Monopoly

# Presentation

Take notes. Your notes should cover the following questions:

* What is meant by a monopoly?
* What assumptions is the theory of monopoly based on?
* What is the result of this market structure in equilibrium? ( diagram)
* Which efficiencies are present in monopoly in equilibrium? Which are not?
* What are the types of monopoly?
* What is the Natural Monopoly diagram?

# Task: Types of Monopoly

**Instructions:**

* Consider the following instances of monopoly power then discuss how you think the monopoly came into existence, hence what kinds of monopoly they are

**Article**

1) In 1654, Oliver Cromwell granted statutory monopoly powers to the ‘Office of Postage’. This prevented any other firm from competing with the state-owned mail carrier. Cromwell believed that postal communication was so important to the development of the economy that he wanted to block any private firms entering the market. The assumption was that cost-cutting in order to boost profits would mean firms delivering a poor quality of service that would compromise business communications in the rest of the economy. This legal monopoly power was later transferred to the Royal Mail, and continued for several hundred years.

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2) Innovation is seen as the lifeblood of a developed economy, and is now responsible for more than 50% of economic growth in the western world. In order to reward and therefore encourage creativity, entrepreneurs are granted intellectual property rights (IPRs) to prevent plagiarism by anyone who was not part of the innovation. These IPRs can be in the form of patents (to protect new designs, processes or technologies, like a new cancer drug), copyrights (to protect artistic or literary works, like a book or movie) or trademarks (to protect logos, like Audi’s four overlapping rings). The very essence of an IPR is of course monopoly power, giving the firm exclusive rights over its particular invention, idea, design or logo.

However, such monopoly rights do not always go on forever. For example, a patent will last a maximum of 20 years. The primary aim of an IPR is therefore to reward innovation only to the extent that it becomes worthwhile for the entrepreneur to invest in research and development (R&D) activities. IPRs should therefore not enable the entrepreneur to make indefinitely high profits, such that he has no further incentive to innovate beyond his existing products. An important balance must therefore be struck between monopoly rights that are long enough to encourage innovation in the first place, but short enough to encourage yet more R&D as firms seek out the next big profit-making invention.

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3) In certain circumstances, a firm that operates in an otherwise competitive market may find itself enjoying a monopoly position. For example, Ben & Jerry’s normally competes with a large number of rivals such as Haagen Dazs, Walls and Nestle. However, in some cinemas, where Ben & Jerry’s has its own exclusive kiosk, consumers may find it impractical to buy ice cream from a competing supplier down the road, queue up for their movie tickets then enter the movie theatre. Given the nature of the product (i.e. rapidly perishable and an impulse purchase) it is far more convenient to buy the ice cream in the cinema, only when it is required. Accordingly, this monopoly position enables cinema ice cream sellers to be price makers, charging monopoly rates for a product that would have to be far cheaper if sold on the high street.

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4) In other circumstances, a monopoly position may have arisen gradually as a result of a firm’s own actions – legal or otherwise. For example, Cisco Systems (which produces the hardware that powers the internet) started as a small firm in 1984, but rapidly grew through the 1990s to become a monopoly provider of IT networking devices. They achieved this legally through mergers and acquisitions. So whenever Cisco identified a potential competitor like Linksys, it would buy the firm, hence eliminating a rival from the marketplace. Today, Cisco is an amalgamation of more than 1,000 firms, having acquired its competitors at a rate of 12 per month during the heyday of the dotcom boom.

On the other hand, some firms have achieved market dominance through more devious methods. Microsoft is a good example of this. Throughout the 1980s and early 1990s, Microsoft marketed its operating systems so aggressively that PC manufacturers were left with virtually no choice over which software to bundle with their PCs. Essentially, hardware manufacturers were given a small discount if they installed their machines with one of Microsoft’s operating systems. However, if the manufacturers installed all of their PCs with a Microsoft operating system, they would receive a substantially larger discount on each copy of the software. In other words, Microsoft was ‘paying’ PC manufacturers to squeeze its competitors out of the market, thereby giving the firm a monopoly position in the market for PC operating systems. Thus by the mid- to late-1990s, Windows had achieved a global market share of around 95%.

Once Windows became the world standard, Microsoft began to leverage its dominant position in the operating systems market to create another dominant position, this time in the market for Internet browsers. At the time (1995) the internet was just taking off, with Netscape being the main browser bought by most consumers. Keen to eliminate Netscape and any other rivals from the market, Microsoft decided to bundle their own browser (Internet Explorer) ‘free’ with every copy of Windows . And since Windows was now being installed in virtually every PC, almost every new PC owner had IE and, therefore, had no reason to pay for Netscape. Once again, Microsoft was using anticompetitive behaviour to squeeze rivals out of the market and to create a monopoly position for itself.

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5) It is sometimes seen as ‘natural’ that an industry should be monopolised by one firm. This often occurs where there are such massive fixed costs involved in delivering the good or service (coupled with tiny, insignificant marginal costs), that one firm can easily and efficiently serve all the demand in the market. In such a case, it would not make sense for two firms to compete, as this would bring an unnecessary duplication of fixed costs, loss of scale economies, higher average costs and, almost certainly, higher prices for the consumer.

Consider, for example, Network Rail. The firm has spent billions of pounds laying down a national infrastructure, consisting of rail track and signals. This huge infrastructure is used by train operating companies (TOCs) such as Virgin and WAGN. The more TOCs use the rail track, the greater Network Rail’s output, hence the lower the average cost of maintaining the track. Clearly, it would make no sense for another firm to lay down a competing set of rail track and signals, as this would mean Network Rail losing some of its customers and being deprived of the economies of scale that are necessary in making the service commercially viable. In fact, if there were two firms with competing rail tracks, both would incur a loss and one of them would soon exit the industry, once again leaving a monopoly provider in full control of the UK’s rail infrastructure.

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**Common themes:**

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# Article task: Slackers or pace-setters?

**Instructions:**

* Read, highlight and annotate the article
* Complete the table of the advantages and disadvantages of monopoly

**Article:**

*Monopolies may have more incentive to innovate than economists have thought*

A LOT of attention has been paid to the ill effects of monopoly. Economists long ago pointed out why it is bad for a single firm to dominate a market. In essence, the trouble with monopolists is that they can set prices almost as they please. Unlike in competitive industries, a monopolist's price, in the jargon, can be way above the marginal cost of production. It is argued that monopolies restrict output to increase their producer surplus and profit, therefore reducing consumer surplus and creating a deadweight loss. Worse, immunity to competition makes a monopolist fat and lazy. It needn't worry too much about keeping customers happy. Worse still, if a company has no fear of competition, why should it bother creating new and better products?

By and large, officialdom these days continues to take a dim view of monopoly. Antitrust authorities in many countries do not shrink from picking fights with companies that they believe are too powerful. The biggest target in recent years, first in America and now in Europe, has been Microsoft, creator of the operating system that runs on some 95% of the world's personal computers. One of the arguments against Microsoft is that its dominance of the desktop allows it to squeeze out smaller and (say the company's critics) more innovative rivals. Many argue that as they are able to produce at the profit maximising level of output they have no need to operate at the level of production that minimise costs.

Despite this, compelling evidence that monopolists stifle innovation is harder to come by than simple theory suggests. Joseph Schumpeter, an Austrian economist, pointed out many years ago that established firms play a big role in innovation. This is shown by GSK who invested £3.9bn in R&D investment into new medicines in 2018 and have 44 new medicines in development during Q2 2019. In modern times, it appears that many product innovations, in industries from razor blades to software, are made by companies that have a dominant share of the market. Most mainstream economists, however, have had difficulty explaining why this might be so. Kenneth Arrow, a Nobel prize-winner, once posed the issue as a paradox. Economic theory says that a monopolist should have far less incentive to invest in creating innovations than a firm in a competitive environment: experience suggests otherwise. How can this be so?

One possibility might be that the empirical connection between market share and innovation is spurious: might big firms innovate more simply because they are big, not because they are dominant? A paper[\*](https://www.economist.com/finance-and-economics/2004/05/20/slackers-or-pace-setters#footnote1) published a few years ago by Richard Blundell, Rachel Griffith and John Van Reenen, of Britain's Institute for Fiscal Studies, did much to resolve this empirical question. In a detailed analysis of British manufacturing firms, it found that higher market shares do go with higher investment in research and development, which in turn is likely to lead to greater innovation. Still, the question remains: why does it happen?

Monopolies do have supernormal profits so they do have the capability to invest, the question is whether they have the incentive to do so. This issue is of great importance due to the importance of innovation to long term growth. Many do cite the differences in types of monopolies, for example of competitive monopoly will act differently to a legal monopoly or natural monopoly. The question is how effective is government intervention is dealing with monopolies or if government failure outweighs the market failure?

A new paper[†](https://www.economist.com/finance-and-economics/2004/05/20/slackers-or-pace-setters#footnote1) by Federico Etro, of the University of Milan, aims to resolve Mr Arrow's paradox. He sets out a model in which a market leader has a greater incentive than any other firm to keep innovating and thus stay on top. Blessed with scale and market knowledge, it is better placed than potential rivals to commit itself to financing innovations. Oddly—paradoxically, if you like—in fighting to maintain its monopoly it acts more competitively than firms in markets in which there is no obviously dominant player.

The hunted monopolist

The most important requirement for this result is a lack of barriers to entry: these might include, for example, big capital outlays to fund the building of new laboratories, or regulatory or licensing restrictions that make it hard for new firms to threaten an incumbent. If there are no such barriers, a monopolist will have an excellent reason to innovate before any potential competitor comes up with the next new thing. It stands to lose its current, bloated profits if it does not; it stands to gain plenty from continued market dominance if it does. Monopolies such as Netflix and Amazon clearly show a desire to innovate whether that be through innovative new content or new technology such as the Amazon Echo.

If the world works in the way Mr Etro supposes, the fact that a dominant firm remains on top might actually be strong evidence of vigorous competition. However, observers (including antitrust authorities) may well find it difficult to work out whether a durable monopoly is the product of brilliant innovation or the deliberate strangulation of competitors. More confusing still, any half-awake monopolist will engage in some of the former in order to help bring about plenty of the latter. The very ease of entry, and the aggressiveness of the competitive environment, are what spur monopolists to innovate so fiercely.

But what if there are barriers to entry? These tend to make the dominant firm less aggressive in investing in new technologies—in essence, because its monopoly with the existing technology is less likely to be challenged. Over time, however, other companies can innovate and gradually overcome the barriers—“leapfrogging”, as Mr Etro calls it. Meanwhile, the monopolist lives on marked time, burning off the fat of its past innovations.

So much for theorising. What might the practical implications be? One is that antitrust authorities should be especially careful when trying to stamp out monopoly power in markets that are marked by technical innovation. It could still be that firms like Microsoft are capable of using their girth to squish their rivals; the point is that continued monopoly is not cast-iron evidence of bad behaviour.

There might be a further implication for patent policy. Patents, after all, are government-endorsed monopolies for a given technology for a specified period. Mr Blundell and his colleagues found that the pharmaceutical industry provided the strongest evidence of correlation between market share and innovation. Thus strong patents, despite their recent bad press, can be a source of innovation. Generally, though, when one company dominates a market, people should be careful in assuming that it is guilty of sloth. It may be fighting for its life.

\* “Market Share, Market Value and Innovation in a Panel of British Manufacturing Firms”. *Review of Economic Studies*, 1999.

**What are the advantages and disadvantages of monopolies?**

**Advantages Disadvantages**

# Task: Monopoly-shifts of curves

**Instructions:**

* Show: MR/AR/MC/ATC, profit, price and output

|  |  |
| --- | --- |
| Amazon decides to pull out of the video streaming marking, draw the impact on Netflix *Change =*  | GSK sees it’s running costs rise due to an increase in business rates in the UK*Change =*  |
| Samsung’s Note 7 batteries are shown to catch fire*Change =*  | YouTube has slashed its video delivery costs through the use of peering relationships and its in-house GoogleNet connecting its data centres*Change =*  |

# Task: Perfect Competition and Monopoly Compared

**Instructions:**

* compare these two extreme forms of market structure,
* Answer the questions to examine the extent to which the monopolist distorts resource allocation.



1. Next to the industry diagram, Draw an individual **firm’s** demand curve (D/AR) and ***MC*** and ***ATC*** curves. Label the long-run equilibrium point (E), price (PC) and output (QC), which will represent the equilibrium price and combined output of all firms in the industry.
2. Under this long-run equilibrium, what is the level of consumer welfare?

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1. Now assume that all firms in the industry are taken over by a profit-maximising monopolist. What will the individual firm’s demand curve now become?

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1. Bearing in mind that the sum of all firms short-run MC curves *under perfect competition* was the industry’s supply curve, what will the long-run supply curve now become for the individual firm / monopolist?

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1. Draw in an accurate MR curve. Label the new long-run equilibrium point for the ***profit-maximising monopoly*** (C), price (Pm) and output (Qm). Also label the appropriate point on the AR curve (B).
2. How has this change in market structure affected the equilibrium variables?

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1. What has happened to consumer surplus?

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1. Looking more closely at the loss of consumer welfare, can you classify it into two types? If so, can one part of it be seen in a positive light? Why might the other part of the loss of be more serious to overall economic welfare and what is it called?

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# Assignment

**Assignment 4 – Monopoly**

**SECTION A- Short answer questions**

1. A profit maximising monopolist facing constant average costs experiences a decrease in demand. Other things being equal, explain the likely impact on the monopolist’s output, price and profit. Use a diagram to support your answer.

[4]

1. In October 2011 Boeing’s 787 Dreamliner aircraft entered commercial operation. The firm announced that its fixed costs of development had been much higher than expected. Assuming the firm is profit maximising, explain the likely impact of an increase in fixed costs on Boeing’s output, price and profit. Use a diagram to support your answer.

[4]

1. The price of cotton, a major cost component in the clothing sold by retailers Next, Primark and Debenhams, is predicted to rise significantly. Other things being equal, explain the likely impact on the firms’ price, output and profits. Use a diagram to support your answer.

[4]

1. Amtrack is the sole provider of long-distance rail passenger travel in the US. The most likely reason why Amtrack has no competition is that:

[1]

**A** sunk costs are low

**B** there are falling long run average costs in the US rail passenger industry

**C** demand for rail travel is increasing

**D** x-inefficiency is high

**E** consumers’ surplus is always higher when there is a sole provider of a product or service

**SECTION B – Data Response**

**Motorway Service Areas (MSAs) in the UK**

**Figure 1 Market share of MSA sites in the UK (103 sites)**



**Extract 1 Letter concerning monopoly pricing at Motorway Service Areas**

I am writing to bring to your attention the issue of petrol prices. Returning from Germany yesterday evening, I needed to buy petrol on the M25 and stopped at a service station, not wanting to add extra miles or risk getting lost by coming off the motorway. Normally the price is advertised in advance but in this particular case it wasn’t. I was horrified to see that I was being charged £1.47 which as you’ll know is more than 15 pence above the average rate across the country. I had no choice but to buy the petrol at this price. Everyone knows that petrol is more expensive at motorway services, but I am writing to ask you to consider putting a cap on the amount of profiteering by these firms selling petrol at inflated prices. In some European countries it is normal to see the price at a service station and the next two after that so you can make a choice as to where to stop and buy your petrol, but in this country it’s a complete monopoly.

Letter to the Highways Agency November 2012

**Extract 2 Pricing at Motorway Service Areas**

It’s no secret that Motorway Service Areas manage to provide the seemingly impossible combination of being both notoriously expensive and notoriously poor quality. This is usually attributed to the fact that they are seen to have a captive market and a monopoly on the motorway, often being the only easily accessible facilities for at least 15 miles, the minimum distance permitted between MSAs. However, the gap between MSAs often exceeds 50 miles.

Before we start complaining about the prices of services, we should first work out what we’re comparing them to. While the obvious comparison would be a supermarket or high street shop, a more accurate one would be an airport or railway station – places which are also under fire for their high prices. If services were making as much money as some people think they are, there would be more operators and applications for new services.

**Extract 3 Pressure on for motorway services operators with vast debts**

How to get today’s motorway users to spend money is a major problem that Roadchef and its rival operators Moto and Welcome Break have had to tackle. And with collectively hundreds of millions of pounds of debt on their balance sheets, the pressure is on.

In 2007, Welcome Break, Britain’s second-biggest motorway services operator, was on the brink of exiting the industry as it desperately tried to rearrange its £376 million debt. Roadchef, its smaller rival, was also struggling. Like Welcome Break its credit rating had been downgraded and it was in danger of breaching its debt arrangements. Roadchef was bought by Israeli property company Delek Group. Welcome Break and Roadchef, along with Moto, still have vast debts, with servicing costs in the range of £15 million and £78 million a year.

But why is there so much debt in these companies when motorists regard service stations as roadside goldmines for their owners because of ‘captive’ customers and high prices? One reason is the huge investment needed. Moto says its new service area at Wetherby, West Yorkshire, cost £24 million to build. There are also the high overheads caused by its many obligations. Service stations must be open 24 hours a day, 365 days a year. There is a legal requirement to provide free parking for at least two hours, toilets, hot food and drink. Yet they are still not allowed to market themselves as destinations in their own right, mainly because of fears that traffic building up on the slip roads could cause accidents on the motorways. And they are still not allowed to serve or sell alcohol, a high-margin product for retailers.

Does it matter that the service stations are massively indebted? According to one commentator, ‘The attractive thing about these companies is that they generate a huge amount of cash. If you can use that to service the debt and still make a profit, what does it matter that you are not going to pay the debt off?’

1. With reference to the information provided, briefly explain why motorway services operators can charge high prices for petrol.

[5]

1. Moto, Welcome Break and Roadchef control more than 85% of the market for MSAs. Discuss the possible reasons why a few firms dominate this industry.

[15]