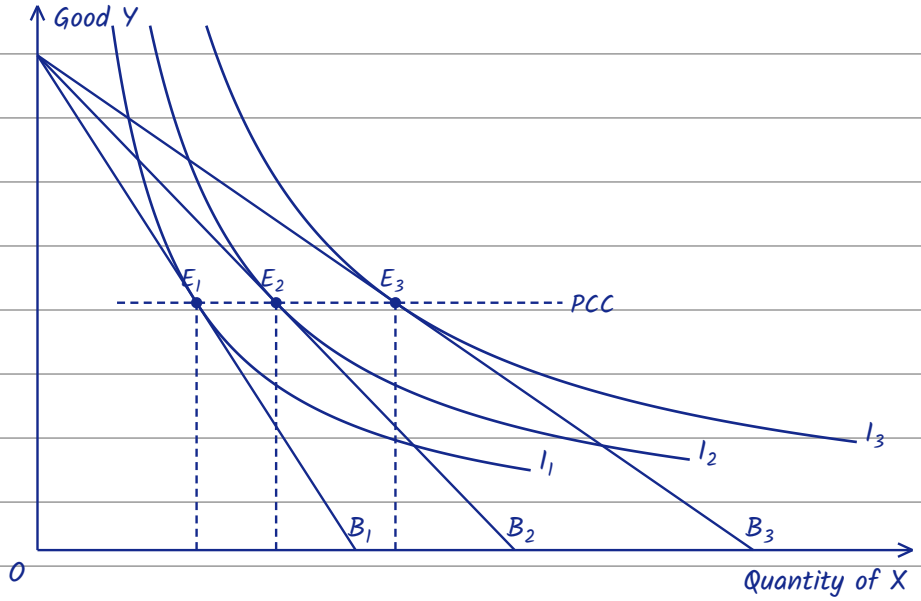
Conclusion: I largely support the opinion. Externalities are not necessary for intervention, because public goods, monopoly and information failure also justify it; and they are not sufficient, because intervention only improves efficiency if the benefit of correction exceeds the cost and the government has accurate information. However, where externalities are large and measurable, such as carbon emissions, intervention through taxes or tradable permits is likely to move the economy closer to efficiency, so externalities remain one of the strongest reasons for intervention, even if they do not guarantee success.

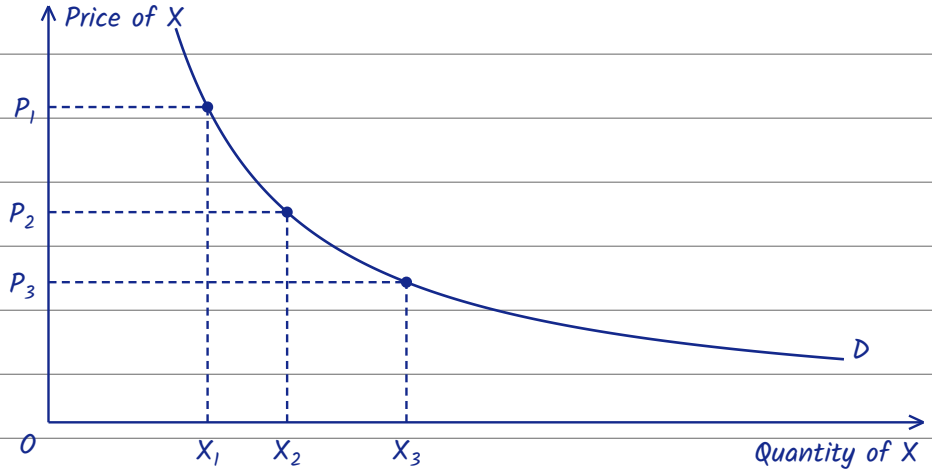
3(a) Marshall's marginal utility analysis assumes utility can be measured in cardinal units (utils) and that marginal utility diminishes as more is consumed. A consumer maximises total utility when spending is allocated so that $MU_A/P_A = MU_B/P_B = \ldots$ (the equi-marginal principle). If the price of good A falls, MU_A/P_A rises above that for other goods, so the consumer buys more A until, with diminishing MU, the equality is restored. Because the consumer buys units until MU = P (in money terms), the MU curve itself gives the demand curve: price and quantity are linked directly, and diminishing MU explains why demand slopes down.

Indifference curve analysis uses ordinal utility: the consumer only ranks bundles. An indifference curve shows combinations of two goods giving equal satisfaction, convex because of a diminishing marginal rate of substitution. The budget line shows affordable combinations; equilibrium is where the budget line is tangent to

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the highest indifference curve. When the price of X falls the budget line pivots outwards, giving new equilibria E1, E2, E3. Joining them gives the price-consumption curve, and plotting each price of X against quantity X1, X2, X3 gives the demand curve below.



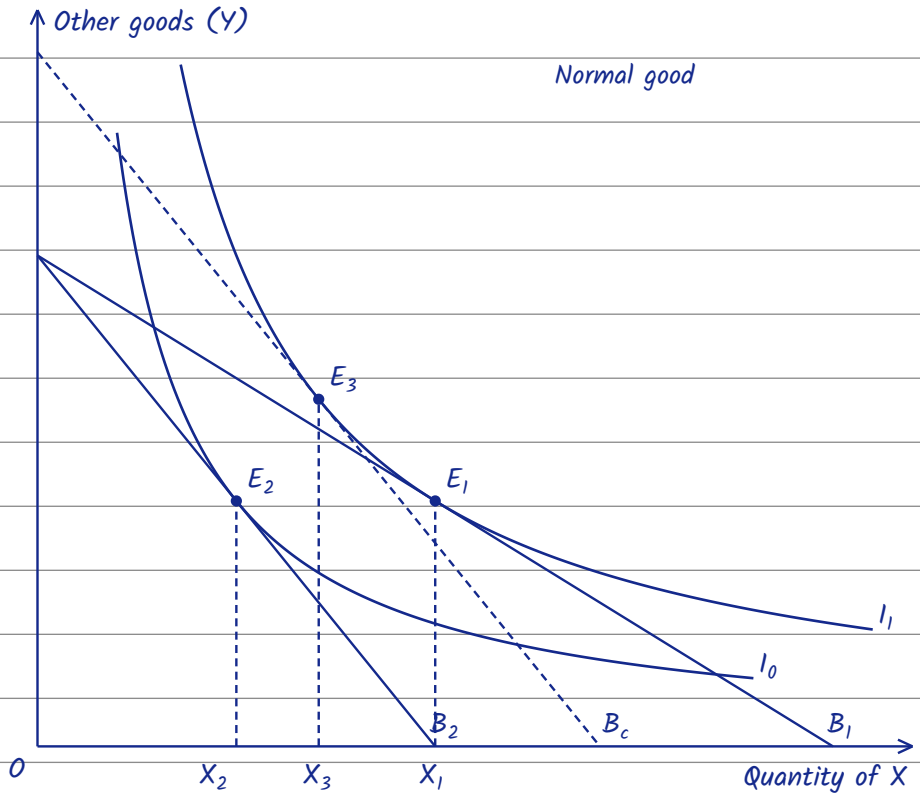


Comparison: both assume rational consumers maximising satisfaction with given income and prices, and both give a downward-sloping demand curve for a normal good. Contrast: Marshall needs cardinal measurement in utils, which is unrealistic, while indifference curves need only ranking. Marshall links MU to price directly, so the demand curve follows at once, but it assumes constant MU of money and cannot separate income and substitution effects. The indifference approach has no

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direct link to price, so the demand curve has to be constructed point by point from the price-consumption curve, but it splits the price effect into income and substitution effects and so can explain inferior and Giffen goods. However, it still assumes the consumer can rank all bundles consistently, which is also unrealistic. So the indifference curve method is more general, but less direct.

3(b) A sales tax (GST) raises the price the consumer pays. If the tax on good X rises, the price of X rises, so the consumer can buy less X with the same income. The budget line pivots inwards on the X axis from B1 to B2, while the Y intercept is unchanged (assuming Y is not taxed more). If the tax rose on all goods, the budget line would shift inwards parallel, a pure income effect.



The consumer moves from E1 on I1 to E2 on the lower indifference curve I0, so quantity of X falls from X1 to X2 and welfare falls. This price effect can be split. Drawing a compensated budget line Bc parallel to B2 and tangent to the original curve gives E3: the movement E1 to E3 (X1 to X3) is the substitution effect, as

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X is now relatively dearer, and it always reduces X. The movement E3 to E2 (X3 to X2) is the income effect: real income falls, so for a normal good less X is bought too. Both effects work in the same direction, so demand falls, giving a movement up the demand curve.

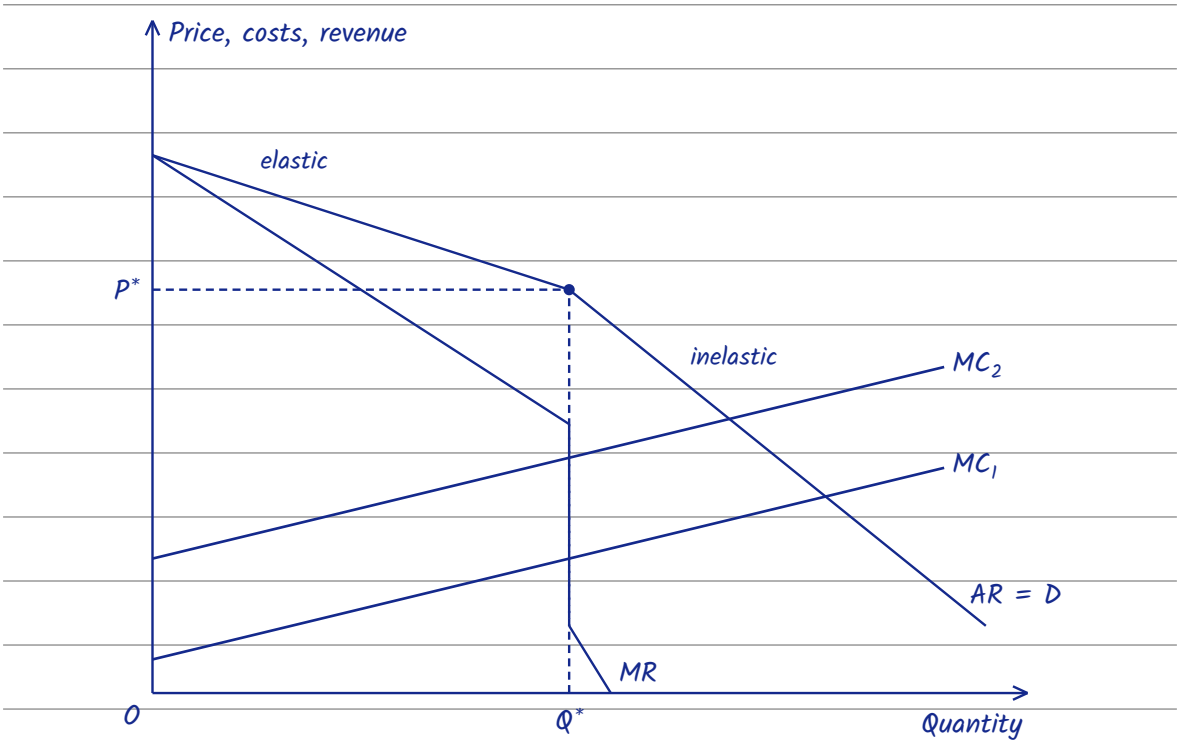
For an inferior good the income effect works the other way, so demand falls by less; for a Giffen good the income effect outweighs the substitution effect and quantity could even rise. The size of the change depends on the price elasticity of demand. If X has close substitutes (flat indifference curves, elastic demand), the substitution effect is large, quantity falls a lot and the government raises little revenue. If X is a necessity with few substitutes (sharply curved indifference curves, inelastic demand), quantity falls little and tax revenue rises, but more of the burden falls on the consumer. The proportion of income spent on X matters for the income effect too.

Evaluation: the analysis is useful because it shows the welfare loss and separates the two effects, but it assumes the whole tax is passed on in the price; in practice the incidence depends on the elasticities of demand and supply. It also assumes rational consumers with known preferences, while in reality tastes are hard to measure, so the analysis shows the direction of the change more reliably than its size.

4(a)

Oligopoly is a market dominated by a few large interdependent firms, with high barriers to entry and often differentiated products. Because each firm's decisions affect its rivals, there is uncertainty about how rivals will react, and firms face a choice between competing and colluding. The kinked demand curve theory (Sweezy) proposes that price is rigid.

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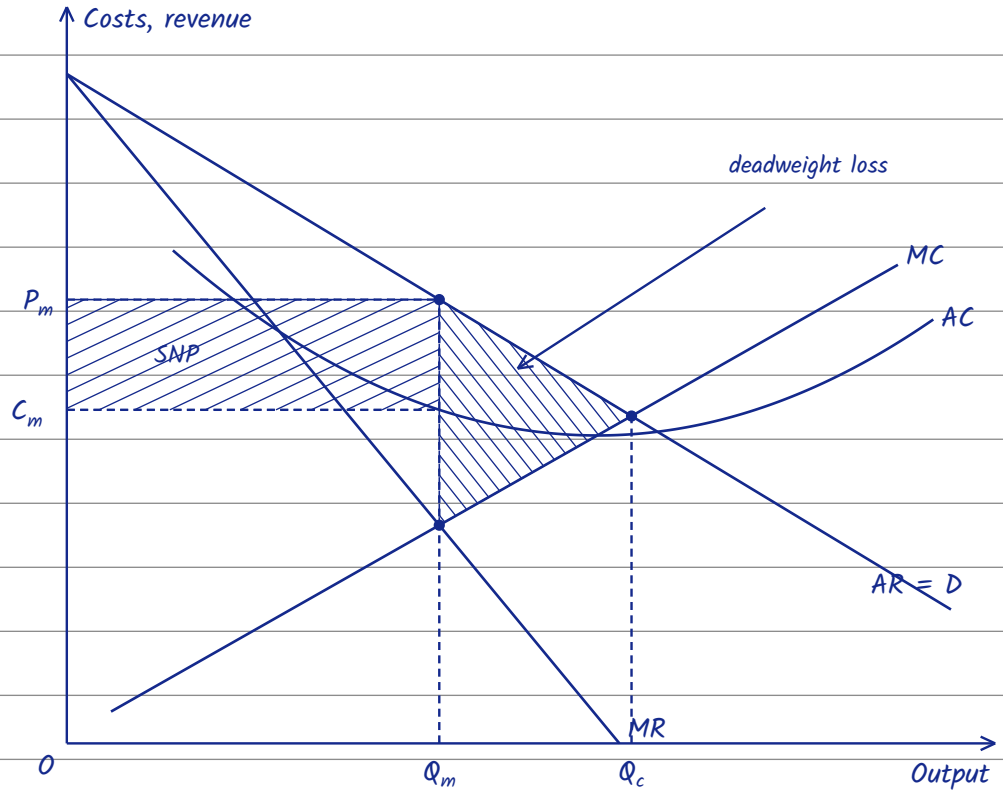


At the current price P*, if a firm raises its price, rivals will not follow, so it loses many customers: demand is elastic above P*. If it cuts its price, rivals will follow to protect market share, so it gains few customers: demand is inelastic below P*. The demand curve is kinked at P*, and the MR curve has a vertical discontinuity at Q*. If marginal cost rises from MC1 to MC2 within this gap, MC = MR still at Q*, so the profit-maximising price and output do not change. Price changes also risk a price war, so firms prefer non-price competition such as advertising, branding and loyalty schemes. Collusion, formal (a cartel) or tacit (price leadership), also tends to keep prices stable, since changing an agreed price may break the agreement. However, the theory has weaknesses. It explains why a price stays at P* but not how P* was set in the first place. Large cost increases that move MC outside the gap, such as a rise in oil prices affecting all firms, will lead to a price change, and firms often change prices together. Game theory shows firms may start price wars to gain market share or to deter entry, and in some oligopolies such as airlines and petrol, prices change frequently. So oligopoly theory suggests prices tend to be sticky but not completely rigid; the degree of rigidity depends on whether firms

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collude, the size of cost changes and the reactions they expect from rivals.

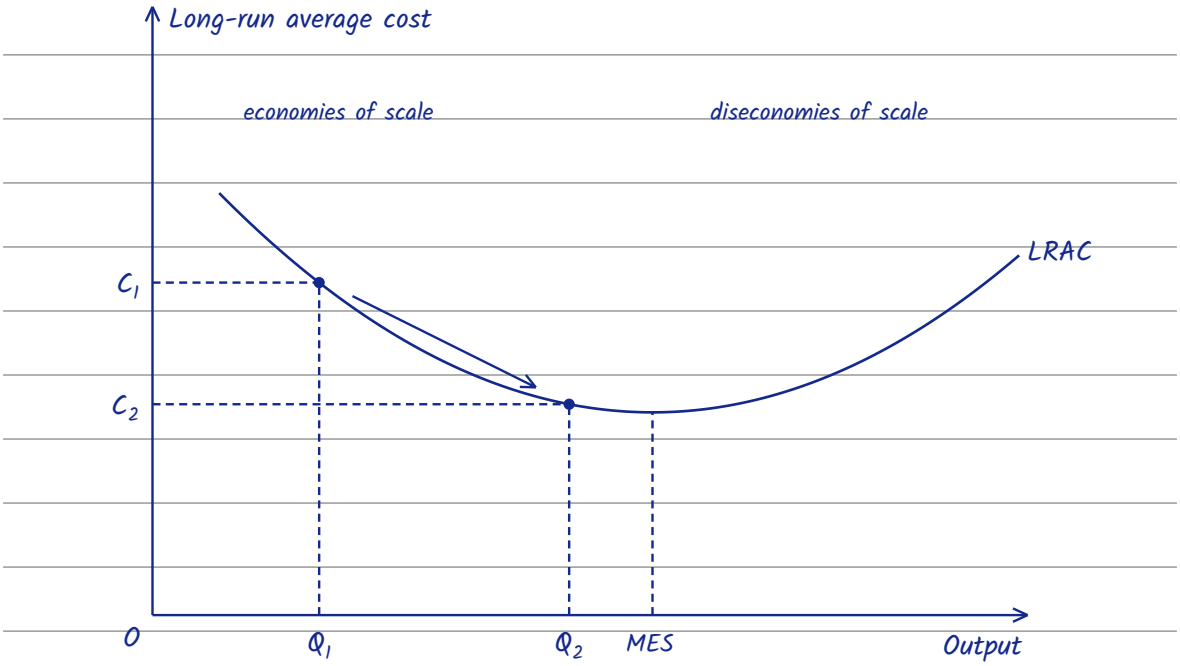
4(b) A horizontal merger joins firms at the same stage of production in the same industry. The merged firm has a larger market share and more market power, so it may act like a monopolist: it maximises profit where MC = MR, restricting output to Qm and charging a higher price Pm than the competitive Qc. It earns supernormal profit and P > MC, so there is allocative inefficiency and a deadweight loss. Consumers face less choice, and with less competition there may be X-inefficiency. The firm may also use price discrimination to capture consumer surplus and raise barriers to entry. This supports the view that mergers are against the public interest.



However, mergers can benefit the public. A larger firm gains internal economies of scale, such as technical, purchasing, financial and managerial economies, so long-run average cost falls. If costs fall enough, the merged firm could charge a lower price than the separate firms even while earning more profit. Supernormal

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profit can fund research and development, giving dynamic efficiency and better products. In industries with large fixed costs a merger can avoid wasteful duplication, and larger firms can compete internationally.



Small firms also have advantages: they are more flexible, provide personal service, serve niche markets, create competition and encourage innovation and enterprise. But they cannot gain economies of scale, may face higher costs and prices, and find it harder to raise finance for investment, so it is not always "better that firms remain small".

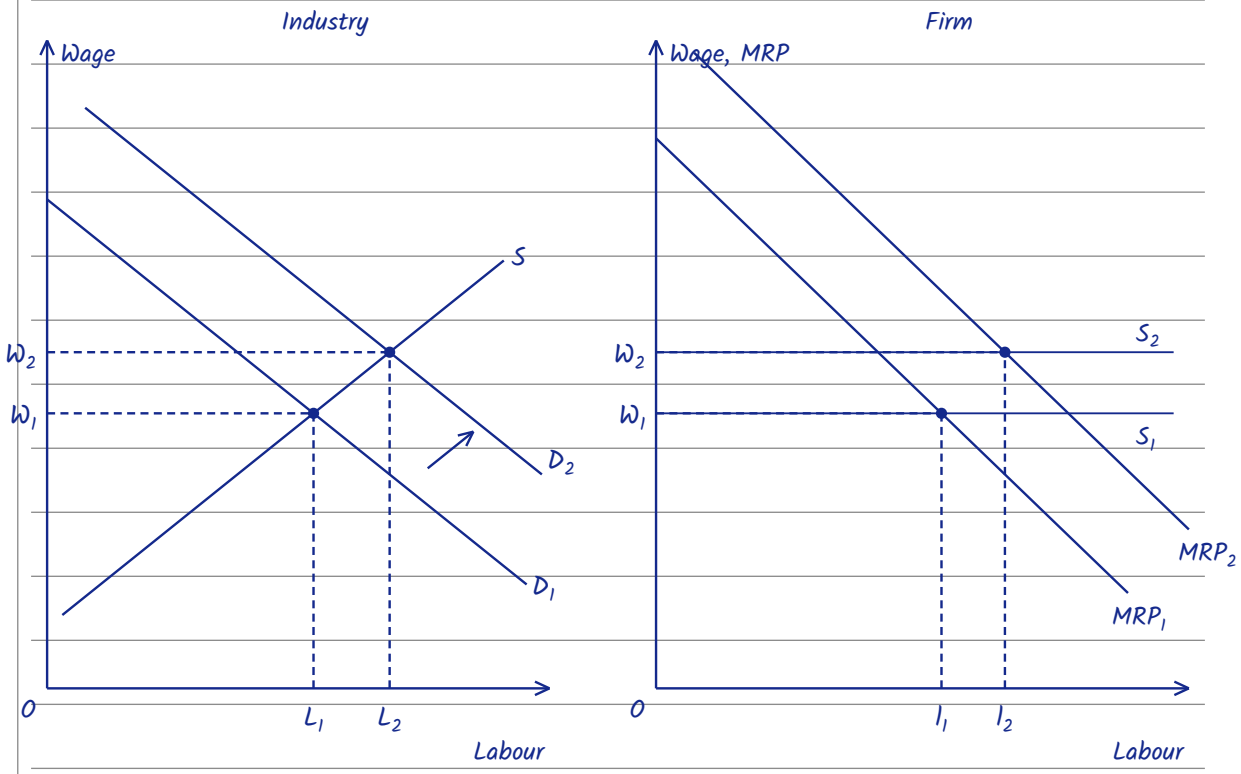
Conclusion: whether a merger is against the public interest depends on whether the cost savings outweigh the effect of greater market power, on how contestable the market is, and on whether the firm passes lower costs on as lower prices. This is why competition authorities examine each merger case by case rather than banning them all. The statement is too absolute: some mergers harm consumers, but others raise efficiency.

5(a) Marginal revenue product (MRP) is the extra revenue a firm earns from employing one more worker: MRP = MPP × MR, and in perfect competition MR = price, so

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MRP = MPP × P. Because of diminishing returns, MPP and so MRP fall as more workers are hired, so the MRP curve slopes downwards and is the firm's demand curve for labour.

In a perfectly competitive labour market there are many firms and workers, workers are homogeneous and there is perfect information and mobility. The wage is set in the industry by the supply and demand for labour, at W1. Each firm is a wage taker, so it faces a perfectly elastic supply of labour at W1 (W = ACL = MCL). It maximises profit by hiring workers until MRP = MCL = W, at l1. If the MRP rises, for example because the price of the product rises or productivity improves, industry demand shifts from D1 to D2, the wage rises to W2 and the firm hires l2 at the point where MRP2 = W2.



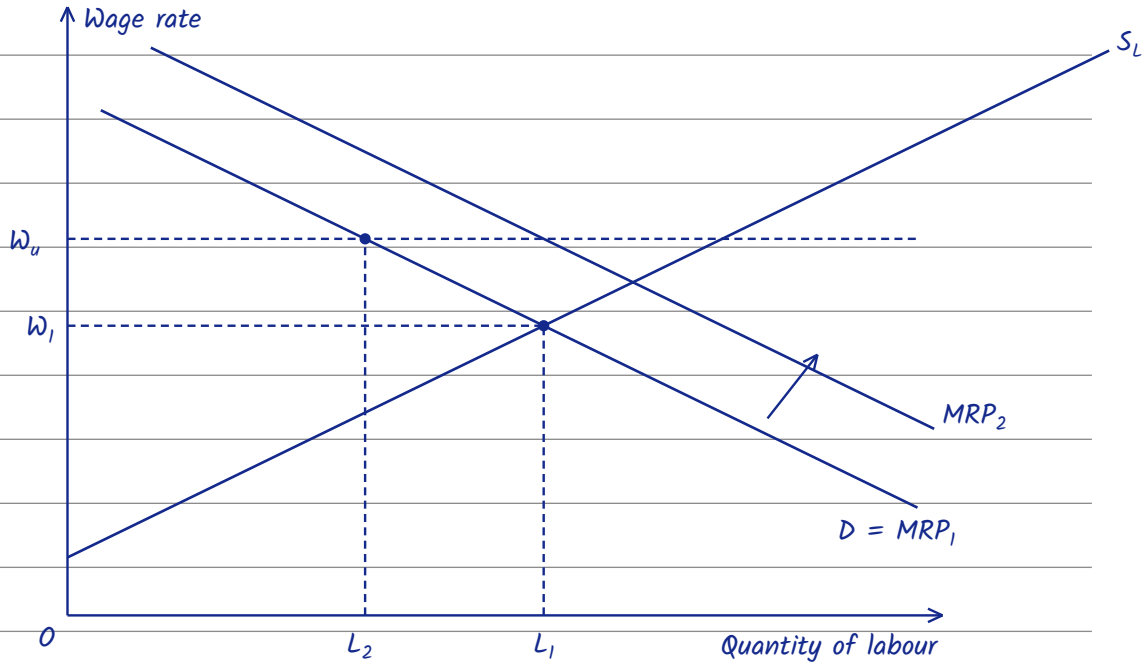
If the wage is omitted from an advertisement, this suggests the labour market is imperfect. In a perfect market the wage is known to all and the firm must pay the market rate, so there would be nothing to negotiate. Leaving the wage out implies the wage is negotiable, depending on the applicant's skills and experience, so workers are not homogeneous; that information is imperfect; and that the

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employer has some power to set the wage, possibly as a monopsonist, paying different workers different rates. However, it could simply be that the wage depends on qualifications or is set by a public pay scale, so the omission alone does not prove imperfection, but it is a strong indicator of an imperfect labour market.

5(b) A trade union is an organisation of workers that bargains collectively with employers over pay and conditions. Its existence means the labour market is imperfect. The effect of a higher wage depends on the market structure.

In a competitive labour market the market wage is W1 and employment L1. If the union forces the wage up to Wu, firms move up their MRP curve and employ only L2, so employment falls, and at Wu more workers want jobs than are demanded, creating unemployment.

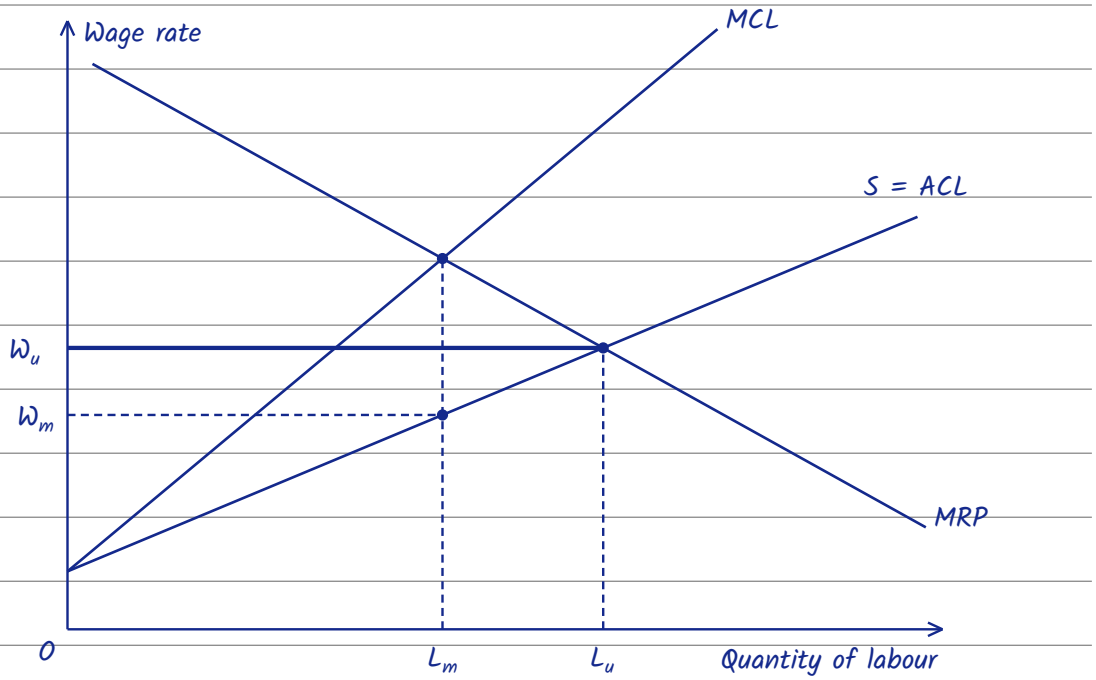


But employment need not fall if the MRP rises at the same time. If the union agrees to higher productivity (for example new working practices or training) or the demand for the product rises, the MRP curve shifts from MRP1 to MRP2 and a higher wage can be paid with no loss of jobs. The fall in employment is also

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smaller when the demand for labour is inelastic, for instance when labour costs are a small part of total costs or labour is hard to replace by capital.

With a monopsony employer, a union can raise both wages and employment. The monopsonist faces an upward-sloping supply curve (ACL) and its MCL lies above it, so it hires where MRP = MCL at Lm and pays only Wm, below the MRP. If the union sets the wage at Wu, the supply of labour becomes horizontal at Wu up to the supply curve, so MCL = Wu over that range. The firm now hires where MRP = Wu, at Lu, which is more than Lm. Any wage between Wm and Wu raises both wages and employment; a wage above Wu would raise pay but start to reduce employment.



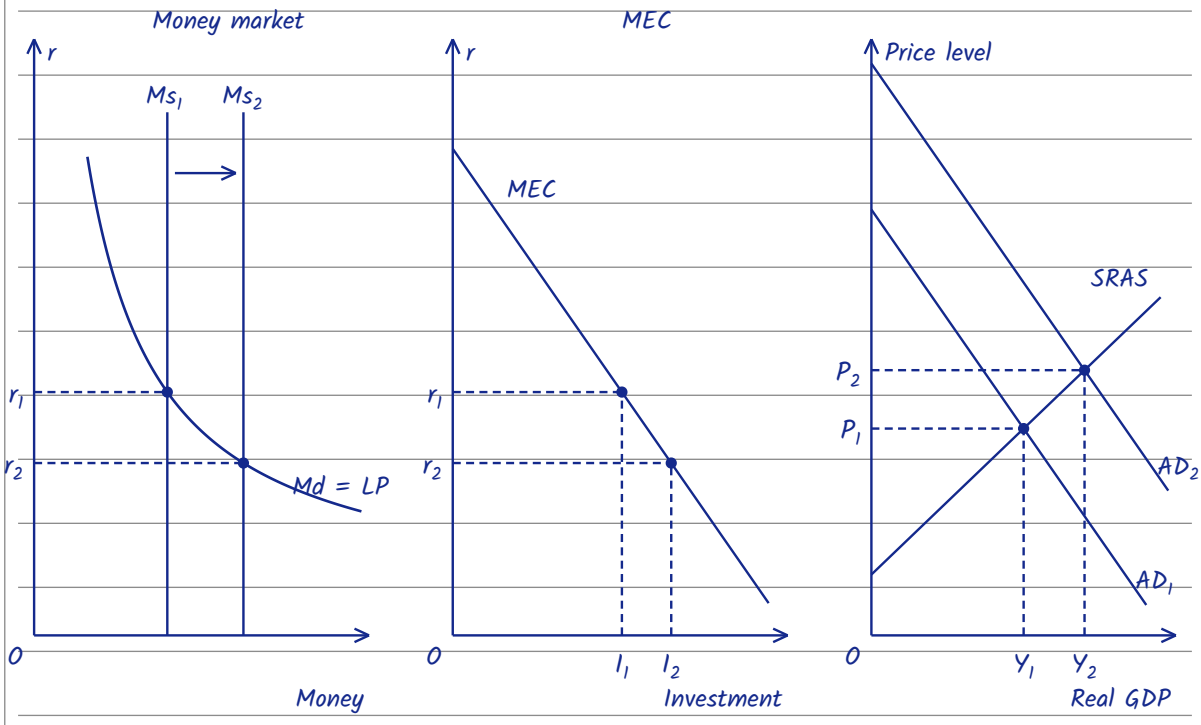
Conclusion: it is possible for a union to raise wages without reducing employment, if the employer is a monopsonist and the wage is set no higher than where MRP meets supply, or if productivity or product demand rises. In a competitive market with no change in MRP, a higher wage is likely to reduce employment. The outcome depends on where the wage is fixed and on the union's bargaining strength.

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6

Quantitative easing (QE) is a monetary policy in which the central bank creates new money electronically and buys financial assets, mainly government bonds, from banks and financial institutions. It is used when interest rates are close to zero. Keynesian fiscal demand management is the use of government spending and taxation to manage aggregate demand (AD); in a recession the government runs a budget deficit by raising spending or cutting taxes.

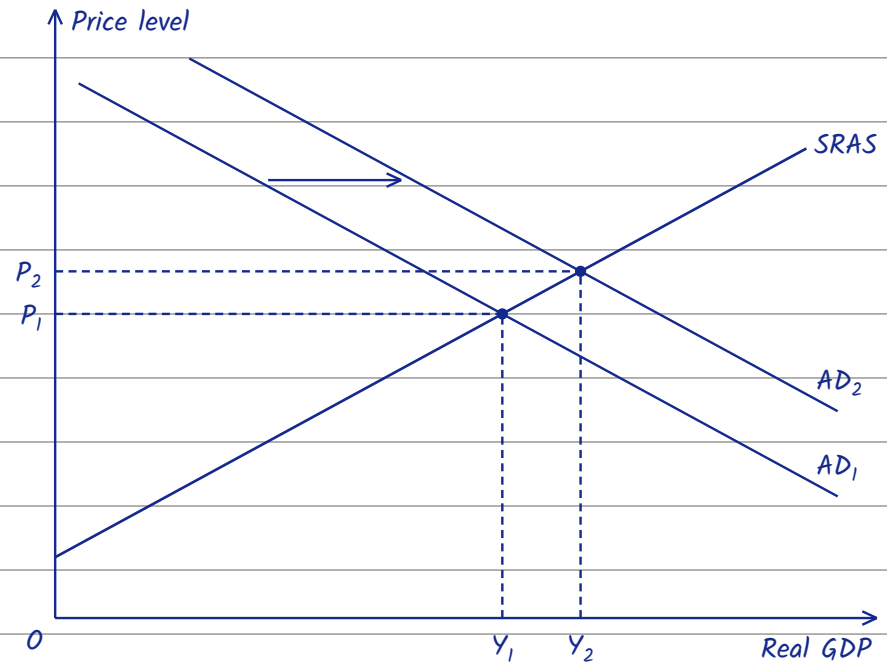
QE works through the transmission mechanism. Bond purchases raise bond prices and lower long-term interest rates, and banks have more reserves to lend. Cheaper credit raises investment and consumption; higher asset prices create a wealth effect; and lower interest rates may cause an outflow of hot money, so the exchange rate depreciates and net exports rise. AD shifts right from AD1 to AD2, real GDP rises and unemployment falls.



Keynesian fiscal policy acts directly. An increase in government spending G is itself an injection into the circular flow, and the multiplier (1/MPW) means national income rises by a multiple of the extra spending, so AD shifts right and firms hire more workers to produce the extra output, reducing demand-deficient

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unemployment.



So the view is partly right: both policies aim to raise AD and so create jobs in the short run, and both can cause inflation. If the economy is near full employment, as AD rises along an upward-sloping AS, the price level rises from P1 to P2 and further increases mainly raise prices. Monetarists argue that unemployment returns to its natural rate in the long run (vertical long-run Phillips curve), so both policies give only temporary job gains at the cost of permanently higher inflation, and the quantity theory (MV = PT) suggests the money created by QE ends up in higher prices.

However, the effects are not the same. QE works indirectly: if confidence is low, banks may hold the extra reserves and firms may not borrow (similar to a liquidity trap), so the effect on spending and jobs is weak; much of the money went into asset prices such as shares and property, raising wealth inequality, rather than consumer prices. After 2008 the US and UK used large-scale QE with low consumer price inflation for a decade. Fiscal policy injects spending directly and can be targeted at regions or industries, so its employment effect is more certain; but it increases the budget deficit and national debt, may crowd out private

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investment by raising interest rates, and suffers from time lags. QE does not raise government debt directly, although it makes borrowing cheaper.

Inflation in the long run is also not certain. If there is a large negative output gap (the horizontal section of the Keynesian AS curve), AD can rise with little inflation. If fiscal spending goes on infrastructure or education, it increases productive capacity (LRAS), which reduces inflationary pressure. QE can also be reversed by selling bonds later, although this is difficult in practice.

Conclusion: I support the view only partly. Both policies can create employment in the short run by raising AD, and both risk inflation if continued when the economy nears full capacity. But they do not have the same effect: fiscal policy acts more directly on output and jobs and affects the budget, while QE acts through interest rates, asset prices and the exchange rate and may have only a weak effect if confidence is low. Whether inflation follows depends mainly on the size of the output gap, not simply on the passage of time.

7(a) Unemployment is when people who are willing and able to work, and actively seeking work, cannot find a job. Its economic costs include:

Lost output (opportunity cost): unemployed labour is a wasted scarce resource, so the economy produces inside its PPF. Output that could have been produced is lost forever, so actual GDP is below potential GDP and living standards are lower.

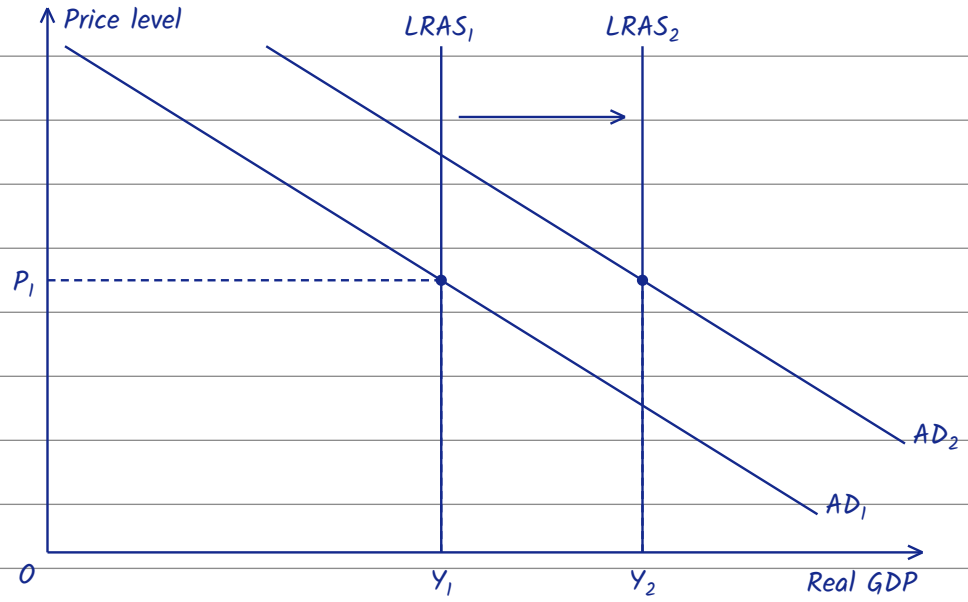
Cost to the government: tax revenue falls (less income tax and, as spending falls, less indirect tax) while spending on unemployment benefits rises, so the budget deficit widens. The government may have to borrow, raise other taxes or cut spending on services such as health and education.

Cost to individuals and society: the unemployed lose income, so consumption falls, and through the negative multiplier other firms lose sales and more jobs may be lost. Long-term unemployed workers lose skills and motivation (hysteresis), which reduces future productivity and potential output. There are also social costs, such

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as poverty, more inequality, poor health, and crime, which add to public spending. Which is most important? The loss of output is arguably the most important because it is permanent and is the source of the other costs: lost income causes lower tax revenue and higher benefits. The fiscal cost can be recovered when the economy grows again. However, if unemployment is long term, the loss of skills and the social costs may matter most because they reduce potential output for years. So the most important cost depends on the duration and type of unemployment: for short-term cyclical unemployment it is lost output; for long-term structural unemployment it is the damage to human capital.

7(b) Supply-side policies aim to increase the productive capacity of the economy by improving the quantity and quality of factors of production and the efficiency of markets, shifting LRAS to the right. They can be interventionist (government action) or market-based (freeing markets).



Interventionist policies include government spending on education and training, which gives workers the skills firms need and reduces structural unemployment; subsidies to firms in regions of high unemployment; government job centres that improve information and reduce frictional unemployment; and spending on

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infrastructure, which raises productivity and also creates jobs directly. These can have a significant effect: retraining tackles the mismatch of skills at the root of structural unemployment. However, they are costly, have long time lags, and the government may choose the wrong skills or industries (government failure).

Market-based policies include cutting income tax and benefits to increase incentives to work, reducing trade union power, deregulation and privatisation, and lowering corporation tax to encourage investment. These may increase the supply of labour and reduce voluntary unemployment, and lower costs may encourage firms to expand and hire. The statement suggests they also raise AD: tax cuts raise disposable income and investment raises spending. However, lower benefits may simply increase poverty if there are no jobs available; weaker unions may reduce wages and spending; and privatisation often leads to job losses in the short run. Tax cuts may benefit high earners and increase inequality.

Both types work in the long run and mainly reduce structural, frictional and voluntary unemployment. Neither deals well with cyclical (demand-deficient) unemployment, which needs fiscal or monetary policy. Market-based policies can raise AD only modestly, and if there is a recession a freer market will not create jobs on its own.

Conclusion: the statement is not supported. Interventionist policies such as education and training can significantly reduce structural unemployment, and market-based policies are not certain to reduce unemployment significantly; their effect depends on the type of unemployment, the time period and whether there is enough demand in the economy. A combination of both, alongside demand management, is likely to be most effective.

Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/42**

Paper 4 Data Response and Essays **October/November 2020**

2 hours 15 minutes

7738524433

You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **three** questions in total:
  - Section A: answer Question 1.
  - Section B: answer **two** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- You may use a calculator.
- You may answer with reference to any economy you have studied where relevant to the question.

INFORMATION

- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [ ].

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Section A

Answer this question.

1 **The economy of Uruguay**

Uruguay, a country of 3.5 million people, had a gross domestic product (GDP) per capita of US$20 000 in 2017 and was ranked at 63rd in the world.

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(a) **(i)** Identify **two** economic policies the Uruguayan government has introduced that should increase economic growth. [2]

(ii) Explain how these policies should increase Uruguay's economic growth. [4]

(b) The information states that in Uruguay there is a national minimum wage.

Using a diagram, discuss the likely effects of the introduction of a national minimum wage on labour markets. [6]

(c) Using Figs. 1.1 to 1.4, comment on the macroeconomic performance of Uruguay. [8]

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Section B

Answer **two** questions.

2 **(a)** Explain the relationship between the pollution created by industrial production and economic efficiency. [12]

(b) Using diagrams, discuss whether the policies employed by governments to reduce allocative inefficiency are always effective. [13]

3 **(a)** Explain the roles of marginal costs and average costs in determining the profits of a firm. [12]

(b) Discuss whether mergers between firms always operate against the consumers' interest. [13]

4 The wages of the Chief Executive Officers (CEO) of the six largest banks in the United States (US) were reported to be between 250 and 360 times the average wage of the workers in those banks. The six CEOs were all male.

Discuss the extent to which economic theory can account for these variations in wages. [25]

5 **(a)** Analyse the causes of unemployment and explain which cause could be most significant for your country. [12]

(b) Discuss whether supply-side policies are the most appropriate for reducing unemployment. [13]

6 "Investment by multinational corporations (MNCs) in a developing country always promotes sustainable economic growth in that country."

Discuss. [25]

7 **(a)** Explain why gross domestic product (GDP) is widely used as a measure of economic growth and the standard of living. [12]

(b) Discuss why alternatives to GDP are increasingly used to measure the standard of living. [13]

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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

Answers for paper 9708/42

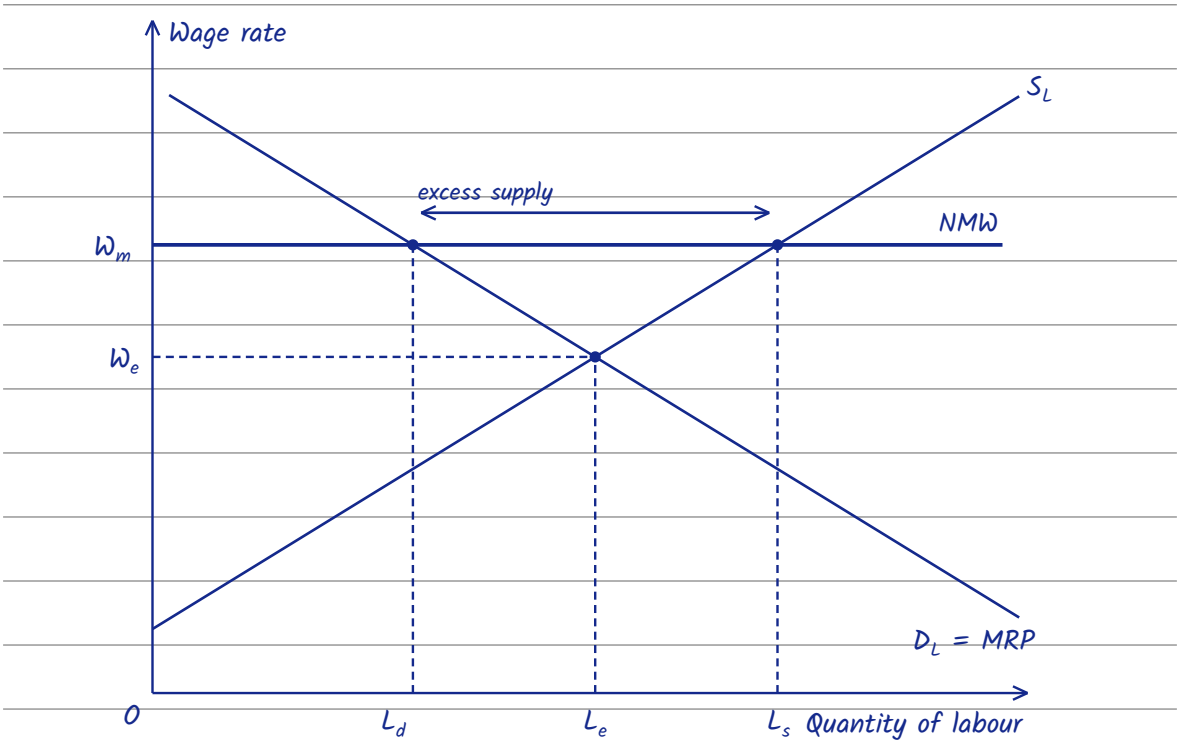
1(a)(i) Low tax rates for firms (and special economic zones to attract investment). Encouraging new technologies and industries, supported by public spending on science and technology.

1(a)(ii) Low tax rates and economic zones increase the post-tax return on investment, so domestic firms and foreign investors invest more and entrepreneurs put in more effort; this increases the country's capital stock and so its productive capacity and output.

New technologies raise labour productivity, so more output is produced from the same resources, and new industries can export to a wide international market, raising exports and so real GDP.

1(b) A national minimum wage (NMW) is a legal minimum hourly wage that employers must pay. In a competitive labour market the equilibrium wage is We and employment Le. If the NMW is set above We at Wm, employers move up their demand (MRP) curve and demand only Ld workers, while more people want to work, Ls. There is an excess supply of labour, Ls – Ld, which is unemployment.

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So the likely effect is higher pay for the low paid who keep their jobs but lower employment, especially for young and unskilled workers, and the loss is larger if demand for labour is wage elastic. Firms may also substitute capital for labour. However, a higher wage may raise productivity: workers are more motivated, labour turnover and training costs fall (efficiency wage), which shifts MRP to the right and limits job losses. Higher wages also raise consumer spending and AD. In a monopsony labour market, a minimum wage can even raise both wages and employment. So the effect depends on the level at which the NMW is set relative to the market wage and on the structure of the market.

1(c)

GDP (Fig. 1.1): real GDP rose over the period, by about 17 to 18%, which is more growth than Argentina or Brazil, so Uruguay's growth performance was good relative to its neighbours.

Unemployment (Fig. 1.2): the rate varied from year to year, but the trend is upwards, rising significantly in 2017, which is a weakness.

Inflation (Fig. 1.3): annual inflation peaked in 2016 and has generally fallen since,

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which is an improvement.

Balance of trade (Fig. 1.4): it moved from a deficit to a surplus, so the external position improved.

Linking the data: falling inflation together with rising unemployment is consistent with the Phillips curve trade-off: as demand pressure in the economy eased, inflation fell but jobs were lost. The rise in unemployment could also be due to the national minimum wage, which raises labour costs and reduces the demand for unskilled labour. The growth in GDP and the move to a trade surplus could be explained by rising exports, such as beef exports helped by the cattle tagging scheme, and by inward investment attracted by low taxes and economic zones.

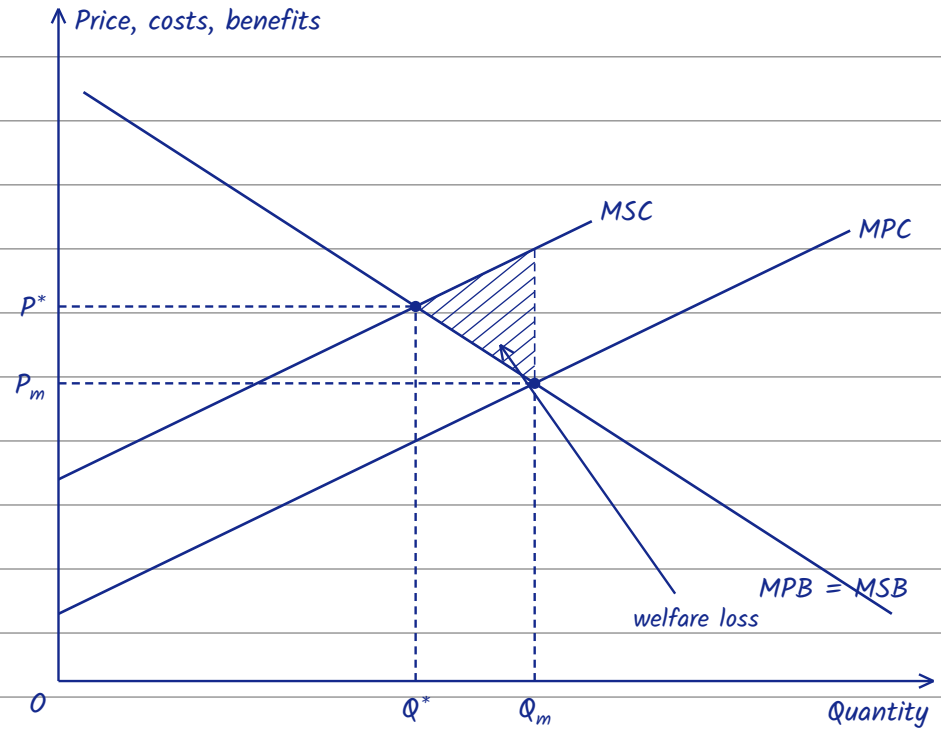
Overall, Uruguay's performance was mixed but mainly good: growth, inflation and the balance of trade improved, but unemployment rose, so growth has not yet created enough jobs.

2(a) Allocative efficiency is achieved when resources are allocated so that society's welfare is maximised: the value consumers place on the last unit (marginal social benefit) equals the cost to society of producing it (marginal social cost), MSB = MSC. With no externalities this is where P = MC.

Pollution from industrial production (smoke, chemical waste, noise) is a negative externality: a cost imposed on third parties, such as poorer health, damage to crops or the cost of cleaning rivers, that the producer does not pay. The firm considers only its marginal private cost (MPC), the costs of labour, materials and energy.

The marginal social cost is MPC plus the marginal external cost, so with pollution MSC lies above MPC.

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The market produces where MPB = MPC, at output Qm and price Pm, because the firm ignores the pollution cost. The socially optimal output is Q^*, where MSB = MSC. So the market over-produces by Qm − Q^*, and the price Pm is too low because it does not reflect the full cost. For each unit between Q^* and Qm, MSC is greater than MSB, so society loses welfare, shown by the shaded welfare loss triangle. Pollution therefore causes market failure and allocative inefficiency.

The size of the inefficiency depends on the size of the external cost: the greater the pollution per unit, the wider the gap between MPC and MSC and the larger the welfare loss. Note that efficiency does not require zero pollution: at Q^* there is still some pollution, because cutting it further would cost society more than the benefit. Pollution may also reduce productive efficiency if it damages the health and productivity of workers or harms other industries such as fishing and tourism.

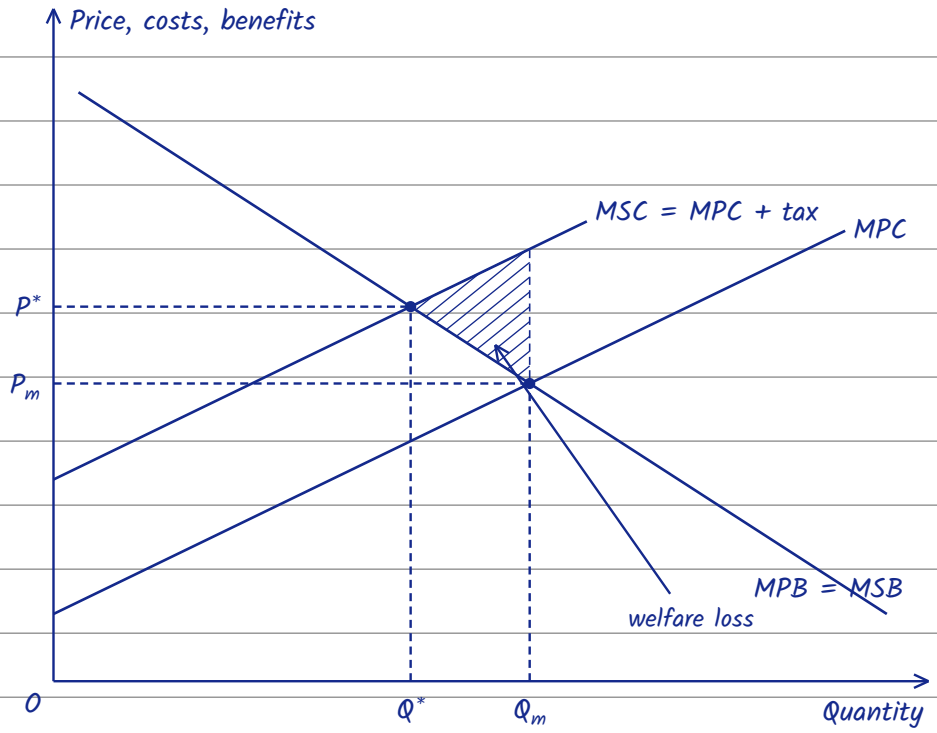
2(b)

Governments use several policies to reduce allocative inefficiency, such as taxes, subsidies, regulation, tradable permits and maximum or minimum prices.

An indirect (Pigouvian) tax on a polluting good equal to the marginal external cost

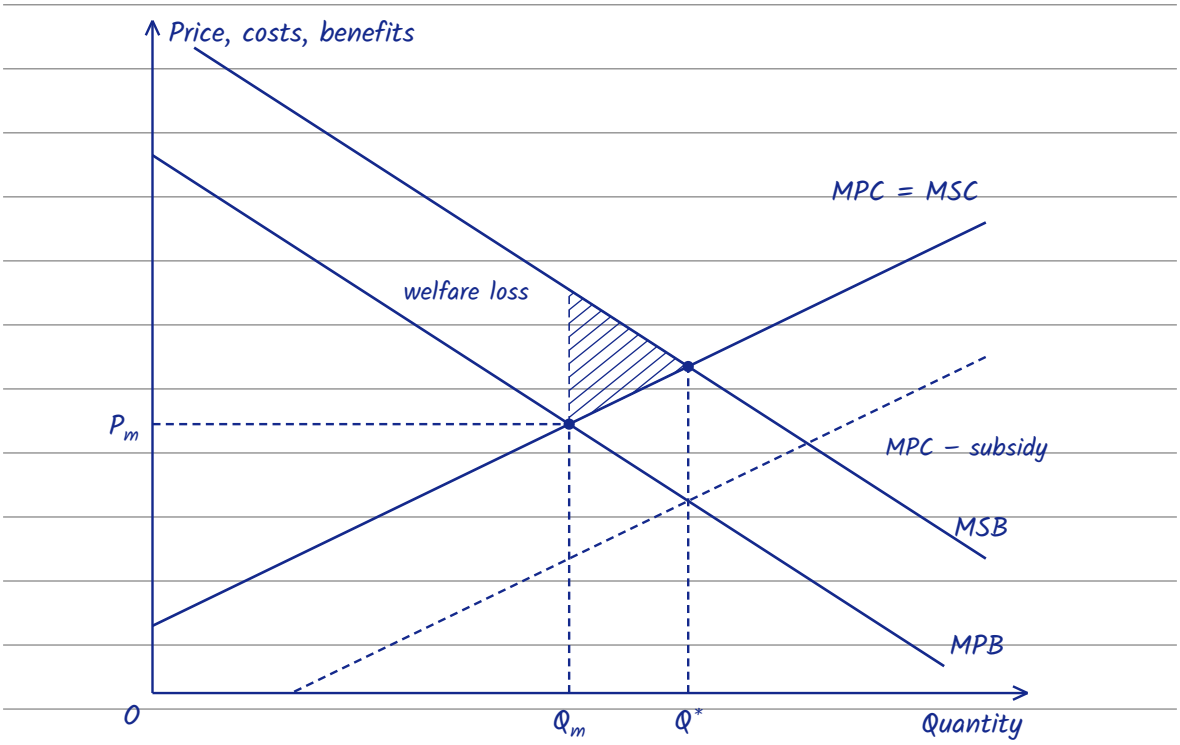
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shifts the supply curve from MPC up to MSC, so the market moves from Qm to the optimum Q^*, internalising the externality, and the revenue can fund clean-up. But external costs are very hard to measure in money, so the tax may be set at the wrong level. If demand is price inelastic, output falls only slightly. Taxes can be regressive and may make domestic firms uncompetitive or cause them to relocate.



A subsidy for a good with positive externalities, such as education or vaccination, shifts MPC down, so output rises from Qm towards Q^* where MSB = MSC. However, it has an opportunity cost, as the money could be spent elsewhere, it is hard to value the external benefit, and firms may become dependent on the subsidy.

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Regulation, such as emission limits or bans, is simple to understand and gives certainty about the amount of pollution, but it gives no incentive to reduce pollution below the limit, needs costly monitoring and may be set too strictly or too loosely. Tradable pollution permits set a total limit and let firms trade, so pollution is cut by the firms that can do it most cheaply, but if too many permits are issued the price is low and has little effect. Competition policy, such as monopoly regulation, aims to bring price closer to MC, but regulators may suffer from regulatory capture. A maximum price can make goods affordable but creates shortages.

All these policies can fail because of government failure: imperfect information, administration costs, time lags, political pressure and unintended consequences, such as black markets after bans.

Conclusion: government policies are not always effective. They reduce allocative inefficiency when the government can measure the externality accurately, enforce the policy at low cost and demand or supply respond as expected. Market-based tools such as taxes and permits are usually more efficient than bans, but the best

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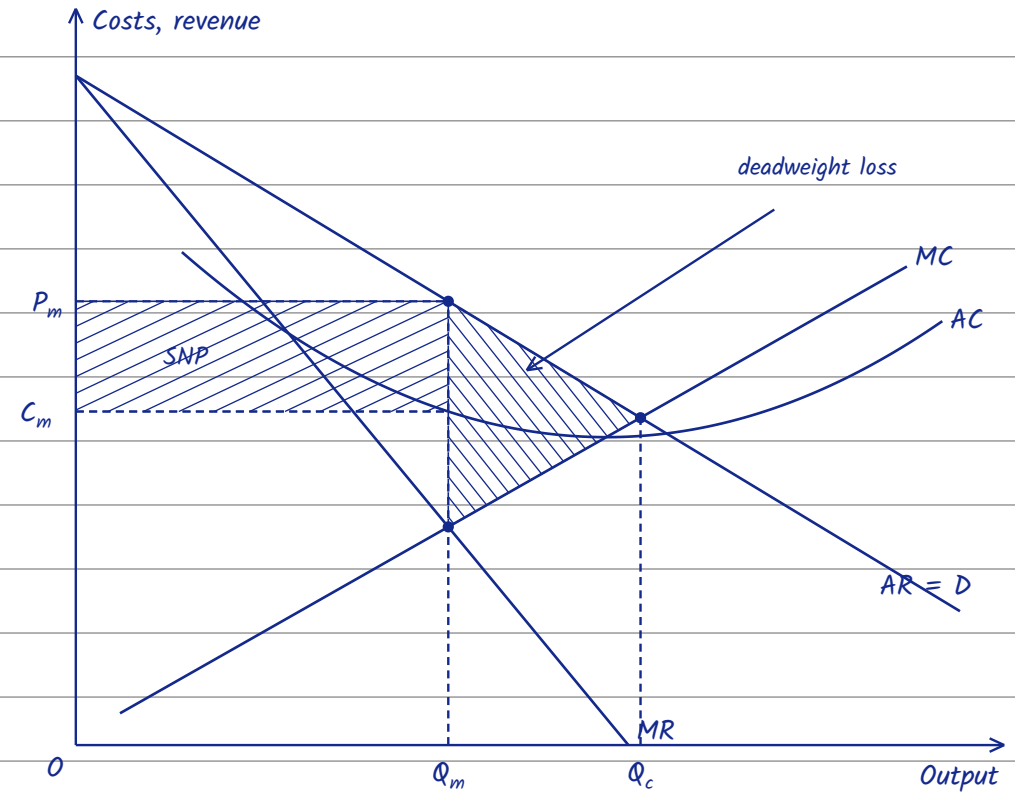
results often come from a combination of policies, with the government accepting that full efficiency is rarely achieved.

3(a) Average cost (AC) is total cost divided by output; average total cost = AFC + AVC. Marginal cost (MC) is the change in total cost from producing one more unit. MC cuts AC and AVC at their minimum points: when MC is below AC, AC falls; when it is above, AC rises.

Marginal cost determines the profit-maximising output. A firm maximises profit where MC = MR (with MC rising). If MR > MC, producing one more unit adds more to revenue than to cost, so profit rises by expanding; if MC > MR, profit rises by cutting output. So MC with MR shows how much to produce, but not how much profit is made.

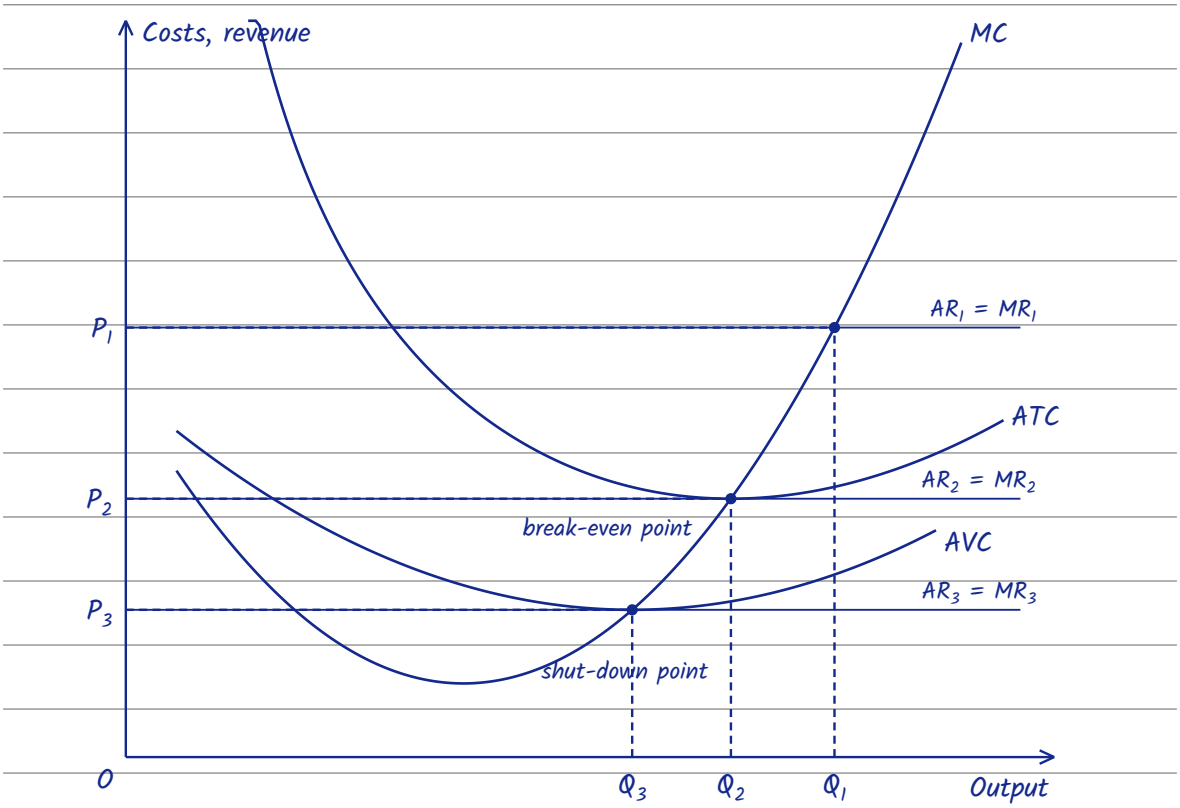
Average cost determines the level of profit. At the profit-maximising output, profit per unit = AR − AC, and total profit = (AR − AC) × Q. If AR > AC there is supernormal profit; if AR = AC normal profit; if AR < AC a loss. For the monopolist below, MC = MR at Qm, price is Pm (read from AR) and average cost Cm, so the shaded area (Pm − Cm) × Qm is supernormal profit.

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In the short run a firm making a loss will continue to produce if price covers average variable cost, because it still contributes to fixed costs; it shuts down if AR < AVC. In the diagram below for a perfectly competitive firm, at P1 the firm makes supernormal profit, at P2 (minimum ATC) it breaks even, and P3 (minimum AVC) is the shut-down point.

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In the long run all costs are variable, so a firm must cover AC to stay in the industry. In perfect competition supernormal profit attracts entry until P = MC = minimum AC and only normal profit is earned. A monopoly protected by barriers to entry can keep supernormal profit in the long run. So MC determines output, while the relationship between AR and AC determines whether profit, normal profit or a loss is made.

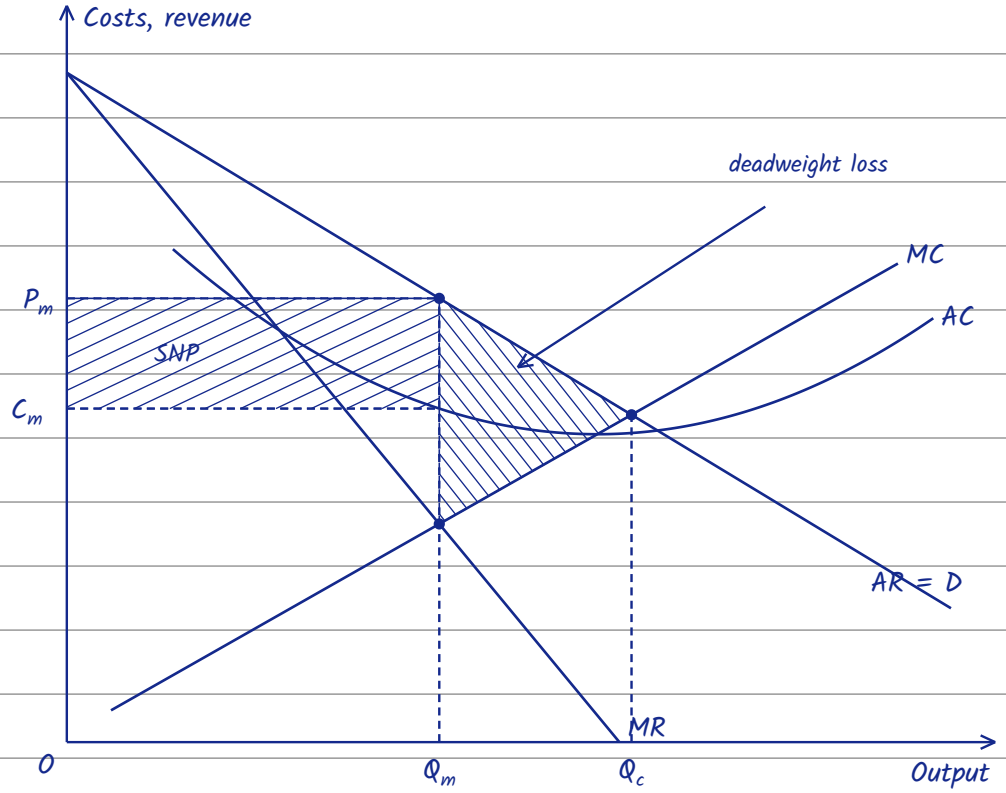
3(b)

A merger is when two or more firms join to form one firm. A horizontal merger between firms in the same industry increases market concentration and market power.

Mergers can operate against consumers. With more market power the merged firm maximises profit at MC = MR, restricting output to Qm and charging Pm, higher than the competitive price at Qc. It earns supernormal profit, P > MC so there is allocative inefficiency, and there is a deadweight loss. Consumers face less choice and, without competitive pressure, the firm may become X-inefficient, with higher

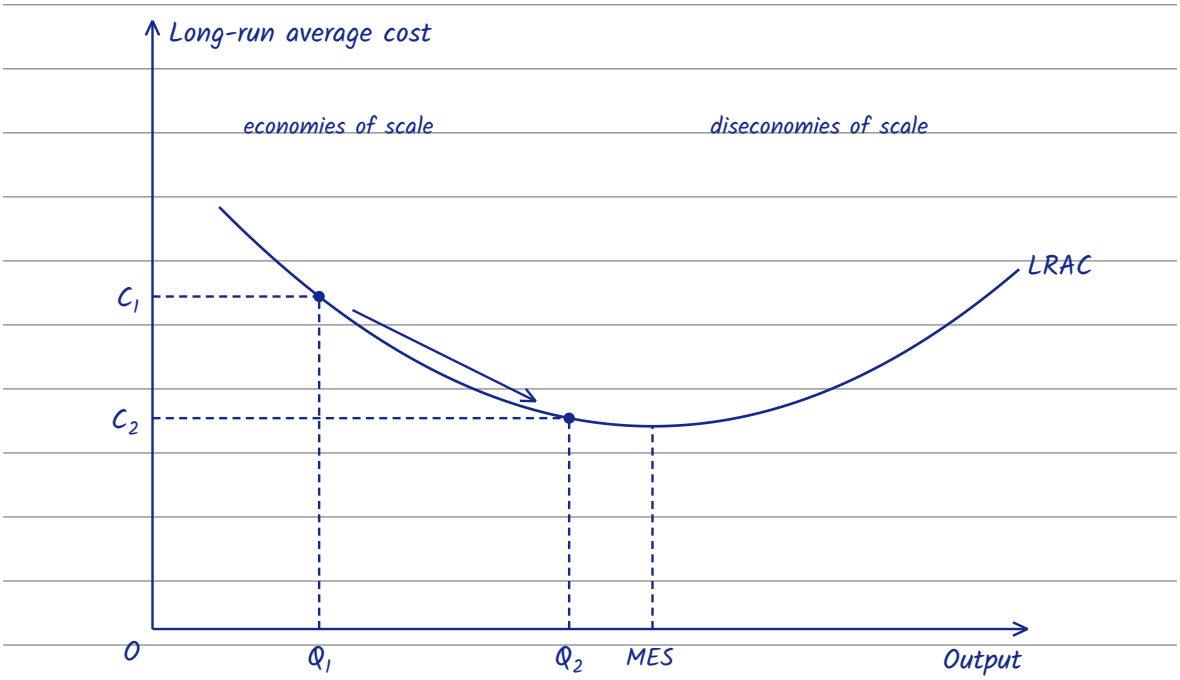
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costs and poorer service. It may use price discrimination to turn consumer surplus into profit, and may raise barriers to entry.



However, mergers do not always harm consumers. The larger firm can gain economies of scale (technical, purchasing, financial, managerial), lowering average costs from C1 to C2. If the cost savings are large, the price can fall even though the firm has more market power. Supernormal profit can fund research and development, leading to new and better products (dynamic efficiency). In industries with high fixed costs, such as utilities, a merger can create a natural monopoly and avoid wasteful duplication. Price discrimination can benefit some consumers, for example lower fares for students. A merger may also save a failing firm and protect supply.

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The outcome depends on several factors: whether cost savings are passed on in lower prices, which depends on the firm's objectives; whether the market is contestable, so the threat of entry keeps prices down; whether the merger leads to diseconomies of scale; and on regulation, as competition authorities can block mergers or impose conditions.

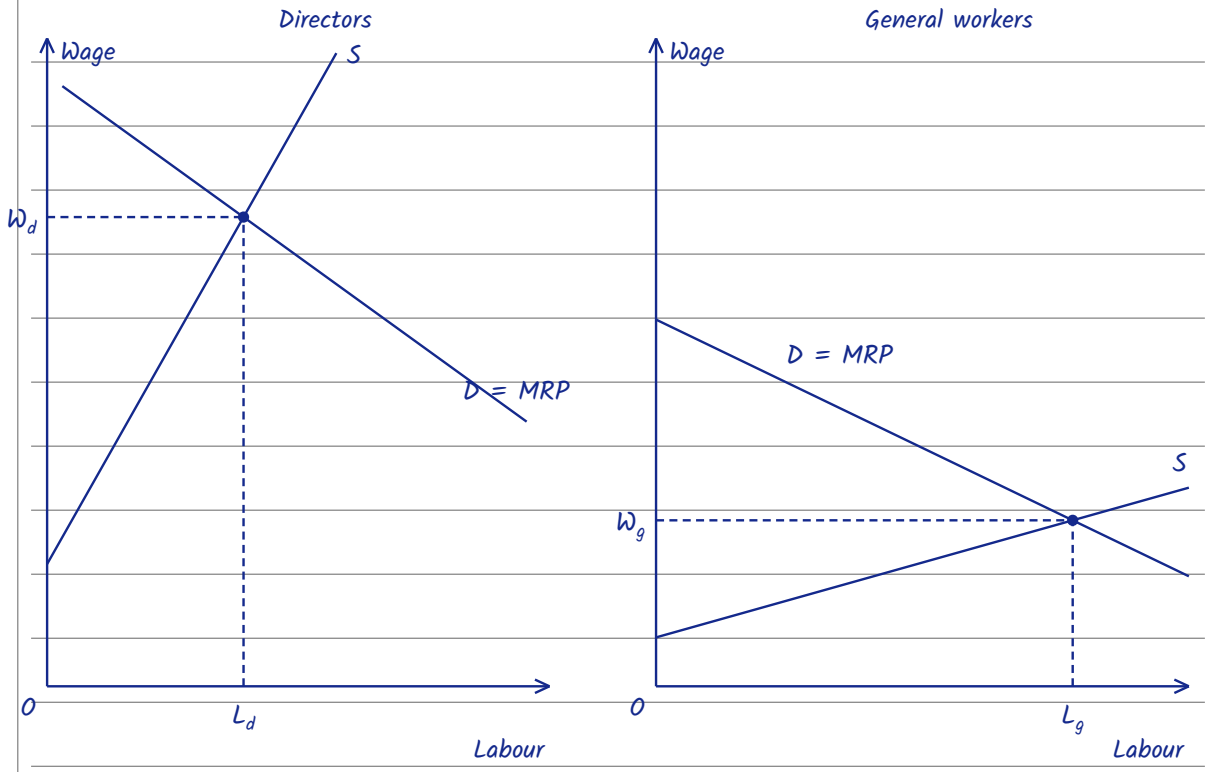
Conclusion: mergers do not always operate against the consumer's interest. Where they create a dominant firm in a market with high barriers to entry they are likely to raise prices, but where they bring large economies of scale and innovation in a contestable or regulated market consumers may gain. Each merger has to be judged on its own merits.

4 Economic theory explains wages through the demand for and supply of labour. The demand for labour is a derived demand, determined by the marginal revenue product (MRP = MPP × MR), the extra revenue the worker brings to the firm. Firms employ workers up to the point where MRP equals the wage (MCL). The supply of labour depends on the number of people able and willing to do the job, which depends on the skills, qualifications and training needed, on non-monetary

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factors and on barriers to entry.

Applied to bank CEOs: the CEO's decisions about strategy, investment and risk affect the profits of the whole bank, so the MRP of a successful CEO of one of the six largest US banks is extremely high, potentially billions of dollars. The supply of people with the experience, reputation and skills to run such a bank is very small and very inelastic. High demand and low, inelastic supply give a very high wage. For ordinary bank workers, the MRP of each worker is lower and the supply of people able to do the job is large and elastic, so the wage is much lower. This explains why CEO pay is 250 to 360 times the average.



Elasticity also matters. The demand for a top CEO is inelastic because there are few substitutes and the CEO's pay is a tiny proportion of the bank's total costs, so the bank will pay a high wage. Much of the CEO's income is economic rent, a payment above transfer earnings, because supply is so inelastic. The range from 250 to 360 times also reflects differences in the size and profitability of each bank, which change the MRP.

However, MRP theory has limitations here. The MRP of one person at the top of a

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large organisation is very hard to measure, as profit depends on the whole workforce and on market conditions. CEO pay is often set by remuneration committees of other directors, so there is a principal-agent problem: the executives may set their own pay to maximise their income rather than shareholder value. Bonuses and share options were paid even when banks made losses in the 2008 financial crisis, which is hard to explain by MRP. Ordinary bank workers have limited bargaining power, and the banks may have monopsony power over some staff, paying below their MRP.

The fact that all six CEOs were male suggests discrimination may also play a part. Gender discrimination by employers would reduce the demand for women at senior level below their MRP, giving a "glass ceiling", and lower occupational mobility. Women may also have had fewer opportunities for the career paths that lead to the top, because of career breaks or social attitudes. This affects who holds the jobs rather than the size of the wage gap, but it reduces competition for top jobs and so may keep CEO pay higher.

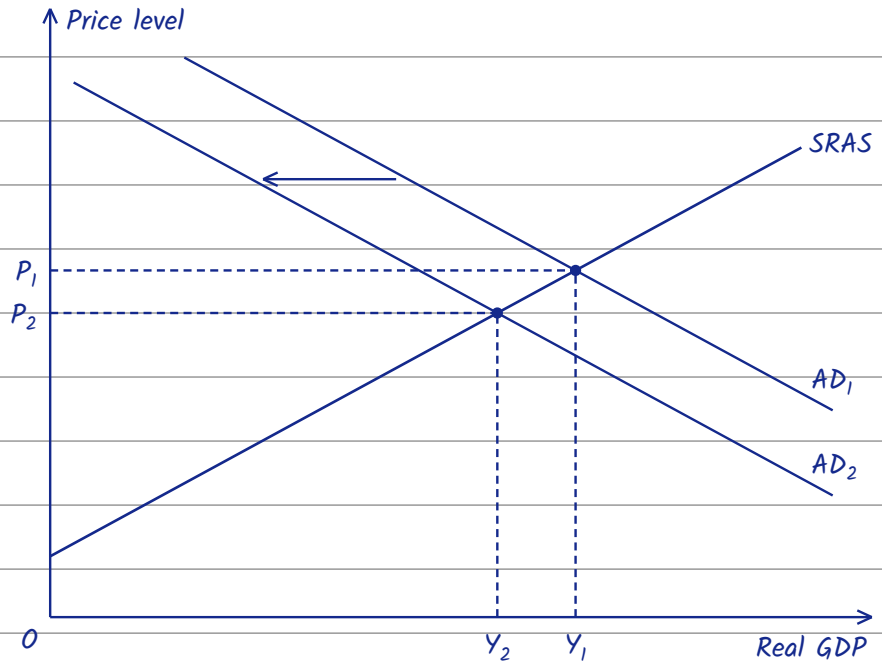
Conclusion: economic theory can account for much of the difference. Differences in MRP and in the elasticity of supply of labour explain why CEOs earn far more than average workers, and discrimination helps explain why they are all male. But theory cannot fully explain the extreme size of the gap, which also reflects institutional factors such as how pay is set, weak shareholder control and bargaining power, so the theory explains the direction of the differential better than its size.

5(a) Unemployment is when people willing and able to work at the current wage cannot find a job. Its main causes are:

Cyclical (demand-deficient) unemployment is caused by a fall in aggregate demand, for example in a recession when consumption, investment or exports fall. Firms sell less and, because labour is a derived demand, they reduce employment.

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AD shifts left from AD1 to AD2, real output falls from Y1 to Y2 and unemployment rises; through the multiplier, the fall in output is larger than the initial fall in spending. Wages are sticky downwards, so the labour market does not clear (disequilibrium unemployment).



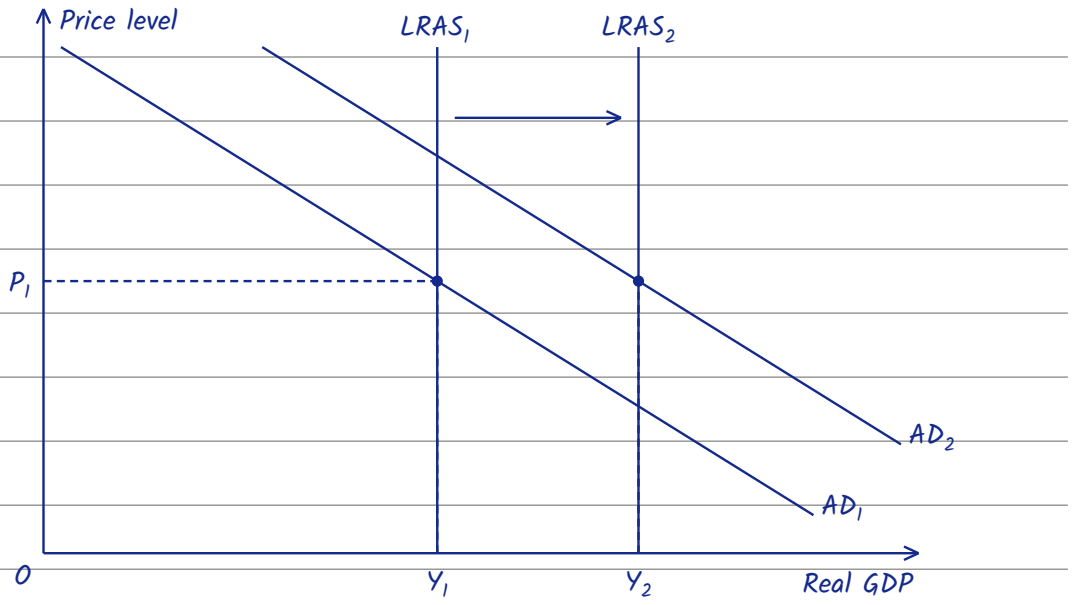
Structural unemployment is caused by long-term changes in the pattern of demand and production, such as the decline of manufacturing, globalisation or new technology. Workers in declining industries lack the skills needed in growing industries (occupational immobility) or live in the wrong area (geographical immobility), so they remain unemployed even when there are vacancies elsewhere. Frictional unemployment is short-term, as people move between jobs, and is made worse by imperfect information. Seasonal unemployment arises because demand varies with the time of year, such as in tourism and agriculture. Structural, frictional and seasonal unemployment exist even when the labour market is in equilibrium (equilibrium unemployment).

In the United Kingdom, I think structural unemployment could be the most significant. The decline of coal, steel and manufacturing in areas such as the north of England and Wales left many workers whose skills no longer matched the

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growing service and technology sectors, and automation continues to change the skills required. This explains why unemployment stays higher in some regions even when national demand is strong. However, during recessions, such as after 2008 and in 2020, cyclical unemployment became the most significant cause, so the main cause depends on the stage of the economic cycle.

5(b) Supply-side policies aim to increase the productive capacity of the economy and the efficiency of markets, shifting the LRAS curve to the right.



They are appropriate for structural and frictional unemployment. Education, training and retraining schemes give workers the skills firms need, reducing occupational immobility and structural unemployment. Better job information through job centres and online services reduces search time and frictional unemployment. Lower income tax and reforms to benefits increase the incentive to work, reducing voluntary unemployment. Subsidies to firms that employ people in depressed areas, and housing help that improves geographical mobility, also help. Limits on trade union power and deregulation of labour markets may allow wages to adjust so that more workers are employed.

However, supply-side policies have limits. They take a long time to work: training

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takes years. They are costly, and lower taxes or benefits may increase inequality and poverty. Most importantly, they do not tackle cyclical unemployment: if AD is low, giving workers more skills does not create jobs, because firms have no demand for the extra output, and raising LRAS in a recession may simply increase spare capacity.

For demand-deficient unemployment, fiscal policy (more government spending or lower taxes) and monetary policy (lower interest rates or quantitative easing) are more appropriate, because they shift AD to the right and, through the multiplier, raise output and employment quickly. These have their own problems, such as inflation if the economy is near full capacity, budget deficits and crowding out, and time lags.

Conclusion: supply-side policies are the most appropriate for reducing structural, frictional and voluntary unemployment in the long run, but they are not the most appropriate for cyclical unemployment, where demand-side policies work better. The best approach is to identify the cause of unemployment and use a combination of policies: demand management to keep AD close to full employment and supply-side policies to reduce the natural rate.

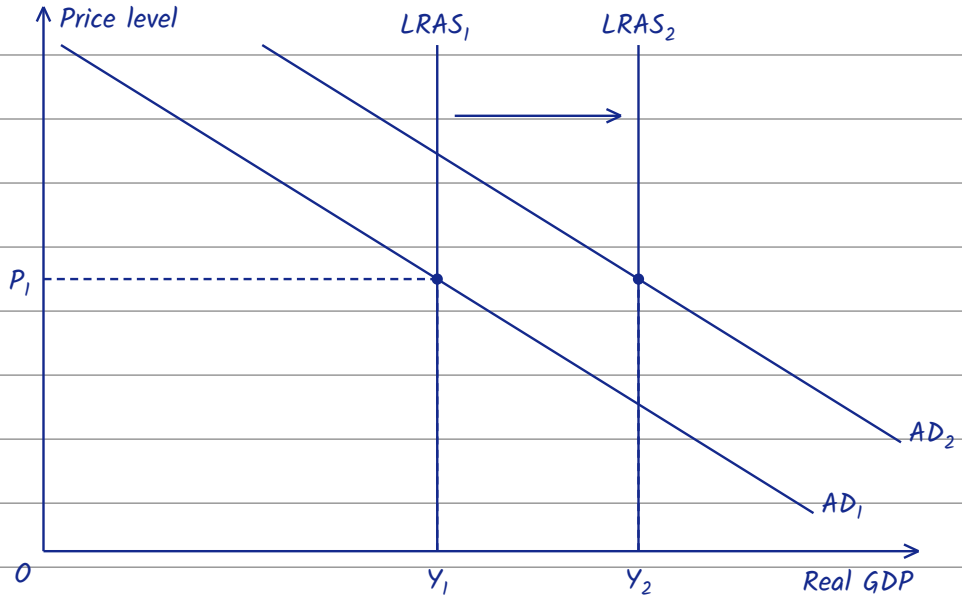
6

A multinational corporation (MNC) is a firm that has its headquarters in one country and production or operations in other countries. Its investment in a developing country is foreign direct investment (FDI). Sustainable economic growth is an increase in real GDP and productive capacity that can be maintained over time without damaging the ability of future generations to meet their needs, for example by not running down natural resources or the environment.

MNC investment can promote growth. Investment is an injection into the circular flow, so through the multiplier national income rises by more than the initial investment, and more jobs are created both in the MNC and in local suppliers, increasing demand for labour. In the long run, investment adds to the capital

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stock, so the PPF and LRAS shift outwards. MNCs bring new technology, techniques and management skills, and workers receive training, so productivity rises (technology transfer). The capital inflow is recorded in the financial account, and if the MNC exports, the current account improves and the exchange rate may appreciate, easing the shortage of foreign currency that limits many developing countries. Tax revenue from the MNC and its employees can fund infrastructure, health and education, improving human capital.



However, MNC investment does not always promote growth, and still less sustainable growth. Resource-based MNCs in mining, oil or logging may exhaust non-renewable resources and cause pollution and deforestation, negative externalities that reduce future productive capacity, so growth is not sustainable. Profits are repatriated to the home country, which is an outflow on the primary income account, so much of the gain leaves the developing country; transfer pricing may reduce tax paid. MNCs may use capital-intensive techniques that create few jobs, or employ local workers only in low-skilled jobs, so there is little technology transfer. They may drive local firms out of business, and imports of components may worsen the current account. Investment concentrated in cities can widen the rural/urban gap and income inequality, and wage pressure from the

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	MNC may cause inflation in local labour markets. MNCs are also footloose: they may leave when costs rise elsewhere, creating sudden unemployment. Large MNCs can also have political influence, gaining tax concessions that reduce government revenue. Whether investment promotes sustainable growth depends on the type of MNC (manufacturing or services with local links are more beneficial than extraction), on the policies of the host government (environmental regulation, taxation, requirements to train local workers and use local suppliers) and on how the tax revenue is used. Some countries, such as China and Vietnam, have used FDI to achieve rapid growth, but others rich in natural resources have seen little lasting benefit. Conclusion: the statement is not supported because of the word "always". MNC investment can promote economic growth through the multiplier, capital accumulation and technology transfer, but whether that growth is sustainable depends on its effects on the environment, resources, the balance of payments and income distribution, and on how well the host government regulates it.
7(a)	Gross domestic product (GDP) is the total value of all goods and services produced within a country in a given period, usually a year. It can be measured by the output, income or expenditure methods, which should give the same total. Economic growth is an increase in real GDP over time, so the growth rate is the percentage change in real GDP from one year to the next. GDP is widely used to measure growth because it covers all market output, it is collected regularly (quarterly) using an internationally agreed method (System of National Accounts), so it can be compared over time and between countries. To measure growth accurately nominal GDP is adjusted for inflation using the GDP deflator to give real GDP, since a rise in nominal GDP may simply reflect higher prices. GDP is also used as a measure of the standard of living, which is the level of

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material welfare of the population. If more goods and services are produced, more is available for people to consume, and incomes are higher, so people can buy more food, housing, health care and education. To compare living standards, real GDP per capita (GDP divided by population) is used, since the same GDP shared between more people gives each less. To compare between countries, GDP is converted into a common currency (usually US$) using purchasing power parity (PPP) exchange rates, which allow for differences in the cost of living. Higher GDP also gives the government more tax revenue to provide public services.

So GDP is widely used because the data are available for almost every country, are easy to understand and are strongly correlated with other indicators of welfare, such as life expectancy and literacy.

7(b) GDP has several limitations as a measure of the standard of living, which explains why alternatives are increasingly used.

First, GDP measures only marketed output. It ignores non-marketed activity such as housework and voluntary work, and the hidden (informal) economy, which is large in many developing countries, so it can understate living standards. Second, it says nothing about the distribution of income: GDP per capita can rise while most of the gain goes to the richest. Third, it ignores the nature of output: spending on defence, prisons or cleaning up pollution adds to GDP but does not raise welfare. Fourth, it ignores negative externalities, such as pollution and the depletion of natural resources, and quality-of-life factors such as leisure time, working conditions, crime and health. Even when adjusted for inflation, population and PPP, GDP remains a measure of output, not of well-being.

Alternatives address some of these weaknesses. The Human Development Index (HDI) combines GNI per capita at PPP with life expectancy and education (mean and expected years of schooling), so it measures health and knowledge as well as income. Countries can have similar GDP per head but very different HDI. The

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Measure of Economic Welfare (MEW) adjusts GDP by adding the value of leisure and non-marketed output and subtracting "bads" such as pollution and commuting. The Multidimensional Poverty Index (MPI) measures deprivation in health, education and living standards at household level, showing the extent of poverty that average figures hide. Other measures include happiness surveys and green GDP.

However, the alternatives have weaknesses too. The HDI uses only three indicators, gives them equal weight by judgement, and still ignores inequality and the environment. MEW requires placing money values on leisure and pollution, which is subjective, and the data for the MPI are collected infrequently and may be unreliable in developing countries. GDP data are more up to date and easier to compare.

Conclusion: alternatives are increasingly used because governments and international organisations now recognise that the standard of living depends on health, education, equality and the environment, not just on output, and sustainable development goals require broader measures. However, they complement rather than replace GDP, which remains the main indicator of economic activity; using several measures together gives the most accurate picture.

Cambridge Assessment International Education

Cambridge International AS & A Level

ECONOMICS **9708/43**

Paper 4 Data Response and Essays **October/November 2020**

2 hours 15 minutes

1601790449

You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **three** questions in total:
  - Section A: answer Question 1.
  - Section B: answer **two** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- You may use a calculator.
- You may answer with reference to any economy you have studied where relevant to the question.

INFORMATION

- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [ ].

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Section A

Answer this question.

1 Economic links between developed and developing economies

In the developing world the working-age population is expected to increase. It was predicted in 2016 that in 2017 more than 1.1 million new workers would join the labour force each month. Sub-Saharan Africa was expected to experience the most rapid labour-force growth, but many developing countries in Asia and the Middle East would be close behind.

It was also forecast that by 2030, developing and emerging economies will have added 1.7 million workers a month to their labour force. China, by comparison, added an average of 1.1 million workers a month from 1978 to 2011. Therefore, to absorb these workers developing nations must create jobs at a faster rate than China experienced during one of its fastest periods of economic growth (8–10% a year).

Capital inflows to developing countries rose in 2016 after almost a decade of decline caused by the global financial crisis of 2007–8. Capital flows are needed to finance manufacturing and infrastructure. The rise in capital flows could provide not only welcome economic growth for developing economies by providing facilities for more employment but also benefit developed economies.

But there is a risk that these mutually beneficial gains will not occur.

First, despite the recent increase, capital flows to developing economies remained low, as shown in Fig. 1.1.

Secondly, some domestic policies of developed countries do not help. In the United States (US) policies to protect its manufacturing industries, such as iron and steel, and measures to halt the flow of economic migrant labour have created uncertainties in the global economy. There is a disincentive to invest in the developing world and a redirection of savings into the US economy.

Some economists argue that if the mutual benefits from the developed world to developing and emerging economies do not occur the alternative will be even greater economic migration as millions of young people from Egypt, India, Nigeria, Pakistan, Mexico and the Philippines, enter the labour force without the prospect of meaningful employment and make their way to rich countries, legally or otherwise in search of work.

Source: adapted from The Economist, The World in 2017, December 2016

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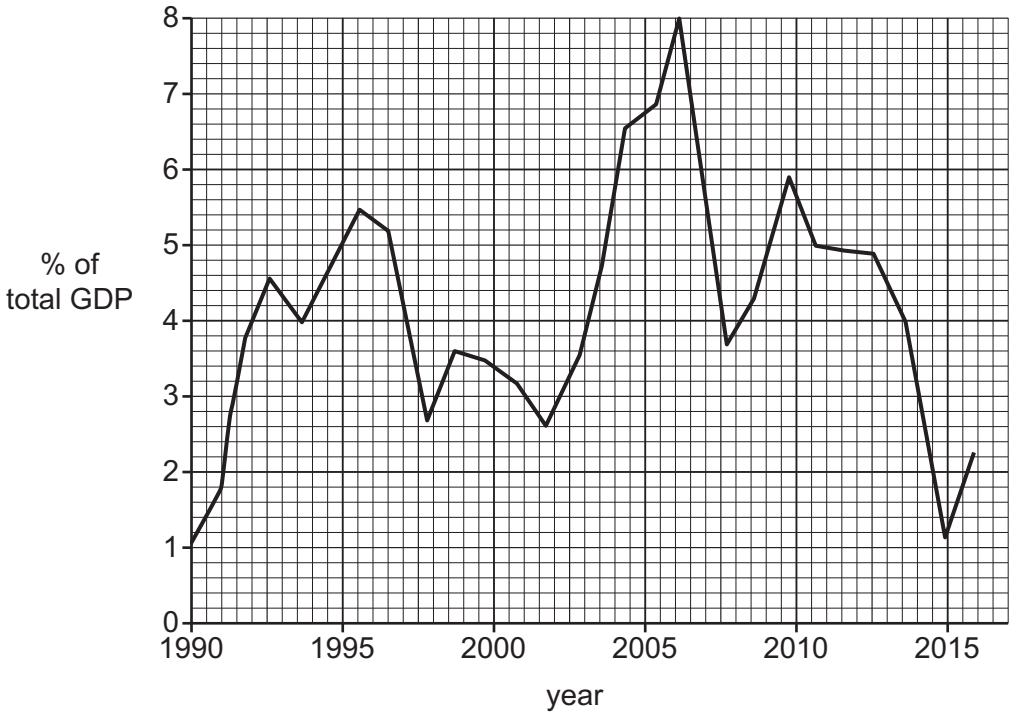


Fig. 1.1 Total private capital flows to 25 emerging economies (including China) as a % of total GDP, 1990–2016

(a) The article mentions economic growth. What is meant by economic growth? [3]

(b) Explain how economic growth is linked to a country's level of development. [4]

(c) Explain why economic migrants are mainly from the developing economies. [4]

(d) Discuss, using the information, whether links between developed economies and developing economies are necessarily 'mutually beneficial'. [9]

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Section B

Answer **two** questions.

2 **(a)** Explain what is meant by 'Pareto optimality' and whether it is correct to say that an optimal allocation of resources would result if a good's price equalled its marginal cost. [12]

(b) Discuss why an optimal allocation of resources might fail to occur in practice and consider what could be done about this failure. [13]

3 **(a)** Examine the analysis behind the downward sloping demand curve for a normal good. [12]

(b) Use indifference curve analysis to discuss why a manufacturer might be interested in a consumer's reaction to an equal rise in price for a normal good and a Giffen good. [13]

4 **(a)** With the aid of a diagram, consider what is likely to happen to the level of profit earned by a firm if barriers to entry are introduced in a perfect market. [12]

(b) Discuss why an industry might experience falling long-run average costs and comment on whether consumers might benefit from such a situation. [13]

5 Marginal revenue productivity theory analyses why wage rates differ in imperfect markets.

Explain this analysis using a diagram and consider if a trade union negotiated a higher wage than determined by the market, whether the outcome would necessarily be the same as that in perfect competition. [25]

6 **(a)** Explain the causes of demand deficient (cyclical) unemployment and consider which is the most important. [12]

(b) Critically evaluate the use of Keynesian demand management policies to solve the problem of unemployment. [13]

7 'The rate of interest is one of the most important macroeconomic variables because changes in the rate of interest have a significant impact on each of the key macroeconomic aims.'

To what extent do you agree with this statement? [25]

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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

Answers for paper 9708/43

1(a) Economic growth is an increase in the quantity of goods and services produced in an economy over a period of time, measured by the percentage increase in real GDP (GDP adjusted for inflation), usually per year. In the long run it is an increase in productive capacity, shown by an outward shift of the PPF.

1(b) Economic growth means more output is produced, so more jobs are created and employment and incomes rise. Higher incomes allow people to consume more goods and services, and the government receives more tax revenue to spend on health, education and infrastructure, so more resources are used to improve living standards. This improves indicators of development such as life expectancy, literacy and poverty, so the level of development rises. However, growth only raises development if its benefits are widely shared and it is sustainable.

1(c) In developing economies the population is skewed towards young people, so the labour force is growing rapidly: more than 1.1 million new workers a month in 2017, rising to 1.7 million a month by 2030. Job creation cannot keep pace; these countries would need to create jobs faster than China did (1.1 million a month in 1978 to 2011 while growing 8 to 10% a year). Low capital inflows from developed economies limit investment and new jobs, so many young people without meaningful employment migrate to rich countries, where wages and job prospects are much higher.

1(d) For: capital from savings in the developed world can finance manufacturing and

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infrastructure in developing countries, creating jobs and growth there, which reduces the pressure for economic migration. The developed world gains dividends, interest and profits, which raise its national income, and growing developing economies demand more exports from developed countries. Through the multiplier, growth rises in both groups, and each can specialise according to comparative advantage. In this sense the links can be mutually beneficial, as capital inflows rose in 2016.

Against: the benefits are not guaranteed. Fig. 1.1 shows capital flows were only about 2% of GDP in 2016, much lower than the peak of about 8% in 2005 to 2006, after falling sharply following the 2007–8 financial crisis, and similar to the level of the early 1990s. Such low flows limit growth and job creation. US policies to protect industries such as iron and steel restrict free trade, so developing countries lose export markets and the gains from comparative advantage, and measures to stop migrant labour create uncertainty, which discourages investment in the developing world and redirects savings into the US. If jobs are not created, migration (legal or illegal) from countries such as Egypt, Nigeria and Mexico will increase, putting pressure on rich countries, and income inequality between developed and developing economies will widen.

Conclusion: the links can be mutually beneficial, but they are not necessarily so. The outcome depends on the size of capital flows and on the policies of developed countries; on the current evidence the benefits are limited.

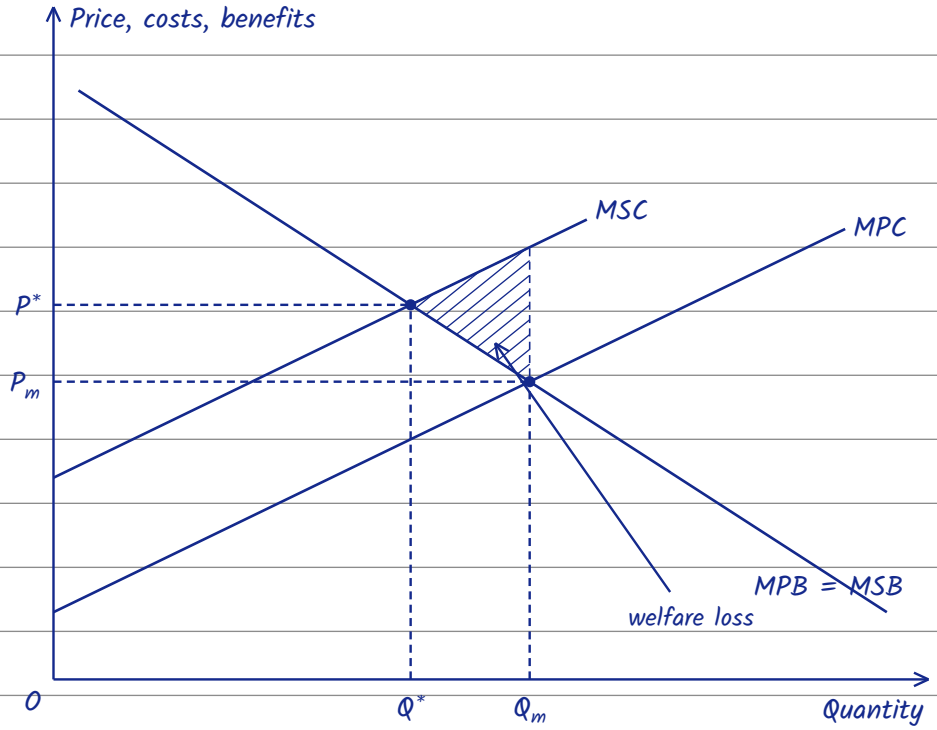
2(a) Pareto optimality (Pareto efficiency) is a situation where resources are allocated so that it is impossible to make anyone better off without making someone else worse off. It requires productive efficiency (output at the lowest possible cost, on the PPF) and allocative efficiency (producing the combination of goods consumers value most). Any reallocation that makes someone better off without harming anyone is a Pareto improvement, so an economy that is not optimal can still

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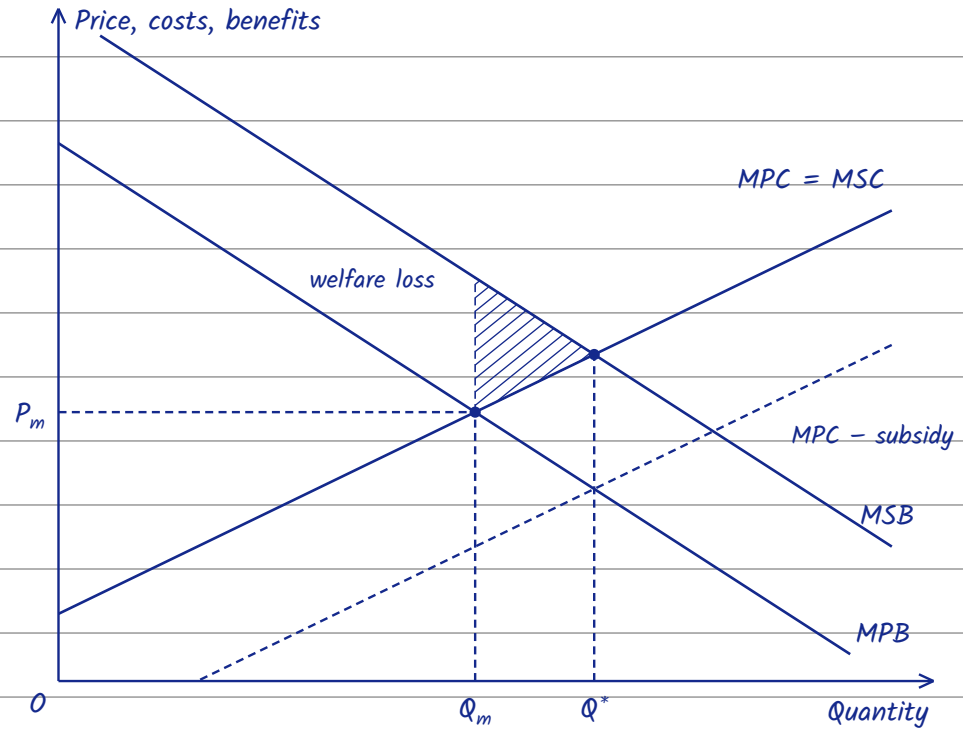
improve.

If price equals marginal cost (P = MC), the value consumers place on the last unit, shown by the price they are willing to pay, equals the cost of the resources used to produce it. If P > MC, consumers value an extra unit more than it costs, so output should rise; if P < MC, too much is produced. So P = MC gives allocative efficiency, and if it holds in every market (as in perfect competition in the long run), resources are allocated optimally.

However, this is only correct if there are no externalities, so that private costs and benefits equal social ones. With a negative externality such as pollution, MSC > MPC. A firm producing where P = MPC over-produces at Qm, where MSC exceeds MSB, giving a welfare loss. With a positive externality such as education, MSB > MPB and the market under-produces. The correct condition is P = MSC, or more precisely MSB = MSC.



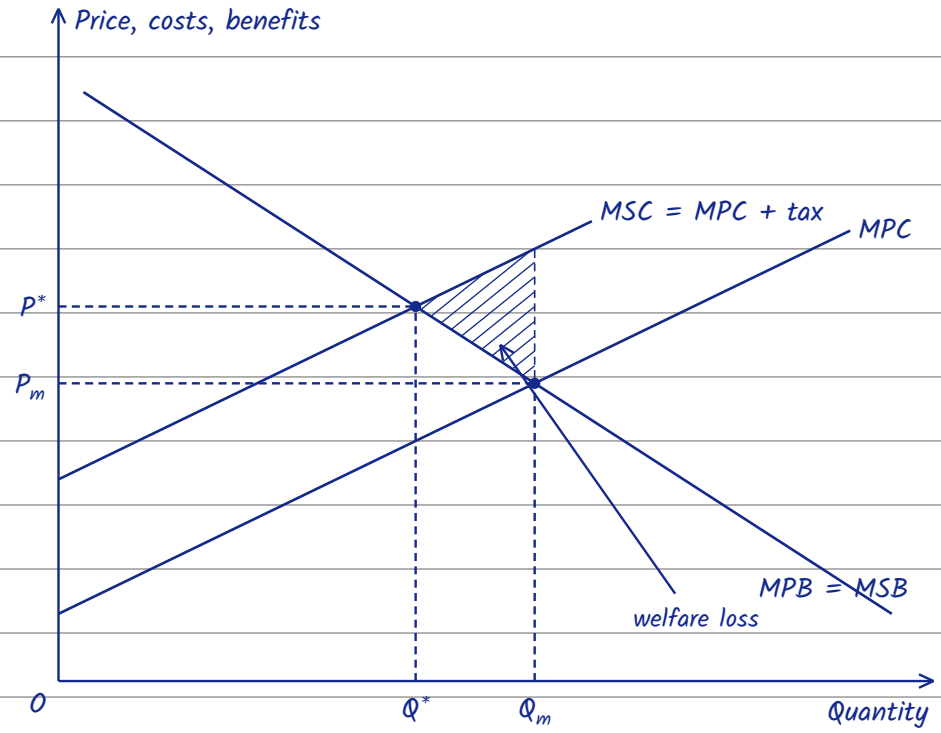
Question number



Also, if P = MC holds in some markets but not others (for example where there are monopolies), the theory of the second best shows that making one more market satisfy P = MC may not improve welfare overall. And Pareto optimality says nothing about equity: an optimal allocation may be very unequal. So it is only partly correct: P = MC gives an optimal allocation only when price reflects social benefit and marginal cost reflects social cost in all markets.

2(b) An optimal allocation may fail to occur because of market failure. Externalities: producers and consumers ignore external costs and benefits, so goods with negative externalities are over-produced and those with positive externalities under-produced. A Pigouvian tax equal to the marginal external cost shifts MPC up to MSC and reduces output to Q^*; tradable permits or regulation can also limit pollution. But external costs are hard to value, so the tax may be set at the wrong level.

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Public goods: goods such as street lighting and defence are non-rival and non-excludable, so free riders will not pay and the market does not provide them. The government can provide them, financed by taxation, but it must estimate how much people value them, which is difficult.

Imperfect information: consumers under-estimate the benefits of merit goods such as education and health care and over-estimate the benefits of demerit goods such as cigarettes. The government can provide information, subsidise or provide merit goods free, and tax or ban demerit goods. Information campaigns are cheap but may be ignored, and bans can create black markets.

Market power: monopolies and oligopolies restrict output and charge P > MC, so there is allocative inefficiency. Competition policy can prevent mergers and break up monopolies, regulators can cap prices (for example RPI – X), and some industries may be nationalised. But regulators lack information and may be captured by the industry, and state ownership may be inefficient. Factor immobility and unequal income distribution are further causes, addressed by training and redistribution.

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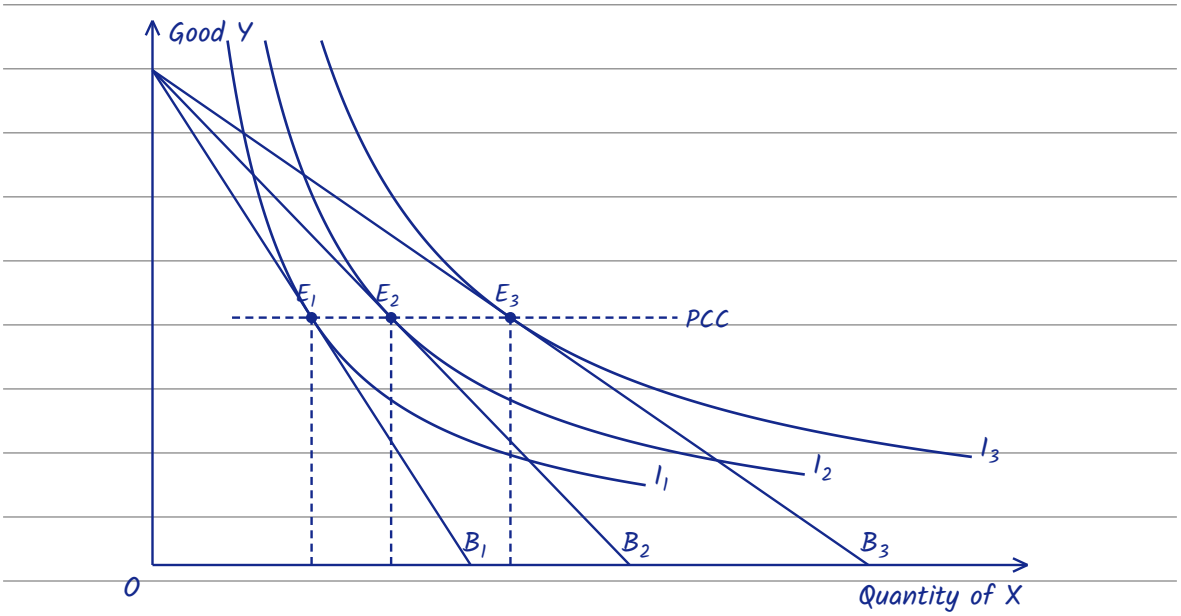
Evaluation: government intervention can move the economy closer to the optimum, but it can also cause government failure through imperfect information, administration costs, political pressure and unintended consequences. Intervention is justified only when the welfare gain is greater than its costs. In practice the best that can be achieved is often an improvement rather than a fully optimal allocation, and the choice of policy should depend on the type of failure: taxes and permits for externalities, state provision for public goods and regulation for monopoly.

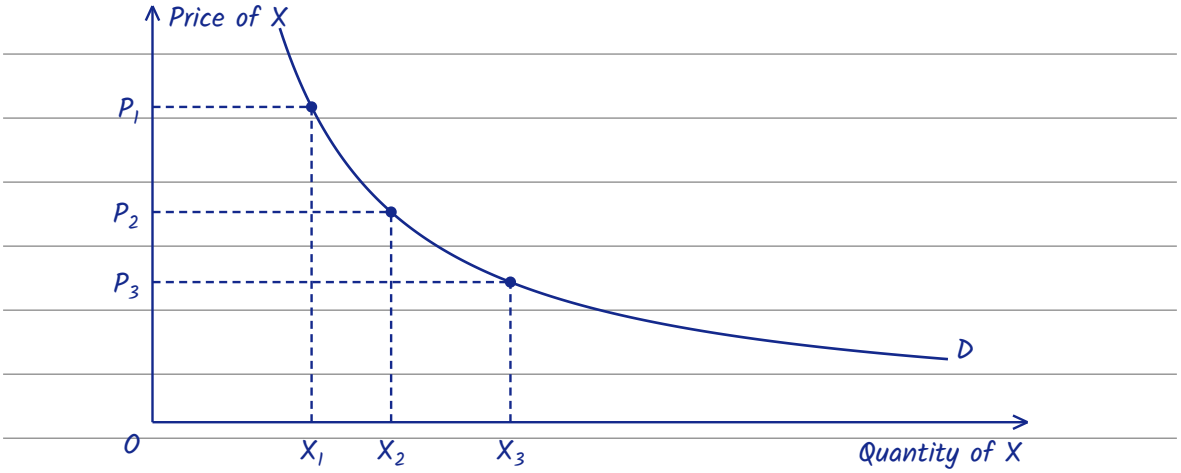
3(a) A demand curve shows the quantity of a good consumers are willing and able to buy at each price. For a normal good it slopes downwards: as price falls, quantity demanded rises.

Marginal utility analysis: utility is the satisfaction gained from consumption, and marginal utility (MU) diminishes as more units are consumed. A rational consumer maximises total utility by allocating income so that $MU_A/P_A = MU_B/P_B$, the equi-marginal principle. If the price of A falls, MU_A/P_A rises, so the consumer gains more satisfaction per dollar spent on A and buys more A. As consumption increases, MU_A falls until equilibrium is restored at a higher quantity. So a lower price gives a higher quantity demanded, and because the consumer buys until MU equals price, each equilibrium is a point on the demand curve directly.

Indifference curve analysis: an indifference curve shows bundles of two goods giving equal satisfaction; the consumer is in equilibrium where the budget line is tangent to the highest attainable indifference curve. When the price of X falls, the budget line pivots outwards from B1 to B2 to B3, and the consumer moves to higher curves at E1, E2, E3, buying X1, X2, X3. Joining these gives the price-consumption curve (PCC). Plotting each price against the quantity bought gives the demand curve.

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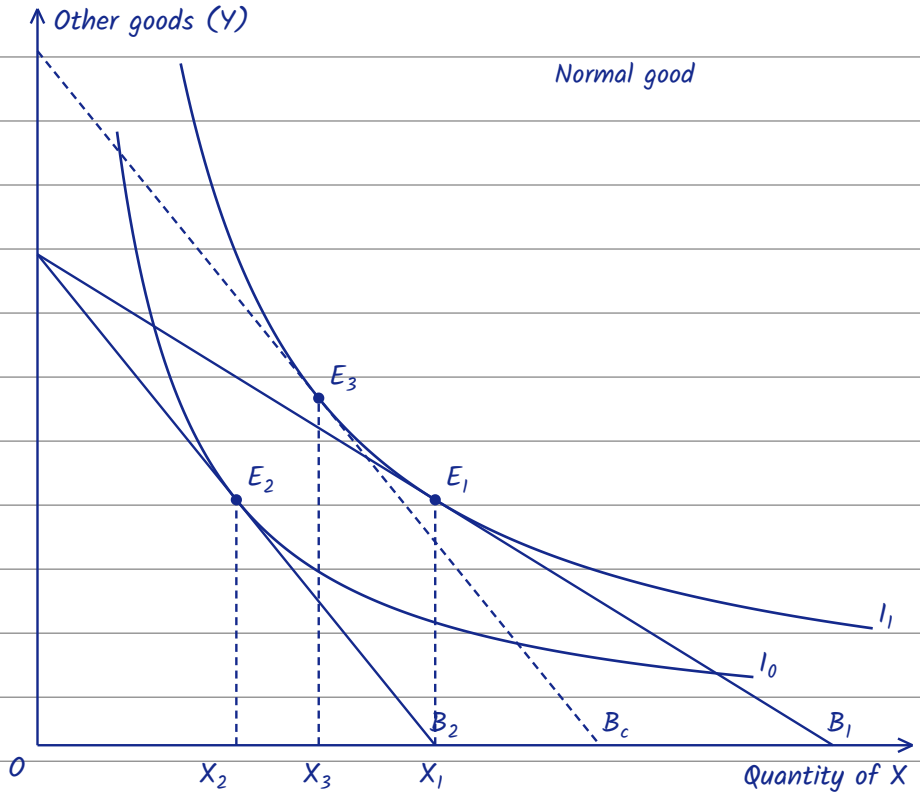
The fall in price has a substitution effect (X is relatively cheaper, so more X is bought) and an income effect (real income rises, so for a normal good more X is bought). Both work in the same direction, so demand slopes downwards. Both approaches find the consumer's maximum satisfaction; marginal utility relates each equilibrium directly to a point on the demand curve, whereas indifference curves do not, and the demand curve must be built up from the PCC. At market level, the demand curve also slopes down because a lower price attracts new buyers.

3(b) A manufacturer wants to know how consumers will react to a price rise because it affects sales and total revenue. Indifference curves show this by splitting the price

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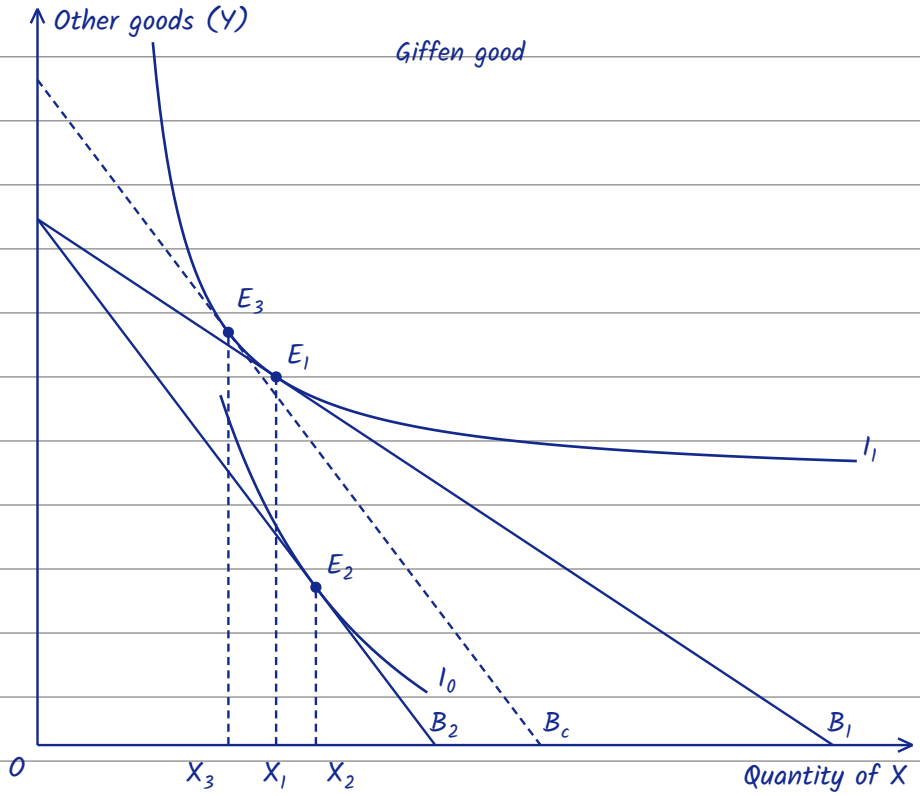
effect into substitution and income effects.

Normal good: a rise in the price of X pivots the budget line inwards from B1 to B2, and the consumer moves from E1 to E2 on a lower curve. Using the compensated budget line Bc, the substitution effect (E1 to E3, X1 to X3) reduces X because it is relatively dearer, and the income effect (E3 to E2, X3 to X2) also reduces X because real income has fallen. Both reduce quantity, so demand falls.



Giffen good: a Giffen good is a strongly inferior good, such as a staple food that takes a large share of the income of poor consumers. The substitution effect still reduces X (E1 to E3), but the fall in real income makes the consumer buy more of the cheap staple and less of other goods, and this income effect (E3 to E2) is larger than the substitution effect. So the quantity demanded rises from X1 to X2 when price rises: the demand curve slopes upwards.

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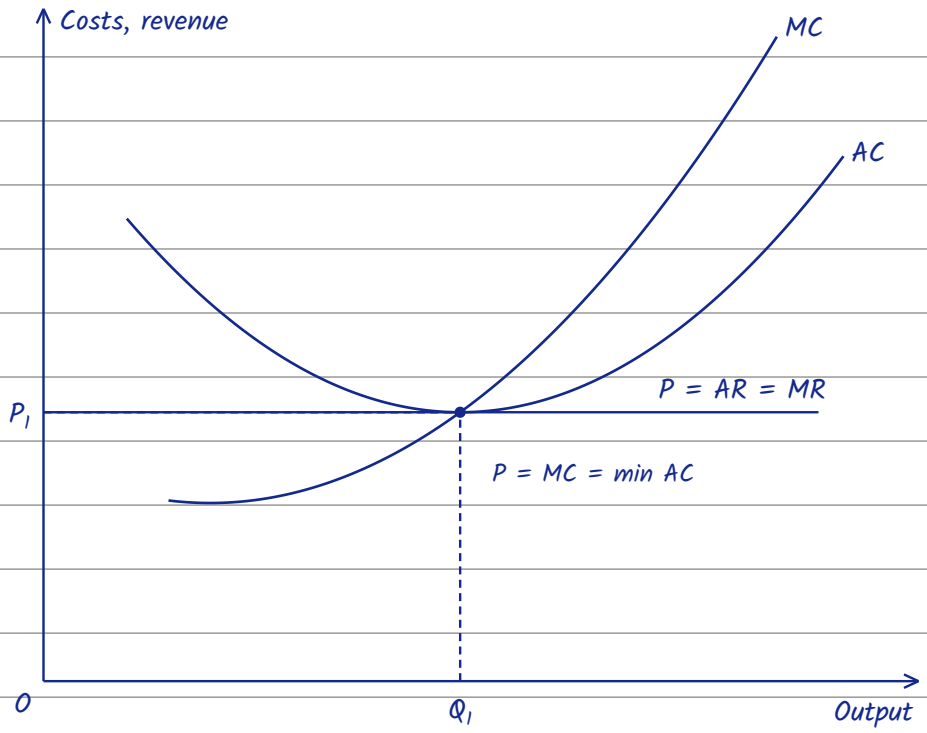
This matters to the manufacturer because total revenue = price × quantity. For a normal good, quantity falls, so the effect on revenue depends on price elasticity of demand: if demand is elastic (close substitutes, a large substitution effect) revenue falls; if inelastic, revenue rises. For a Giffen good, both price and quantity rise, so total revenue rises for certain. For an ordinary inferior good, quantity falls by less than for a normal good, so demand is more likely to be inelastic and revenue to rise.

Evaluation: Giffen goods are very rare, and the effect may only apply to the poorest consumers and over a narrow range of prices, so the manufacturer cannot rely on it. The analysis assumes rational consumers, given tastes and income, and that rivals do not change their prices, and it shows the direction more reliably than the size of the change. Even so, knowing whether its product is normal or inferior and how elastic demand is helps the manufacturer choose a pricing strategy that increases revenue and profit.

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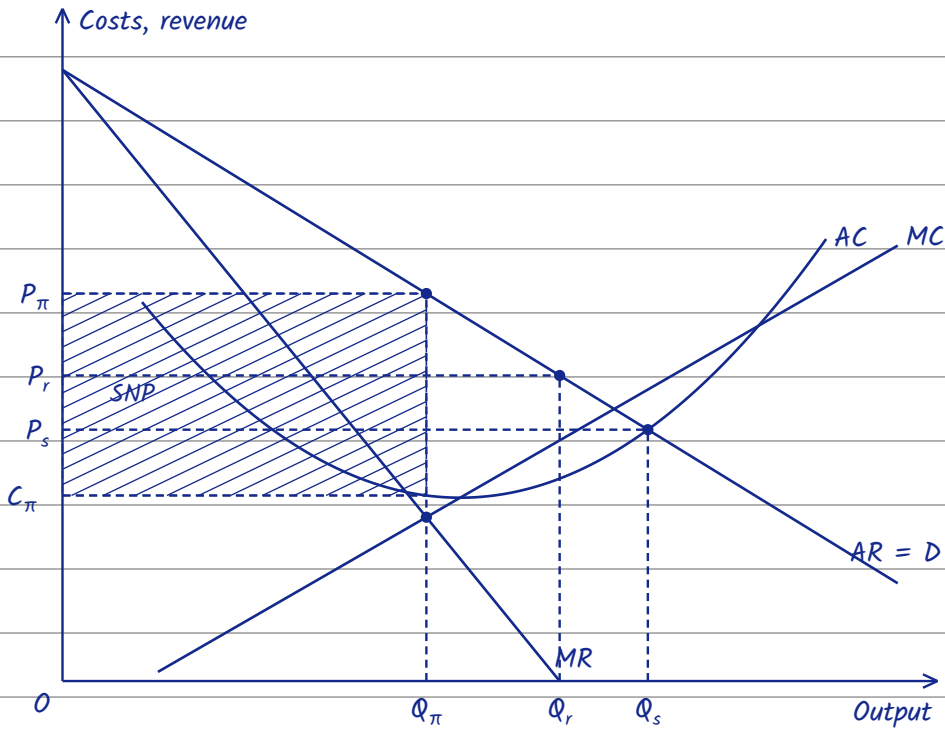
4(a)

In perfect competition there are many small firms selling a homogeneous product, with perfect information and no barriers to entry. If firms make supernormal profit in the short run, new firms enter, supply rises and the price falls until each firm earns only normal profit, at P = MC = minimum AC, the horizontal AR = MR line.



If barriers to entry are introduced (such as licences, patents, high set-up costs or control of raw materials), new firms cannot enter, so the market becomes imperfect. Firms gain market power, so each faces a downward-sloping AR (demand) curve, with MR below it. If the firm still aims to maximise profit, it produces where MC = MR, at $Q\pi$, and charges the price $P\pi$ from the AR curve. Since AR > AC at this output, it earns supernormal profit, shown by the shaded area, and because entry is blocked this profit can persist in the long run. So the level of profit is likely to be higher than the normal profit under perfect competition, at a higher price and lower output.

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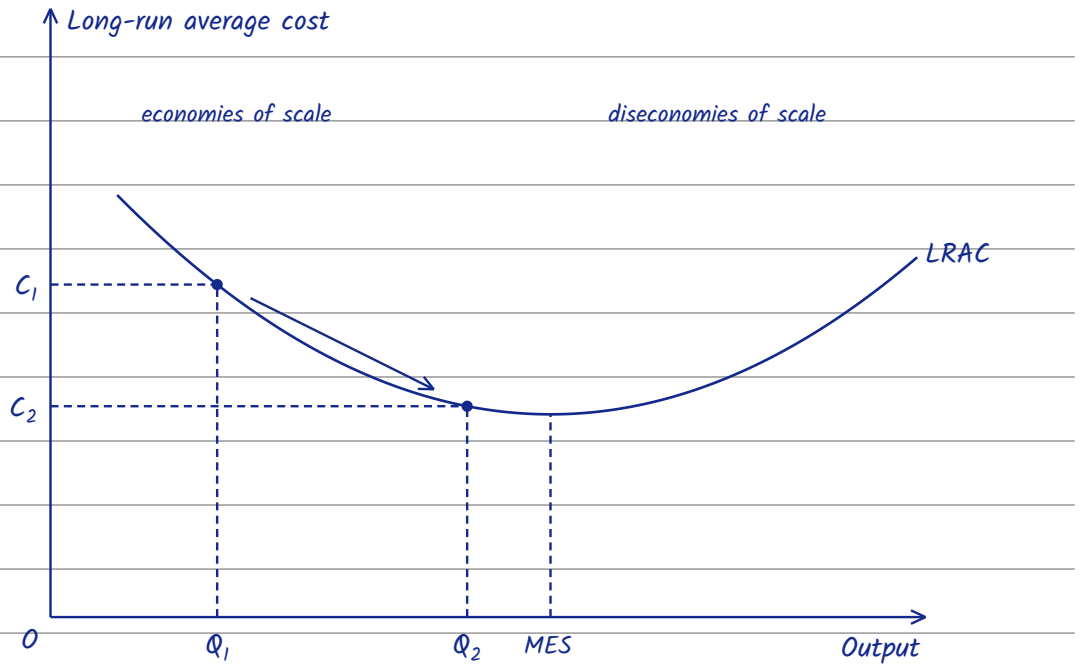


However, profit will not necessarily be higher. The firm may now have other aims. It may maximise revenue, producing where MR = 0 at Qr, at a lower price, so profit is less than maximum. It may maximise sales subject to earning at least normal profit, producing where AR = AC at Qs, so only normal profit is made. Managers may satisfice, aiming for a satisfactory profit, because of the separation of ownership and control. Without competition, costs may also rise through X-inefficiency, reducing profit. The size of profit also depends on the height of the barriers and on demand: if demand is weak, AR could lie below AC and the firm could make a loss. So profit is likely, but not certain, to rise.

4(b) Long-run average cost (LRAC) falls as output increases because of economies of scale, the cost advantages of large-scale production. Internal economies of scale arise within the firm: technical economies (larger, more efficient machinery, the division of labour and the law of increased dimensions), purchasing economies (bulk-buying discounts), financial economies (borrowing more cheaply because large firms are less risky), marketing and managerial economies (specialist

Question number

managers), and risk-bearing economies (diversification). The firm moves down its LRAC curve from Q1 to Q2, and average cost falls from C1 to C2.



External economies of scale occur when the whole industry grows: a pool of skilled labour, specialist suppliers, better infrastructure and shared research in a region. These shift the LRAC curve of every firm downwards, so the whole industry experiences falling costs.

Consumers might benefit. Lower average costs may be passed on as lower prices and higher output, especially if the market is competitive or contestable; the profit-maximising output rises and price may fall. Higher profit can fund research and development, giving better quality products. Many goods such as cars, computers and mobile phones became much cheaper because of economies of scale.

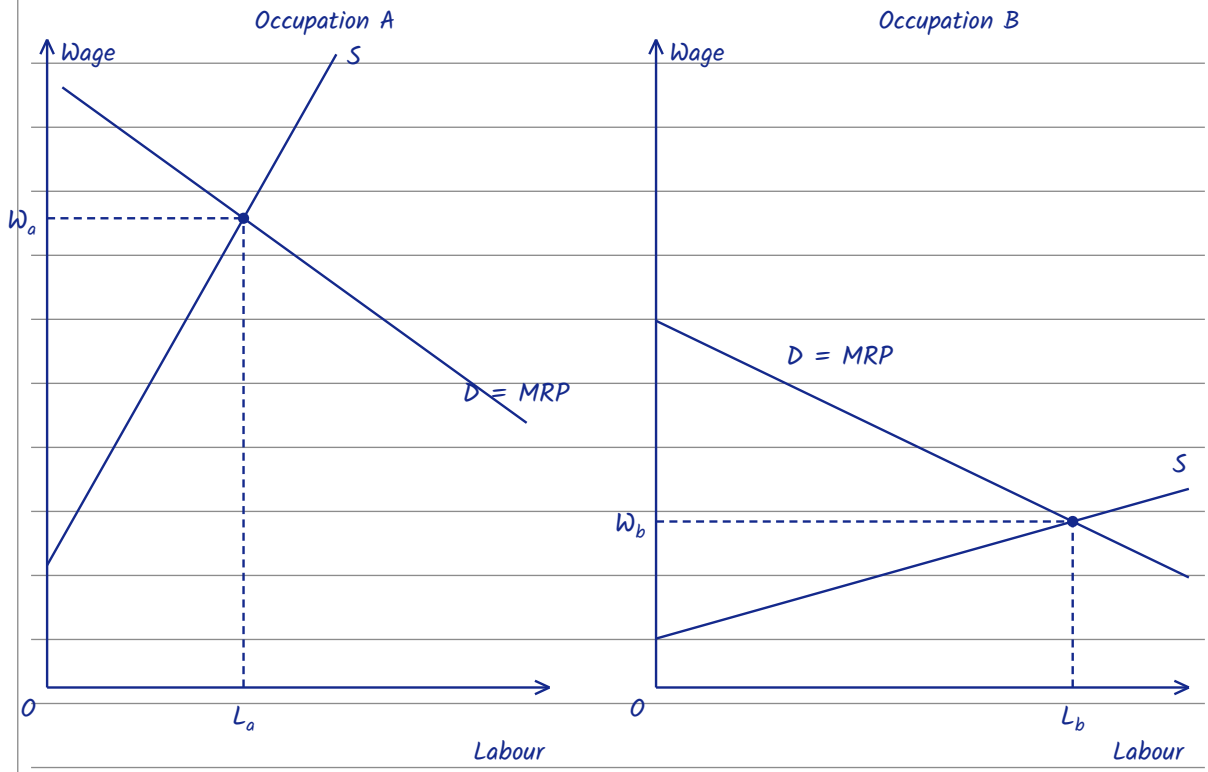
However, benefits are not guaranteed. Economies of scale often lead to a few large firms or a natural monopoly, with high barriers to entry. A firm with market power may keep the lower costs as supernormal profit instead of cutting prices, so the gain depends on the firm's attitude to profit and on regulation. Consumers may also face less choice and standardised products. It also requires sufficient demand

Question number

to sustain the larger output; if demand is small, the firm cannot reach the minimum efficient scale. Beyond a certain size, diseconomies of scale (poor communication and coordination) cause LRAC to rise. So consumers benefit only if lower costs are passed on through competition or regulation.

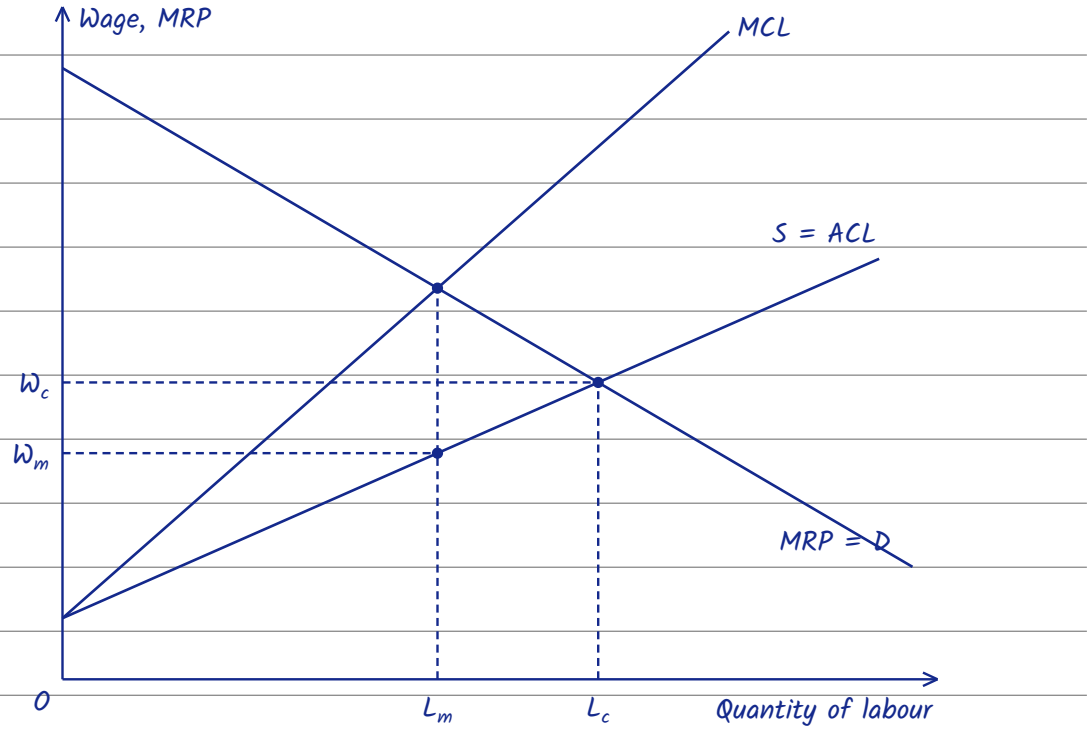
5 Marginal revenue product (MRP) is the extra revenue a firm gains from employing one more worker: MRP = MPP × MR. Because of diminishing returns, MRP falls as more workers are employed, so the MRP curve is the firm's demand curve for labour. A profit-maximising firm employs workers up to the point where MRP equals the marginal cost of labour (MCL).

Wage rates differ because MRP and the supply of labour differ between occupations. Where workers have scarce skills, high productivity or produce a high-priced product (such as surgeons or footballers), MRP is high; where skills are common, MRP is low. Where long training is needed, supply is small and inelastic. High MRP with low supply gives a high wage, as for occupation A below; low MRP with abundant supply gives a low wage, as for B.



Question number

In imperfect labour markets, wages also differ because of market power. A monopsony (the only, or dominant, employer) faces an upward-sloping supply curve of labour (ACL). To hire another worker it must raise the wage for all, so its MCL lies above ACL. It employs where MRP = MCL, at Lm, but pays only the wage on the supply curve, Wm. Under perfect competition, employment would be at Lc and the wage Wc, where MRP = supply. So the monopsonist employs fewer workers and pays a lower wage than under perfect competition, and workers are paid less than their MRP (exploitation). Other imperfections, such as discrimination, immobility, imperfect information and trade unions, also create differentials.



Now suppose a trade union negotiates a wage above the monopsony wage Wm. The union wage makes the supply of labour horizontal at the union wage up to the supply curve, so the firm's MCL equals the union wage over that range. The outcome depends on where the wage is set:

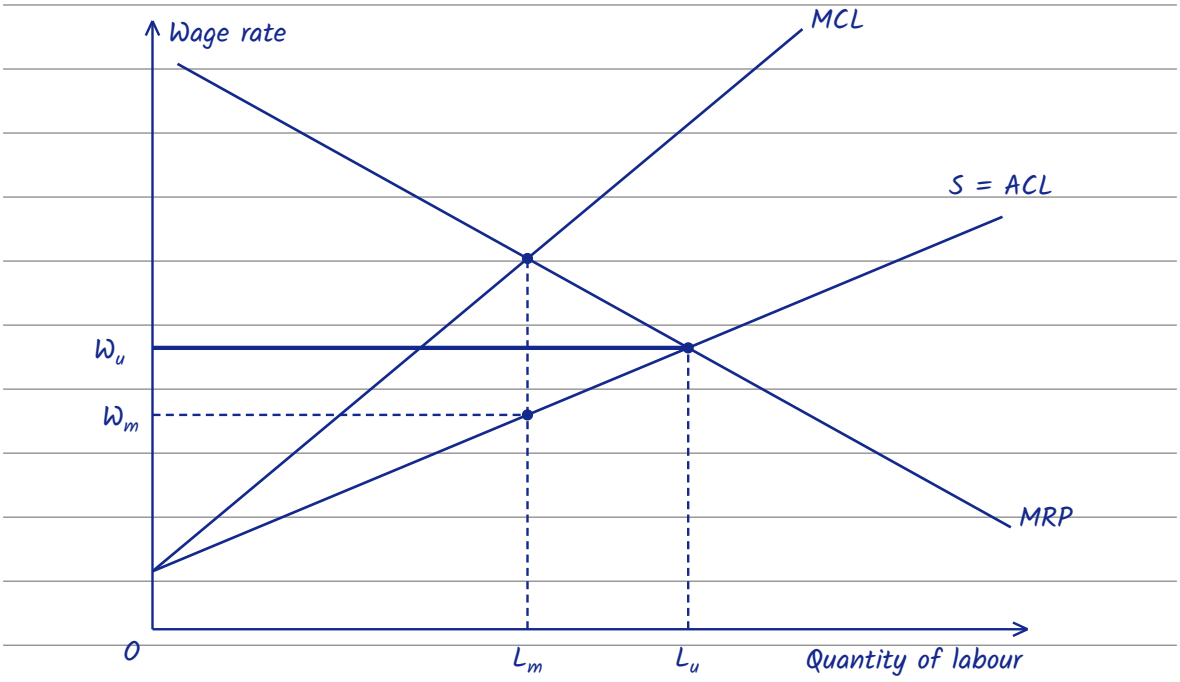
If the union sets the wage at Wc (where MRP meets the supply curve), the firm hires where MRP = Wc, so employment rises to Lc. Both wage and employment are then the same as in perfect competition, although the firm may still earn

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higher profit than a competitive firm.

If the wage is set between Wm and Wc, both wage and employment rise compared with monopsony, but employment is still below the competitive level and the wage is lower than under perfect competition.

If the wage is set above Wc, the firm hires where the union wage meets MRP, which is to the left of Lc, so the wage is higher than under perfect competition but employment is lower. If the wage is set very high, employment could fall even below Lm.



In practice, the union may not know the exact position of MRP and supply, so it is unlikely to hit Wc exactly. Its bargaining power depends on its membership, the elasticity of demand for labour and the profitability of the firm. If the union also helps raise productivity, MRP shifts right, allowing higher wages and employment.

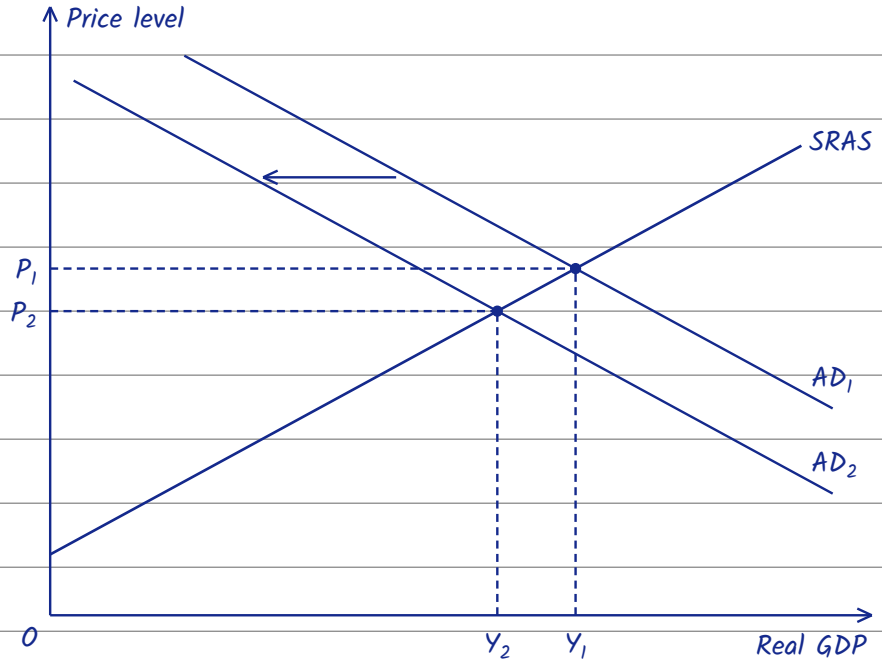
MRP theory also has weaknesses: MRP is hard to measure, especially in services and the public sector, and firms may not aim to maximise profit.

Conclusion: MRP theory, combined with supply and market power, explains why wage rates differ in imperfect markets. A union that negotiates a wage above the market wage can raise both wages and employment under monopsony, but the

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outcome is the same as in perfect competition only if the wage is set exactly at the competitive level; otherwise employment or wages will differ, so the outcome is not necessarily the same.

6(a) Demand-deficient (cyclical) unemployment occurs when aggregate demand (AD) is too low to buy the output that would be produced at full employment. Because labour is a derived demand, firms cut output and employment when spending falls. AD shifts left from AD1 to AD2, real GDP falls from Y1 to Y2 and unemployment rises. Wages are sticky downwards, so the labour market does not clear.



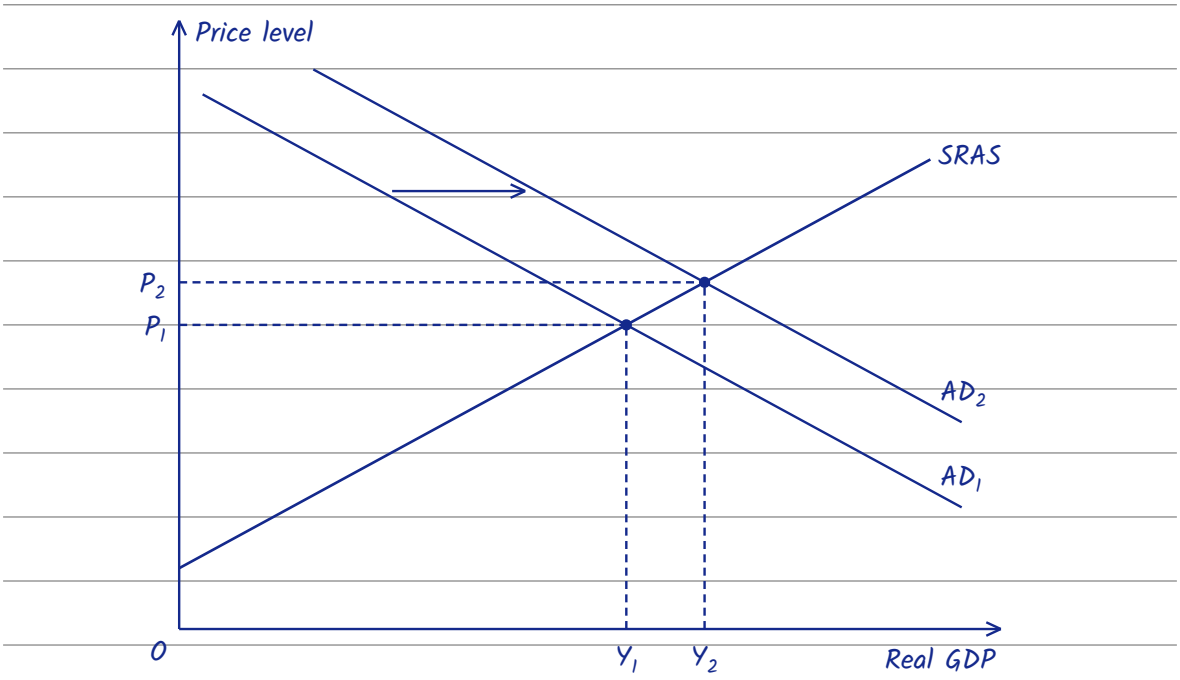
Causes are falls in any component of AD = C + I + G + (X − M). A fall in consumption may be caused by falling confidence, higher interest rates, rising unemployment or falling house and share prices (negative wealth effect). A fall in investment may be caused by lower business confidence, higher interest rates or the accelerator: if the growth of demand slows, investment falls absolutely. Investment is the most volatile component. Cuts in government spending or higher taxes reduce AD, as in austerity programmes. A fall in exports, caused by a recession in trading partners or an appreciation of the exchange rate, reduces AD

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and may worsen the current account. Each initial fall is magnified by the multiplier, so unemployment rises by more than the initial fall in spending. Which cause is most important? Consumption is the largest component of AD (often over 60%), so even a small percentage fall has a big effect. However, investment is the most volatile and, through the accelerator and multiplier, often triggers recessions, as in the 2008 financial crisis when credit dried up. For a small, open economy that depends heavily on exports, a fall in exports may be most important, as it also affects the exchange rate, output and confidence. So the most important cause depends on the structure of the economy, but in most economies falls in investment and consumer confidence are the main triggers of cyclical unemployment.

6(b) Keynesian demand management is the use of fiscal policy (government spending and taxation) by the government to manage AD. Keynes argued that an economy could stay in equilibrium below full employment, so in a recession the government should run a budget deficit, raising spending or cutting taxes, to increase AD. Through the multiplier (1/MPW), national income rises by a multiple of the initial injection, firms need more workers, and demand-deficient unemployment falls. On the Keynesian AS curve, where there is spare capacity, output rises with little inflation.

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Evaluation: there are several problems. First, crowding out: government borrowing to finance a deficit may raise interest rates, reducing private investment and consumption, so AD rises less than expected; but in a deep recession with low interest rates crowding out may be small. Second, inflation: if the economy is near full employment, higher AD mainly raises the price level, as the AS curve becomes vertical, and monetarists argue that in the long run unemployment returns to the natural rate, with only higher inflation. Third, the balance of payments: higher incomes increase imports, worsening the current account, and some of the multiplier leaks abroad. Fourth, national debt: persistent deficits increase debt and interest payments, may lead to higher taxes later and reduce confidence. Fifth, time lags: recognising the problem, passing a budget and the spending taking effect can take so long that the policy is pro-cyclical. Finally, it does not reduce structural or frictional unemployment, which need supply-side policies.

However, demand management was effective after 2008, when fiscal stimulus and automatic stabilisers prevented a deeper depression, and spending on infrastructure can also raise productive capacity.

Conclusion: Keynesian demand management is an effective solution to

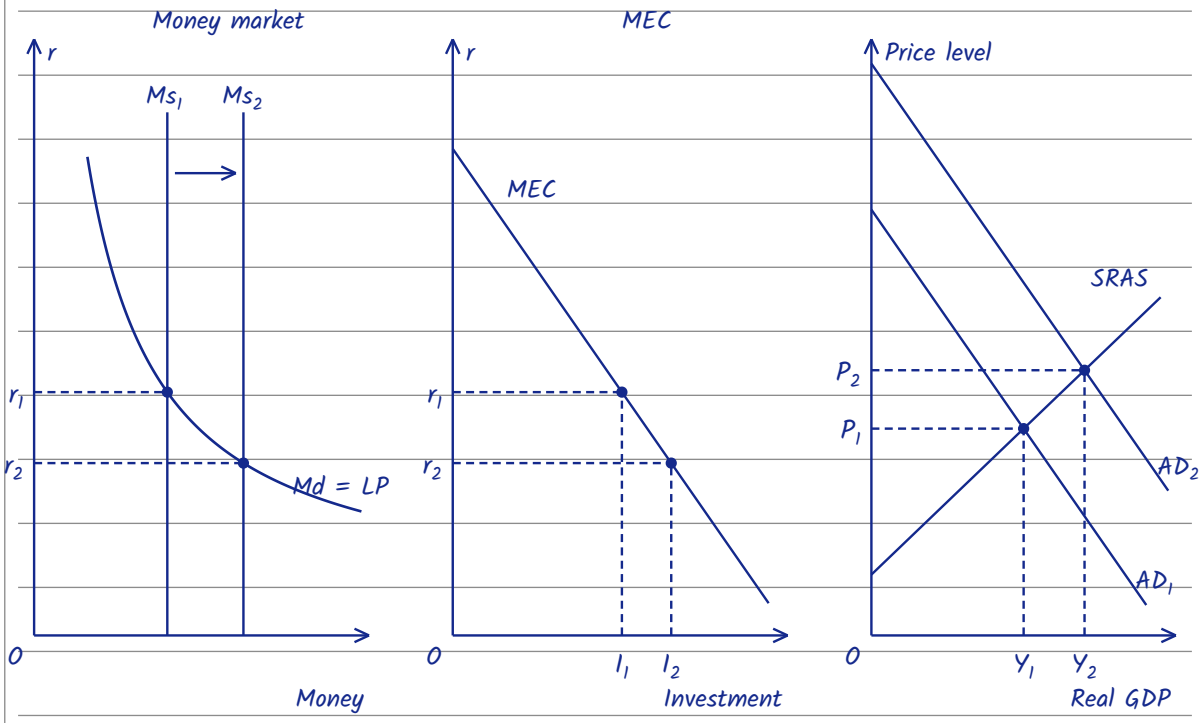
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demand-deficient unemployment, especially in a deep recession with spare capacity and low interest rates. But its effectiveness is limited by crowding out, inflation, the balance of payments and debt, and it cannot solve structural unemployment, so it should be used alongside supply-side policies.

7

The rate of interest is the cost of borrowing and the reward for saving. It is set by the central bank (the base or policy rate), and it influences all other rates in the economy. The key macroeconomic aims are economic growth, low unemployment, low and stable inflation and a satisfactory balance of payments.

A fall in interest rates affects the economy through the transmission mechanism. Borrowing is cheaper, so firms invest more, as more projects have a return above the cost of borrowing (MEC), and households spend more on durables and housing. Saving is less attractive, and mortgage payments fall, increasing disposable income. Asset prices rise, creating a wealth effect. So AD shifts right.



Growth and unemployment: higher AD leads, through the multiplier, to higher real GDP, and since labour is a derived demand, unemployment falls. Higher investment

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also increases productive capacity in the long run. However, the effect depends on confidence: if firms and consumers are pessimistic, as in a liquidity trap, low rates may have little effect; investment may be interest inelastic.

Inflation: higher AD raises the price level, especially near full employment, so a rise in interest rates is the main tool used to control inflation, for example by an independent central bank with an inflation target. But interest rates are less effective against cost-push inflation caused by higher oil prices, and changes take 18 to 24 months to have their full effect.

Balance of payments: a fall in interest rates causes an outflow of hot money, so the exchange rate depreciates. Exports become cheaper and imports dearer, so if the Marshall-Lerner condition holds the current account improves after a time lag (J-curve). But higher incomes also raise imports, which works in the opposite direction, and depreciation raises import prices and so inflation. So the effects can conflict.

The importance of interest rates should be compared with other variables. Fiscal policy (government spending and taxation) has a more direct effect on AD and can be targeted at particular regions or groups, and it is more effective when interest rates are already near zero. Supply-side policies have a bigger effect on long-run growth and structural unemployment. Exchange rates, world demand, confidence and oil prices also have major effects on the economy, often outside the government's control.

Conclusion: I largely agree that the interest rate is one of the most important macroeconomic variables, because it affects consumption, investment, the exchange rate and so every key aim, and it can be changed quickly. However, its impact is not always significant: it depends on confidence, the elasticity of investment, the state of the economy and time lags, and changes can create conflicts between aims, such as lower unemployment but higher inflation. So it is one of several key variables, best used with fiscal and supply-side policies.