



2015 specification  
First exams in 2017

# Data Response Case Studies

For A level Year 2 AQA Economics

Microeconomics: Individuals, firms  
markets and market failure

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## Teacher's Introduction

This resource is designed to be used for teaching AQA A level Economics 4.1: Individuals, firms, markets and market failure. The resource consists of 12 Data Response Case Studies intended for students to complete as homework tasks.

The case studies are presented in specification order, collectively covering each topic in the A level specification, and revising the main topics from lower-sixth. Each case study contains detailed information (including diagrams and

The 'Use the data' tasks focus particularly on quantitative skills, and the 'Test your knowledge and application skills. The extended-response questions are an opportunity for higher-level analysis and evaluation skills. Most of the questions given are in exam-style limited questions to this style except in the case of the extended-response questions provided for all tasks and questions.

Reading through each study and answering the questions is expected to take 20-30 minutes. Extended-response questions at the end of each case study. One option for using this resource is to read the study in class and set the exam-style evaluation question as homework.

This resource will help prepare students for the microeconomics component of the A level and stimulate an interest in the real-world applications of microeconomics. Each case study is designed to introduce the student to a fascinating array of contemporary microeconomic issues.

I hope this resource helps you to bring economics to life for your students.

Case Study	Specification Reference
1. Creative destruction in the business world	4.1.4 – production, costs and profit
2. The stock market – perfectly competitive?	4.1.5.3 – perfect competition
3. Supermarket wars	4.1.5.4 – monopolistic competition 4.1.5.5 – oligopoly
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10. The economics of inequality	4.1.7.1 – the distribution of income
11. For-profit universities	4.1.8 – the market mechanism and government intervention
12. The European Competition Commission	4.1.8.7 – competition policy

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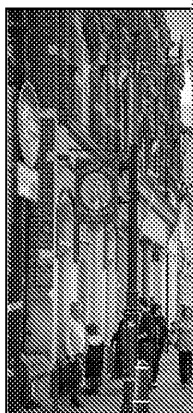


# Creative Destruction in the Busi

*This case study requires knowledge of Section 4.1.4 – production,*

In modern economies, businesses start up and go bust very frequently, as technology evolves and consumer tastes and preferences change, among other factors. In the 1940s, the Austrian economist Joseph Schumpeter described this process as a 'gale of creative destruction'.

In the UK, high streets have always changed over time, with new shops coming in to replace existing underperformers. Tables 1 and 2 show the top 10 business closures and openings by classification for the first six months of 2015 (based on the UK's largest 500 towns):



**Table 1: top business openings**

Classification	Net change (%)	Net change (units)
Barbers	+4.7	118
Mobile Phones	+9.4	86
Tobacconists	+28.3	81
Cafés and Tearooms	+1.2	80
Restaurants and Bars	+6.7	74
Hair and Beauty Salons	+3.6	65
Nail Salons	+4.2	51
Beauty Salons	+2.3	43
Restaurants – American	+19.2	28
Health Clubs	+5.0	25

**Table 2: top business closures**

Classification
Clothes – women
Newsagents
Public Houses and Inns
Jewellers
Restaurants – Indian
Night Clubs
Confectioners
Discount Stores
Hairdressers
Booksellers

Notably, the number of tobacconists jumped by 28.3% with the rise of e-cigarettes. Discount stores fell by 6.3% (reversing the trend of rapid growth in the year 2014). Cafés / coffee shops continued their relentless rise: some have speculated that they will replace the pub as a traditional place to meet and socialise, particularly for young people. Overall, there was a slight fall in the total number of high street shops, with 437 fewer independent shops and 437 fewer chain shops. This could be due to competition from online retailers (which have captured a large part of the market in recent years), although the total number of shops has been increasing since 2012.

Some high-profile examples of chains that have had to close down in the UK include Woolworths, JJB Sports and HMV. Both of the latter have been taken over by other companies. This often happens with large brand names that go bust.

## Costs and revenues

When it boils down to it, a firm's success depends on its revenues and costs. Economic theories about how a firm's revenues and costs change depending on how many units it produces (see profit maximisation). This can help to predict how businesses should operate in order to meet their goals (see profit maximisation).

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In reality, it's almost impossible to obtain complete cost and revenue data, experiment with every possible price/quantity combination (and even if the demand and supply are likely to change over time). Nevertheless, it is still theory.

Figure 1 shows the partly completed costs and revenues for a fictional fish and chip shop that operates in the short run: they can hire more employees but they cannot o

**Figure 1: Ben's fish and chip shop, costs and revenues**

Portions sold	0	10	20	30	40	50	60
Price per unit	10	9	8	7	6	5	4
Cost of rent and electricity	60	60	60	60	60	60	60
Wage bill	0	30	30	60	60	105	120
Cost of buying ingredients	0	30	40	45	60	50	90
Total cost	60		130		180		270
Average total cost	N/A		6.5		4.5		4.5
Average variable cost	N/A		3.5		3		3.5
Marginal cost	N/A		1		1.5		5.5
Total revenue	0		160		240		240
Average revenue	N/A		8		6		4
Marginal revenue	N/A		7		3		-1

In order to increase the number of portions/units sold, the wage bill increases as they hire more workers and have them work longer hours. The cost of buying ingredients decreases due to bulk discounts up to a point when they have to buy from another supplier, which increases the cost.

### Use the data

- Fill in the blanks in Figure 1. (Note: when filling in the marginal cost and marginal revenue, calculate the MC/MR of one extra unit sold, not 10 extra units. Assume the price is constant across all 10 units – see examples already filled in.)
  - Draw a diagram with goods sold on the x-axis and price on the y-axis. Plot the following on the diagram: average variable cost, average total cost, marginal cost and marginal revenue.
  - Find the profit-maximising level of output by estimating where marginal cost equals marginal revenue.
  - On a separate diagram, roughly plot the total revenue and total cost curves.
  - Find the profit-maximising level of output by estimating the point where marginal revenue equals marginal cost. Does this fit with your answer to (c)?

### Test your knowledge...

- Using the data from Figure 1, identify one fixed cost and one variable cost.
  - Explain what is meant by the law of diminishing returns, using an example from Figure 1.
- Explain what is meant by the minimum efficient scale.

### Extended-response question

- Examine how the costs and revenues of a luxury tea shop might change in a downturn).

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# The Stock Market – Perfectly Co

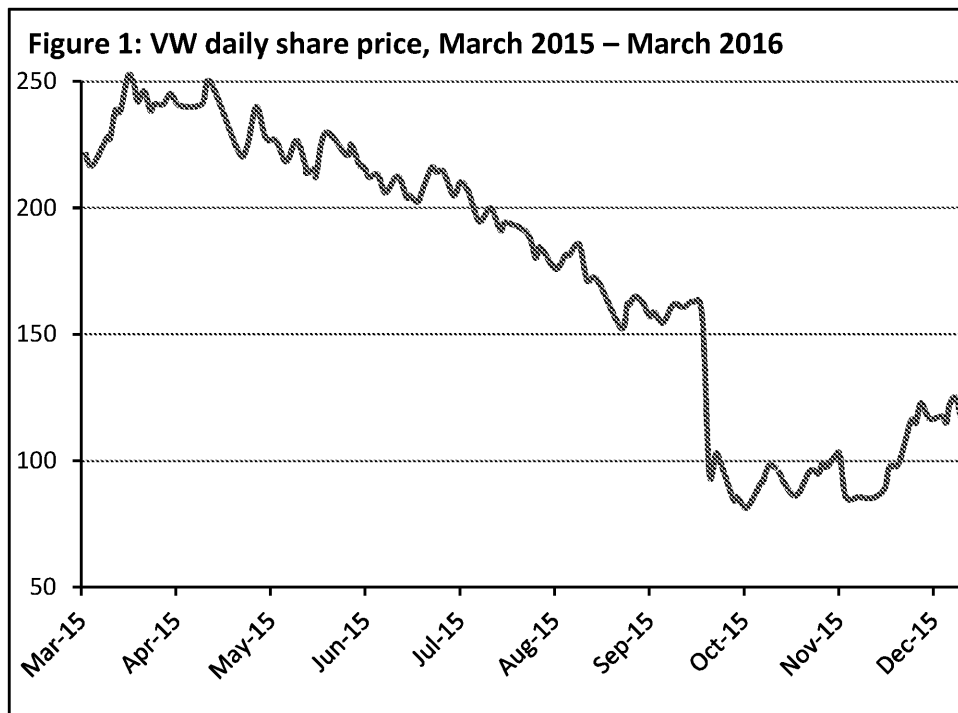
*This case study requires knowledge of Section 4.1.5.3 – perfect*

Perfect competition is a theoretical idea, and there are few real-world examples of markets that are perfectly competitive. One possible contender is the stock exchange.

The stock exchange is a global marketplace where millions of buyers and sellers trade shares in companies. Owning a share in a company means you have a small stake in the company's success – if the company does well, the share becomes more valuable. Owning 'stock' in a company is essentially the same thing – it means the total number of shares you own. Owning stock in a company is also referred to as having 'equity', a term which also applies to partly owning a house (e.g. via a mortgage).

Companies benefit from being on the stock market, as it gives them access to a variety of sources of capital. Canny investors, using stock market information freely available, also benefit if they can correctly guess the movement of share prices. Buying and selling shares at the right time can be very lucrative, but it is inherently risky.

Figure 1 shows the share price of Volkswagen, the German car manufacturer, of one share in VW in euros.



VW's share price nosedived in September 2015 after the emissions test scandal, falling by over €25.

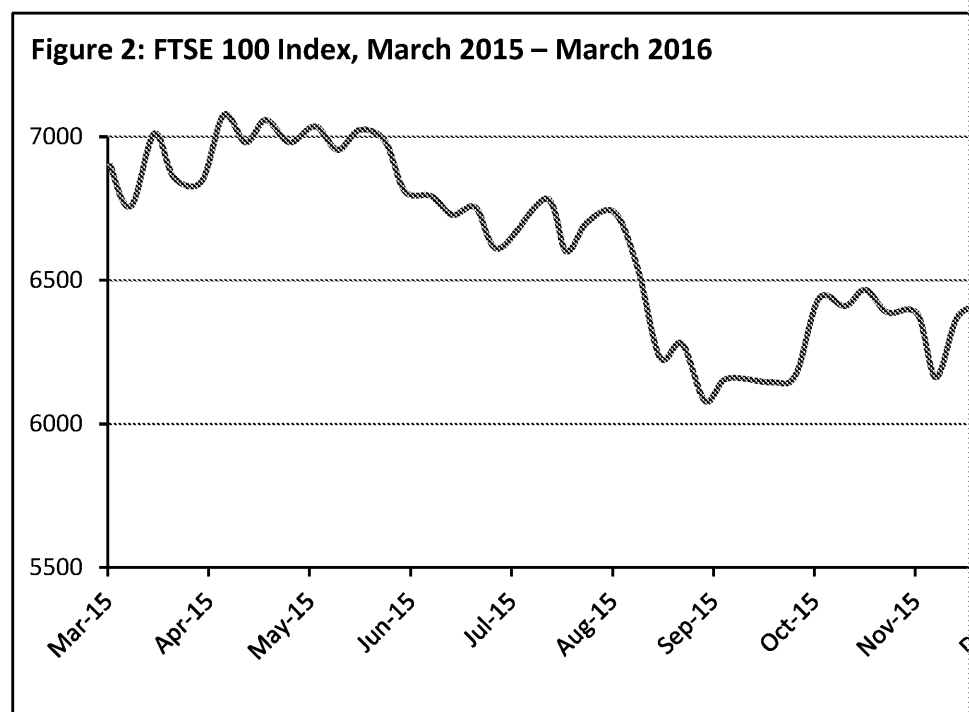
The share prices of many large companies are often combined into stock market indices. These include the FTSE 100 (based on the 100 largest companies on the London Stock Exchange), the S&P 500 (based on 500 large stocks traded on American stock exchanges), and the Hang Seng Composite Index (based on the share prices of large Chinese firms).

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Figure 2 shows the FTSE 100 index over time. The y-axis is a measure of the index value. The x-axis shows time. The index are performing on average.



After peaking at over 7,000 in April 2015, the FTSE 100 has performed weakly in January 2016 (which means that the index is at least 20% below its high). In financial jargon, a ‘bear’ market is simply one in which prices are falling, while a ‘bull’ market is one with rising prices.

Note: If you’re still not entirely sure how the stock exchange works, watch <https://www.youtube.com/watch?v=F3QpgXBtDeo>

### Use the data

- Look at Figure 1. In September 2015 do you think there were more sell orders than buy orders?
  - Suppose you owned 500 shares in VW. Calculate the change in value of your shares from September 2015 to February 2016.
- If the FTSE 100 index reached 8,500, what number would it have to reach to return to its starting point in March 2015?

### Test your knowledge...

- Name one possible example of a perfectly competitive market (other than the stock market).
- Using revenue and cost curves, show the long-run equilibrium of a firm in a perfectly competitive market.

### Extended-response question

- Evaluate how well the stock market exhibits the characteristics of perfect competition.

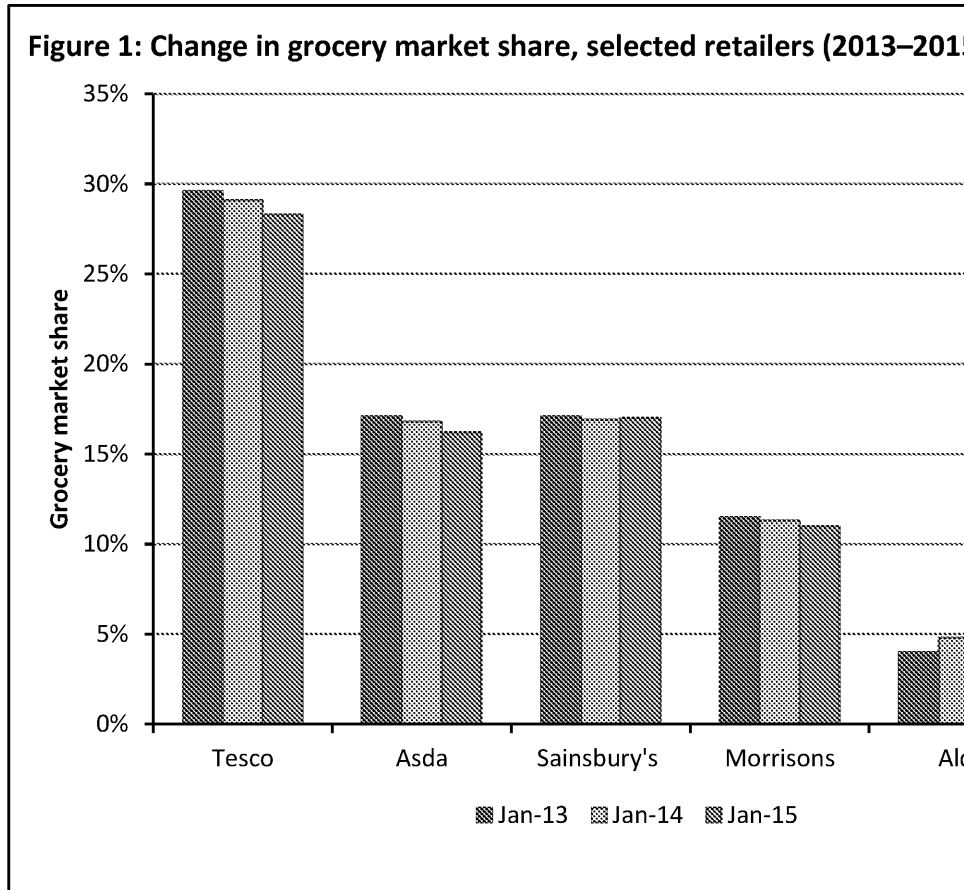
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# Supermarket Wars

This case study requires knowledge of Section 4.1.5.4 – monopolistic competition

The landscape in the UK grocery market has been changing over the past few years. 'discounters' such as Aldi and Lidl have emerged as big players in the market, while established retailers such as Tesco have struggled. Figure 1 shows how Aldi and Lidl's market share has increased at the expense of their larger rivals:



This could be an indication that the supermarket business, usually considered an oligopoly, is shifting closer to monopolistic competition, similar to that seen in the market for local convenience stores.

Evidence of this shift can be seen in the price wars between supermarkets. In November 2014, total food sales in the UK fell for the first time in 20 years as prices tumbled. The competition was particularly fierce over the Christmas period in 2015. Aldi's move to cut the price of parsnips to 39p a bag triggered swift responses from Morrisons, who offered a 4kg bag of vegetables for just £1, and Lidl who cut packs of vegetables to a mere 29p. Tesco and Asda's sales in the run-up to Christmas suffered, with sales falling around 3.4% compared to the same period in 2014.

Combined with low commodity prices, price wars have meant consumers have benefited from pleasantly low prices.

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Although the traditional incumbent firms such as Tesco continue to benefit from brand loyalty, Aldi and Lidl have succeeded in part by adapting their in-store practices (smaller stores offer a smaller range of goods, and far fewer staff operate tills and register tills by the fact that sell-by dates are not included on products). These measures reduce production to a minimum. In this way, Aldi and Lidl are differentiated from other supermarkets, who typically competed only on price and quality.

### Use the data

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1. Using Figure 1, calculate the change in the four-firm concentration ratio between 2010 and 2015.
2. Using revenue and cost diagrams, and assuming that both firms aim to maximise profit, explain why Aldi and Lidl can afford to charge lower prices than Tesco.

### Test your knowledge...

---

1. (a) Define the term 'economies of scale'.  
(b) Explain two ways in which large supermarkets could benefit from economies of scale.

### Extended-response question

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1. Assess whether the characteristics of the UK supermarket sector are those of perfect competition or monopolistic competition.

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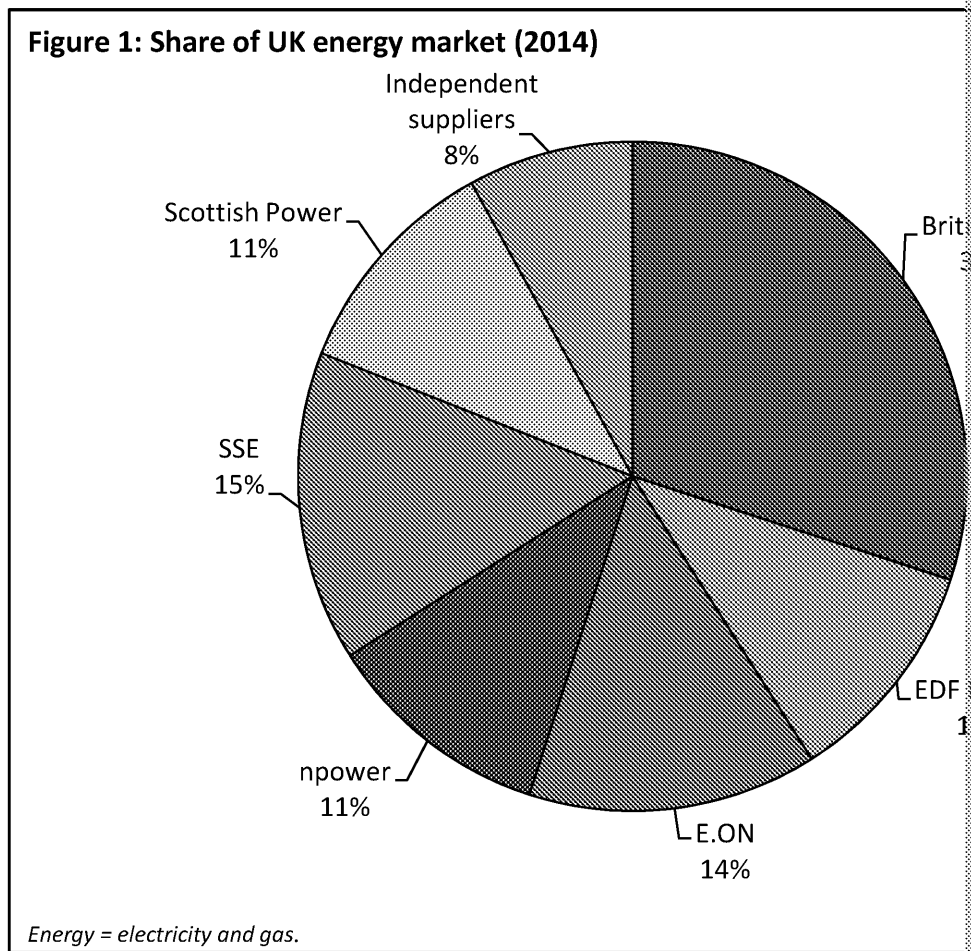


# Inertia in the Energy Market

This case study requires knowledge of Section 4.1.5.5 – c

It is well known that asymmetric information can lead to market failures. A car salesman who convinces his customers that his cars are worth more than they are has better knowledge of the car's true value.

Another market that has been suspected of suffering from asymmetric information is the energy market. The vast majority of energy in the UK is supplied by a few large companies – the 'Big Six'. Figure 1 shows the market share for these companies. The market share supplied by independents has increased from almost zero in 2000 to 8% in 2014, while the market dominated by the Big Six:



Energy prices tend to benefit those who 'shop around' a lot in the market. They get the best deals to new customers who switch providers, and usually offer the worst deals to those who stick with the same provider.

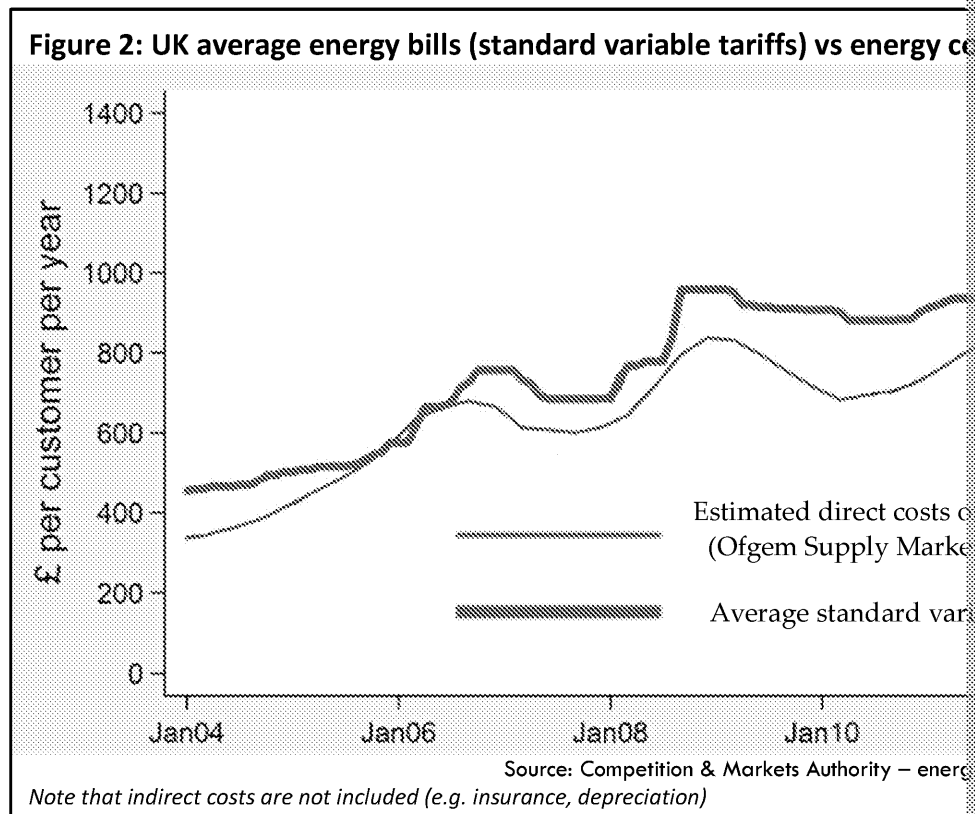
This would work well in a market with symmetric information between firms and consumers, as customers would switch regularly to get the best deals. However, it is argued that comparing energy costs is overly complicated, and that the procedure for switching can be difficult. As a result, only the most well informed (often the better-off) consumers reap the benefits of switching providers, while most of the population are stuck with high tariffs. One government report, analysing Quarter 1 2012 to Quarter 2 2014, found that 95% of consumers could save by switching supplier (or tariff type), at an average saving of £158–£234 a year.

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It has been argued that the market has become less competitive over time. estimated costs of energy production with the average standard variable tariff (the average of energy bill that fluctuates in price):



Consumer distrust in energy suppliers currently stands at 59%, making energy one of the most distrusted consumer industry sectors. There are likely to be ongoing battles between suppliers in the future to make sure the market is competitive and outcomes are fair.

### Use the data

- Using Figure 1:
  - Calculate the three-firm concentration ratio for the energy market in 2004.
  - Calculate the six-firm concentration ratio.
- Based on the article:
  - State one reason why competition might be increasing in the energy market.
  - State one reason why competition might be decreasing in the energy market.
- Based on the article, what is the main source of market failure in the energy market?

### Test your knowledge...

- Which of the following best describes the UK energy market – (a) perfect competition, (c) oligopoly, (d) monopoly?
- Explain why ‘vertical integration’ might be a barrier to entry in the energy market.

### Extended-response question

- Discuss the effectiveness of a government policy to increase competition in the energy market by subsidising new entrants in the market for the first few years.

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# Diamonds Are Forever

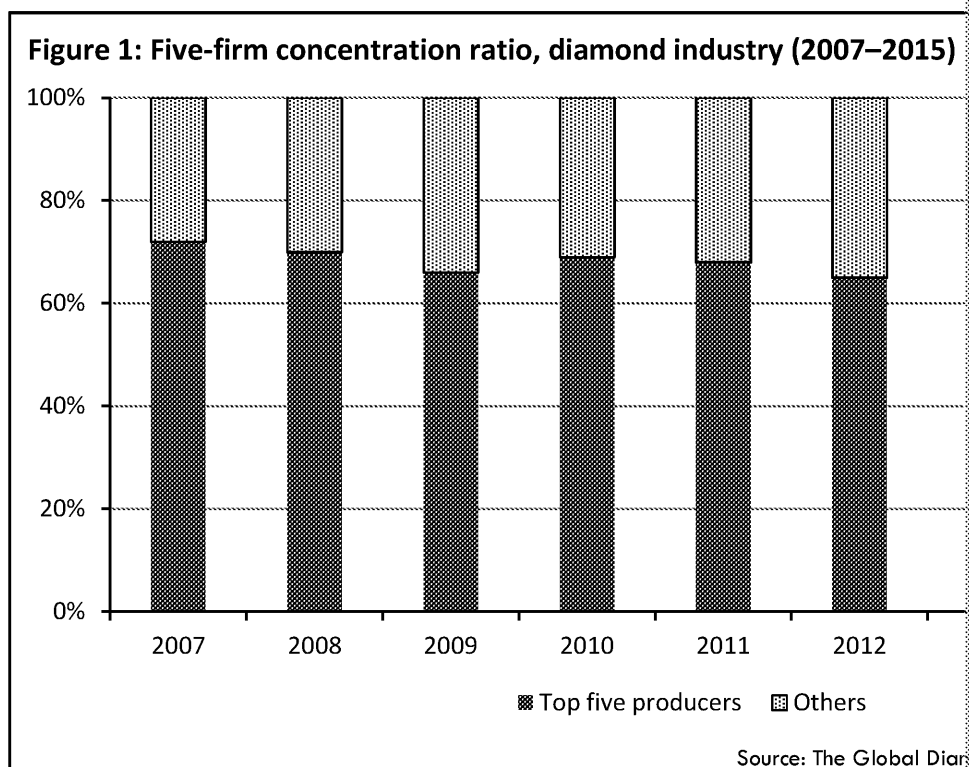
*This case study requires knowledge of Section 4.1.5.6 – monopoly and monopsony*

Most people are familiar with the idea of a monopoly, but there are relatively few examples of true monopolies. One infamous example of both a monopoly and a monopsony that has been well studied is the diamond company De Beers. Although their monopoly power has substantially waned since the turn of the millennium, in the twentieth century De Beers dominated the diamond market, peaking at 90% market share in the 1980s.

De Beers' success was partly due to their incredibly successful marketing campaign – they came up with the slogan 'diamonds are forever', and many people still feel obliged to buy a diamond ring to accompany a proposal. However, this marketing applied for all diamonds, not just De Beers diamonds. Their success was more to do with their ruthless control of several stages of production.

De Beers gained control of the main diamond mines in South Africa, Tanzania by absorbing its main competitors, paying the governments of host countries to stockpile in warehouses. This allowed it to artificially restrict supply, giving the illusion of scarcity and inflating prices. Using De Beers' monopoly power, diamonds were then sold to trusted dealers at fixed prices, who then sold them to the public.

This system finally collapsed in 2004 when De Beers pleaded guilty to price fixing. Around the same time, other diamond companies found sources beyond the traditional sources of Canada and Australia, ending the monopoly. The diamond industry also suffered a decline in its reputation, relating to wars in Africa funded by 'conflict diamonds' (or blood diamonds) and increased scrutiny from consumers and regulators. By 2012, De Beers' market share had fallen to 50%. Figure 1 shows the market concentration of the main five firms in the industry (De Beers still being the largest):

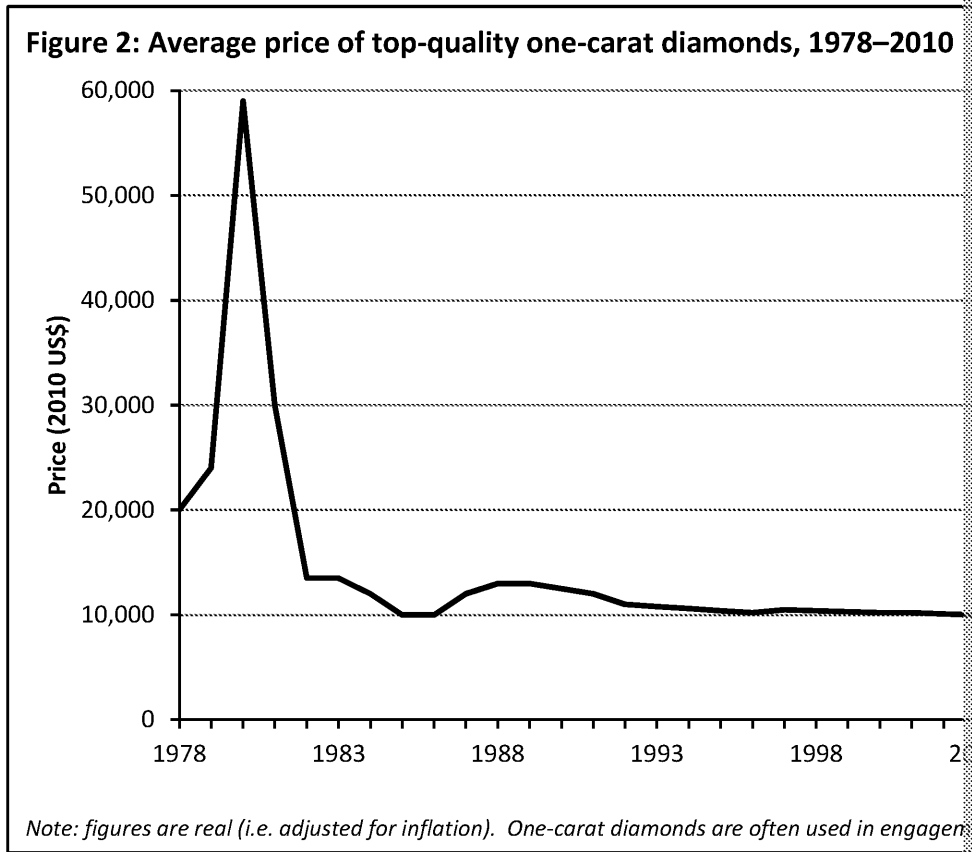


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Figure 2 shows the world price of diamonds over time:



The spike in 1980 was a price spike for many precious metals, as inflation encouraged people to invest in commodities such as gold and diamonds, (a safer value than currency).

Demand seems to have picked up in the last few years as the middle class grows, although the US remains the largest buyer of diamonds.

**Use the data**

1. Do you think De Beers’ monopoly of the diamond market was a natural monopoly?
2. Which market structure best characterises the diamond market in recent years?
3. How would Figure 2 change if diamond prices were not adjusted for inflation?
4. Explain how De Beers acted as a monopsony.

**Test your knowledge...**

1. (a) Define the term ‘supernormal profit’.  
(b) Using a diagram, show the price and quantity of diamonds arising under supernormal profit.
2. Explain two possible benefits of monopolies (not necessarily the diamond market).

**Extended-response question**

1. Using a diagram, explain why there may be a natural monopoly in some markets.

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# Contestability

*This case study requires knowledge of Section 4.1.5.9 – contestable and*

An important feature of many markets is how *contestable* they are. A contestable market is one where firms are free to enter and exit the industry at little or no cost. Even if there are many firms (or even just one), if it is contestable then existing players in the market produce the same output as if they are in a competitive market, due to the threat of entry by new firms.

## The classic example: US airlines

In the late 1970s and early 1980s when the contestability idea was first studied, one of the best examples of a contestable market was the internal air-flight market in the United States.

Survey data showed that the majority of non-stop internal flight routes in the United States in 1980 were routes that were only served by one firm.

**Figure 1: Internal US flight routes (1980)**

	No. of monopoly markets
0–200 miles	425
201–400 miles	294
401–600 miles	140
601+ miles	302

Source: 'The contestability of airline markets during the transition to deregulation'

The explanation for this is that there are economies of scale in the airline market. The longer the flight, the larger the aircraft, the lower the cost per passenger for the airline (declining average cost). At the equilibrium number of flights per day (to benefit from the economies of scale), these routes are natural monopolies.

**Figure 2: Economies of scale in aircraft size**

Flight length	Aircraft	Seats	Average marginal cost per passenger
500 miles	CV-580	56	\$6
	B-737–200	130	\$4
1,000 miles	B-737–200	130	\$6
	B-727–200	162	\$5
1,500 miles	B-727–200	162	\$8
	DC-10–10	380	\$6

Source: 'The contestability of airline markets during the transition to deregulation'

Note: marginal and average costs assume aircraft is 75% full.

The interesting thing about this case is that the airlines didn't charge high prices because there was always a possibility that another airline at each airport could enter the market and make the market contestable.

Note that in this case, although there were high sunk costs for completely new entrants, the fact that there were other airlines flying different routes who had already entered the market meant that the market for each route was contestable.

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### Pharmaceutical drug prices in the US

A lack of contestability in the US market for Daraprim, a drug used to treat a condition affecting some AIDS patients, caused something of a scandal in 2015. A company called Turing Pharmaceuticals bought the rights to produce and sell the drug, and promptly increased the price from \$13.50 a pill to \$750 a pill (in the UK these pills can be bought for about 50p each).

In this case it was not a patent that prevented other companies from entering (there had been around for over 60 years), but a complex and expensive regulatory process prevented other producers to enter the market. Given that the market for Daraprim is very small (only a few prescriptions per year in the US), it would not be financially viable for anyone else to enter and undercut Turing.

This case highlights flaws in American regulation, where a system designed to protect consumers from poor-quality drugs can permit such blatant profiteering.

### Use the data

---

1. Using the article, identify one barrier to entry in the pharmaceutical drugs market.
2. Using Table 1, calculate the proportion of all flight routes that were competitive.
3. Using Table 2, calculate the total cost of a 1,500 mile DC-10–10 flight assuming it is 75% full.

### Test your knowledge...

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1. State two features of perfectly contestable markets.
2. Define the term 'sunk costs'.

### Extended-response question

---

1. Evaluate the extent to which the market for automobiles is contestable.

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# The Economics of Inequality

*This case study requires knowledge of Section 4.1.7.1 – the distribution*

Inequality is a hot topic in economics at the moment. In 2014, French economist Thomas Piketty released the results of an extensive study on the changing pattern of income and wealth inequality in the West over time (the book is called *Capital in the 21<sup>st</sup> Century*). This provoked a flurry of intense debate in economics about the causes and consequences of inequality.

Piketty's main theory is that those who have large wealth can increase wealth faster than the average rate of economic growth in society. He warns that, if unchecked, this will lead to an undesirable concentration of wealth in the hands of a small elite, at levels not seen since the eighteenth and nineteenth centuries. As such, more effective policies are essential.

Although there are some minor contentions with Piketty's data, the overall picture in the West is generally accepted. However, not everyone agrees with Piketty's theory of inequality.

One argument is that technological change is the driving force behind inequality. As low-skilled work is ever more easily replaced with machinery, the wages of low-skilled workers widens, leading to inequality. Workers who are replaced and the few who own the machines or are skilled enough to complement machinery is reminiscent of Keynes' idea that one day, technology would advance to a point where work would be limited to a few hours a day: an 'age of leisure' (although he did not do this for inequality!).

An alternative theory is that demographic change is the key factor. In the twenty-first centuries, the size of the working age population in advanced countries has grown. Combined with the reintroduction of ex-communist countries (such as China), the supply of labour was very high indeed, leading to lower wages. Since the return to labour, inequality grew.

Some argue that this trend will now reverse as population age and fertility rates fall, making labour scarcer and wages will rise again. According to this viewpoint, Piketty's theory is unnecessary.

Figure 1 shows historical UK data on inequality. The 'dip' in measures of inequality in the twentieth century is generally explained by the effects of World War II and redistribution by the government (not just in terms of taxes: the data in the figure shows a sharp upward trend since the late 1970s indicates that we may be drifting back to pre-war inequality levels, but economists are in disagreement about whether the trend is



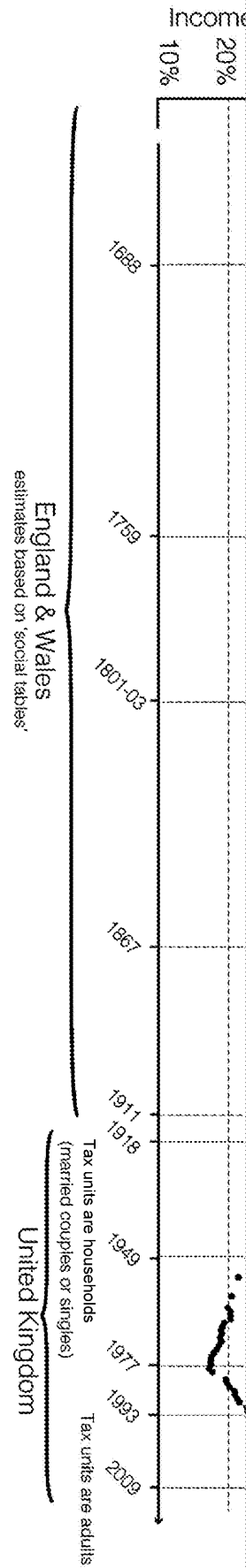
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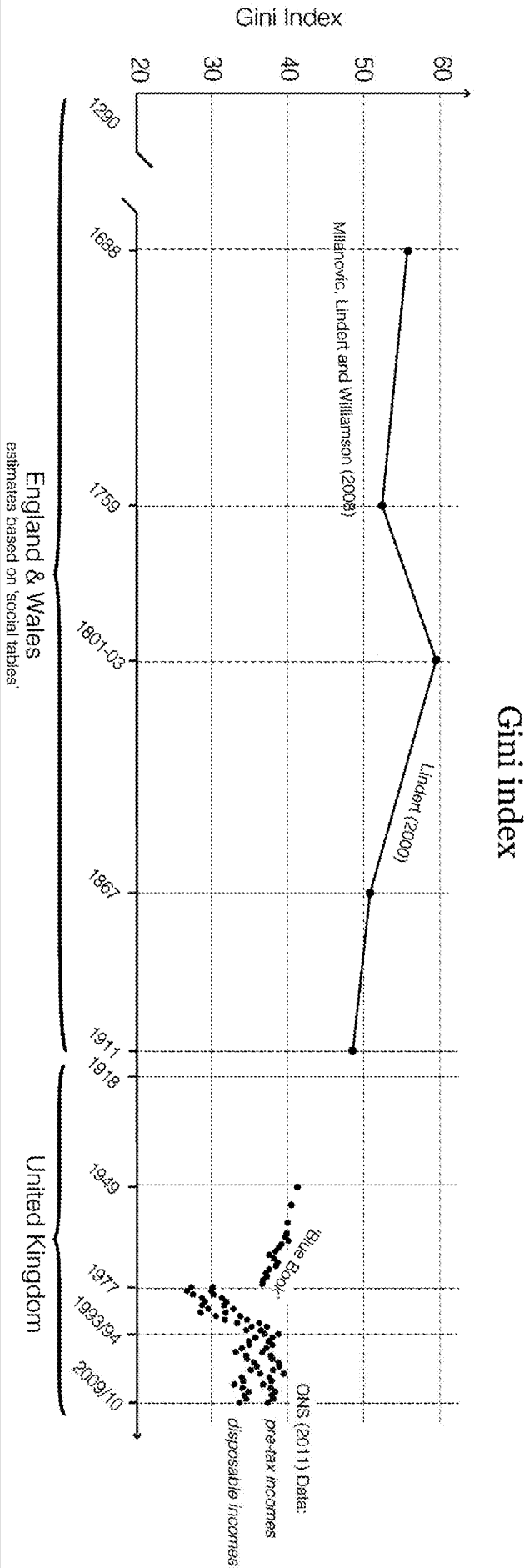




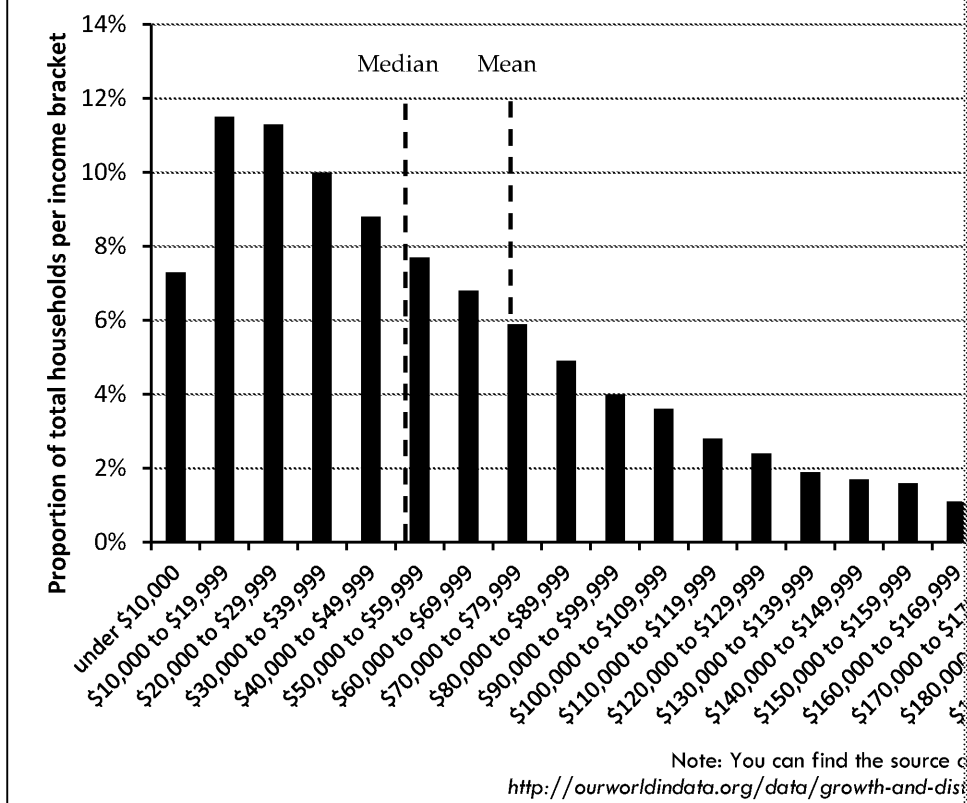
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**Figure 1**



**Figure 2: Household income distribution in the USA, 2012 – Max**



**Figure 3**

Country	USA	Germany	Brazil	Haiti
Gini Index	41.1	30.1	52.7	60.8

**Use the data**

- Look at the first panel in Figure 1 (with Income Share of Top 5% on the y-axis) of inequality?
- Looking at Figure 2:
  - What does this graph suggest about inequality in the US?
  - Sketch how you would expect the graph to look for a more equal society?
  - What would the graph look like for a perfectly unequal society?
  - What would the graph look like for a perfectly equal society?
- Look at the second panel in Figure 1 (with Gini index on the y-axis). Describe 1949.

**Test your knowledge...**

- Income inequality and wealth inequality are two separate but related concepts. What links there might be between them?
- Why would looking at the Lorenz curve for a country be more informative than the Gini coefficient?

**Extended-response question**

- Look at Figure 3. Based on this data, and your own knowledge, discuss the relationship between economic development and inequality.

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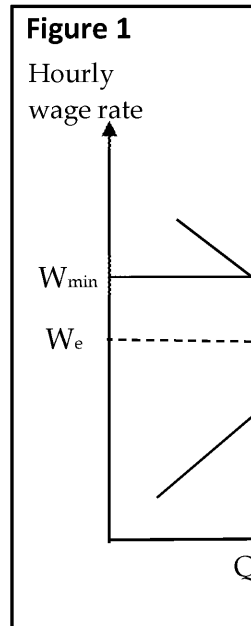


# Will Raising the Minimum Wage Harm

This case study requires knowledge of Section 4.1.6.6 – the nation

The basic economic theory concerning a national minimum wage (NMW) is quite simple – imposing such a wage will lead to disequilibrium in the labour market and unemployment among low-skilled workers, as shown in Figure 1.

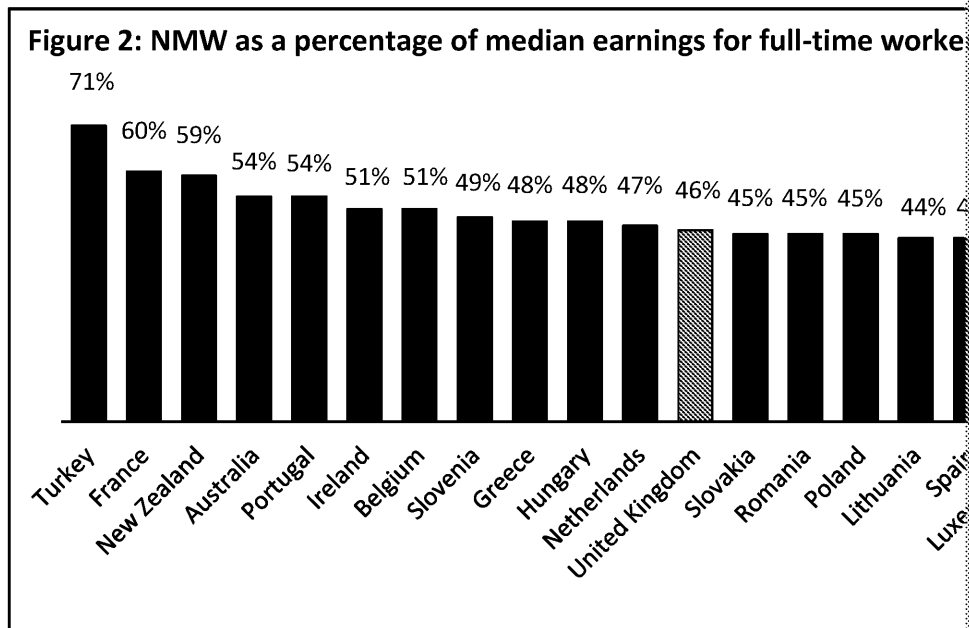
In light of this, George Osborne’s plans to introduce a ‘living wage’ might seem misguided – surely it will just lead to unemployment? The current plan is to increase the NMW for over-25s to £7.20 an hour in April 2016, ramping up to £9 an hour by 2020 (partly offset by cuts to benefits). The OBR (Office for Budget Responsibility) estimated that employment would fall by 60,000 by 2020 as a result of the policy, although this estimate is very uncertain.



So, what does the empirical evidence suggest about the link between a NMW and the UK? The consensus among researchers is that since its introduction in 1999, the NMW has had a resounding success: it has effectively reduced wage inequality without causing significant unemployment (in a poll of experts, the NMW was voted the most successful UK government policy).

However, we have to be careful before interpreting this to mean that the NMW is equally successful – there has been some evidence that the NMW has had negative effects on employers in terms of lower profits, shorter hours for employees, higher prices for consumers and non-wage benefits such as pension entitlements, for example.

Furthermore, even though the NMW has increased more quickly than average, a big jump to £9 an hour in 2020 could be enough to cause noticeable unemployment. The level of the NMW is important: one way researchers have looked into this is by comparing the level of the NMW in the UK with other countries:



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The size of the NMW as a percentage of median earnings is a measure of its impact. The UK is fairly average in this regard compared to other OECD (Organisation for Economic Co-operation and Development) countries at 46%, although this figure is higher among those in low-skilled occupations. If the NMW were to increase significantly (as has happened in New Zealand, for example) it is much more likely that this would lead to job losses. France is widely criticised as being damaging to employers.

Figure 3 shows the percentage of UK jobs paying the minimum wage, varying by job type, tenure, sector, firm size, occupation and industry. The number of people affected by the NMW is another important factor in the economy.



In summary, the NMW has been a highly successful policy in raising living standards since predicting the effects of a change in the NMW is so difficult, the general public should be wary of raising the NMW very rapidly, to avoid a potential unemployment trap.

**Use the data**

1. Look at Figure 2. If the UK's NMW in 2009 was £5.80, calculate the median wage for unskilled workers.
2. Look at Figure 1. How would the level of unemployment change in response to a rise in the NMW if demand and supply for unskilled workers were price elastic?

**Test your knowledge...**

1. The NMW wage rates for workers aged 21+ in the UK over time are as follows:

Year	2011	2012	2013	2014	2015	2016
NMW	£6.08	£6.19	£6.31	£6.50	£6.70	£7.20

*\*Predicted, ages 25+*

- (a) Compare the growth rates in the NMW from 2011–2015 with the growth rates in the real wage rate.
- (b) Based on the article, does the government's proposed policy fit with the theory of the minimum wage? Should it be gradual?

**Extended-response question**

1. Evaluate the extent to which introducing a National Minimum Wage will increase the living standards of unskilled workers.

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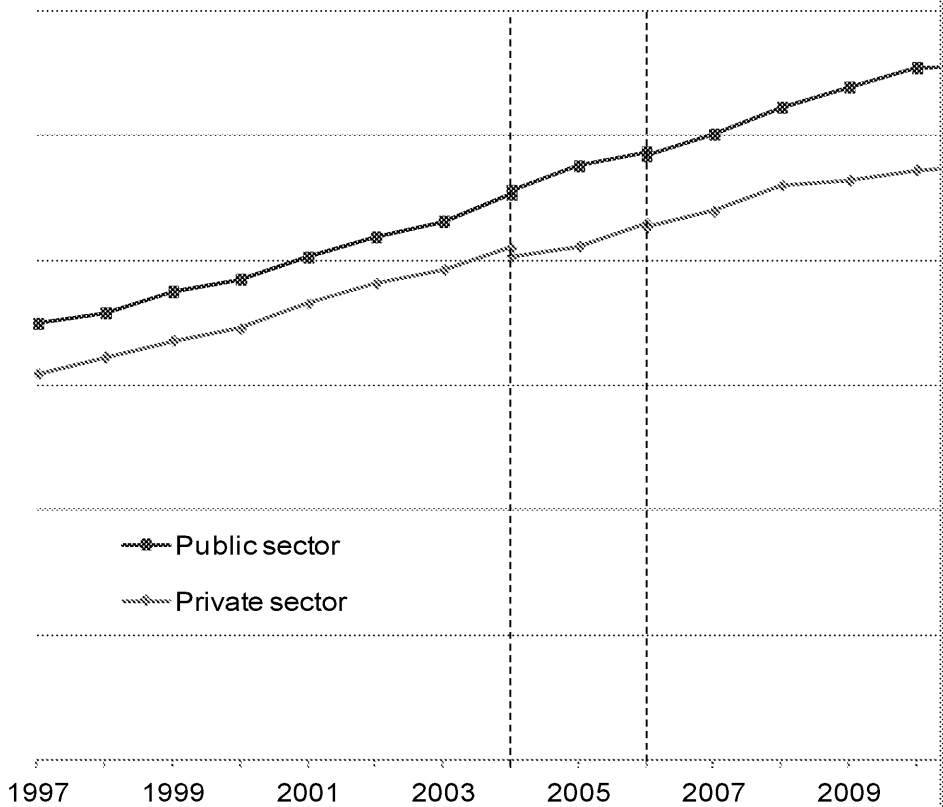


# Is There a Shortage of Teachers?

This case study requires knowledge of Section 4.1.6 – the labour market

In the UK, around 19% of workers are in the public sector, over half of whom work for the NHS. On average, working in the public sector pays better than the private sector. The main explanation for this is that public-sector workers are, on average, higher paid than private-sector workers (and most of the lowest paid jobs are in the private sector).

**Figure 1: UK median full-time gross weekly earnings, public and private sector**



Source: ONS Annual Survey of Hours and Earnings

Data is nominal (i.e. not adjusted for inflation).

Dotted lines show different estimates of the data in 2006, 2008 and 2011.

Recently the government has struggled to recruit sufficient levels of staff in the public sector, particularly teachers. This varies by area and subject, with maths, business, science and English teachers in especially short supply (although others have a surplus, e.g. art and PE). More challenging schools are the worst off (since teachers would usually choose to work in better-performing schools, given the choice), and schools in expensive areas in the south-east are also affected as house prices rise. Schools are having to spend significantly more on supply teachers to plug gaps in staff and recruitment agency fees to hire good teachers. In a few cases, pupils are having to travel between two different schools in a day for teaching.

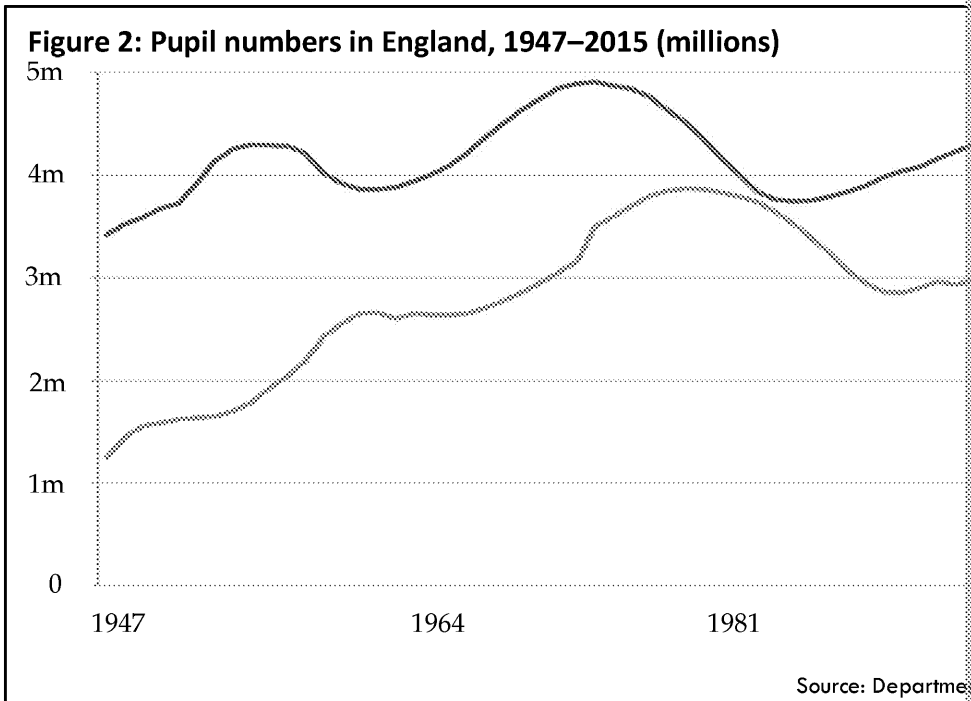


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This is in spite of the fact that the number of teachers in the UK is at an all-time low. The problem seems to be the rising numbers of pupils (see Figure 2), and also this has led to more alternative employment options for graduates.



One option for the government could be to increase the pay of teachers to attract more. Teachers currently earn between £22,244 and £32,831 per year depending on experience (this is higher for London where the cost of living is higher). The government's 'Teach First' initiative offers financial incentives to attract high-calibre teachers to underperforming areas of the UK, while introducing national tests for seven-year-olds.

However, a study by the National Foundation for Educational Research (NFER) found that those leaving teaching went on to lower salaries – so perhaps offering high salaries would not be effective in this case. Furthermore, at a time when the government is trying to reduce spending, higher spending on teachers would be costly.

### Use the data

- Look at Figure 1. This figure shows median weekly earnings. Would you expect the demand for teachers to be different if mean weekly earnings were used instead?
- Look at Figure 2. Given that changes in pupil numbers usually reflect changes in population, identify roughly where the 'baby boom' period in England was from the 1940s to the 1960s.
  - How would you expect the number of state-funded secondary-school pupils to change in the next 10 years?

### Test your knowledge...

- Based on the article, explain how geographical immobility of labour might affect the supply of teachers in certain areas.
  - Name two other factors that affect the supply of teachers.
- Using a demand and supply diagram, show how there might be a shortage of teachers if the government's salary offer is too low.

### Extended-response question

- Discuss the effectiveness of the government increasing the salaries of all teachers. Would this increase the supply of teachers?

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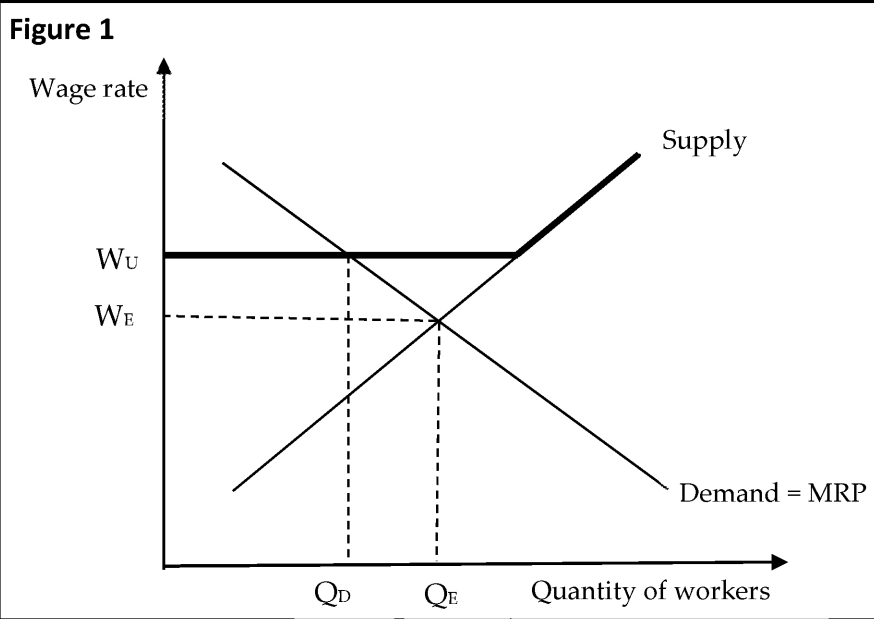


# Trade Unions in the UK

This case study requires knowledge of Section 4.1.6 – the labour market

The presence of trade unions is an important feature of many labour markets. Trade unions include the BMA (British Medical Association), several teachers' unions (e.g. NASUWT) and the National Union of Miners.

Trade unions can be seen as a form of collective bargaining. This can lead to a higher wage rate for workers, but it can also lead to a higher level of unemployment. The diagram below shows the labour market equilibrium. The equilibrium wage rate is  $W_E$  and the equilibrium quantity of workers is  $Q_E$ . If trade unions force a higher wage rate  $W_U$ , the quantity of workers demanded by firms falls to  $Q_D$ , and the quantity of workers supplied by the labour market rises to  $Q_E$ . The difference between  $Q_E$  and  $Q_D$  is the level of unemployment.

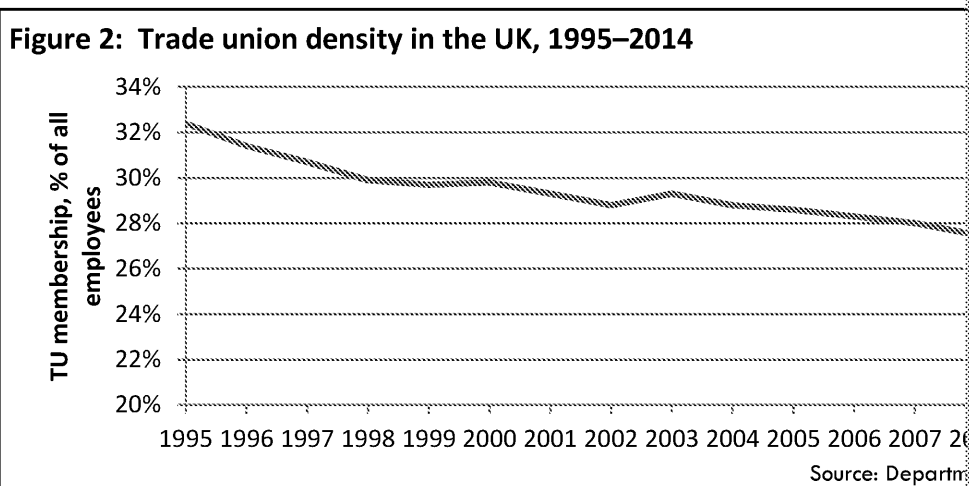


Critics of trade unions have argued that they create unemployment by forcing a higher wage rate (in the diagram,  $Q_E - Q_D$  would be unemployed workers). Having to pay a higher wage rate can damage the profitability of firms and reduce their competitiveness.

On the other hand, it could be argued that belonging to a trade union increases the bargaining power of workers since workers respond positively to being paid a good wage. Also, a trade union can help workers to solve related problems to managers more effectively as a bloc, allowing the firm to produce more efficiently. Trade unions can be particularly effective in overturning the market power of large firms. However, over the past few decades, declines in membership might suggest that the influence of trade unions is dwindling.

## Trade unions in decline

Figure 2 shows the decline in the trade union 'density' in the UK over time (the percentage of employees in a trade union). The steady fall reflects a similar trend in other developed countries, such as the USA.



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Based on data for 2014, trade union membership is more prevalent in Wales (30–35%) and less prevalent in the south-east of England (15–25%). Public sector workers are more likely to be unionised (over 50%) than private sector workers (around 20%).

The wage gap between union and non-union workers is about 21.6% in the private sector. This indicates that despite their decline, trade unions still represent a significant part of the workforce. However, part of this wage gap could be due to characteristics of trade union members, who are on average more experienced and productive on average.

### **Use the data**

---

1. How might a trade union help solve the problem of discrimination in the labour market?
2. Using only the information from Figure 2 and the next paragraph (based on data for 2014), which sector has more employees – the public or private sector?

### **Test your knowledge**

---

1. Using a diagram, show how an increase in the marginal productivity of workers affects the labour market in Figure 1.
2. Explain the term ‘monopsony’ in the context of a labour market.

### **Extended-response question**

---

1. Assess the importance of having effective trade unions in reducing income inequality.

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# For-profit Universities

*This case study requires knowledge of Section 4.1.8 – the market mechanism, intervention in markets.*

The global market for higher education has been going through some major changes in recent years, with a rise in e-learning and a much higher proportion of young people going to university than a generation ago.



In the UK, the vast majority of universities are still not-for-profit organisations funded by the government. There are a few exceptions including the University of Law and BPP University, but critics argue that introducing a profit motive in higher education leads

In contrast, the US has seen a strong rise in private, for-profit universities. As a result of greater choice for students, it is argued. However, the US's Department of Education has clashed with certain private colleges over allegations that they have been misleading students. In May 2015, Corinthian Colleges, who ran 107 campuses across the US, was found to be misleading students about programmes and trapping students with massive debts of up to \$75,000 a year. The DOE cut off its funding. Private colleges in the US have some access to federal funding, particularly to support student loans (80% of annual revenues in Corinthian was rescinded after the college was found to be misleading students about programmes and trapping students with massive debts of up to \$75,000 a year).

**Figure 1: US for-profit colleges: revenue from government 2013/2014**

Revenue from government	Number of colleges
> 90%	
85–90%	
80–85%	
70–80%	
60–70%	
50–60%	
40–50%	
30–40%	
20–30%	
10–20%	
0–10%	
<b>Total colleges</b>	

The problem of bogus colleges is high on the agenda in the US after it was revealed that Trump University (of Donald Trump, the infamous Republican president) had taken over 5,000 students out of (collectively) millions of dollars. At the time of the scandal, some commentators have argued that the US government has not been nearly as vigilant in intervening in the market, by continuing to fund colleges that have been accused of 'misleading behaviour, substandard practices or illegal activity', to the tune of several billion dollars.

The government has to be careful in these instances in order to protect students and perhaps also to ensure that for-profit colleges are innocent until proven guilty. Some would argue that the US government should have done more to regulate higher education from happening in the first place.

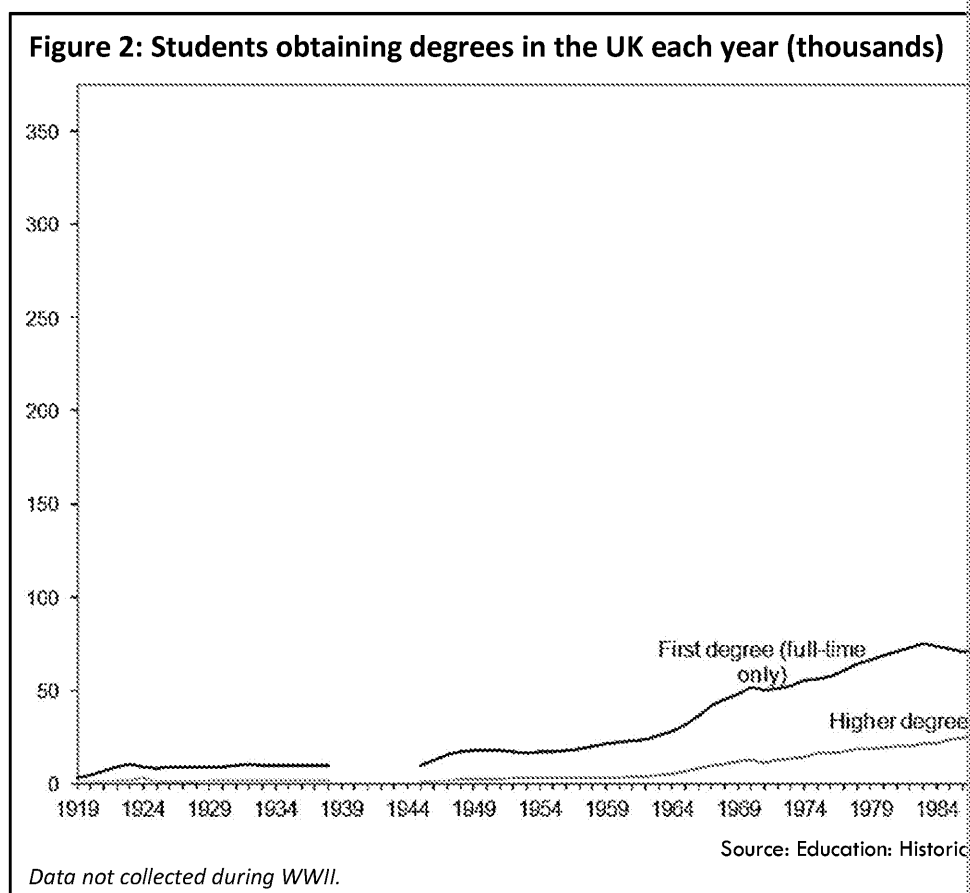
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## UK university data

Figure 2 shows the rise in the number of students going on to study at uni-  
'discontinuity' (break) in 1994 reflects the inclusion of former polytechnic



As a percentage of the whole population, total participation in higher edu-  
3.4% (1950), 8.4% (1970), 19.3% (1990), 33% (2000), and 46% (2014 – although  
account for students who do not finish their degrees). The proportion of w  
level has consistently exceeded that of men.

## Use the data

1. Look at Figure 1. In which bracket would the median school receive its gove
2. Look at Figure 2. Estimate the proportion of university degrees awarded in  
polytechnic universities. (Assume that the number of students getting first-  
polytechnic universities remained unchanged between 1993 and 1994.)

## Test your knowledge...

1. Explain the difference between public- and private-sector organisations.
2. Explain how the concept of 'asymmetric information' can be applied to the
3. State one advantage and one disadvantage for students of allowing for-prof

## Extended-response question

1. In 2012, the government introduced a cap of £9,000 a year for tuition fees.  
universities might charge less to attract students, but it turned out that alm  
full £9,000. Discuss the pros and cons of allowing universities to charge any

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# The European Competition Commission

This case study requires knowledge of Section 4.1.8.7 – competition

Government intervention can play an important role in keeping markets competitive and fair. Many issues are dealt with by national competition authorities, but in an increasingly globalised world, many cases are trans-national. In the European Union, the European Commission is responsible for dealing with these cases. This case study looks at a few examples of recent cases looked into by the European Commission.



## Action against steel dumping

The European Commission has been investigating so-called 'dumping' of steel primarily by China (and partly by Taiwan). China has subsidised steel production for domestic needs, undercutting EU prices by around 10%. The Commission has acted to keep the market competitive, and imposed anti-dumping duties on the imports as a result.

China may have been trying to force EU steel producers out of the market, but this has not been succeeding. In the UK, thousands of jobs have been lost in the steel industry. Figure 1 shows how China's growth in exports may have come at the expense of other exporters.

**Figure 1: 10 largest steel exporters 2012/2013**

Country	Rank (2013)	Exports	
		Million tonnes	
		2012	2013
China	1	51.2	57.1
Japan	2	41.1	42.1
EU	3	37.8	34.1
South Korea	4	29.4	28.1
Ukraine	5	24.0	24.1
Russia	6	26.5	23.1
Turkey	7	18.4	17.1
USA	8	12.8	11.1
Taiwan	9	10.3	11.1
India	10	7.4	9.1
Other		37.9	34.1
<b>Total world</b>		<b>296.7</b>	<b>296.7</b>

## European Commission block Ryanair merger with Aer Lingus

Companies often find it mutually beneficial to merge – it allows a company to share and greater economies of scale, among other benefits. However, in some cases, a merger can lead to an unfair concentration of market power in the hands of one company.

On these grounds, the EU blocked Ryanair's proposed merger with Aer Lingus. The two companies had already been prevented from merging in 2007 for the same reasons. It is relatively rare: the Commission has given the go-ahead to 12 other mergers since 2004. The Commission's argument is that Ryanair and Aer Lingus compete directly in the same market. If Ryanair acquired Aer Lingus, it would effectively have a monopoly over the market.

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### Is Google restricting competition?

In April 2015, the European Commission argued that Google was promoting shopping services unfairly on Google searches, at the expense of competitors since Google controls a massive 90% of the web-search market in Europe.

Google has strongly opposed the Commission's findings, and it will probably sue if the case is resolved. In traditional sectors such as gas and electricity, companies have introduced rivals' products – but there is less of a precedent in the Internet search business process.

The US's Federal Trade Commission (a similar body to the European Commission) has also charged on Google over the same issue – and President Obama suggested that a lawsuit in the matter was intended to protect the interests of European tech companies. If Google is restricting competition, the Commission has the power to fine them up to 1% of their year's turnover, although any eventual fine is unlikely to be that high.

### Use the data

- Using Figure 1, calculate China and Taiwan's combined share of steel exports as a percentage of the total in:
  - 2012
  - 2013

### Test your knowledge...

- Can you think of another big market, similar to steel, where a producing country might try to undercut its rivals?
- Explain the concept of regulatory capture with reference to the US's Federal Trade Commission (note: Google is a US company).

### Extended-response question

- Suppose that the merger between Ryanair and Aer Lingus was not blocked by the Competition Commission. Examine what the expected effects would have been on prices, consumer choice and allocative efficiency in the market.

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# Answers

## Mark Scheme: extended-response questions

### 10 marks

Knowledge (2), application (2) and analysis (2)		
	0	No relevant answer given.
Level 1	1–2	A few concepts may be identified correctly, but inconsistently, and thought behind the causes and effects.
Level 2	3–4	Some knowledge of economic concepts is shown, partially linked to reasoning skills, but may focus too much on one side of an argument.
Level 3	5–6	Knowledge of the economic concepts is very accurate. Links to the examples. Analysis is well reasoned and logical, and appropriate for the question.
Evaluation (4)		
	0	No evaluation.
Level 1	1–2	Limited attempt at evaluation – may be only loosely related to the reasoning.
Level 2	3–4	Accurate, balanced evaluative comments are made, supporting a response directly to the question.

### 12 marks

Knowledge (2), application (2) and analysis (4)		
	0	No relevant answer given.
Level 1	1–2	A few concepts and examples may be identified correctly, but may be absent of thought behind the causes and effects.
Level 2	3–5	Some knowledge of economic concepts is shown, partially linked to reasoning skills, but may focus too much on one side of an argument.
Level 3	6–8	Knowledge of the economic concepts is accurate. Links to the question and examples. Analysis is well reasoned, logical and appropriate for the question.
Evaluation (4)		
	0	No evaluation.
Level 1	1–2	Limited attempt at evaluation – may be only loosely related to the reasoning and evidence.
Level 2	3–4	Accurate, balanced evaluative comments are made, supporting a response directly to the question.

### 15 marks

Knowledge (3), application (3) and analysis (3)		
	0	No relevant answer given.
Level 1	1–3	A few concepts may be identified correctly, but inconsistently, and thought behind the causes and effects.
Level 2	4–6	Some knowledge of economic concepts is shown, partially linked to reasoning skills, but may focus too much on one side of an argument.
Level 3	7–9	Knowledge of the economic concepts is very accurate. Links to the examples. Analysis is well reasoned and logical, and appropriate for the question.
Evaluation (6)		
	0	No evaluation.
Level 1	1–2	Limited attempt at evaluation – may be only loosely related to the reasoning.
Level 2	3–4	Clear evidence of evaluative comments, though they may be unfair or unbalanced. Reasoning / supporting evidence is provided but may be limited.
Level 3	5–6	Accurate, balanced evaluative comments are made, supporting a response directly to the question.

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**20 marks**

<b>Knowledge (4), application (4) and analysis (6)</b>		
	0	No relevant answer given.
Level 1	1–3	A few concepts may be identified correctly, but inconsistently, and thought behind the causes and effects.
Level 2	4–6	Some knowledge of economic concepts is shown, partially linked to incomplete or basic reasoning skills.
Level 3	7–10	Good knowledge of the relevant economic concepts is displayed, with evidence to support the main arguments. Analysis is well developed on one side of an argument.
Level 4	11–14	Knowledge of the economic concepts is very accurate. Links to theory and examples. Analysis is well reasoned and logical, and appropriate for the question.
<b>Evaluation (6)</b>		
	0	No evaluation.
Level 1	1–2	Limited attempt at evaluation – may be only loosely related to the reasoning.
Level 2	3–4	Clear evidence of evaluative comments, though they may be unfair or unbalanced. Reasoning / supporting evidence is provided but may be weak.
Level 3	5–6	Accurate, balanced evaluative comments are made, supporting a reasoned judgement directly to the question.

**25 marks**

<b>Knowledge (4), application (4) and analysis (8)</b>		
	0	No relevant answer given.
Level 1	1–4	A few concepts may be identified correctly, but inconsistently, and thought behind the causes and effects.
Level 2	5–8	Some knowledge of economic concepts is shown, partially linked to incomplete or basic reasoning skills.
Level 3	9–12	Good knowledge of the relevant economic concepts is displayed, with evidence to support the main arguments. Analysis is well developed on one side of an argument.
Level 4	13–16	Knowledge of the economic concepts is very accurate. Links to theory and examples. Analysis is well reasoned and logical, and appropriate for the question.
<b>Evaluation (6)</b>		
	0	No evaluation.
Level 1	1–3	Limited attempt at evaluation – may be only loosely related to the reasoning.
Level 2	4–6	Clear evidence of evaluative comments, though they may be unfair or unbalanced. Reasoning / supporting evidence is provided but may be weak.
Level 3	7–9	Accurate, balanced evaluative comments are made, supporting a reasoned judgement directly to the question.

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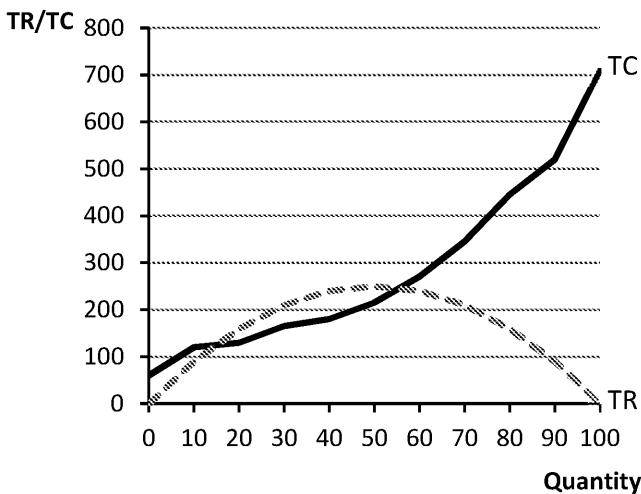
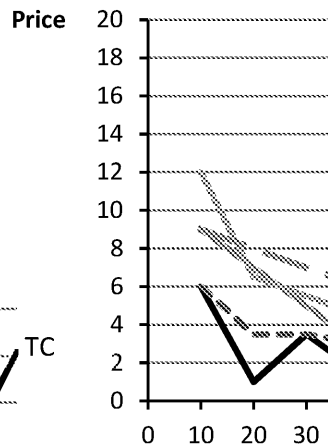
**Case Study 1: Creative destruction in the business world**

Use the data

1. (a) The completed table is:

Portions sold	0	10	20	30	40	50
Price per unit	10	9	8	7	6	5
Cost of rent and electricity	60	60	60	60	60	60
Wage bill	0	30	30	60	60	105
Cost of buying ingredients	0	30	40	45	60	50
Total cost	60	120	130	165	180	215
Average total cost	N/A	12	6.5	5.5	4.5	4.3
Average variable cost	N/A	6	3.5	3.5	3	3.1
Marginal cost	N/A	6	1	3.5	1.5	3.5
Total revenue	0	90	160	210	240	250
Average revenue	N/A	9	8	7	6	5
Marginal revenue	N/A	9	7	5	3	1

- (b) The diagram should look roughly like the one on the right.  
 (c) According to the diagram, the profit-maximising level of output is at roughly 44 units (MC=MR).



- (d) The diagram should look roughly like the one on the left.  
 (e) According to this diagram, the profit-maximising level of output is roughly 44 units (MC=MR). (Note that if you increase output in increments of 10 units, you would have been...

Test your knowledge...

- (a) The only fixed cost is the rent/electricity column (this does not vary with quantity, you could state either wages or cost of ingredients (1)).

(b) The law of diminishing returns is the idea that increasing one input while holding others constant will result in smaller increases in output (1). In the context of Figure 1, this could be explained by the fact that as more workers are hired, each new worker contributes less to output than the last (1). This is because the number of workers that need to be hired – each new worker contributes less to output than the last (1).
- The minimum efficient scale is the point where long-run average costs are minimised and the gains from economies of scale are maximised.

Extended-response question

- In terms of revenues, it is likely that a luxury tea shop would face falling revenues in a recession, perhaps because they are saving money / paying off debt further by explaining that luxury tea is likely to have a high income elasticity of demand (1). In a recession, demand will fall by a disproportionately large amount.

In terms of costs, this really depends on how the firm responds to the fall in demand. They could reduce variable costs by providing lower quality tea, which would reduce variable costs. Alternatively, it might switch to providing lower quality tea, which would reduce variable costs. Thirdly, the owners might choose to accept a temporary fall in costs (remember, normal profits are counted as a cost of production). So a fall in demand will trigger a fall in costs, for one or more of these reasons.

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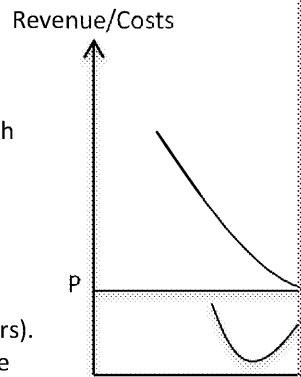
**Case Study 2: The stock market – perfectly competitive?**

Use the data

- (a) In September 2015 the share price plummeted due to the emissions scandal. more sellers than buyers – investors were trying to get rid of their shares before the price fell further.  
 (b) In April 2015, the share price was around €240, so 500 shares would have been worth €120,000. In September 2015, the share price had fallen to around €80, so 500 shares would have been worth €40,000. (Accept 70,000 – 90,000 to account for different readings of the graph)
- A bear market occurs when the stock market falls by at least 20% from its peak. 2015 fell to 6,800 to be considered a bear market.

Test your knowledge...

- Typical examples include: the market for agricultural goods or the foreign exchange market.
- Your diagram should look something like the one on the right. The demand/MR/AR curve is horizontal (1), equilibrium occurs at price P and quantity Q (1), where AC is at its lowest point at a tangent to the demand curve (1). The marginal cost curve goes through this equilibrium point (1).



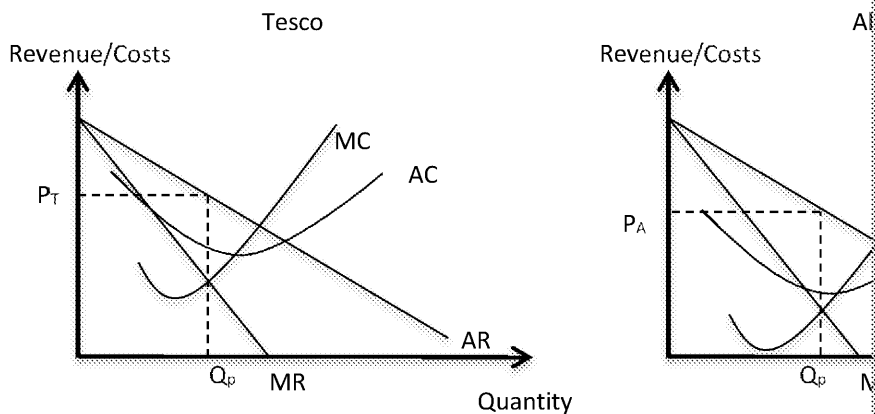
Extended-response question

- Characteristics of perfect competition include:
  - Many buyers and sellers, none of whom are large enough to influence the price (firms are price-takers). This is definitely true of the stock market, there are millions of buyers and sellers, and prices are governed entirely by market forces.
  - Low barriers to entry/exit. This is probably true of the stock market – anyone can start buying and selling stock, although many investors pick stocks for them.
  - Perfect knowledge of prices. This is true of the stock market; prices are freely updated frequently. However, some traders have been accused of (unfairly) exploiting their access to receive market data, which would violate this characteristic. Read *Flash Boys* if interested (or maybe read a summary of the book).
  - Products are homogeneous – this is true of the stock market, a share in one company is as good as a share in another.

**Case Study 3: Supermarket wars**

Use the data

- From Figure 1, in 2013 the four-firm concentration ratio was roughly 75%, in 2015 it was roughly 80% (2–3 acceptable). This is almost exactly how much Aldi and Lidl have taken from the market.
- Your diagrams should look roughly like this. According to the article, Aldi has lower marginal cost curves than Tesco. If both firms maximise profit (i.e. produce where  $MC = MR$ ), the price of Aldi's goods is  $P_A$ , which is lower than Tesco's price of  $P_T$ .



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*Test your knowledge...*

- Economies of scale are when a firm's average costs of production fall as output increases.
  - Possible economies of scale for supermarkets include: discounts for bulk buying (special machinery), specialisation (workforce concentrate on one task, increase efficiency), economies of scale, financial economies of scale (access to credit), and any other type identified. Mark for each type identified.

*Extended-response question*

- Some characteristics of the two market structures you could discuss include:
  - The number and size of the firms (the market is still dominated by a few big supermarkets, but the ratio is falling as Lidl and Aldi compete)
  - Stability of prices (price wars make the market look more like monopolistic competition, but prices are usually stable)
  - Barriers to entry (still more like an oligopoly: difficult to establish customer base, high fixed costs)
  - Interdependent firms (this is still more like an oligopoly: look at Christmas price wars)
  - Product differentiation (Aldi and Lidl have differentiated themselves quite a bit from the rest in terms of the store layout, although their products are still similar. Product differentiation is more like monopolistic competition and oligopoly, although not all oligopolies have this)

**Case Study 4: Inertia in the energy market***Use the data*

- 59% (1)
  - 92% (1)
- The article states that the share of independent energy suppliers in the market fell from 2009, which would suggest increasing competition.
  - Figure 2 shows that the difference between prices and direct costs of production has increased, suggesting that the Big Six firms have made large profits. This would be consistent with oligopoly (notably, direct costs of production fell in 2014 as oil prices fell, but prices stayed high).
- Asymmetric information about energy tariffs.

*Test your knowledge...*

- (c) Oligopoly (1)
- Vertical integration is when several stages of supply are owned by the same company, which makes it more difficult for other firms to compete in the market (1). Vertical integration makes it cheaper for firms to generate energy (1) (because they don't need to buy from an energy wholesaler). It would be very difficult for a newcomer to compete with firms that are vertically integrated.

*Extended-response question*

- The benefits of this idea would be that new entrants would increase price competition, leading to lower prices for consumers, leading to a welfare gain. A subsidy would help new entrants enter the market (e.g. vertical integration, high fixed costs, building up a brand, etc.). However, there are drawbacks/limitations of this policy you could mention:
  - The main drawback is that this policy does not address the underlying cause of the problem: asymmetric information. Perhaps a government information campaign on the benefits of competition, or a ban on vertical integration, would be a better addition/alternative to this policy.
  - Another option could be to cap the prices of tariffs that penalise consumers with high fixed costs. This is a cheaper way of limiting market power than a subsidy.
  - Subsidies are expensive: opportunity cost in terms of government spending.
  - The size of the subsidy would have to be calculated correctly for new firms to enter the market.
  - Subsidies can introduce inefficiencies in firms that become reliant on them.

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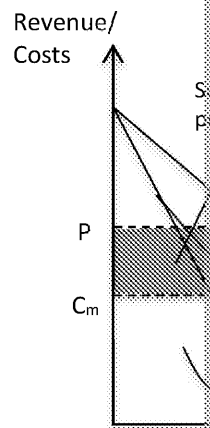
**Case Study 5: Diamonds are forever**

Use the data

1. A natural monopoly is characterised by incredibly high fixed costs: it would be uncompetitive (e.g. railways, water company). This is no evidence that this is the case in the diamond market because De Beers controlled the rights to the largest mines, not because it had uncompetitive costs.
2. Oligopoly: the five-firm concentration ratio in Figure 1 indicates that the market is competitive.
3. Without accounting for inflation, the flat line from around 1982 onwards would indicate a price increase. Unsurprisingly, diamond companies looking to attract investors will usually show the price increase in Figure 2!
4. A monopsony exists when there is a single buyer of the factors of production in a market (or a market that is not perfectly acceptable). De Beers acted as a monopsony because it employed almost all the diamond mines in the 20th century.

Test your knowledge...

1. (a) Supernormal profit is any extra profit above normal levels of profit (1), since normal profits are counted as part of costs. Alternative answer: the amount by which total revenue exceeds total costs (1).  
 (b) Your diagram should look roughly like this. The monopoly produces where  $MC=MR$  (1), leading to a price of  $P_m$  and a quantity of  $Q_m$  (1). Supernormal profits are shown by the shaded area. (1). 1 mark for labelling axes, 1 mark for showing cost/revenue curves correctly.
2. Possible benefits include:
  - Benefiting from greater economies of scale (1). This lowers costs, potentially allowing for lower prices (1).
  - Greater profits/revenues allow for research and development (1), this could potentially improve outcomes for consumers through better products (1).
  - Cross-subsidisation (or price discrimination) (1) could allow for monopolies to offer products to consumers that may not have been available otherwise (1) (e.g. airlines subsidise leisure class revenues from business class tickets).



Other benefits are possible for the marks if they are well justified.

Extended-response question

1. The key thing to remember about natural monopolies is that the marginal and average cost curves are continuously downward-sloping in the long run due to economies of scale, as the diagram on the right shows.

An industry might turn out to be a natural monopoly if it is too costly for others firms to enter the market. For example, the rail network is a natural monopoly, since it would be prohibitively expensive for a new firm to build a whole new set of railway tracks. It would also be inefficient if another firm entered the market, since then neither firm would be able to reach as low an average cost (i.e. there would be a loss of productive efficiency).

Costs



**Case Study 6: Contestability**

Use the data

1. According to the article, the regulatory process is a barrier to entry.
2. The total number of competitive routes is 525, and the total number of flight routes make up 31.1% of total routes.
3. 75% of 380 seats is 285, so the total cost is  $285 \times 69 = \$19,665$ .

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*Test your knowledge...*

1. Possible features include: no barriers to entry and exit, no sunk costs, no competitive advantages, all firms have access to the same technology (1 mark for each).
2. Sunk costs are any costs that cannot be recovered if the business fails (e.g. money spent on advertising).

*Extended-response question*

1. For this question, you should go through the characteristics of a contestable market. The automobile market has these characteristics:
  - There are certainly barriers to entry in the automobile market. Incumbent firms breaking into this market would be costly. Furthermore, incumbent firms can benefit from economies of scale in production, something that would be hard for new firms to overcome.
  - There would be large sunk costs in the automobile industry, as there would be a need to set up a production facility, for example.
  - There may be some competitive disadvantages for new firms, perhaps related to the fact that established automobile manufacturers are transnational.
  - New firms may not have access to the latest technology available to other firms.

These considerations suggest that the automobile industry is mostly uncontestable to new entrants. However, you could argue that the industry is contestable in the sense that there are no barriers to entry in certain areas of the market if one firm raised their prices too much (e.g. luxury cars). There is so much variation between automobiles (product differentiation) that there is always room for new entrants to be innovative and capture some of the market.

**Case Study 7: The economics of inequality***Use the data*

1. This is not a perfect measure of inequality, because (a) it only measures the top 5% of the population (and other groups, such as top 10% or top 1%), (b) it is pre-tax (the picture might change if taxes are accounted for) and (c) it only measures income (it ignores wealth, which is another measure of inequality).
2. (a) The graph indicates that the US is an unequal society: a large proportion of the population has low levels of income, below the mean. The fact that mean income is significantly higher than the median is an indicator that income is skewed towards the top end of the distribution.
  - (b) This would probably look more like a bell curve / normal distribution curve, i.e. most of the population is clustered near the middle, and smaller proportions at the 'tails' (top and bottom).
  - (c) In this case, one person/household would have all the wealth: so there would be a very small number of people in the \$250,000 category.
  - (d) In this case, everyone would have exactly the same amount of income (the mean would be the same as the median, going to 100% in the \$70,000 to \$79,999 category).
3. You should first recognise that a higher Gini index indicates higher inequality (you can see this from the graph). The trend indicates a fall in inequality from 1949 to around 1977, followed by a steady increase ever since then.

*Test your knowledge*

1. A country experiencing high income inequality is likely to also experience high wealth inequality. However, not all high income might be converted into savings (or wealth). (1)
2. The Lorenz curve shows the precise distribution of income over each percentile of the population. The Gini coefficient is just the ratio of the two areas (one above and one below the Lorenz curve). Two countries could have different income distributions (Lorenz curves) but identical Gini coefficients. The Lorenz curve gives a broader picture of income inequality than the Gini coefficient. Note: The Gini coefficient is known as a 'summary statistic' – it only contains a small amount of information, but is a useful tool for comparing different countries quickly.

*Extended-response question*

1. From Figure 3, you should recognise that the USA, Germany and Norway are highly developed countries, while Romania and Haiti are somewhat developed, and Haiti is a low-developed country. The picture shows that the level of development is, therefore, mixed: on the one hand, Brazil and Haiti are clearly much less developed than the USA, Germany and Norway; on the other hand, Romania and Norway: this could indicate that inequality decreases as a country develops. You could also argue that this might be the case, e.g. less corruption, more progressive tax system, etc.

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However, the USA is considerably more unequal than Romania, which contradicts the reasons why developed countries become more unequal, e.g. rate of return on wealth (Piketty's argument), more free-market orientated government policies, tax avoidance. You can conclude that inequality increases with development or decreases with development (unclear) as long as your reasoning is well supported.

### Case Study 8: Will raising the minimum wage harm employment?

Use the data

- If £5.80 is 46% of the median hourly wage, then the median hourly wage is  $\frac{5.8}{0.46} =$
- If the demand and supply for unskilled workers were more elastic, this implies that they are more responsive to price changes. Therefore, the introduction of a NMW would lead to less unemployment than shown in Figure 1.

Test your knowledge...

- (a) Your answer should note that the growth rates between 2016 and 2020 are considerably higher than between 2011 and 2015, perhaps using some of the calculations below:  
The annual growth rates between 2011 and 2015 are:  $\frac{6.19-6.08}{6.08} \times 100 = 1.8\%$  (2011–2012), 1.9% (2012–2013), 3% (2013–2014), 3% (2014–2015). Over the whole period, the growth is 10.2%. (1)  
By comparison, the annual growth rates between 2016 and 2020 are around 5% (assuming the same each year), or 25% over the whole period. This is considerably higher than between 2011 and 2015 (1).  
(b) Based on the article, the 25% increase in the NMW over the period seems very high, which suggests that there is a higher risk that it will lead to unemployment (1).

Extended-response question

- There's lots of material in the article to draw on for this question. Your answer should refer to Figure 1 – the traditional model of how a NMW leads to disequilibrium in the labour market. Some of the main evaluation points you could discuss include:
  - Level of unemployment depends on elasticity of demand and supply of labour.
  - Level of unemployment depends on how much higher the minimum wage is above the equilibrium (and how high the NMW is compared to median wages).
  - Level of unemployment depends on how many people are affected by the minimum wage.
  - You could argue that it would boost employment, as it would allow some people to afford to / were better off on benefits (this will depend on the country).
  - Depends on the capacity of employers to absorb higher labour costs.
  - Depends on whether the economy is performing well or not: if the economy is in a recession and there is high unemployment, it might make matters worse.

### Case Study 9: Is there a shortage of teachers?

Use the data

- Median earnings are calculated by taking the 'middle value' of everyone's earnings (i.e. if ordered by salary, the median value would be the middle person's salary). The mean value is calculated by dividing the total earnings by the total number of people.

The mean value should be higher, since those who earn higher salaries can earn much more than those who earn lower salaries than the average will only earn slightly less. Therefore, if mean earnings were used. This is why it is usually considered fairer to calculate median earnings. If you have trouble visualising this, consider this example:

Person	1	2	3	4	5
Salary	£20,000	£24,000	£26,000	£32,000	£42,000

Mean = £47,000, median = £32,000.

- (a) The 'hump' in Figure 2 shows the effect of the baby boom during the 1960s. By the 1990s, the number of primary-school pupils is rising sharply. The number of secondary-school pupils will see a similar rise in a few years as these primary-school pupils reach secondary school.

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*Test your knowledge...*

- Geographical immobility of labour is when various factors constrain the ability of people to move to where jobs are located (1). In the case of teachers, the passage mentions that high living costs in the south-east / London may prevent some teachers from working in schools in these regions (1).
  - Other possible factors include: wage rates in other occupations, strength of the economy, job satisfaction, working hours, non-wage benefits, scope for promotions, qualifications needed, geographical mobility of labour, etc. 1 mark for each factor stated.
- Your diagram should look something like the one on the right. The wage set by government ( $W_1$ ) is below the market wage ( $W_e$ ) (1), leading to a shortage of  $Q_s - Q_d$  (1). 1 mark for labelling axes, 1 mark for supply and demand of teachers.

Teacher wages rate

$W_e$

$W_1$

*Extended-response question*

- Your answer should first explain how raising the wage would attract more teachers labour (you could refer to your diagram in question 2 for this), and how it could help labour and/or attract better-quality teachers. There are a number of disadvantages you could mention:
  - The success depends on the elasticity of supply for teachers. If supply is inelastic (to train new teachers), a wage increase will be less effective in attracting new teachers.
  - Raising the wages of all teachers ignores the fact that some areas/subjects have higher demand (it would be counterproductive to raise the wages of teachers for subjects with low demand, for example).
  - The article states that wages may not be the most important factor in determining why teachers are leaving the profession to work in jobs with lower wages, so perhaps other non-wage factors instead.
  - The effectiveness of the policy depends on the size of the wage change (too large an increase creates excess supply – which is a problem in itself!), and on the wage rates in other occupations.
  - Opportunity cost of raising the wage, in terms of government spending.

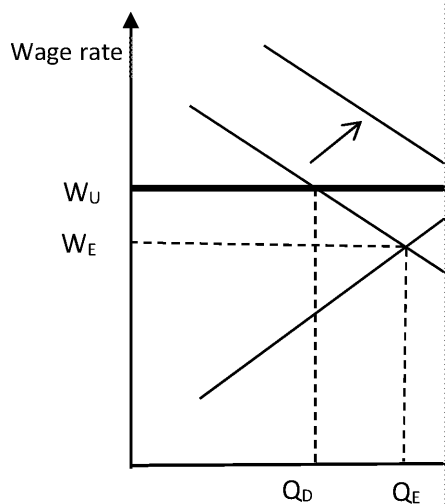
**Case Study 10: Trade unions in the UK**

*Use the data*

- Discrimination in the labour market may occur in the form of lower pay for certain groups (e.g. gender, or some other factor). A trade union should resolve this problem, since it guarantees equal pay for each of its members.
- According to Figure 2, in 2014 25% of employees were in a trade union. Since 15% of employees were in a trade union but over 50% of public sector workers were in a trade union, this indicates that the public sector is larger (if the public sector were larger, the percentage of employees in a trade union would be more than 15%).

*Test your knowledge*

- Your diagram should show a shift to the right in demand / marginal revenue product (1), resulting in a new equilibrium wage and quantity (1) (note: this doesn't have to be exactly the same as the diagram shown: your shift could be bigger or smaller). 1 mark for labelling axes, 1 mark for labelling curves.
- A monopsony is a single buyer of a product (1). In the case of a labour market, a monopsony occurs when only one firm hires workers in that sector (1). An example would be the market for civil servants: the government is the sole employer.



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*Extended-response question*

1. There are two main sides to this: on the one hand, strong trade unions improve income inequality as workers receive fair incomes and that certain groups of workers are not discriminated against from exploiting workers.

On the other hand, if trade unions are very dominant in the labour market then the firms can no longer afford to hire as many workers. In this case, income inequality increases as people have lower incomes.

So, to evaluate this question, the effect of trade unions on income inequality will depend on:

- whether there is high income inequality to begin with (in this case, trade unions would reduce it)
- whether there is a monoposony employer
- how many workers the trade union covers
- whether employers can afford to absorb higher wage costs
- whether trade unions create higher unemployment

**Case Study 11: For-profit universities***Use the data*

1. There are 1,947 schools in total, which means the median school is number 973 (or 973<sup>rd</sup>) in the ranking. In the > 90% bracket (or down from the > 90% bracket) it is clear that the 973<sup>rd</sup>/974<sup>th</sup> school belongs to the > 90% bracket.
2. In 1993, around 80,000 students obtained a first-time degree from normal universities. By 2013, this number had increased to around 220,000. If the number of degrees from normal universities did not increase, the increase in degrees came from polytechnics. Therefore, the proportion of degrees from polytechnics has increased. (Use the graph to account for different readings from the graph.)

*Test your knowledge...*

1. Public sector organisations are funded and run by the government (1) (either central or local government). Schools, hospitals, they are usually not-for-profit). In contrast, private-sector organisations are funded and run by individuals or companies (1) (almost always for profit).
2. Asymmetric information is a situation where one party has better knowledge about a product or service than the other party (1). In the for-profit university market, the colleges have better knowledge of how to attract students and graduates for getting good jobs. Prospective students have less information on this information problem comes from (1).
3. The main advantage for students is that they have greater choice about the universities to attend (1). For-profit universities will increase competition in the market, leading to lower tuition fees (1).

Possible disadvantages are that quality of education will be lower (1) or that student numbers will fall (1) at for-profit universities (1).

*Extended-response question*

1. If the cap were scrapped, we would probably expect at least some universities to raise their tuition fees (1) (since so many charge the maximum amount now).

On the one hand, this would allow universities to generate more revenue, which could be used to improve the quality of their education. It might also resolve the problem that universities face where they charge a £9,000 fee, or it suggests that their courses are of a lower quality than their rivals: if they charge a lower fee, they might attract more students. Overall, the market mechanism should, in theory, mean that the 'price' (fee) of each university reflects the benefits it gives to the individual, otherwise they would go to another university.

However, there are also possible downsides to this policy. It would probably add to the problem of high tuition fees, which are considered to be unfairly high at the moment anyway. Students also face asymmetric information when choosing a university, since it's difficult to tell just how good/useful the teaching will be (open to debate as to how good the teaching is so far). Universities might still feel the need to bump up prices to give the illusion of quality, especially if the government provides more in student loans, a large proportion of which is often never paid back.

This is quite a complex topic: forming policy on university fees is very tricky. At the moment, the government is considering whether to scrap tuition fees. Economists agree that completely scrapping tuition fees is a bad idea, since the 'price' of a university degree (in terms of higher future wages) generally exceeds the cost of the degree (the tuition fees studied, of course). So it would be an unfair burden on society if the government scrapped tuition fees for university education.

Note: you won't need to know any details of this topic for your exams, but it should be useful to know.

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## Case Study 12: The European Competition Commission

Use the data

- (a) In 2012:  $(51.2 + 10.3) / 296.7 * 100 = 20.7\%$   
(b) In 2013:  $(57.8 + 11.3) / 294.8 * 100 = 23.4\%$

Test your knowledge...

- This is exactly what happened in the oil market (at the time of writing in late 2015 / Saudi Arabia are allegedly cutting prices to try to force their rivals (e.g. US shale oil) are some signs that they are considering abandoning the strategy, however.
- Regulatory capture is when an independent/government body appointed to regulate the industry instead of acting in the public interest (1).

This may or may not have applied to the US's Federal Trade Commission's dealings. An incentive would have been for the Commission to rule in favour of Google, given Google contributes to the US economy (1).

Extended-response question

- Had the merger gone ahead, Ryanair would have had a monopoly on air travel over Ireland and would have increased. Consumer choice would have fallen, as consumers no longer had Ryanair and Aer Lingus. Ryanair's profit would almost certainly have increased (assuming a monopoly), as it would be able to charge a higher price for the same routes. Allocative efficiency would be equal to marginal cost. If Ryanair had a monopoly, they would probably charge a price above marginal cost, leading to allocative inefficiency / a reduction in allocative efficiency. Given that all airlines contribute to the US economy – it seems like a good idea that the European Commission

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