

**NEW**

# AQA Economics

# TARGET B-A\*

Year 12 & 13 Microeconomics



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# Incidence of subsidy on producers & consumers

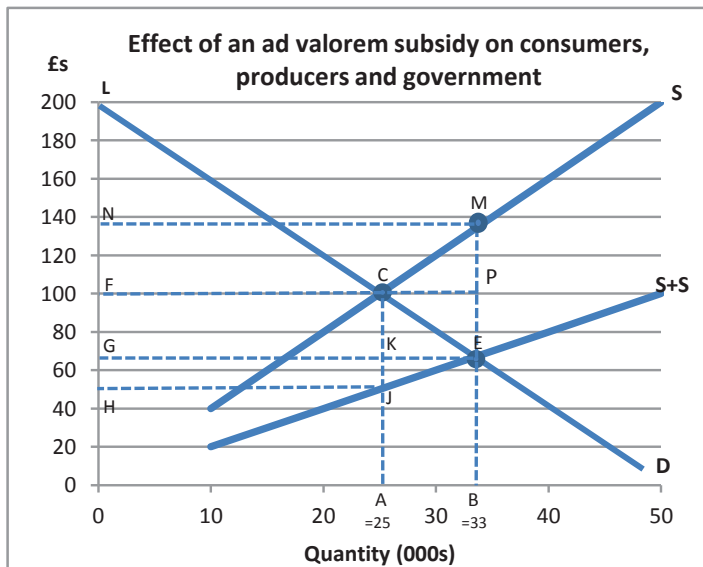
## Grade C. What is it?

The graph below shows the effect of a government providing an ad valorem subsidy on a particular good – or service such as residential care for the elderly. In an exam you need to disentangle the effects of this on producers, consumers and government. The letters shown on the diagram are the best way to answer the questions.

## Grade B Where's the beef? I. Ad valorem subsidy

Examiners like to ask questions on the effect of the subsidy on producer and consumer surplus, and on who wins what from the subsidy. Beneath the graph come important questions and their answers, but before that let's establish a few things:

1. That in this case the consumer price falls from £100 to £68. This extends the consumer surplus from LFC to LGE
2. At the new equilibrium sales quantity of B, the government is providing a subsidy of M-E (£138-£66 = £72) and therefore spending NMEG.



When an ad valorem subsidy pushes the supply curve to S+S:

1. Consumers benefit by FG per unit
2. Producers benefit by GH in subsidy per unit
3. Not all the subsidy is passed on to consumers. Producers keep part of it.

**Do** remember that producers benefit from subsidies (often by a similar amount to the consumers) and will therefore lobby for them. Farmers have always been effective at this, as have the steel and motor industries.

**Don't** dodge these questions about the graph (answers below):

1. Calculate the total benefit to consumers from the subsidy.
2. Calculate the total cost of the subsidy to the government.
3. Calculate the increase in production volume as a result of the subsidy.

### Answers:

Q1 The consumer buys 33,000 units at £100 - £68 = £32 less than before. So gains  $33,000 \times £32 = £1,056,000$

Q2 The subsidy costs  $£72 \times 33,000 = £2,376,000$

Q3. Production increases from 25,000 to 33,000, i.e. 8,000 units

4. The change in consumer expenditure is FCA0 – GEB0

## Grade A The counter-argument

Economists are instinctively suspicious of subsidies, but sometimes they make sense. The world market in large passenger planes is dominated by a near-100% duopoly (Airbus & Boeing). Japanese and Chinese companies are trying to develop competitors, but will inevitably need subsidies to overcome huge barriers to entry. Started up in 2008 China's 'Comac' hopes to deliver its first C919 plane in 2021!

## Incidence of subsidies: transmission mechanism (to get the top response level)

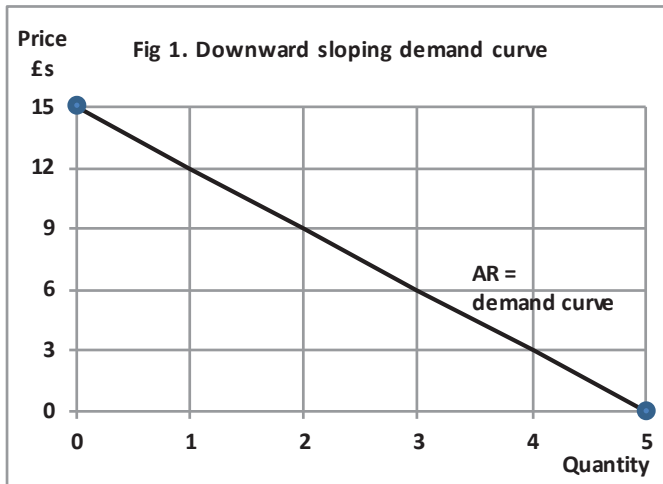
**Chain 1.** A government could decide to put a 20% ad valorem subsidy on fresh fruit (1). This would cut the price of fruit (2) ... boosting demand to an extent determined by the price elasticity of each fruit (3) ... but also giving extra profit to importers (4)... straight from taxpayers' pockets (5).

**Chain 2.** When subsidies are removed, prices rise (1) ... and the fall in demand may put suppliers in trouble (2) ... if they increased their production capacity too much in response to the subsidy (3). A temporary subsidy would damage firms (4)... that mistook the short-term for the long-term. (5)

# Monopoly diagrams (i)

## Grade C. What is it?

To understand the monopoly diagram (facing page) it helps to start with a full understanding of the lines being drawn. It starts with this classic downward sloping demand curve. What this curve, plus the others on this page, can show is why the marginal revenue line behaves as it does. You'll know how to draw the MR line on the monopoly diagram, but do you know why? Carefully read the explanation to the right of Fig 1.



**Where's the beef?** Look at Figure 1 and think about how the curve would look if it showed total revenue instead of average revenue. It would start with £0, because  $£15 \times 0$  output = £0. And it would end with zero, because  $5 \text{ units} \times £0 = £0$ . Now look at Table 1.

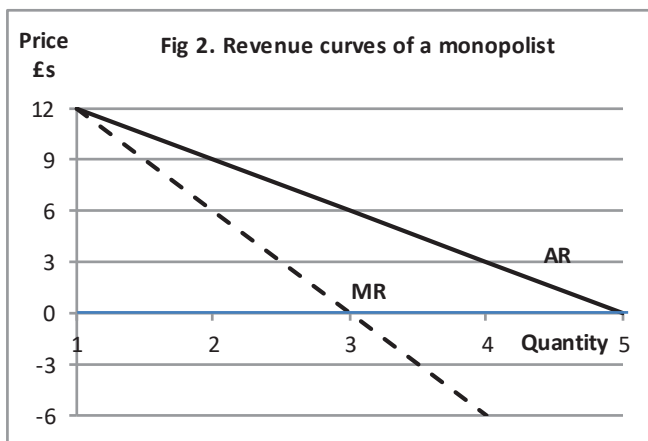
Table 1: the numbers behind Fig 1 and Fig 2.

Quantity	Total revenue	Average revenue	Marginal revenue
0	0		
1	12	12	12
2	18	9	6
3	18	6	0
4	12	3	-6
5	0	0	-12

## Grade B (i) Where's the beef (ii)?

$P_2$

From Table 1 you can see the AR line shown in Figure 1 and how MR responds to the changes in the total revenue column. The TR and MR lines are shown below.



From Fig 2 and the table above you can see the relationship between Marginal Revenue and Average Revenue. My hope is that this will make it easier to remember how to draw these two lines for a diagram such as Fig 3 (see right) – the full monopoly diagram.

**Do** remember that the logic and diagrams on these two pages apply equally to oligopoly and monopolistic competition. Getting the AR and MR lines right is a big step towards drawing a correct diagram.

**Don't** worry in the exam about drawing elegant diagrams. Scruffy is fine, though it helps hugely if you draw the diagrams on a reasonable large scale. (Assume your examiner is a bit old and a bit short-sighted – you won't be far wrong.) And label, label, label. Plus, show what's happening with arrows and a bit of explanation.

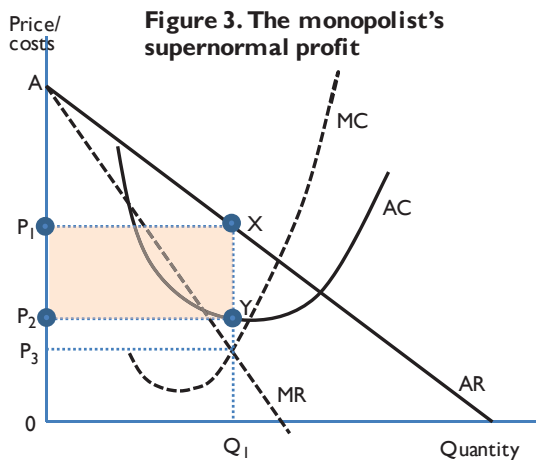
**Exam tips.** Never forget that although every business claims to love competition, they all crave the security of the monopolist. Company directors want to forecast what's going to happen in the coming year – and see the same numbers at the year-end. Monopolists can do that; most firms face too much uncertainty to do that.

# Monopoly diagrams (ii)

## Grade C. What is it?

The monopoly diagram shown below shows the area of supernormal profit a monopolist enjoys as a result of charging far higher prices than would be true in a competitive marketplace. The area between the AC and AR curves (PI, X, Y, P2) represents that supernormal profit. Even that may not satisfy the monopolist, which may eye the area of consumer surplus (A, X, PI) and try to turn it from consumer surplus into producer surplus. This could be achieved if the business meets the conditions for price discrimination (see following page).

## Grade B (i) Where's the beef?



**Figure 3. The monopolist's supernormal profit**

Note the key characteristics when drawing this graph:

1. MC cuts AC at its lowest point.
2. MR bisects AR and 0 along the horizontal axis ...
- 3... and continues below the £0 horizontal
4. Profit maximisation is where  $MC = MR$  ( $Q_1$ )
5. A vertical line from  $Q_1$  shows the selling price  $P_1$  and guides the supernormal profit.

## Grade A The counter-argument

In fact it's much harder than you might imagine to maintain this level of supernormal profit. Monopoly power may keep the price at  $P_1$ , but that same power makes it difficult to hold average costs down. In the aviation and railway industries, monopoly power emboldens staff to join trade unions and fight for higher wages. So the staff end up with a slice of that rectangle. X-inefficiency may account for another slice. Important to remember, though, that even if the shareholders don't gain all that they might, it makes no difference to the overpaying consumer.

## Grade A\* The critical perspective

Monopoly is seen as damaging because it implies a degree of security and complacency that can damage the consumer's interests. Why should a monopolist spend heavily on Research & Development or on new ways to boost production quality? They simply don't need to. So governments treat monopolies with suspicion, often demanding special forms of regulation and scrutiny. Clever firms accept and participate in this; others try to fight it – risking breaking the law.

**Do** remember that local monopolies exist – almost everywhere. Such as the sole grocery in a local village or the only vegan restaurant in a town. These small firms are likely to behave in the same way as a giant monopoly – charging high prices for a Snickers or a vegetable curry.

**Don't** feel that nothing can be done about monopolies. In the past, America has been very bold in breaking up monopolies such as those affecting the U.S. oil and steel industries. UK governments have been weaker, but might find more courage in future.

**Exam tip**  
In most exam answers only one diagram is needed – and there are only marks available for one. So take your time at the start of an answer to think of the most suitable diagram.

## Monopoly diagram: transmission mechanism (to top response level)

**Chain 1.** The monopoly diagram is the same as the one for oligopolists and those in monopolistic competition (1) ... but without the competitive pressures they face (2). This can make a monopoly hard to manage (3) .. because absence of constraints (4) ... means the leader *has* to get things right. (5)

**Chain 2.** If a business in a competitive market managed to buy up rivals (1) ... and build barriers to entry (2) ... it might be able to form a monopoly (3). This would enable it to squeeze total output down, to push prices up (4) ... to maximise the supernormal profits available (5).