

AQA A-LEVEL ECONOMICS • 7136

ECONOMICS



EXAM QUESTION PACK

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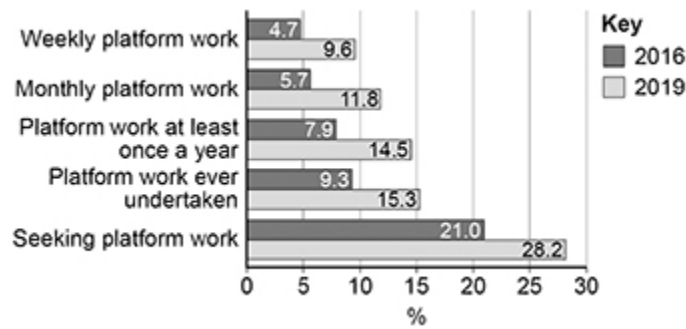
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Extract A

Figure 1: Participation in platform work*, % of UK workers, 2016 and 2019



Source: TUC, 2020

Note: *Platform work is defined as paid tasks that are found via a website or 'app'.

Figure 2: Median after-tax real earnings of working-age employees and the self-employed, 2009/10 to 2018/19

Year	Employed, £	Self-employed, £
2009/10	21 900	15 800
2010/11	21 300	15 100
2011/12	20 300	15 800
2012/13	20 800	14 200
2013/14	20 500	14 000
2014/15	20 900	15 800
2015/16	21 300	16 100
2016/17	21 400	16 300
2017/18	21 400	17 600
2018/19	21 600	16 500

Source: Department for Work & Pensions, 2020

Note: Base year is 2018/19

Extract B: The gig economy

1 The gig economy can be defined as that part of the labour market characterised by short-term contracts or occasional work, as opposed to permanent jobs. The rise of gig economy work has been driven by new technology, enabling people to work from anywhere, any time. Many self-employed people work in the gig economy through online platforms such as Uber,
5 Deliveroo and Airbnb. These roles often replace employee roles in sectors including cleaning, taxi driving, pizza delivery, project managers and personal training.

Gig economy workers face higher risks and more uncertainty about the stability of their incomes than standard workers. They tend to earn less than employees doing similar work and they also tend to work longer hours. However, they do have greater flexibility and control over their work-
10 life balance. People who have other responsibilities beyond work (for example childcare) may choose to work in the gig economy because it allows them to allocate their time as they choose.

The government has pledged to combat unfair working practices associated with zero-hours contracts and the gig economy. They are seeking to bring gig employers into line with the standards and regulations by which other employers must abide. However, providers of meal
15 delivery, ride-sharing and other gig economy services warn that tighter regulations will damage economic efficiency and employees will lose out. Gig economy defenders claim that today's flexible labour markets offer modern workers the opportunity to move freely between jobs and this gives them more choice over their working hours.

Source: News reports, 2020

Extract C: New unions representing gig economy workers

1 The cleaners at St Mary's Hospital in London are members of United Voices of the World
(UVW), a new trade union of mostly migrant workers whose employment is not secure. Their
October 2019 strike and demonstration were typical of UVW action: joyful, noisy, confrontational
and uncompromising. It was also very successful. The hospital trust increased their £8.21
5 minimum wage to the London Living Wage of £10.75, and decided to employ them directly,
rather than via an agency for temporary workers.

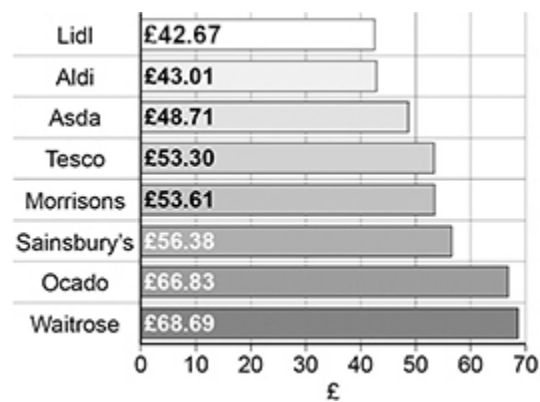
As insecure and gig economy work becomes more common, especially among migrant and
young workers, new trade unions are developing to meet demand from workers in workplaces
with few protections. Since it was founded in 2014, UVW has organised at more than 20
10 workplaces and won improved contracts, wage rises or sick pay from employers including the
Daily Mail Group, the Royal Borough of Kensington and Chelsea and the London School of
Economics. It now has more than 3000 members and says it is attracting 200 more every
month.

Some gig economy firms are starting to recognise workers as employees. Just Eat, which
15 delivers takeaway food, has announced plans to offer workers benefits, including hourly wages
above the minimum living wage, sick pay and pension contributions. This sets a precedent in
the UK gig economy. The new drivers will be on a mix of full-time, part-time and zero-hours
contracts, the company said, allowing some to retain more flexible working hours. The firm said
that operating costs would rise as a result of the new scheme but Just Eat felt it was the 'right
20 thing to do'.

Source: News reports, 2020

Extract D

Cost of a basket of 45 popular groceries, Jan-Dec 2020



Source: Which?, 2020

Extract E: Have Aldi and Lidl reached their peak?

- 1 Aldi and Lidl, the German discount grocers which primarily sell through physical stores, have missed out as more sales have moved online. They are now trying some small scale 'click and collect' and other online options, and are hoping to win back business as the economic downturn prompted shoppers to seek out lower prices. However, industry experts say their
- 5 recent rapid growth and competition from traditional supermarkets would make it harder for the discounters to take more business from rivals. The 'big four' UK supermarkets – Tesco, Sainsbury's, Asda and Morrison's – have well-established home delivery infrastructure and were able to expand online delivery dramatically during the pandemic. This led to a doubling of the online share of the overall grocery market to 13% in just a few months.
- 10 Aldi and Lidl grew rapidly after 2008 as traditional supermarkets defended profit margins rather than sales. The discounters' combined market share in the UK grew from 4% to 14% in a decade. However, this time the traditional supermarkets are expected to put up a tougher fight. Andrew Porteous, analyst at HSBC, said the big four were "all very conscious of the mess they made of the last recession. They have done well through lockdown." "They will want to make
- 15 sure they don't give people any reason to go back to split shops" he added, referring to the practice of shopping for basics at a discounter and topping up elsewhere. Supermarkets set prices interdependently, and price wars look very likely. Analysts estimate the price gap between discounters and conventional supermarkets is now about 10–12%, against more than 20% a few years ago. Tesco has pledged to match Aldi prices on key items, while Morrisons
- 20 recently cut prices on 400 basics, and Asda has indicated it will not be holding back from price reductions. Competition and investment in more stores have reduced the discounters' profitability. Aldi's profit margin fell from above 5% in 2013 to just 1.75% in 2018.

Source: News reports, 2020

Extract A

Figure 1: Real GDP (US\$ bn), selected African nations, 2015–2018

Country	2015	2016	2017	2018
Egypt	250.0	260.9	271.8	286.3
Kenya	52.3	55.4	58.1	61.7
Liberia	2.6	2.6	2.5	2.6
Morocco	113.4	114.6	119.5	123.2
Nigeria	461.8	454.4	458.0	466.9

Source: World Bank, 2020

Figure 2: Foreign direct investment (FDI) net inflows (US\$ bn), selected African nations, 2015–2018

Country	2015	2016	2017	2018
Egypt	6.9	8.1	7.4	8.1
Kenya	0.6	0.7	1.3	1.6
Liberia	0.2	0.3	0.2	0.1
Morocco	3.3	2.2	2.7	3.5
Nigeria	3.0	4.5	3.5	2.0

Source: World Bank, 2020

Extract B: Foreign direct investment in Africa

- 1 In 2018, foreign direct investment (FDI) in Africa rose to \$46 billion, an 11% increase on the previous year. Morocco and Kenya saw some of the biggest rises in FDI, although many nations in Sub-Saharan and Central Africa experienced falls. Nations with high and stable growth seem better able to attract FDI inflows.
- 5 It was expected that increased rates of economic growth in Africa, along with progress towards the African Continental Free Trade Area (AfCFTA) agreement and key improvements in infrastructure, would boost FDI. Multinational corporations (MNCs) from developing countries have been expanding their activities in Africa but investors from developed countries remain key. French companies are currently the largest investors in Africa, followed by the
- 10 Netherlands, the United States and the UK. Africa is a key producer of commodities and with higher demand and rising commodity prices, FDI inflows are expected to increase even further.

- The growing number of special economic zones (SEZs) are also likely to help Africa attract more FDI. SEZs are areas with relaxed trade rules, little regulation and little or no tax on firms that invest in the zone. This makes locating in a SEZ very appealing to foreign firms. The
- 15 creation of these zones has helped to promote development in several Asian economies and many African nations hope to make their economies more business-friendly. There are an estimated 237 SEZs in the African continent already.

- FDI can have many benefits. It should create employment, boost long-run economic growth and increase exports. SEZs and improving competitiveness should contribute to the
- 20 achievement of key macroeconomic objectives and the development of a country's economy.

Source: News reports, 2020

Extract C: Problems for Africa

1 It has been said that 'investing in Africa is only for the brave'. Some of the issues faced by firms include lack of infrastructure such as poor electricity and transport networks, bureaucracy, political instability and corruption. African nations' current share of global trade is only around 3%.

5 Since African governments began to use SEZs in the early 1970s, they have failed to attract significant investment, to promote exports, or to create sustainable industrial development. SEZs create distortions in markets, with too much focus on short-term gains. Often, conflicts of interest occur between host governments and investors. Many MNCs, that have been attracted to Africa by the SEZs, have been accused of doing little to improve the living standards of the African people. It has been said that they do not create many jobs, they exploit workers and damage the environment. Too often, profits are not reinvested in Africa but distributed to shareholders or invested elsewhere.

15 Some argue that African governments should be doing more to improve the living standards of their citizens, rather than relying on foreign firms. However, high debts, high unemployment rates and low tax revenues often make it difficult for the governments of African nations to develop their economies without investment from abroad.

Source: News reports, 2020

Extract E: Argentina's economic woes

- 1 In 2019, Argentina's inflation rate hit 53.8%, climbing to its highest level in thirty years. This confirmed Argentina's place among the five countries with the highest inflation rates in the world, just behind Venezuela, Zimbabwe, South Sudan and Sudan. However, inflation isn't the only problem faced by Argentina. The country has just suffered three years of recession and
- 5 the government has often struggled to meet its debt repayments.

Despite one of the tightest monetary policies in Argentina's history, implemented in 2018 after a currency crisis, inflation continued to rise and the recession deepened. It was hoped that policy measures, including a reduction in tariffs and strict currency controls, would help to reduce inflation, but so far this has not happened.

- 10 In 2020, Argentina's central bank cut its base interest rate to support the recovery of the economy. However, it has been argued that lower interest rates would be likely to cause further inflation. "Loosening monetary policy without having a clear fiscal plan or winning over the confidence of businesses and consumers is a mistake", said an Argentine economist.

- 15 Some argue that Argentina should prioritise eliminating inflation over other objectives of economic policy. In the 1970s and 1980s, the UK experienced high inflation. Policies were put in place to reduce the money supply and reduce government spending. The control of inflation became the main target of UK government macroeconomic policy. However, reducing inflation often comes at the expense of growth and jobs, at least in the short term.

Source: News reports, 2020

Extract A: The structure of the commercial aircraft manufacturing industry

1 The commercial aircraft industry manufactures aeroplanes to carry passengers and freight.
Since 2000, air traffic has grown by 240% and, in 2019, sales of commercial aircraft were worth
\$243.6 billion. The growth in the industry has been driven by the growth in household incomes
and leisure time. Before the pandemic, the high income elasticity of demand for passenger and
5 freight transport meant that the demand for these services, and hence commercial aircraft, grew
more rapidly than the rate of growth of world GDP. It is expected that once the world economy
recovers from the economic shock caused by the pandemic, the growth of the industry will
resume.

The industry is an oligopoly that is dominated by two main manufacturers, Boeing, a United
10 States company, and Airbus, a European company. Currently, Boeing and Airbus account for
99% of the orders for large aeroplanes and the orders for large aeroplanes make up more than
90% of the total market. However, competition is growing, not least from the state-owned
Commercial Aircraft Corporation of China (COMAC) which started business in Shanghai in
2008. COMAC is currently the world's fifth largest manufacturer. Embraer, a Brazilian
15 company, and Bombardier, a Canadian manufacturer, are the third and fourth largest
companies.

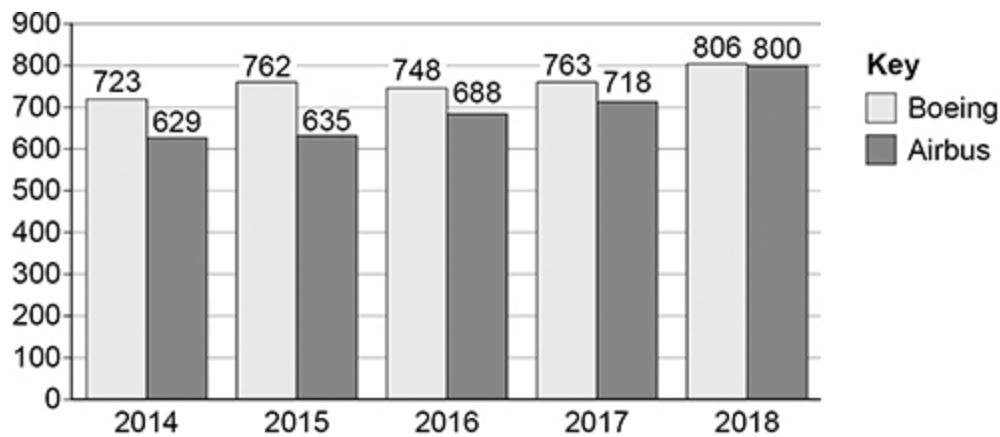
Source: News reports, January 2021

Extract B: Selected indicators of the performance of Boeing and Airbus

- 1 In 2018, Boeing and Airbus each delivered around 800 aircraft. Boeing had a backlog of orders for 5488 aircraft and Airbus had 7133 orders outstanding. In 2019, Airbus delivered 863 aircraft but Boeing's deliveries fell to 380 because the Boeing 737 MAX aircraft was grounded due to safety concerns. Towards the end of 2020, regulators in Europe and the USA ruled that design changes would mean that the plane is now safe to fly.
- 5

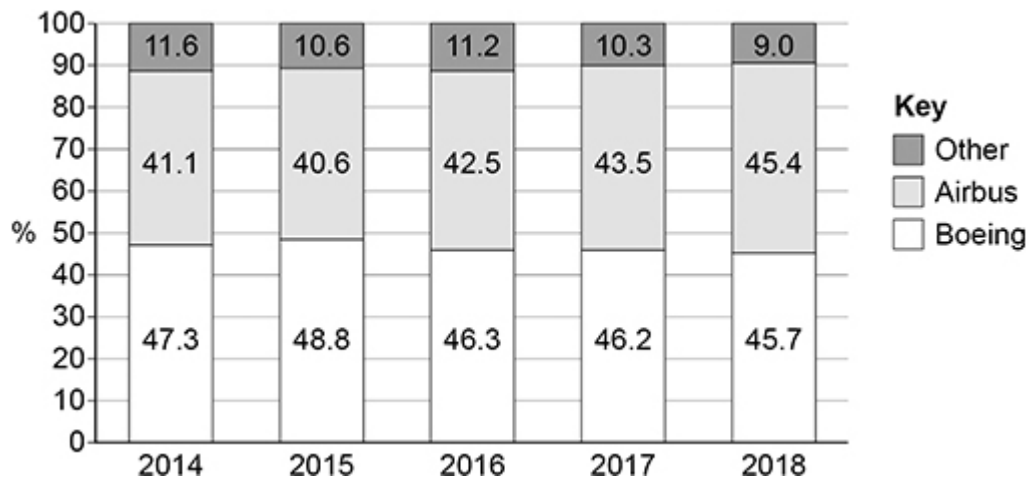
Source: News reports, January 2021

Figure 1: Deliveries of aircraft made by Boeing and Airbus, 2014 to 2018.



Source: Trefis.com, accessed January 2021

Figure 2: Market share of deliveries of commercial aircraft (%), 2014 to 2018



Source: Trefis.com, accessed January 2021

Note: The market shares may not add to 100% due to rounding.

Figure 3: Revenue and profit, 2014 to 2018

Years	Boeing			Airbus		
	Total revenue (\$ billion)	Profit margin* before interest and tax (%)	Average revenue per aircraft (\$ million)	Total revenue (\$ billion)	Profit margin* before interest and tax (%)	Average revenue per aircraft (\$ million)
2014	60.0	10.7	83.0	56.2	6.3	89.3
2015	66.0	7.8	86.7	50.9	5.0	80.1
2016	59.4	3.3	79.4	54.5	3.1	79.2
2017	58.0	9.4	76.0	57.6	5.2	80.2
2018	60.7	13.0	75.3	56.7	9.0	70.8

Source: Trefis.com, accessed January 2021

* Profit margin is profit as a percentage of sales revenue.

Extract C: The market for commercial aircraft

1 The market for commercial aircraft is subject to cyclical fluctuations in demand that reflect the
normal economic cycle of recession and recovery. The market is also vulnerable to economic
shocks such as the global financial crisis in 2008. The recent pandemic is the largest
demand-side shock to hit the industry and has created much uncertainty. Boeing's sales also
5 suffered following the grounding of the 737 MAX but are expected to recover. For example, in
December 2020, it was reported that Ryanair ordered 75 more 737 MAX planes after
negotiating a discount.

Over the past decade, the growth in passenger air travel averaged 6.5% per annum. To cope
with the rise in the number of passengers, the world's airlines increased the size of their fleets
10 by ordering new aeroplanes and delaying the retirement of older aeroplanes. Many older
aeroplanes now need to be replaced. Over the next 20 years, the middle-class population is
expected to rise from 3.9 billion to 5.9 billion, adding to the growth in air travel.

The development of new, more efficient aircraft is encouraging the airlines to replace older
aeroplanes. Pressures to reduce the environmental impact of air travel have also increased the
15 need to replace less fuel-efficient aeroplanes with ones that are less damaging for the
environment. Improvements in technology have meant that aeroplanes are now quieter and
use less fuel per seat. For example, Airbus's A321XLR has 30% lower fuel consumption per
seat compared with previous-generation competitor aeroplanes.

Industry experts believe that the growth in air travel will return to its trend rate in a few years'
20 time but the sales of narrow-bodied aircraft will recover before the sales of wide-bodied aircraft.
How quickly the industry recovers will depend on confidence and the growth in the world
economy.

The growth in international trade has led to an increase in air cargo. While aeroplanes only
transport 1% of goods by weight, the value of the goods they carry is around 35% of total trade.
25 Over the next 20 years, it is expected that annual average growth of the air cargo market will be
about 4%.

Source: News reports, January 2021

Extract D: Government support for the commercial aircraft manufacturing industry

1 The UK's aerospace sector is a world leader in the manufacture of engines, wings and
advanced systems. The sector employs over 120 000 skilled workers, mainly outside London
and the south east. It is forecast that globally 38 000 new passenger aircraft will be required
5 over the next 20 years. In 2018, as part of its industrial strategy, the UK government launched
its Aerospace Sector Deal. The deal builds on a long-established partnership between the
government and the aerospace industry. Government financial support is helping the industry
remain competitive and develop new technologies to reduce the environmental impact of air
transport.

10 Whilst many governments provide state aid for key industries, such support can distort the
pattern of comparative advantage. In 2004, the US complained to the World Trade
Organisation (WTO) about subsidies for Airbus and the EU retaliated by making a counter claim
about subsidies for Boeing. The WTO ruled that both sides unfairly subsidised their aircraft
manufacturers, allowing the US and the EU to impose tariffs on each other's goods.

15 Firms can become too reliant on state aid, reducing the incentive to increase productivity and
competitiveness. It also makes it more difficult for new firms to enter the market. However,
where there is a genuine market failure, state aid can be justified. State aid may be needed, for
example, to reduce negative externalities and to help less prosperous regions grow.

Source: News reports, January 2021

Extract A: Average annual water usage, in cubic metres, with and without a water meter

Number of people in the household	With meter (cubic metres)	Without meter (cubic metres)
1	54	66
2	101	110
3	134	136
4	164	165
5	191	182
6	216	200

Source: Consumer Council for Water, December 2019

Extract B: Water, water, everywhere?

1 Water is a basic human need. Although viewed by some as freely available, to make it fit for household and business use, it must be extracted and processed. Land, labour and capital are required, including reservoirs and pipe networks. Water is a scarce but vital resource used in a variety of industries, as well as for drinking, washing and cooking.

5 The water industry could be described as a pure monopoly and until 1989, it was run by the government. Ownership in England and Wales was then transferred to 10 private sector firms, each with a regional monopoly. These are regulated by Ofwat, the Water Services Regulation Authority. The regulator tries to prevent the firms from abusing their monopoly power by setting standards for the quality of service and restricting price rises to limit profit. Ofwat announced recently that water firms would have to cut the average customer bill by £50 over the next five years and improve their performance. In Scotland and Northern Ireland, water supplies are still publicly owned.

15 Most water (and sewerage) services are not provided by competitive markets, where firms compete using price or non-price methods. Only businesses can choose their water supplier. As with gas and electricity, business customers buy their water supply from a firm, which has bought that package from a water company. Household consumers have no choice. For example, if you live in Plymouth, South West Water provides your water.

Source: News reports, January 2020

Extract C: How should water be paid for?

1 Since 1990, all new houses have been fitted with a water meter. Customers in older houses
can ask for a meter to be installed. Consumers' bills are then determined by the amount of
water used and a fixed charge for treating the water and administration. In 2017, seven water
companies in southern England were classified as in 'areas of serious water stress' and allowed
5 to introduce compulsory metering. In non-metered houses, bills are based on the value of the
property (rateable value) not on the amount of water used. Therefore, owners of more
expensive houses usually pay more for their water, regardless of the number of occupants. In
non-metered homes, there is no extra charge, for example, to water the garden.

10 When people pay according to quantity used, they are less likely to be wasteful. One report
claims that homes with meters use on average 10% to 15% less water than those without. This
saves money. For example, a bath may use 80 litres of water but a shower half as much.
People who cut their water use may also save on energy bills, as less water is heated.

15 Although metering may be fairer, consumers may prefer a choice, both of pricing system and
supplier. The National Campaign for Water Justice, a group that opposes metering, argues that
the poorest could end up with higher bills if forced to have a meter, particularly large families
who live in homes with a low rateable value. A number of problems could occur if they reduce
their water use too much. Could there be an impact on health? It is often said that we should
drink two litres of water a day. Tap water is cheaper and better for the environment than plastic
bottles.

20 Perhaps a maximum price should be set for water and if competition can be introduced for gas
and electricity, why not for water?

Source: News reports, January 2020

Extract E: Minimum unit pricing for alcohol in Scotland

1 Throughout the UK, alcohol has traditionally been viewed as a demerit good, subject to high indirect taxes and regulation. The minimum age for buying alcohol is 18, although in some countries, such as the US, the minimum age is 21.

In May 2018, Scotland became the first country to introduce minimum unit pricing (MUP).

5 Alcohol must now be sold for at least 50p per unit of alcohol. This means that a two-litre bottle of cider costs at least £5 and a standard (70cl) bottle of whisky a minimum of £14. A leading discount supermarket had previously charged £1.99 and £10 respectively. MUP is due to come into force in Wales in 2020 and has been under consideration in the Republic of Ireland. The Northern Ireland government discussed the issue but currently there are no plans to introduce MUP there or in England.

The misuse of alcohol has external as well as private costs. Before the introduction of MUP, alcohol misuse was estimated to cost Scotland £3.6 billion every year, averaging about £900 per adult. There were typically 22 alcohol-related deaths a week and it was hoped that 392 lives could be saved in the first five years. Alcohol-related crime was also a concern. For
15 example, 46% of violent crime in Scotland in 2017/18 was reported to be alcohol-related.

Source: News reports, January 2020

Extract F: Early indications of success?

1 A study by NHS Health Scotland published in 2019 claims that MUP has been a success.
The report found no increase in illegal activity such as smuggling. However, there was
evidence of people crossing the border to shop in England and using the home delivery
services of English stores, to avoid the higher prices. There had also been some stockpiling of
5 alcohol before the law came into force.

Research suggests that, on average, Scottish adults have bought 1.2 fewer units of alcohol per
week, equivalent to about half a pint of beer. This fall of 7.5% was more than double the figure
expected. Not surprisingly, sales fell more significantly for previously cheap cider (36%)
whereas wine sales fell by only 3.7%. It would appear that low-income households have cut
10 back more than those with a high income, although on average, an extra 61p per adult per week
was spent on alcohol.

However, another survey found that alcohol-related deaths rose by 16 in 2018 and claimed that
even more alcohol was sold in the first nine months of minimum pricing. Critics believe it is too
early to be sure of the full effects of MUP, including improvements to health. Furthermore, the
15 research may not show the changes for some heavy drinkers, particularly the homeless. For
those addicted to alcohol, price is unlikely to be the key factor.

An article in the British Medical Journal claimed: 'The need for effective interventions...is urgent
not only in Scotland – which has among the highest levels of alcohol attributable harm in
Europe, but also across the rest of the UK.' Speaking in 2018, the Chair of the Alcohol Health
20 Alliance (AHA), a group of over 50 medical organisations, said: 'Cheap alcohol is wrecking lives
and livelihoods in England as well as Scotland.' He went on to claim that the poorest and most
vulnerable parts of society account for many of the 23 000 alcohol-related deaths a year in
England, with the north east of England facing similar problems to Scotland.

Source: News reports, December 2019

Extract A: Real GDP growth, annual percentage change, various economies, 2015–2019

Year	UK (%)	Germany (%)	US (%)	China (%)	World (%)
2015	2.4	1.7	2.9	6.9	3.5
2016	1.9	2.2	1.6	6.8	3.4
2017	1.9	2.5	2.4	6.9	3.9
2018	1.4	1.5	2.9	6.7	3.6
2019	1.4	0.6	2.3	6.1	2.9

Source: International Monetary Fund, World Economic Outlook, April 2020

Extract B: The global economy goes into recession

1 Even before the world economy was hit by the pandemic in 2020, the greatest economic shock for centuries, there were signs that economies were in the midst of a global slowdown. This had made price stability easier to achieve but growth rates were disappointing.

5 Output had been adversely affected by the rising tensions in global trade. The US had placed import taxes on various goods from a number of countries including China, Canada and those in the EU, leading to a fall in exports from those countries. In addition, structural changes to industries, such as the movement away from petrol and diesel cars and the rise of artificial intelligence technology had resulted in some job losses. In the UK, political uncertainty surrounding Brexit had been cited as a major cause of disappointing growth and low levels of investment. These factors, amongst others, damaged business confidence, and many firms were reluctant to invest in new capacity.

15 Yet all this seems insignificant compared with what was to follow. When consumption abruptly fell and production in some industries completely stopped, economies contracted severely. For example, in the three months to May 2020, UK output shrank by a staggering 19.1% compared to the previous three months. When a report by the International Monetary Fund in June 2020 forecast that annual world output would contract by 4.9% during 2020, by 10.2% in the UK and the Euro area, and 8% in the US, people began to wonder if the recession would ever end. According to the report, even China was expected to have real GDP growth of only 1%.

Source: News reports, July 2020

Extract C: Can we look forward to a decade of prosperity and opportunity?

1 Faced with such uncertainty and gloomy expectations, it was almost impossible to remember the time when the Prime Minister, Boris Johnson, had promised to make the 2020s a “decade of prosperity and opportunity”. If this is to be achieved, it will be essential to find ways to boost both short-run and long-run growth, but firstly confidence and optimism must be restored.

5 In March 2020, the Bank of England’s Monetary Policy Committee announced a second emergency cut in bank rate to 0.1%. Designed to reduce the costs of existing and new borrowing, it was hoped that this would maintain spending in the economy. Monetary policy was also used to increase the supply of money and credit. The Chancellor of the Exchequer, Rishi Sunak, also announced further unprecedented increases in government spending and
10 reductions in various taxes. On a global level, it was hoped that exports would slowly start to recover. The measures that have been taken and the anticipated revival of the world economy should support demand-side growth.

What about supply-side growth? The Chancellor announced a range of supply-side plans. For example, more than £600 billion is to be spent on infrastructure such as roads, rail and
15 broadband by the middle of 2025; and an extra £900 million on research into nuclear fusion, space and electric vehicles. An increase in the funds available for education and training should help to improve factor mobility and ensure the labour force has the skills the economy needs. The current, low rates of direct taxation help to create incentives to work, save and invest, but in the future, taxes may have to rise to pay for the increase in government spending.

Source: News reports, July 2020

Extract D: Composition of UK government spending, 1997–98 to 2018–19

Year	Social security (%)		Health (%)	Education (%)	Debt interest (%)	Other (%)
	Old-age related (%)	Other social security (%)				
1997–98	14	23	14	12	9	27
2007–08	15	19	18	14	5	29
2018–19	17	18	20	13	5	27

Notes: Examples of 'old-age related' spending include pensions and personal care; examples of 'other social security' spending include sickness and housing benefits.
Figures may not add up to 100% due to rounding.

Source: Resolution Foundation: The Shape of Things to Come, November 2019

Extract E: Government spending to the rescue

- 1 In 2019, a report by an independent think tank, the Resolution Foundation, concluded that a decade of austerity in public finances had led to an 'unprecedented pause' in government spending growth between 2010–11 and 2018–19. Consequently, with services such as the health service, social care and the police force facing funding challenges, the report suggested
- 5 that significant increases in spending would be required to help improve the wellbeing of the UK population. Indeed, whilst government spending as a proportion of GDP was 46.3% in 2009–10, it has been decreasing since, and in 2018–19 stood at 39.3% of GDP.

- However, no one could have predicted the size of the increase in government spending which was required to rescue the UK economy from the pandemic which caused the largest economic
- 10 shock in its history. By July 2020, emergency spending had surged by £190 billion. As a result, it was predicted that spending as a proportion of GDP would exceed 50% for the financial year, higher than the peak seen during the financial crisis. The rise in spending, at a time when tax revenues were falling, led to a very large increase in the budget deficit. It is expected that government borrowing will reach £350 billion for the year 2020–21.

- 15 Government spending acts as an injection into the circular flow of income, and increases the level of activity in the economy. This should bring positive multiplier effects, and help to stimulate private sector investment, which helps to absorb spare capacity in the economy. This is crucial given that unemployment has started to rise. Although the unemployment rate remained very low at 3.9%, employment fell by 649 000 between March and June 2020. Given
- 20 the nature of the economic crisis, many more job losses are expected.

Source: News reports, July 2020

Extract F: How should the money be spent?

1 As part of fiscal policy, government spending can be used to allocate resources to different
regions and sectors of the economy and consequently, change the pattern of economic activity.
For example, in his Summer Statement, the Chancellor of the Exchequer, Rishi Sunak,
5 announced a £2 billion subsidy scheme to encourage householders to make energy-saving
improvements, and £1.6 billion of support to help the arts industry. He also launched a
£2 billion scheme to create jobs for young people and pledged to provide 30 000 new
traineeships, which should help reduce the impact of occupational and geographical immobility.

Taxation also has a role to play in affecting the pattern of activity. Corporation tax can be
altered to help create incentives to innovate. Indirect taxation can be used to influence
10 consumers' behaviour. Examples of this include the so-called 'sugar tax' which was introduced
to help deal with the growing obesity crisis, and the temporary reduction in VAT designed to
support the hospitality industry.

However, significant increases in government spending, no matter how vital to the economy, will
have to be accompanied by increases in taxation and/or even more government borrowing now
15 and in the future. In addition, higher spending runs the risk of greater inflationary pressure.
It will be important to ensure that the increases in spending are used appropriately and are
worthwhile.

Source: News reports, July 2020

The pharmaceutical industry

Extract A

Figure 1: Profitability of new patented drugs

Year	Mean rate of return on new drugs (%)
2010	10.1
2011	7.6
2012	7.3
2013	4.8
2014	5.5
2015	4.2
2016	4.2
2017	3.7
2018	1.9
2019	1.8

Source: Deloitte report, 2019

Note: the mean rate of return is the average profit a pharmaceutical company can expect to make on a new drug over its lifetime, as a percentage of its development cost.

The pharmaceutical industry

Extract B: Rising prices in the global pharmaceutical market

1 Pharmaceutical drugs are very expensive to research and develop, costing an average of
\$2.6bn. The most expensive, Zolgensma (a specialist gene therapy drug), costs \$2.1 million
per patient. In order to encourage firms to invest in research and development, governments
5 grant patents for new drugs. Patents preserve a company's intellectual property rights and give
the company a legal monopoly that usually lasts for 20 years. Global drug prices have soared.
The USA spent \$334bn on prescription drugs in 2017, up 41% from 10 years ago. Some price
rises have been dramatic. The price of one antiparasitic drug, still protected by a patent, rose
from \$13.50 to \$750 per pill.

10 After the monopoly's patent expires, other companies can manufacture and market the same
drug under its generic name, usually at a lower price. For generic drugs, the UK government's
policy is to rely on competition in the market between suppliers to control their price. Despite
being a monopsony purchaser of these medicines in the UK, the NHS has relatively limited
influence over their price in what is a global market. During 2017–18, the prices of certain
15 generic drugs increased substantially, partly as a result of two large manufacturers having their
production suspended because of quality issues. For example, the price of a generic mental
health drug called Quetiapine peaked at £113.10 per 100mg, having previously cost £1.59.

The NHS budget of £138bn is not enough to meet all the demands for its services. Therefore,
difficult allocation choices must be made. Rationing of care and treatment is inevitable. NHS
20 spending on drugs in England has grown from £13bn in 2010–11 to £18.2bn in 2017–18, an
average growth of around 5% per year. Policy on drugs in England aims to balance the
competing goals of giving patients prompt access to effective treatments, incentivising the
pharmaceutical sector to develop new products and ensuring that expenditure on drugs is
affordable for the NHS. Today it is becoming harder to balance these objectives.

Source: News reports, 2019

The pharmaceutical industry

Extract C: Is the market for pharmaceuticals working well?

- 1 The market for most generic drugs is oligopolistic, with just two or three manufacturers making each product. This enables significant economies of scale within firms, but also presents the risk of consumer interests being harmed. In 2019, US regulators accused 20 firms of colluding to raise generic drug prices by as much as 1000%. Combined with the monopoly for those
- 5 drugs protected by patents, high prices and profits prevail in many parts of the industry. However, pharmaceutical firms argue that they take enormous financial risks in the search for new drugs. GlaxoSmithKline has spent just under £20bn on research and development over the past five years, while AstraZeneca spent nearly £30bn. These high development costs have led to new drugs becoming less profitable over the last decade. Pharmaceutical firms also
- 10 provide thousands of highly skilled jobs and a reliable and safe product for consumers. Medicines and vaccines have played a crucial role in increasing UK life expectancy by 11 years since 1960. Over the last 40 years, cancer survival rates have doubled, and HIV/AIDS has been transformed into a manageable illness. UK firms are at the forefront of such developments and they make large profits in doing so. Many drugs have an extremely inelastic
- 15 demand, as patients require them to maintain good health, which provides monopoly firms and collusive oligopolies with an opportunity to exploit their position. If this happens, the Competition and Markets Authority has the power to tackle the problem aggressively.

Source: News reports, 2019

The ethnic pay gap

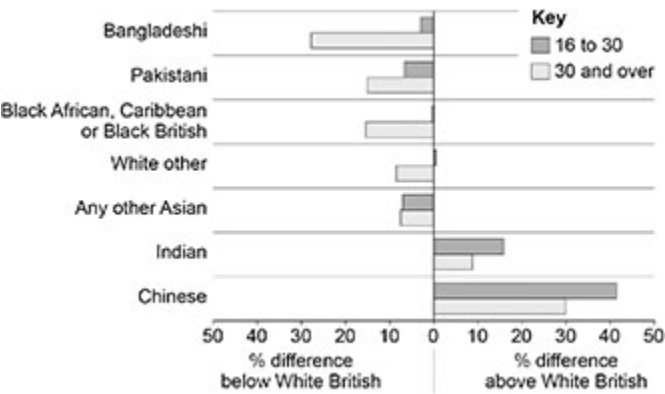
Extract D

Figure 1: Pay gap between ethnic groups and White British employees in the UK, 2018

Ethnic group	% pay gap compared with White British employees
Bangladeshi	−20.2
Pakistani	−16.9
Black African, Caribbean or Black British	−9.2
White other	−5.8
Any other Asian	−4.0
Indian	+12.0
Chinese	+30.9

Source: ONS, 2019

Figure 2: Pay gap between ethnic minority groups, by age, UK, 2018



Source: ONS, 2019

The ethnic pay gap

Extract E: The Ethnic Pay Gap

1 UK workers of Bangladeshi heritage have the lowest pay of any ethnic group, earning 20.2%
less than White British workers. Analysis by the Office for National Statistics (ONS) shows
significant pay gaps remain, even when education and occupation are taken into account,
5 particularly for those born outside the UK. The median pay of White British workers last year
was £12.03 an hour, compared with £9.60 for people of Bangladeshi ethnicity and £10.00 for
those of Pakistani ethnicity. These groups also had the lowest employment rate. British-born
employees of Chinese ethnicity earned the most of all groups, earning 30.9% more than White
British workers.

10 Evidence suggests that the ethnic pay gap is reducing as the UK labour market evolves over
time. People aged 16 to 30 from ethnic minority groups tended to have narrower pay gaps than
older ethnic minority groups. For instance, the difference for the Bangladeshi ethnic group
compared with White British workers was 3.1% among 16 to 30-year-olds but 27.9% for those
over 30. Women in some ethnic groups were significantly less likely to be in the labour force
15 than women in other ethnic groups. The ONS suggested that this could be a result of cultural
differences as 38.1% of women from a Bangladeshi ethnic group and 32.1% of women from a
Pakistani ethnic group were found to be economically inactive. This may be because they were
looking after their family or home.

Source: News reports, 2019

The ethnic pay gap

Extract F: Tackling the ethnic pay gap

1 It is illegal to pay someone less for doing the same job based on their ethnicity. Andy Haldane,
the Bank of England's Chief Economist, said that "the ethnicity pay gap problem in the UK is
every bit as acute as the gender pay gap problem". A report by the management consultants,
McKinsey, found that businesses with employees from the most diverse backgrounds were
5 15% more profitable than those firms with the least diverse workforce. A government report in
2017 suggested equal participation and progression across ethnicities could boost the UK's
economy by an additional £24bn a year. BAME (Black, Asian or Minority Ethnic) workers are
more likely to be in low-paid sectors such as catering, hairdressing and retail. These
occupations have limited opportunities for workers to progress to more responsible, higher-paid
10 roles. This may represent a misallocation of workers across the economy.

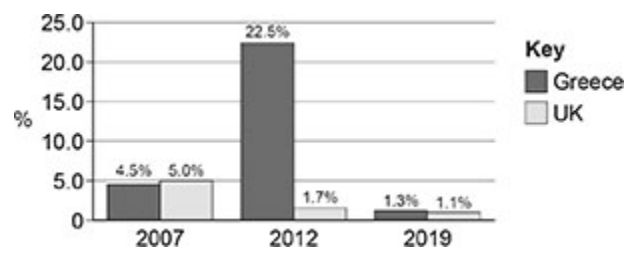
Only a handful of firms currently publish ethnic pay data. One of these, ITN, found that its
BAME workforce were paid 21% less than White workers. The Conservative Government has
indicated that it may introduce compulsory reporting of the ethnic pay gap for large firms.
The Runnymede Trust said: "as well as getting companies to publish the ethnicity pay gap, you
15 have to legally ask them to publish plans as to how they are going to close that gap.
Otherwise, to be honest, nothing is going to happen". The government can ensure that public
services such as the police and NHS provide such plans, but it is not intending to require all
firms to do so. It could also take steps to recognise foreign qualifications, thus removing
obstacles for well-qualified foreign-born workers. Others think the government should go
20 further and consider ethnicity quotas on the management boards of major companies. In the
absence of other reliable solutions, quotas could provide an urgent intervention to address the
fact that currently only 4 of the biggest 100 listed companies are led by BAME executives,
despite BAME groups accounting for 14% of the population. However, such quotas are
rejected by some as discriminatory, patronising and inefficient, leading to the risk of
25 government failure.

Source: News reports, 2019

National debt and government spending

Extract A

Figure 1: Annual average yields on long-term bonds, Greece and the UK, selected years, 2007 to 2019



Source: Official statistics, 2020

Figure 2: Selected statistics for Greece and the UK, 2012

	Greece	UK
GDP (\$bn)	245.7	2662.1
GDP per capita (\$)	22 242	41 791
National debt (\$bn)	391	2243
Population (millions)	11.1	63.7

Source: ONS, Eurostat, World Bank 2020

National debt and government spending

Extract B: Government debt: a Greek tragedy

- 1 In 2018, after years of tough government spending cuts (austerity), the Greek government
emerged from its third and final international financial rescue package, although economists
warned that the country still had a “long way to go”. The European Union (EU), the European
Central Bank (ECB) and the International Monetary Fund (IMF) have loaned Greece a total of
5 €289bn (£240bn) since 2010.

- The EU and IMF insisted that, in return for help, economic reforms were necessary to reduce
Greece’s structural budget deficit. For many Greeks, especially the young, the years of
economic hardship were severe. Higher taxes and reduced salaries and pensions led to riots
on the streets. The government spending cuts also severely damaged private-sector jobs.
10 In 2012–13, the unemployment rate peaked at 27.5%, but for those under 25 it was 58%.
Eight years after austerity began, GDP was 25% below its 2010 level.

- How did Greece find itself in this position in the first place? In 2007–08, the global financial
crisis caused a worldwide recession. Many countries had huge government debts, but Greece
was the worst affected with an unsustainable budget deficit following years of high government
15 spending. In 2010, the country revealed the size of its huge budget deficit which led bond yields
to soar and to a sovereign debt crisis. International lenders labelled Greek debt as ‘junk’ and the
Greek Government was unable to borrow on financial markets. Greece was forced to ask for
financial help.

- But what now? In 2019, the Greek economy grew by 1.9%. It had a budget surplus (excluding
20 interest payments on its debt) and the unemployment rate had fallen below 20%. However, the
pandemic has harmed the Greek economy and the Greek government’s budget is again in
deficit.

Source: News reports, 2020

National debt and government spending

Extract C: The end of government cutbacks in the UK?

- 1 In 2019, the UK government's debt repayment burden was at its lowest level in years and it was
able to borrow at record low interest rates. Before the pandemic altered every governments'
fiscal plans, the UK government said they would rip up years of self-imposed budgetary
constraints and increase spending to improve living standards. For years, austerity had led to
5 under-funded public services and a low level of investment in the nation's infrastructure.

The Chancellor of the Exchequer announced a planned increase in government expenditure of 4.1% in 2020, equivalent to £13.8bn, in a move designed to signal an end to austerity. This would have been the largest increase in 15 years.

- 10 The Chancellor said he was in a position to announce an increase in government spending after
the annual budget deficit had fallen to 1.1% of GDP, well below the 2% target set by the
Treasury. Under his plans, no government department would experience a real-terms reduction
in its budget in 2020, and the Chancellor said this protection "is what I mean by the end of
austerity". Announcing the spending review in the House of Commons, he said the cost of
government borrowing had fallen to historic lows, giving the government further room to
15 increase its expenditure.

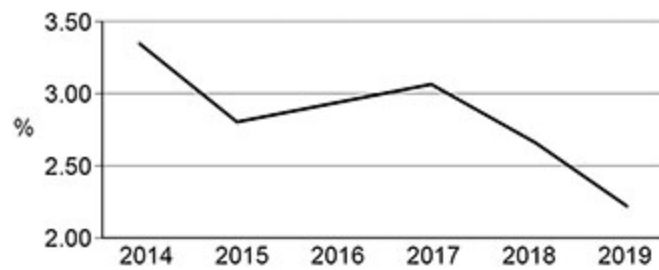
- However, faced with an ageing population and significant poverty and inequality, the structural
budget deficit is likely to increase over the next 30 years. Some argue that the UK should
increase taxes rather than add to the national debt. Ongoing funding is needed to maintain and
improve public services, such as healthcare, and to rebuild the UK's social safety net by
20 increasing spending on welfare to support the poor and vulnerable.

Source: News reports, 2020

South Korea's economy

Extract D

Figure 1: Annual real GDP growth rates (%) for South Korea, 2014–2019



Source: Worldbank, 2020

Figure 2: Consumer price index (CPI) for South Korea, 2014–2019 (June 2015 = 100)

Date	CPI index
31 Dec 2014	99.10
31 Dec 2015	100.22
31 Dec 2016	101.56
31 Dec 2017	102.99
31 Dec 2018	104.35
31 Dec 2019	105.12

Source: Official statistics, 2020

South Korea's economy

Extract E: South Korea: a model for development?

- 1 The Republic of Korea (South Korea) holds the number one spot in the recently released 2019
Bloomberg Innovation Index. This index scores economies using factors such as research and
development (R&D) spending and the number of large high-tech companies. South Korea
5 gained top scores worldwide for manufacturing value-added, as well as a measure that includes
enrolment in higher education and the proportion of science and engineering graduates.

- South Korea's transformation from one of the poorest countries in the world in the 1950s to a
major industrial power and member of the Organisation for Economic Co-operation and
Development (OECD) was exceptionally rapid, reflecting effective economic policies. South
Korea's sound fiscal and monetary policy decisions, as well as high levels of investment in
10 human and physical capital and a commitment to free trade, led to rapid growth. Per capita
income increased from 6% of the OECD average in 1970 to 89% in 2017. Rapid development
has been export-led, with large business groups, known as 'chaebols', making South Korea the
world's sixth-largest exporter.

- Investment in R&D has been an important driver of economic growth and industrial progress.
15 It is a key factor that has contributed to the technological competitiveness and productivity of
many developing countries. Some economists also point to the vital role the government played
in helping to create the conditions needed for sustained economic growth. However, it is the
private sector, working in conjunction with the government, which is key to South Korea's
success. Samsung, Hyundai, Kia and LG are just some of the successful companies which sell
20 to a worldwide market and drive innovation.

Source: News reports, 2019

South Korea's economy

Extract F: Is South Korea's miracle economic performance over?

1 Although growth in South Korea is forecast to be around 3% in 2019, this is far below its
average rate of 7.3%, and the country finds itself with a negative output gap. Recently, exports
declined for a tenth consecutive month and in September the consumer price index fell 0.4%
5 from a year earlier. Some are wondering if South Korea's miracle economic performance is
over.

Trade ministry data showed exports in September plunged 11.7% from a year earlier.
Economists said the data reinforced the view that the slump in South Korea's trade-reliant
economy would continue beyond this year, requiring the Bank of Korea to cut interest rates
further. The central bank cut its base rate of interest from 1.75% to 1.50% in July 2019, the first
10 cut in three years, as falling global demand and increasing trade tensions damaged
macroeconomic performance. However, the South Korean government and central bank issued
statements, saying that Asia's fourth-largest economy would not fall into a long period of
deflation.

South Korea is one of the world's top ten exporters and its trade problems have been made
15 worse by a number of recent events. Overseas shipments by South Korea are heavily
dependent on sales of computer chips and electronic goods, which have been suffering from a
fall in chip prices. South Korea also became involved in a trade war with Japan which was
referred to the World Trade Organisation (WTO). Slowing growth in China, the world's
second-largest economy and South Korea's top market for exports, also damaged trade.

Source: News reports, 2019

Climate change – it is not too late

Extract A: Greenhouse gas emissions: a global problem

- 1 The Intergovernmental Panel on Climate Change (IPCC) reported that, unless something is
done, greenhouse gas (GHG) emissions will cause global temperatures to rise by almost 3°C by
the end of the century. The main GHG is carbon dioxide (CO₂). The IPCC believes that, unless
the increase in average temperature is kept below 1.5°C, there will be significant costs. Sea
5 levels will rise and more people will be affected by flooding. Some parts of the world will be
exposed to drought. To avoid such problems, we need to use cleaner energy, adopt
sustainable lifestyles and protect our forests.

Source: News reports, January 2020

Climate change – it is not too late

Extract B: The UK is reducing its greenhouse gas emissions but are they falling fast enough?

- 1 In 2018, UK greenhouse gas emissions were 44% below 1990 levels even though the economy
grew by 75%. In June 2019, the UK government introduced a legally binding net-zero GHG
emissions target. A net-zero target means that some emissions are allowed provided they are
removed from the atmosphere by natural or engineered methods. Reducing net emissions to
5 100% below their 1990 level is possible but will not be achieved unless effective policies are
introduced. There will be a substantial economic cost, but the expansion of the green economy
will add to growth and create jobs. Less pollution will improve people's health, reducing
pressure on the NHS and social services.

- 10 Between 1990 and 2017, emissions from the energy supply sector fell by 60%. The decrease in
emissions resulted from changes in the types of fuel used to produce electricity and
improvements in technology.

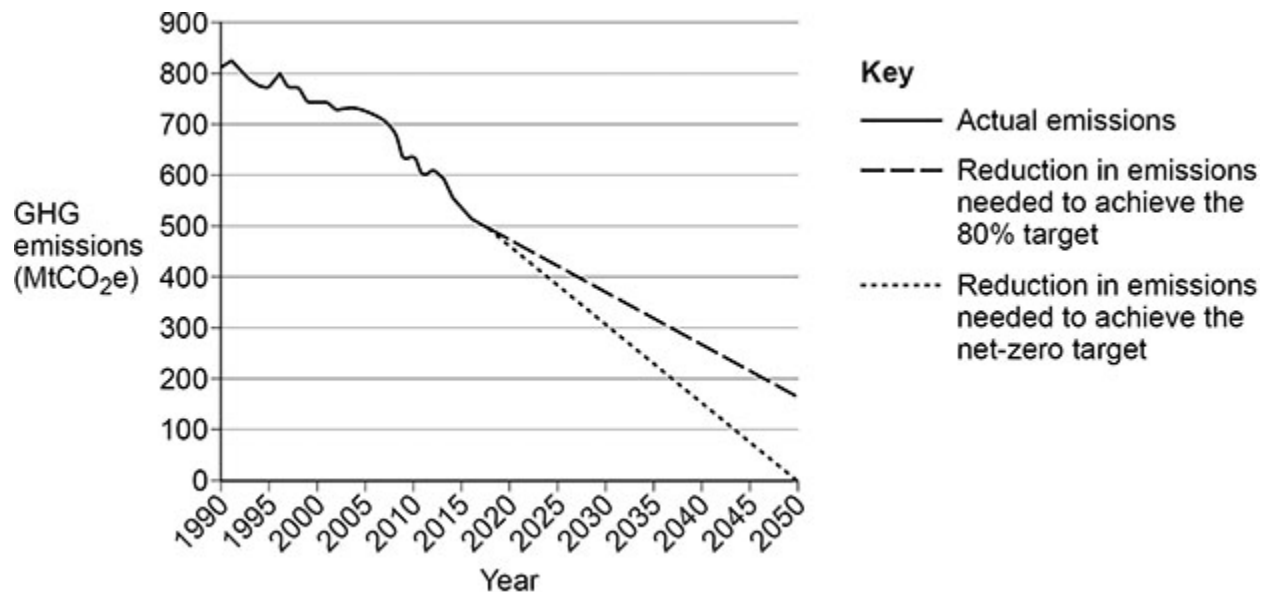
Source: News reports, January 2020

Climate change – it is not too late

Extract C: Selected indicators of greenhouse gas emissions in the UK

Figure 1: The reduction in carbon emissions needed to achieve the 80% and 100% carbon-reduction targets by 2050

The Climate Change Act of 2008 set a target for the UK to reduce GHG emissions to 80% of their 1990 level by 2050. In June 2019, this was changed to a net-zero emissions target. The diagram below illustrates how the new target affects how quickly GHG emissions have to be reduced.



Note: MtCO₂e is a standardised measure of the emissions from different greenhouse gases based upon their global warming potential.

Source: BEIS (2019)

Figure 2: Sources of greenhouse gas emissions, UK, 1990–2017, MtCO₂e

	1990	2000	2010	2017
Transport	128.1	133.3	124.5	125.9
Energy supply	277.9	221.6	207.4	112.6
Business	114.0	115.4	94.1	80.1
Residential	80.1	88.7	87.5	66.9
Agriculture	54.0	50.3	44.6	45.6
Waste management	66.6	62.9	29.7	20.3
Industrial processes	59.9	27.1	12.6	10.8
Public sector	13.5	12.1	9.5	7.8
LULUCF	0.3	–3.9	–9.1	–9.9
Total	794.4	707.5	600.9	460.2

Note: LULUCF is land use, land use change and forestry.

The negative values show that the LULUCF sector absorbed GHG emissions in 2000, 2010 and 2017. The figures may not sum to the totals due to rounding.

Source: ONS 2020, accessed January 2020

Figure 3: Sources of fuel used to produce electricity in the UK, 1990–2017, GWh

	1990	2000	2010	2017
Coal	119 950	107 594	75 878	22 530
Oil	6 524	4 805	2 037	1 615
Gas	148 077	175 653	99 875	136 746
Nuclear	85 063	62 140	70 345	70 336
Renewables	10 360	26 181	83 365	98 792
Other	4 401	2 545	4 636	5 281
Total	374 375	378 918	336 136	335 300

Note: GWh is a unit of electricity used to measure the output of large power stations.

The main GHG emissions when producing electricity come from fossil fuels such as coal, oil and gas.

Source: ONS, accessed January 2020

Climate change – it is not too late

Extract D: Solving the climate change crisis

1 In the long run, climate change will affect us all. So why don't firms and consumers act now to limit GHG emissions? One reason is that prices don't reflect the real costs and benefits. For example, when fuels which emit greenhouse gases are too cheap, they are overconsumed.

5 The earth's atmosphere is a common resource and so it is difficult to assign and enforce property rights. Economic incentives do not work effectively and markets fail to deal with global warming.

10 People are biased towards preserving their present benefits and undervalue future costs and benefits. Some producers in the fossil fuel industry are rich and powerful and are able to influence governments. The young, who will be most affected by climate change, are less powerful.

15 Carbon taxes could be used to discourage GHG emissions but it is difficult to decide how high the tax should be. Pollution permits could be introduced, but how much pollution should be allowed? Regulations that restrict GHG emissions increase firms' costs and have to be monitored. Subsidies to encourage the development of technologies that reduce carbon-emissions increase government spending. The European Commission plans to introduce a carbon border tax to protect energy-intensive industries against cheaper imports from countries with less strict climate policies, but this could breach World Trade Organisation (WTO) rules and invite retaliation.

Source: News reports, January 2020

Climate change – it is not too late

Extract E: Reducing greenhouse gas emissions has benefits as well as costs

- 1 Some policies that reduce GHG emissions increase costs and make it difficult for firms to compete internationally. Energy-intensive industries, such as steel, chemical, cement and paper manufacture, would be particularly hard hit. Production could move elsewhere and these products would be imported from countries that are less concerned about GHG emissions. If
- 5 UK policy is too restrictive, jobs will be lost and communities reliant on industries producing carbon-based products will suffer. If firms move abroad and investment in the UK economy falls, economic growth and living standards will be affected. Climate change is a global problem that cannot be solved by one country acting alone.

- 10 Nevertheless, failure to devote sufficient resources to tackling climate change now, may lead to higher costs in the future. Warmer temperatures, extreme weather, higher sea levels and flooding will damage property and vital infrastructure. More money will have to be spent on flood defences. Climate change will affect human health and reduce productivity. Some sectors of the economy will suffer, including agriculture and fishing.

- 15 Climate change provides opportunities for business to invest in clean, non-polluting sources of energy and energy-efficient buildings. Firms that win the race to supply electric vehicles and the vehicle-charging infrastructure will make substantial profits. Biotech companies will profit from developing crops resistant to the impact of climate change. The UK's success in producing wind-powered electricity from turbines provides export opportunities for UK businesses. The UK needs to compete in the growing markets for zero-carbon goods
- 20 and services.

The move towards a zero-carbon economy will involve a change in the pattern of production but the economy cannot adjust instantaneously. The short-term costs to the macroeconomy could be substantial.

Source: News reports, January 2020

THE CIRCULAR ECONOMY

Extract A

Figure 1: Global plastic production and disposal, 1950–2015, million tonnes

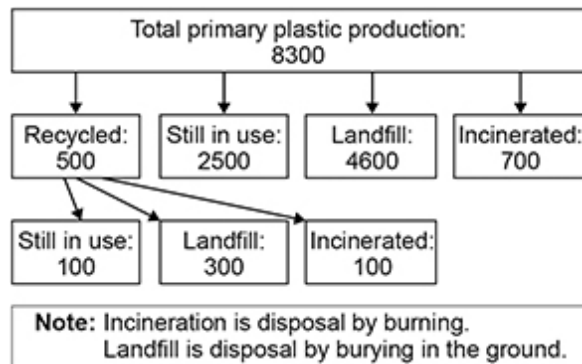
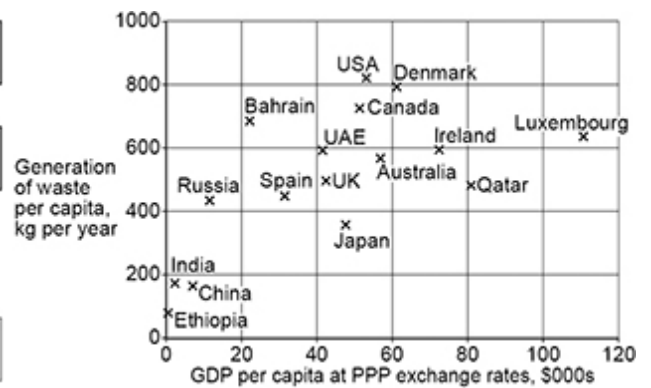


Figure 2: Generation of waste and GDP per capita, 2016, selected countries



Extract B: The global economy needs to become more circular

1 Of the 84 billion tonnes of materials produced each year by the global economy, barely 9% are reused. The United Nations (UN) suggests that better use of resources could add \$2 trillion to the global economy by 2050.

5 Environmental groups argue for a 'circular' economy, an economic system aimed at minimising waste, making the most of scarce resources and reusing precious raw materials. However, if products last longer, it may seriously damage demand in sectors such as fossil fuels, minerals and agriculture. Manufacturers' sales would fall, as would the need for shipping and other transport. Currently, many companies intentionally make it difficult to repair their products in order to increase sales. This is both economically inefficient and environmentally foolish; it
10 imposes costs on the environment even though it may make sense for individual companies.

Would a circular economy result in workers losing their jobs? Manufacturing jobs are likely to come under pressure, but new jobs would be created. According to one study, waste disposal generates just 0.1 jobs per 1000 tonnes, compared with two jobs from recycling the same amount. The environment would benefit, with fewer mines, more trees and less need for landfill
15 and incineration. Recycling aluminium saves 95% of energy compared with creating new metal. The comparable savings are 88% for plastic, 60% for steel and paper, and 38% for glass. By 2035, all European Union (EU) states will be required by law to recycle 65% of their waste, compared to an average of 40% today. But populations grow. By 2050, the world will have 2 billion more consumers, increasing the pressure on the environment.

Extract C: China bans imports of waste

- 1 While rich countries are cleaning up at home, they are exporting their 'disposable' lifestyle
around the world, by sending their waste to developing countries. Many developing countries
are now beginning to resist this. In 2018, a huge shock hit the global recycling industry. China,
the world's biggest waste importer, stopped accepting recycled plastic and paper from abroad,
5 and limited imports of cardboard. Previously, over 50% of such waste was transported to China
each year. China plans to introduce bans on most other waste imports.

- The Chinese ban removed the third part of the 'collect, sort, export' system on which developed
economies rely. Alternatives are scarce. Incinerators and landfill will take some of the surplus
waste, but the capacity of both is limited. Landfill is gradually being regulated out of existence
10 in many places, including the EU. High labour costs make hiring enough human sorters to deal
with waste volumes very expensive.

- Automation could, in time, sort some of the surplus waste, but innovation has been slow.
Although China has disrupted the whole global waste trade, many experts see some benefits in
forcing rich countries to rethink. The ban has given a boost to some entrepreneurs. Online
15 marketplaces for recycled plastics, metal and paper have grown rapidly. Recycled materials
now flow to the highest bidder and hence to the highest-value use. However, such operations
cannot compensate quickly for the Chinese ban. Many environmental economists suggest that
making firms pay for the costs of landfill associated with their products, or taxing raw material
inputs, will be necessary to ensure a sustainable future for all.

THE ADULT SOCIAL CARE MARKET

Extract D

Figure 1: Pay for care workers, compared with pay for workers in the whole economy, £s per hour, 2017

Percentile	Care worker	Whole economy
10 th	7.20	7.31
25 th	7.20	8.69
50 th	7.50	12.23
75 th	8.02	18.57
90 th	8.73	27.06

Figure 2: UK population by age (000s)

Age group	Year 2016	Year 2041 (forecast)
0–18	14 652	15 132
19–64	39 182	39 980
65–84	10 250	14 545
85–94	1 436	2 887
95+	128	360
Total	65 648	72 905

Note: The figures may not sum to the total due to rounding

Extract E: Problems in the social care market

- 1 Social care in England involves the provision of personal care to adults with needs arising from illness, disability, old age or poverty. Social care is provided to people in their own homes or in care homes. Many people in need of care are on low incomes and cannot afford to pay for it themselves. High quality care provides private benefits and also external benefits, including
- 5 lower burdens on the NHS and on working relatives. Until the 1990s, almost all workers in the care sector were employed by the government, which acted as a monopsonist by keeping wages low. Over the last 30 years the sector has been largely privatised, with 75% of England's 15 000 care homes now run for profit. Privatisation was intended to create more choice, improve efficiency and ensure high quality, whilst enabling a quicker response to
- 10 changing demand.

- Since privatisation, the sector has seen further downward pressure on wages. Social care providers, bidding competitively for contracts from local authorities starved of cash, have minimised labour costs. Privatisation does not seem to have improved the quality of care either. Some elderly clients are cared for, in their own homes, by unqualified staff in 15-minute slots,
- 15 with budgets too small to provide nutritious meals or basic care. Despite the actions of the industry regulator, the Care Quality Commission, there have been many scandals involving care homes in recent years. As a result, some have argued that there are moral and economic arguments for social care to be brought back into public ownership.

Extract F: Social care work is undervalued

- 1 There are aspects of market failure in the social care sector, though some argue that inappropriate government intervention and a lack of funding are the main reasons why the system is failing to deliver high quality care. This is a vitally important sector, yet care jobs have some of the economy's worst salaries and around a quarter of these workers are
- 5 employed on zero-hour contracts. Consequently, the sector has high levels of staff turnover (28% per year) and vacancies (6.6% of all roles). At present, many care workers are recruited from overseas and so government immigration policy affects the sector. Some suggest that the skill level of care workers is relatively low and does not justify a higher wage while others have argued for high quality training programmes. Less than half of care workers hold a
- 10 relevant qualification, and some parts of the workforce feel undervalued, are demotivated and have few opportunities for promotion.

Research from the Royal College of Nurses found that 38% of care homes were understaffed. Private social care companies have argued that the introduction of the National Living Wage, while raising average pay, has left them at risk of bankruptcy because of higher wage bills.

- 15 More than 100 care firms went bust in 2018, worsening the under-provision of care. One day, the government will have to accept the need for more generous funding. However, public finances remain under pressure. Measures such as subsidies to private providers are likely to worsen the government's budget deficit but public support for an increase in taxation to fund social care is high.

UNEMPLOYMENT AND THE LABOUR MARKET

Extract A

Figure 1: Unemployment and underemployment rates in the UK, 2007–2018

Years	Unemployment rate (%)	Underemployment rate (%)
2007–08	5.5	7.3
2009–10	7.8	9.6
2011–12	8.0	10.2
2013–14	6.9	10.1
2015–16	5.1	8.8
2017–18	4.2	7.8

Note: Underemployment is where people are working fewer hours than they wish, or in jobs that do not reflect their skills or training

Figure 2: Growth in average earnings and CPI inflation rate in the UK, 2008–2018



Extract B: Unemployment and real wages

- 1 According to a recent study on wage growth, the youngest worker today would need to wait nearly 80 years to see the average real wage in the UK double from its current level. At just 4.2%, unemployment in the UK is at its lowest level in decades. It should be the best of times, but data from the Office for National Statistics (ONS) show that the percentage of people who are 'underemployed', often working on zero-hours contracts, is greater than it was during the financial crisis of 2007–08. Some claim this is the true cause of poor real wage growth.

- 5 Supply-side reforms to labour markets are meant to boost productivity but can be damaging for some workers. Unregulated labour markets can lead to inequality and poor pay, which also reduces government tax revenue. Workers who are only temporarily employed can experience a lack of stability and firms may have little incentive to invest in human capital. Consequently, these workers may not get the opportunity to develop new skills. Firms may also face higher costs from replacing workers who leave because they feel undervalued.

- 10 It can be argued that supply-side reforms have gone too far in creating a highly flexible workforce and the government needs to do more in terms of protecting the nation's workers. There are calls for some restoration of trade union powers, more rights for workers on zero-hours contracts and measures to raise pay to ensure that workers feel the benefits of employment.

Extract C: Free market, supply-side labour market reforms

1 Free market supply-side reforms often focus on either encouraging individuals to take up work
by making it more attractive, or by making it more difficult for people to remain on
unemployment-related benefits. A feature of recent government supply-side policy has been to
create and maintain flexible working practices. The Confederation of British Industry (CBI)
5 argues that “the UK’s flexible labour market is an invaluable strength of our economy which
should be protected”. The UK’s employment rate is the highest since recent records began in
1971, and 97% of firms say the UK’s flexible labour market is vital to improving firms’
competitiveness.

10 Having a flexible workforce, which can respond quickly to changes in demand, may benefit both
businesses and workers. There is a growing need for workers to have more flexibility, whether
to allow them to balance work with such things as childcare, study commitments or as an
alternative income when work in their preferred occupation is unavailable. Some labour market
analysts also point to flexible labour markets as one of the key reasons that, after the recession
of 2008–09, unemployment did not reach the levels it did in the recessions of the 1980s and
15 1990s.

Some point to the fact the UK has the least-regulated labour market in Europe. Hiring and firing
staff is easier than in countries such as France, where the difficulty of getting rid of unproductive
workers makes firms more cautious about employing someone in the first place.
Improving workers’ productivity is the key to increasing real GDP and real wage rises. Having a
20 flexible workforce allows the UK to meet the challenges of a dynamic global economy. It not
only helps keep unemployment low, but also helps achieve other macroeconomic objectives.

TRADE WARS AND PROTECTIONISM

Extract D

Figure 1: US trade in goods with China (\$bn), 2013–2017

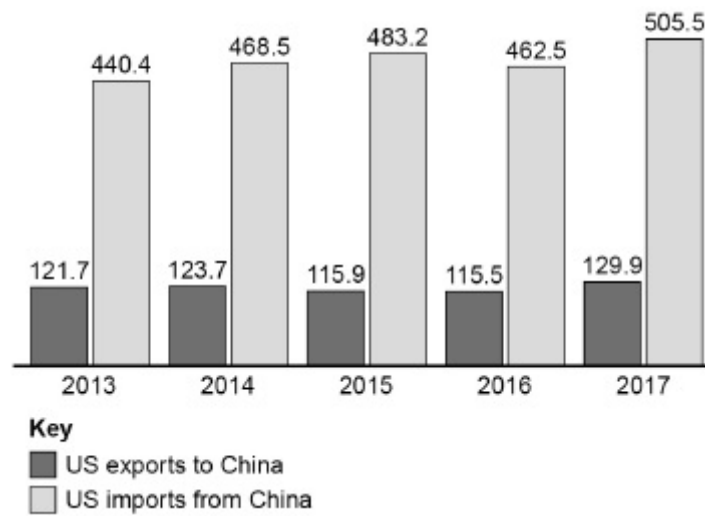


Figure 2: US trade in goods with China (\$bn), 2018

Month	Exports	Imports
January	9.8	45.8
February	9.8	39.0
March	12.4	38.3
April	10.3	38.2
May	10.6	43.8
June	11.1	44.6
July	10.3	47.1
August	9.3	47.9
September	9.8	50.0
October	9.1	52.2
November	8.7	46.6
December	9.2	46.0
TOTAL	120.4	539.5

Extract E: US and China trade wars

- 1 The International Monetary Fund (IMF) has warned that a trade war between the US and China risks making the world a 'poorer and more dangerous place' and it has lowered its forecast for global growth this year and next. The IMF's chief economist said that further trade barriers would hit households, businesses and the wider economy. Downgrades to global growth also
5 reflected predictions of a slower expansion in the eurozone as well as problems in a number of emerging economies.

- China recently announced new trade tariffs on \$60bn of US goods, including products such as liquefied natural gas, produced in states loyal to the US President, Donald Trump. In a tweet, Mr Trump warned that 'there will be great and fast economic retaliation against China if our
10 farmers, ranchers and/or industrial workers are targeted'. US tariffs on \$200bn of Chinese imports came into effect in September.

- The US and China's escalation of trade tariffs is expected to hit growth in both countries in 2019, when the boost from President Trump's sweeping tax cuts announced in 2017 will also start to fade. The IMF warned that the world faced further damage to growth if the US followed
15 through on a threat to impose a 25% tariff on all imported cars. Additional tariffs would raise prices, hit business confidence and discourage investment. Unless world leaders respond by working together to raise living standards, improve education and reduce inequality, world development will be seriously hampered.

Extract F: Protectionism in Brazil

1 Protectionism is on the rise this year, but those who support free trade say increased tariffs will
lead to higher prices, less choice and lower living standards. Others maintain that protectionism
can help economic development. Roberto Azevedo, Director General of the World Trade
Organization (WTO), concedes that trade barriers which keep foreign rivals out will encourage
5 domestic industries to grow.

Many countries in Latin America are in favour of tariffs to protect their infant industries. Tariffs
can support the growth of domestic firms that may otherwise be crushed by foreign competition.
Much of modern Brazil was built with the help of protectionist policies. Since the 1950s, foreign
companies have been motivated to set up production in Brazil to avoid high tariff barriers.
10 Government subsidies have also been used, for example, to encourage major car
manufacturers, including Volkswagen, Ford, Fiat and Mercedes, to set up factories in the
country. This inward investment has created jobs, growth and improved living standards for the
Brazilian population.

15 In Brazil, many uncompetitive industries, from textiles to computers, were able to grow due to
protectionist trade policies that made foreign goods too expensive to import. Current tariffs on
imported trucks or buses more than double the original price. The price of an Apple iPhone in
Brazil is on average 50% more than in the US, again due to tariffs. Some argue that many
developed countries that now champion free trade, only achieved economic prosperity through
protectionist policies. They believe free trade is a way in which developed economies keep
20 developing nations poor.

However, the Director of the Brazilian branch of the International Chamber of Commerce (ICC),
an organisation that supports free trade, argued that 'because Brazil is such a closed economy,
it ends up having very low productivity compared to more developed countries. If you are more
competitive you become more productive – and for that you need to be more open and more
25 integrated into global supply chains'.

Extract A: UK living standards since the 2007–2008 financial crisis

- 1 The standard of living depends on the quantity and quality of the goods and services available to people but is also affected by their health and the environment in which they live. When measuring the economic wellbeing of a country, GDP is the most commonly used indicator. Recent data show that the UK's economy is now 11% larger than it was in the second quarter of 2008. However, real GDP per capita is just 2.9% above its pre-financial crisis peak, whereas in 5 the 50 years leading up to the financial crisis, growth in real GDP per capita averaged 2.4% per year.

- On the other hand, unemployment, at 4.0%, is at its lowest rate since 1975. Immediately after the financial crisis, the recovery in employment was driven by the growth in part-time work and self-employment, but recent gains have been more broadly based. Full-time roles comprise 10 44% of the jobs created since the start of the recession in 2008.

- In real terms, average weekly earnings are still £15 below the pre-crisis peak, but the introduction of the National Living Wage in April 2016 has helped to boost the earnings of the lowest wage earners. The bottom 40% of the earnings distribution saw their real earnings grow 15 between 2016–2017 and 2017–2018, whereas the top 60% saw their real earnings fall.

Since 2010, the value of the old-age state pension has been protected and, in real terms, it has risen by 9%. In contrast, over the same period, welfare spending per working-age adult and child has fallen by almost 11% in real terms.

Extract B: Selected indicators of UK living standards

Figure 1: National income and employment

	2007	2009	2011	2013	2015	2017
Index of real GDP (2016 = 100)	91.3	87.1	90.1	93.2	98.2	101.8
Real GDP per capita (£)	29 324	27 558	28 030	28 646	29 717	30 367
Real household disposable income per capita	19 685	20 164	19 143	19 544	20 450	20 138
Unemployment rate (%)	5.3	7.6	8.1	7.6	5.4	4.4
Average hours worked per week (full-time workers)	37.2	36.8	37.0	37.5	37.4	37.4

Figure 2: Income inequality

	2006–07	2008–09	2010–11	2012–13	2014–15	2016–17
Gini coefficient	0.347	0.342	0.337	0.333	0.326	0.322
Percentage of households in poverty *	22.85	23.54	22.18	23.72	23.18	22.75

* Poverty = households with an income below 60% of the national median income.

Figure 3: Homelessness

	2007	2009	2011	2013	2015	2017
Homeless households **	99 510	64 890	76 270	82 640	85 450	86 050
Number of people sleeping on the street in England	N/A	N/A	2181	2414	3569	4751

N/A = data not available

** Homeless households are those who are sleeping on the street, do not have rights to stay where they are, or who are living in unsuitable accommodation.

Figure 4: Life expectancy and the environment

	2007	2009	2011	2013	2015	2017
Male life expectancy at birth (years)	77.6	78.3	79.0	79.2	79.2	79.5
Female life expectancy at birth (years)	81.8	82.4	83.0	82.9	82.8	83.1
Infant mortality rate***	4.8	4.6	4.3	3.9	3.9	3.9
Greenhouse gas emissions (thousands of tonnes CO ₂ equivalent)	746 377	669 181	643 560	643 692	599 451	566 378

*** The number of deaths under 1 year old per 1000 live births

Extract C: Growth of the world economy is set to slow in 2019

- 1 The International Monetary Fund has forecast that world growth will fall from 3.7% in 2018 to 3.5% in 2019, affecting the markets for UK exports. Increasing protectionism risks reducing investment and global trade flows. If all tariffs currently under consideration were implemented by all countries, they would affect about 5% of global trade. Growth in the US has remained strong but economic activity in the eurozone and China has been weaker than expected. With continuing uncertainty regarding the UK's future relationship with the EU, a slowdown in the world economy is not good news for living standards in the UK. Exports are important for UK firms, for employment and people's incomes. However, since 2015, the pound has depreciated against most major currencies and this is expected to boost net trade and make a positive contribution to UK economic growth.
- 5
- 10

Extract D: The National Living Wage and living standards

- 1 The National Living Wage (NLW), introduced on 1 April 2016, led to a substantial increase in the minimum wage for employees aged 25 and over. The government has committed to raising the NLW until it reaches 60% of median hourly earnings in 2020. When the National Minimum Wage (NMW) was first introduced in 1999, it was 45% of median earnings. However, the
5 impact of the NLW on living standards is influenced by a range of other factors such as hours worked, taxes, welfare benefits and incomes of other people in the household.

- An increase in the minimum wage may increase unemployment but, so far, the impact on employment does not seem to have been significant. However, minimum wage controls mainly affect employees undertaking routine tasks; these jobs are more easily automated as new
10 technologies are introduced. The Office for Budget Responsibility (OBR) predicted that the higher NLW will lead to 60 000 more people being unemployed in 2020.

- The NLW is not particularly well targeted at low-income households. Only 22% of low-wage workers are in the poorest 20% of households. Many of the poorest in society are not in work. For many poor households, cuts in welfare benefits will reduce their incomes by more than a
15 higher NLW is likely to boost them.

- The Living Wage Foundation estimated that, in 2018–2019, a realistic living wage in London would be £10.55 per hour and £9.00 per hour in the rest of the UK. However, the NLW is only £7.83 per hour. They believe that paying a realistic living wage is the right thing to do. They also argue that it improves relations between staff and managers, increases motivation, reduces
20 absenteeism, improves the retention of staff and increases productivity.

Since the financial crisis, productivity growth in the UK has been weak; productivity is only between 2% and 3% higher than 10 years ago. Consequently, a higher NLW has meant some firms have increased prices and others have accepted a reduction in profits.

Extract A: Take-up of concessionary bus travel schemes for the elderly in England by gender, 2005–2017

Year	Male (%)	Female (%)
2005	47	58
2007	62	70
2009	71	78
2011	75	81
2013	73	79
2015	72	78
2017	67	71

Note: Concessionary travel schemes involve free or a reduced price of travel

Extract B: Why should the elderly be entitled to free travel on buses?

- 1 Since 2010, both men and women have been able to apply for a bus pass for free off-peak bus travel when they reach the female State Pension age. By October 2020, this will rise to 66. There used to be regional variations but there is now a national scheme, funded by the UK government. For an annual fee, those over 60 also receive a third off most rail fares.
- 5 What is the justification for letting elderly people travel on buses for free? Various social, economic and environmental reasons have been given, covering both private and external benefits. As well as the ability to visit friends and family, there is improved access to shops, health care and other vital facilities. Many older people also contribute to the economy through voluntary work or child care, the value of which has been estimated to be £10 billion and
- 10 £3 billion respectively. There is evidence that without free bus travel, a third of these journeys would be made by car adding to congestion, air pollution and traffic-related accidents. Reduced demand for bus travel could lead to fewer bus services, resulting in less availability for paying customers. Currently, the additional 'free' passengers help to spread the fixed costs.
- 15 It has been claimed that each £1 spent on the scheme generates nearly £3 in benefits. Research also suggests that the benefits go more to those on lower incomes and/or without a car, helping to combat the effects of an inequitable distribution of income and wealth.

Extract C: Is continued free bus travel for elderly people justifiable?

1 When the State Pension was introduced in 1948, a 65-year-old could expect to live another 13.5 years. By 2017, this had risen to 22.8 years. Recent figures predict that the number of people over the State Pension age in the UK will grow by a third between 2017 and 2042, from 12.4 million to 16.9 million. Many of these pensioners have reasonable incomes.

5 Bus operators are paid to provide free bus travel on the basis that they are 'no better and no worse off' as a result. Government spending on such travel is therefore based on demand. Bus companies also receive subsidies to operate routes in rural areas which would otherwise be unprofitable. However, with the squeeze on public expenditure, funding for these supported services has been cut by 45% since 2010, whilst bus fares have risen by 13% above inflation and over 3000 routes have been cut. With both central and local government looking to make savings of billions of pounds, is free bus travel for the elderly as important, for example, as educating children or emptying bins?

10

Both the take-up rate and number of journeys per bus pass have been falling in recent years, so the free bus pass scheme for the elderly may still be workable. However, as fares continue to rise, along with the number of people eligible for a pass, the basis for the scheme may need rethinking. Perhaps the time has come to stop free bus travel for the elderly or to limit it to certain groups?

15

Extract D: Rates of cigarette smoking in Great Britain by gender, 2005–2017

Year	Male (%)	Female (%)
2005	25.3	22.7
2007	22.1	19.7
2009	22.0	20.2
2011	21.0	18.8
2013	21.6	16.8
2015	19.1	16.6
2017	18.7	15.0

Extract E: The decline of conventional smoking

- 1 There have long been concerns about links between smoking and some illnesses. In 2015,
smoking was blamed for approximately 79 000 deaths, accounting for 20% of male and
13% of female deaths. Action on Smoking and Health (ASH), an anti-smoking campaign
5 group, has estimated that the cost to society of smoking is about £13 billion a year. They
claim that about half of all life-long smokers will die prematurely, with their life expectancy
cut by about 10 years. However, it is not just the private costs that concern the government,
it is the full social cost.

- In 1974, 46% of those 16 and over were cigarette smokers but by 2017 this had fallen to 17%.
Fewer under-18s now smoke but girls are more likely to be regular smokers. The decline has
10 been attributed to a variety of measures including tougher regulation. Also, between 2006 and
2016, the price of tobacco rose by 43% more than general retail prices with the tax now being
about 80% of the price. Those on low incomes are hit hardest, particularly since they are more
likely to smoke.

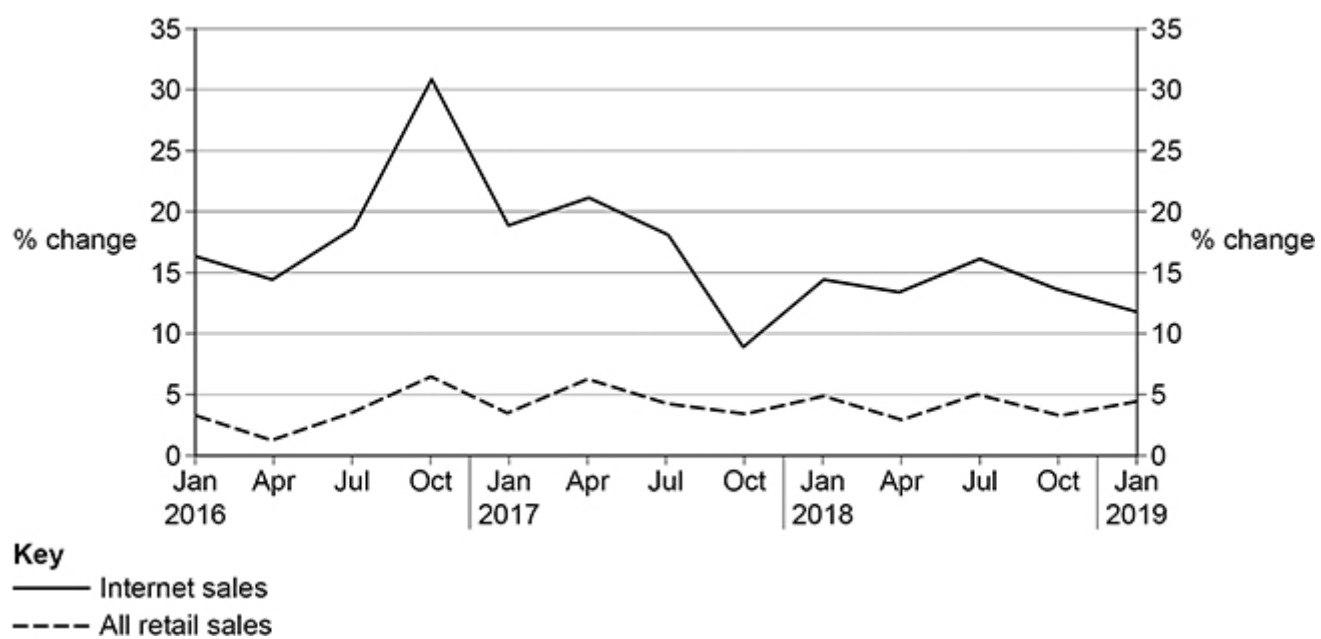
- People who want to stop smoking have traditionally used patches, gum or even hypnosis.
15 Recently, sales of these quitting aids have slowed as vaping/electronic cigarette (e-cigarette)
sales have soared. In 2012, UK sales of e-cigarettes were £44 million but in 2013 sales rose
340%, encouraged by the major tobacco firms, worried about lower sales in many countries.
However, the growth of e-cigarettes has fallen since, with some smokers switching back to
conventional cigarettes and some uncertainty about the health effects of e-cigarettes.

Extract F: The rise of the e-cigarette

- 1 According to the Office for National Statistics, 17% of women and 22% of men have tried e-cigarettes, although fewer claim to be current users. Use of e-cigarettes also remains very low among young people; just 2% of 11 to 18-year-olds use e-cigarettes at least weekly. E-cigarettes do not contain tobacco but smokers receive nicotine in a vapour. This makes them
- 5 less appealing and some believe that about one in ten who smoke e-cigarettes may start smoking conventional cigarettes. However, the main reason people give for their use is to help to stop smoking. According to the NHS website, of the 2.9 million adults who use e-cigarettes, 1.5 million are ex-smokers. They claim that there is a much smaller risk of harm than from conventional cigarettes and this view has been supported by the Royal College of Physicians.
- 10 There is strict legislation about labelling, advertising and where e-cigarettes can be used, but in 2016 the Medicines and Healthcare Products Regulatory Agency approved the use of one brand of e-cigarette. This classed it as a medicine which could lead to its prescription on the NHS, perhaps saving money in the long term. Some experts believe many lives could be saved by people vaping instead of smoking but the World Health Organization has concerns about the
- 15 effects on third parties.

What more, if anything, should be done in the e-cigarette market? Sweden is now the only EU country with a smoking rate lower than the UK. Should the UK government promote a particular brand of e-cigarettes as a 'healthy alternative' to conventional cigarettes? Should the use of e-cigarettes be discouraged or has government intervention already gone far enough?

Extract A: UK retail sales, percentage change on same month a year earlier, January 2016–January 2019



Note: All retail sales include internet sales but exclude automotive fuels.

Extract B: The changing retail industry

1 The retail industry continues to grow, yet there is clear evidence that the pattern of consumer
spending is changing. In November 2013, when Black Friday* was first introduced to the UK,
the average weekly value of all retail sales in the UK was £6 806.7 million, including internet
sales of £827 million. However, by November 2018, internet sales accounted for 21.5% of all
5 retail sales, with a value of £1 819.6 million.

Clearly, high street retailers face difficult trading conditions. Falling demand and rising costs,
due to rises in business rates, an increasing minimum wage and a falling exchange rate, have
meant that some are unable to survive. According to the accountancy firm PWC, 2692 stores
run by retailers with multiple outlets closed in the first half of 2018. Taking into account pubs,
10 restaurants and other shops, a further 4042 premises became empty, increasing spare capacity
in the economy.

Inevitably, job losses will follow. The Office for National Statistics (ONS) said there were 93 000
fewer retail jobs in the three months to the end of September 2018 compared to a year earlier.
In 2017, the British Retail Consortium warned there could be up to 900 000 fewer jobs over the
15 next decade, which is a huge concern given the industry is the biggest employer in the private
sector.

In the November 2018 budget statement, the then Chancellor of the Exchequer, Philip
Hammond, acknowledged the importance of the high street to communities and local
economies. He announced 'Our Plan for the High Street', a range of supply-side policies
20 designed to help town centres evolve. It includes reductions in business rates and an injection
of £675 million into a 'Future High Streets Fund', to be used for local projects including
improved transport infrastructure.

***Note:** Black Friday is the day after the US holiday of Thanksgiving, regarded as the first day of the Christmas
shopping season, on which retailers make many special offers.

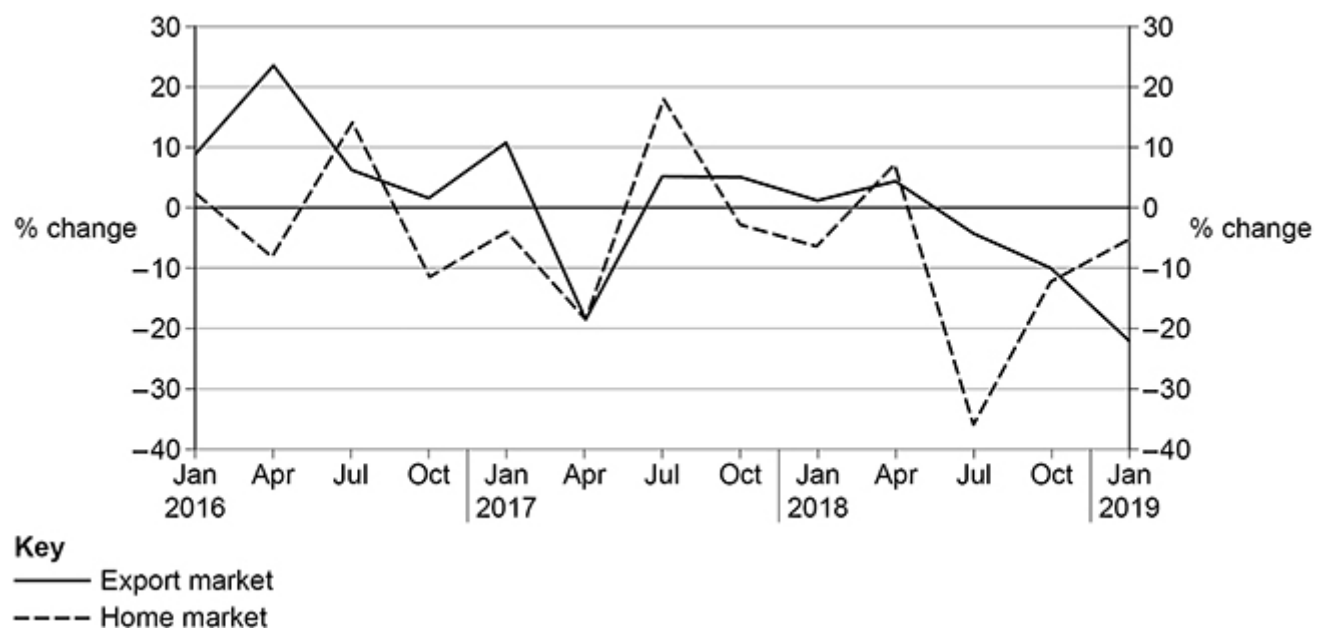
Extract C: Aggregate demand and economic activity

- 1 So, is the changing retail industry and the decline in the high street bad news for the economy?
Not necessarily. Many new jobs are being created, for example, in technology, distribution and
delivery. Household consumption accounts for approximately 60% of aggregate demand so
5 has a vital role to play in the economy, but consumption also includes spending on services,
and nowadays services spending is gaining a greater share of consumers' disposable income.
Slower growth in consumption can also help to prevent too much inflationary pressure.

- Besides, what of the other components of aggregate demand? Unfortunately, investment is
falling. The ONS estimated that business investment fell by 1.1% to £46.9 billion between the
second and third quarters of 2018, the third consecutive quarter-on-quarter fall. The total trade
10 deficit widened during 2018 to £32.3 billion; even though the value of exports increased, the
increase in the value of imports was greater.

- However, Keynesian economists believe that when an economy slows the government should
increase its spending to stimulate economic activity. UK Government finances have improved
recently and, if required, the Chancellor now has more flexibility to increase government
15 spending to give the economy a boost.

Extract D: UK car production for export and home markets, percentage change on same month a year earlier, January 2016–January 2019



Extract E: UK manufacturing and the objectives of macroeconomic policy

1 In recent years, car production has been the success story of UK manufacturing, the recipient of
large amounts of foreign investment, and experiencing record employment, but now the future
looks less bright. A 17-year high was reached in 2016, with 1.7 million vehicles produced,
1.35 million of which were exported overseas. In the year to December 2018, only 1 237 608
5 cars had been exported and 281 832 had been produced for the home market. Some car
manufacturers, such as Jaguar Land Rover, have announced redundancies, and the Japanese
firm, Honda, has decided to close its entire UK plant, with the loss of up to 3000 jobs. When the
impact on component manufacturers and the negative multiplier effects are taken into account,
10 the increase in unemployment will be considerably more. Inevitably, the volume of exports will
fall, and it is highly likely that the trade deficit will increase further.

In the three months to November 2018, falling car production was the largest downward
contributor to the decline in the manufacturing sector, as output contracted by 0.8%, but other
areas are suffering as well. Philips intends to close its baby-bottle factory, Airbus is ceasing
production of its A380 aeroplane, and Hitachi has suspended work on a multi-billion pound
15 nuclear power plant.

Economic growth is one of the main objectives of macroeconomic policy. It leads to job creation
and can help to reduce inequalities in the distribution of income and wealth. Yet such grim
news in manufacturing makes growth more difficult to achieve. The Office for Budget
Responsibility (OBR) and the Bank of England have reduced their growth forecasts for the UK
20 for 2019, and it was not entirely unexpected that real GDP growth slowed to only 0.2% for the
final quarter of 2018.

Extract F: Conflicting objectives...or not?

- 1 Despite the gloomy expectations within the economy, the unemployment rate remains very low at 4% and the employment rate hit a high of 75.8% in the final quarter of 2018, with 32.6 million people in work. Traditionally, economists would have predicted a trade-off between unemployment and inflation. As more workers receive higher in-work income, consumption
- 5 would be expected to rise, leading to short-run economic growth. As firms' costs increase this adds to inflationary pressure. Yet this potential macroeconomic conflict has failed to materialise: CPI inflation fell to a below-target rate of 1.8% in January 2019, a two-year low, mainly due to lower energy and fuel prices.
- 10 Consequently, monetary and fiscal policies can remain expansionary, to provide the necessary stimulus to help reverse the slowdown in economic activity. The Government can devote its attention towards dealing with the challenges faced in manufacturing. It could use supply-side policies to create incentives to ease structural change; jobs lost in one industry could be created in another, and in the long term the economy can improve. However, it is not easy for a government to achieve all of its macroeconomic objectives at the same time as conflicts do
- 15 arise. An increase in government spending or reduction in taxes could lead to a growing budget deficit. The Government should also be mindful that if confidence improves and the manufacturing industry picks up, it will be difficult to avoid more inflationary pressures.

THE MARKET FOR SAND

Extract A

Figure 1: Indices of US producer prices for sand, Jan 2010–Jan 2018 (Jan 2010=100)

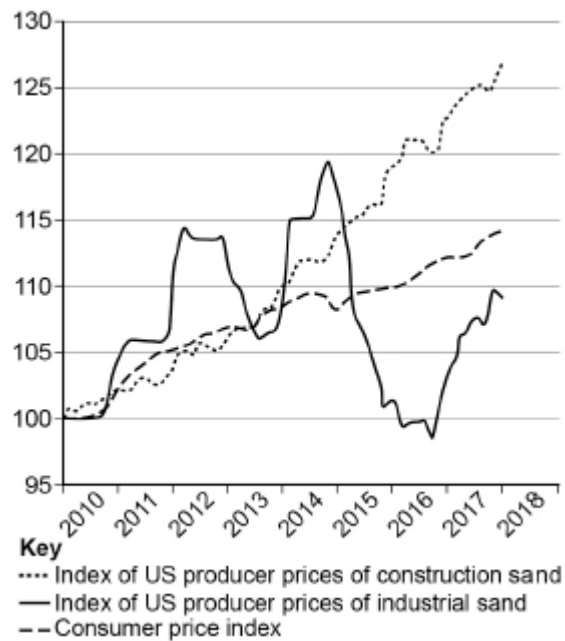
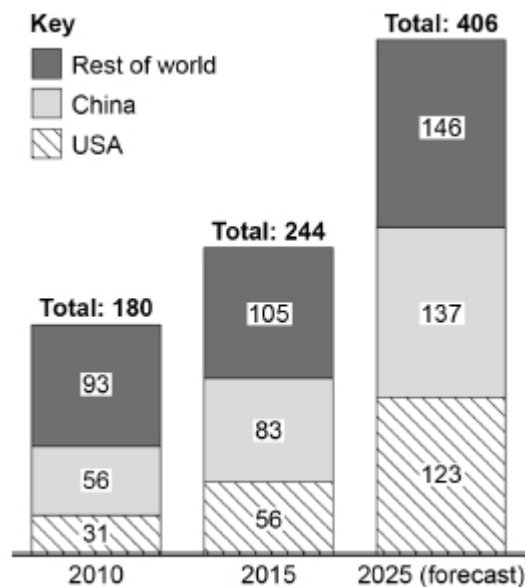


Figure 2: Global demand for sand (millions of tons), 2010–2025



THE MARKET FOR SAND

Extract B: Is the world running out of sand?

- 1 Sand is in high demand. Sand accounts for up to 85% of all mining and the global depletion of sand is rapidly exceeding its natural renewal rate. Sand is mostly used in the construction industry to make concrete and asphalt. Chinese demand has risen significantly, reflecting the country's rapid pace of construction: it built 32.3 million houses and 4.5 million kilometres of
- 5 road between 2011 and 2014. Sand also has industrial uses: it is used to make glass, electronics, and to help extract oil in the fracking industry. While market demand for industrial sand has tracked overall economic growth in the USA, the demand for fracking sand has been as volatile as oil prices.
- 10 Vast quantities of sand are dumped into the sea to reclaim land: Singapore, for example, has expanded its land area by over 20% since the 1960s. Much of this sand originates from Indonesia, where sand miners have completely erased over 20 islands since 2005. The Maldives and Kiribati have used sand to shore up their islands against rising sea levels. The United Nations forecasts that, by 2030, there will be over 40 'megacities', home to more than 10 million inhabitants (up from 31 in 2016), which means more housing and infrastructure will
- 15 need to be built. Also, sea levels will continue to rise and so sand will only become more sought after. But why is there a shortage when sand seems so abundant? Desert sand is too smooth, and so cannot be used for most commercial purposes. Australian sand was shipped to a faraway desert to build Dubai's Burj Khalifa tower, made possible by cheaper transportation. Most countries have rules in place about where, and how much, sand can be mined. However,
- 20 surging demand has sparked a lucrative illegal trade in many rapidly developing countries which is damaging the environment, causing pollution and harming local biodiversity.

THE MARKET FOR SAND

Extract C: The need for international action

- 1 There are currently no international conventions to regulate sand extraction, trade and use. Critics argue that the international community needs to treat sand like a resource on a par with clean air, biodiversity and other natural endowments that nations seek to manage for the future.
- 5 In the developed world, concerns have led to restrictions on where sand can be mined. In the USA, for example, mining it offshore or near large residential areas is restricted. Regulations are also in place in many developing countries. Indonesia, Malaysia and Cambodia have all placed restrictions on exports, although the rules are not always enforced. There is a particular problem of ineffective enforcement in India, with organised criminal networks ignoring rules and conducting unregulated sand mining.
- 10 Substitutes for sand do exist. Mud can be used for land reclamation, straw and wood for building houses, and crushed rock for making concrete. In some rich countries a shift towards these alternative production processes is already under way as sand prices rise. In the UK, sand demand is 25% less than in 2007, and 28% of building materials used in the UK in 2014 had been recycled. Rising prices will eventually also force builders in developing countries to
- 15 explore alternatives to sand. But without better law enforcement, high sand prices also make illegal mining more profitable.

THE BRITISH RAILWAY SYSTEM

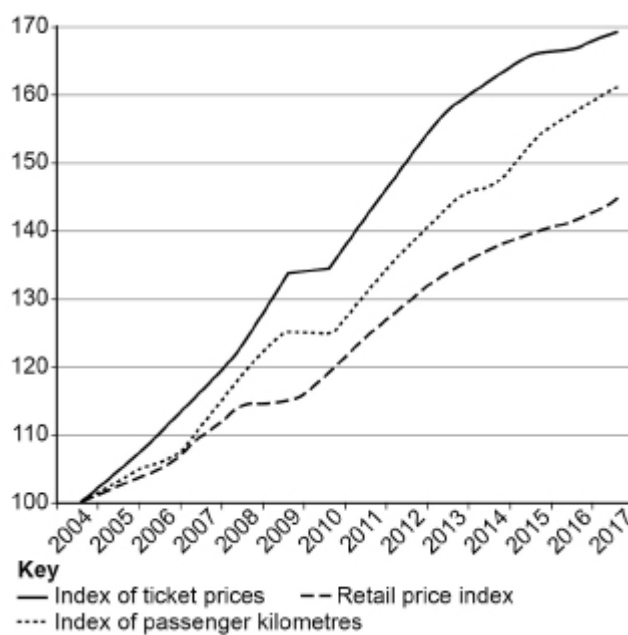
Extract D:

Figure 1: UK (excluding Northern Ireland) rail industry income, 2010–2016

£ millions	2010–11	2015–16
Passenger income	7 588	9 160
Government funding	6 182	6 697
Network Rail income	2 565	2 300
Other income	793	833
Total	17 128	18 990

Passenger income as % of total	44%	48%
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Figure 2: Indices of UK rail ticket prices and passenger kilometres, 2004–2017 (2004=100)



THE BRITISH RAILWAY SYSTEM

Extract E: Privatisation of British Rail

- 1 'More competition, greater efficiency and a wider choice of services', proclaimed the 1992 Government white paper that advocated the privatisation of British Rail. Two decades on, passenger journeys have more than doubled from 735 million in 1994–5, to 1.7bn in 2016–17. But how much of this is due to the benefits of privatisation, rather than factors such as
- 5 increasing urban congestion and a rising population? The UK's trains and tracks are more intensively used than in any other European market except the Netherlands. Investment is up, at around four times (in real terms) the £1.6bn a year it averaged in the late 1980s. The data on service quality are mixed. The UK performs well in terms of punctuality and reliability, but many journeys are uncomfortable. At peak hours 23% of London commuters have to stand.
- 10 Instead of pushing British Rail into the private sector as a natural monopoly, the Government split it up and sold it in no less than 100 pieces between 1995 and 1997. Privatisation was supposed to unleash efficiencies that would justify the returns private operators demand for their services. However, a recent study shows that the cost of running the UK's railways is 40% higher than in the rest of Europe. "The train you catch is owned by a bank, leased to a private
- 15 company, which has a franchise from the Department for Transport to run it on track owned by Network Rail, all regulated by another office, and paid for by taxpayers or passengers," says Prof John Stittle.

Since 1996, government subsidies have almost doubled in real terms. Ticket prices are now 25% higher in real terms than in 1995 and 30% higher than in France, Sweden and Switzerland.

THE BRITISH RAILWAY SYSTEM

Extract F: A return to Government ownership?

- 1 In May 2018, the Government allowed Virgin and Stagecoach to end their East Coast mainline
franchise three years early, after claims they had lost more than £100 million. This has led to
accusations that private companies can just walk away whenever profits dry up. When their
predecessor, National Express, gave up the East Coast line franchise in 2009, it was
5 renationalised. During the following five years under state control, it increased ticket sales,
returned about £1bn to the taxpayer and improved customer satisfaction. Encouraged by this
success, the Labour Party has proposed rail renationalisation of the entire UK network. Recent
polls suggest almost 75% of the UK population agree, although opponents contend that most of
the British public really don't care about who runs the trains; what they care about is reliability,
10 comfort and price.

- Part of the appeal of rail renationalisation comes from the low up-front costs: by taking over
operations as franchises expire, the Government would avoid having to spend billions in buying
out private companies. The Labour Party's plan involves reversing the splitting up of the service
so that customers receive a simplified ticketing system with improved efficiency, although this
15 may impact on dynamic efficiency and innovation.

Opponents of nationalisation argue that the train operating companies are efficient and not
making excessive profits. "Profits are about 3.4% across the industry", says Mark Smith, a
former government regulator. "So if you eliminated all profits overnight you would get a one-off
3.4% cut in fares, which isn't going to set the world on fire."

GDP AND LIVING STANDARDS

Extract A:

Figure 1: Selected data for Costa Rica, UK and USA, 2015/2016 unless stated

	Costa Rica	UK	USA
GDP (PPP \$bn)	69.6	2 518.1	16 890.2
Population (millions)	4.9	64.7	321.8
Mean years of schooling	8.7	13.3	13.2
Infant mortality rate (under 5s per 1000 births)	9.7	4.2	6.5
Average annual increase (%) of the HDI (1990–2015)	0.7	0.6	0.3
Gini coefficient (average 2010–2015)	0.49	0.33	0.41
CO ₂ emissions (tonnes per capita)	1.6	6.2	16.1

Footnote: PPP = Purchasing Power Parity
HDI = Human Development Index

GDP AND LIVING STANDARDS

Extract B: What is GDP?

- 1 Imagine £50 notes stacked on top of each other, stretching almost 4500 kilometres into the sky. This fantastically large amount of money (more than £2 trillion) is the current estimated value of the UK's Gross Domestic Product (GDP).

- 5 GDP is the standard measure of the size and health of a country's economy but it is important to distinguish between nominal and real GDP. It's the way we measure and compare how well or badly countries are doing. In other words, it is the total value of the output of goods and services produced in an economy over a period of time. The higher the value of GDP, the bigger the economy. If injections into an economy's circular flow of income increase, then this may generate multiple increases in GDP, depending upon the size of the marginal propensity to consume.
- 10

- Why is the measurement of GDP important? Well, it's a way of keeping track of how the economy is doing, and whether it is growing. We can also use it to measure one economy against other economies using purchasing power parity exchange rates. If real GDP goes up, the economy is doing well; this is associated with higher incomes, more jobs and higher spending. If real GDP goes down, the economy is not doing so well; this is associated with falling incomes, lower consumption and a lower standard of living.
- 15

UK FISCAL POLICY AND TAXATION

Extract D

Figure 1: UK Government expenditure and tax receipts, 2009–2021

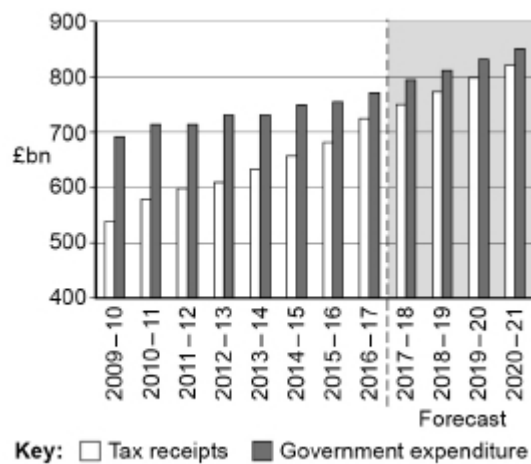


Figure 2: Marginal income tax rates in Scotland and the rest of the UK, April 2018

Scotland		Rest of the UK	
Tax Band £	Tax Rate	Tax Band £	Tax Rate
0 – 11 850	0%	0 – 11 850	0%
11 851 – 13 850	19%	11 851 – 46 350	20%
13 851 – 24 000	20%		
24 001 – 43 430	21%		
43 431 – 150 000	41%	46 351 – 150 000	40%
150 001+	46%	150 001+	45%

UK FISCAL POLICY AND TAXATION

Extract E: Deficit reduction

- 1 In 2017, the Chancellor of the Exchequer claimed that the government was on course to create a budget surplus by 2025. However, the Office for Budget Responsibility (OBR) has suggested that the budget deficit will not be wiped out until 2031. This is 16 years later than originally forecast.

- 5 The Government borrowed £52bn in 2016–17, a fall of £20bn compared to the year before, as the long struggle to eliminate the deficit moved closer towards its goal. However, the OBR has forecast a 'weaker' economy than it did just nine months ago; it expects economic growth to slow and government borrowing to rise as a result. The OBR also delivered the biggest downgrade to productivity growth in its history, with output per hour expected to be 4.6% lower in 2022 than originally forecast.

- 10 The financial crisis of 2007–08 led to a budget deficit of almost 11% of GDP in 2009–10; the deficit has now fallen to 2.6% of GDP, the lowest level of borrowing since 2007–08. If growth could be increased, the budget deficit would fall much faster.

- 15 Why is deficit reduction so important in the first place? Firstly, there are the negative effects of larger interest repayments caused by a higher national debt. There is also the argument that public spending crowds out the private sector. Some economists point to the effects on future generations and the possibility that the government's credit rating may fall if borrowing is high.

UK FISCAL POLICY AND TAXATION

Extract F: Scottish income tax

1 In most of the UK, reducing the budget deficit has focused on austerity rather than tax rises.
However, the Scottish Government has announced that from April 2018, Scotland will have
different rates of income tax to the rest of the UK, with changes that will see higher earners pay
more and lower earners pay less. There will be a new tax band of 21% for those earning more
5 than £24 000. The higher rate of tax will be increased from 40% to 41% and the top rate from
45% to 46%. A starter rate of 19% will also be introduced. The move to a 'five-band' income
tax system should mean that nobody earning less than £33 000 in Scotland will pay more tax
than they do now.

10 Estimates show that 55% of Scottish taxpayers will pay less compared to the rest of the UK
under the new system, with higher earners paying more. Someone in Scotland earning
£150 000 will pay £1774 more than if they lived elsewhere in the UK, with someone earning
£40 000 paying £140 more. The extra revenue raised will be used to give public sector workers
a 3% pay rise for those earning less than £30 000, and a 2% rise for those earning more than
15 that, and will help towards the cost of providing superfast broadband to all premises in Scotland
by 2021.

Some business leaders have warned that Scotland cannot afford to be associated with higher
taxation than the rest of the UK. The Finance Minister for Scotland, Derek Mackay, claimed the
changes could raise an additional £164 million and were necessary to "mitigate UK budget cuts,
protect our NHS and other public services, support our economy and tackle inequality in our
20 society". He said the tax reforms would make "Scotland's income tax system even fairer and
more progressive". He resisted a bigger increase in the top rate of tax for those earning more
than £150 000, aware that high earners may find ways to avoid paying it.

THE UK'S BROKEN HOUSING MARKET

Extract A: The UK housing market

- 1 The housing market is a large part of the UK economy, comprising over 28 million residential dwellings. Buying a house is the largest investment that many people will make in their lifetime. Most owner occupiers finance the purchase of their house by borrowing, using a mortgage provided by a bank or building society. However, the UK housing market is changing, with
- 5 fewer people owning their own homes and more people renting from private landlords or housing associations, but the number of dwellings rented from local authorities has fallen. Housing associations and local authorities provide social housing at rents that are generally below the free market level.

Extract B: Putting a roof over our heads

- 1 In 1997, the median price of a house was less than four times median earnings. Today the median price of a house is almost eight times median earnings, an all-time record. As a result, it is difficult to get onto the housing ladder, and the proportion of people living in the private rented sector has doubled since 2000.
- 5 More than 2.2 million households with below-average incomes spend a third or more of their disposable income on housing. This means they have less money to spend on other things and struggle to save the money needed for the deposit to buy a house.

- Building more homes will slow the rise in house prices and should also bring the cost of renting down. For decades, the pace of house building has been too slow. Since the 1970s, there
- 10 have been on average 160 000 more new homes each year in England. The consensus is that we need more than 225 000 new homes each year to keep up with population growth and to tackle years of under-supply.

The most basic of human needs – a safe, secure home to call your own – isn't just a distant dream for millions of people, it's a dream that's moving further and further away.

Extract C: Selected indicators of the affordability of buying a house

Figure 1: Standard variable mortgage interest rate charged to UK households, December 2007 to December 2017

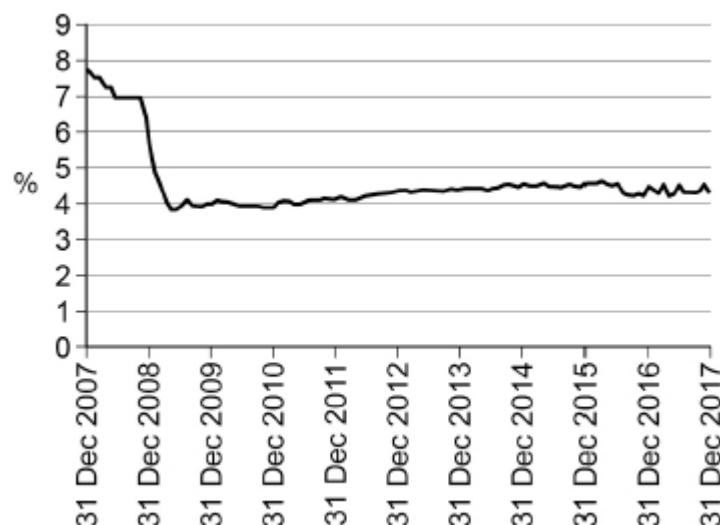


Figure 2: Mortgage payments for first-time buyers in the UK as a percentage of mean take home pay, 2007 Quarter 4 to 2017 Quarter 4

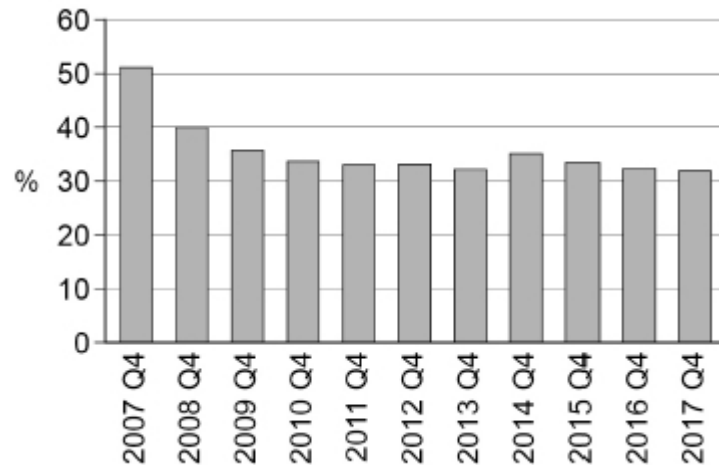


Figure 3: House price to earnings ratio for first-time buyers in the UK, 2007 Quarter 4 to 2017 Quarter 4

Date	Ratio
2007 Q4	5.4:1
2012 Q4	4.3:1
2017 Q4	5.2:1

Figure 4: Average UK house price, average weekly earnings in nominal terms and their annual percentage changes, December 2007 to December 2017

Date	House price	House price, annual percentage change	Weekly earnings	Weekly earnings, annual percentage change
December 2007	£189 193	7.0	£425	2.9
December 2008	£160 954	-14.9	£435	2.4
December 2009	£168 082	4.4	£439	0.9
December 2010	£168 703	0.4	£449	2.2
December 2011	£167 048	-1.0	£457	1.8
December 2012	£168 843	7.7	£462	1.0
December 2013	£177 971	5.4	£468	1.4
December 2014	£191 669	7.7	£480	2.5
December 2015	£204 919	6.9	£489	1.9
December 2016	£215 500	5.2	£498	1.9
December 2017	£226 756	5.2	£512	2.8

Extract D: Changing UK house prices

- 1 The housing market is very sensitive to the economic climate and shocks to the macroeconomy. The demand for housing is affected by income, wealth, the availability and cost of credit, as well as households' expectations and confidence in their future economic prospects. The financial crisis of 2007–08 had a significant effect on the housing market. House prices fell by around 5 15% between January 2008 and March 2009. Since then the UK economy has recovered, and house prices have risen. Also, planning rules restricting the supply of land for building and the failure to adopt innovations that reduce the cost of constructing houses have influenced the underlying rate of growth of house prices in the UK.

Extract E: Mending the UK's broken housing market

- 1 Problems in the housing market affect the rented sector as well as people who want to buy a home of their own. House prices and rents are higher in the UK than in many other countries. Average rents in the UK are between 40% to 50% higher than in the Netherlands, Belgium, Germany and France. This has led some to argue that rent controls should be imposed to 5 prevent private landlords exploiting their tenants. Others have responded by stating that high rents are the market signalling that there is a shortage of supply and that rent controls will reduce the supply of properties to rent, making the problem worse.

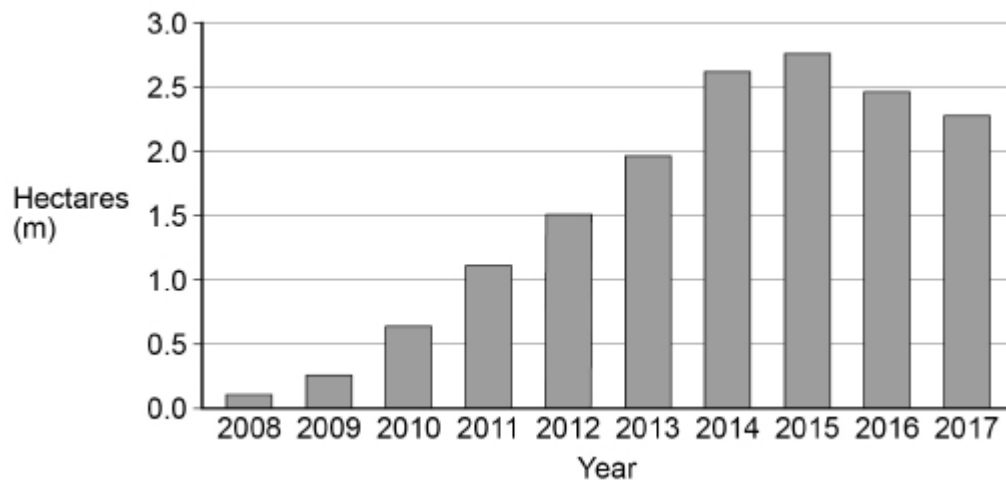
- Decent quality housing is often regarded as a merit good. A range of government policies exist to help people afford a reasonable place to live. These include the payment of Housing Benefit, or Universal Credit, to help people on low incomes pay their rent, and the Help to Buy Scheme. 10 Such measures increase the demand for houses, but do they increase supply or just increase the cost of housing?

- It is widely accepted that more houses should be built, and the Government has an ambitious target to increase housing supply by 300 000 each year by the mid-2020s. The November 2017 15 budget included total support for housing of £44 billion over a five-year period. Some believe that this is insufficient to support the private sector, housing associations and local authorities in ensuring that the supply of houses increases sufficiently to provide people with a suitable place to live. In 2016–17, total public-sector expenditure on services amounted to £711.5 billion, of which £10.4 billion was spent on 'Housing and community affairs' compared to £144.3 billion on 20 'Health' and £37.1 billion on 'Defence'. The budget deficit was £46 billion. If the Government spends more on housing, how will that affect the macroeconomy?

- It is not all about governments spending more money; planning laws affect the amount of land available for development. Such restrictions raise the price of land for building, which increases property prices, allowing developers and landlords to make speculative gains. If local 25 authorities released more land for housing and eased restrictions on where houses can be built, some believe that the housing shortage could be eliminated without an increase in government spending, but at what cost to the environment?

PALM OIL

Extract A: Certified sustainable palm oil production area (millions of hectares), 2008–2017



Note To be 'certified sustainable' requires firms to meet criteria which help to minimise the negative impacts of growing palm oil on the environment and communities in palm oil-producing regions.

PALM OIL

Extract B: The importance of palm oil

- 1 Palm oil is the world's cheapest and most popular vegetable oil with over 30% of the market. It is used for cooking throughout the world, both in the food industry and in homes, particularly in Africa and parts of Asia. Palm oil can be used as a cheap substitute for butter so for many poor people, palm oil is an important part of their diet. According to one source, average
5 consumption per person worldwide was 7.7 kg in 2015. Palm oil is also used to make soap, washing powder and biofuel.

- With growing populations in emerging economies, the demand for palm oil for food has doubled over the last 15 years. Rising concerns about other less healthy fats have led to stricter food labelling requirements in some countries. The World Health Organization believes that the fat in
10 palm oil can also cause health problems, including higher cholesterol which may lead to heart disease.

- Malaysia and Indonesia, in south-east Asia, produce over 80% of the world's palm oil. The industry has provided much-needed export revenue as well as jobs and improvements to infrastructure. It has helped to reduce poverty and, in the case of Malaysia, it has also reduced
15 its specialisation in rubber and tin. Another important reason for the increased popularity of palm oil with growers is that it is the most productive oil crop, yielding five times as much oil per hectare as rapeseed, eight times as much as sunflower and ten times as much as soybean yields. Therefore, it seems that the palm oil industry has much to offer to both consumers and producers in a variety of industries.

PALM OIL

Extract C: So what's the problem with palm oil?

- 1 The environment is a scarce resource. The high yield of trees producing palm oil and increased demand have encouraged farmers to plant more. However, this has resulted in cutting down forests which are home to animals such as the orangutan. In the dry season, there is an increased risk of fires in south-east Asia as forests are cleared and the surrounding areas can be affected by clouds of ash for several weeks, causing breathing problems.
- 5

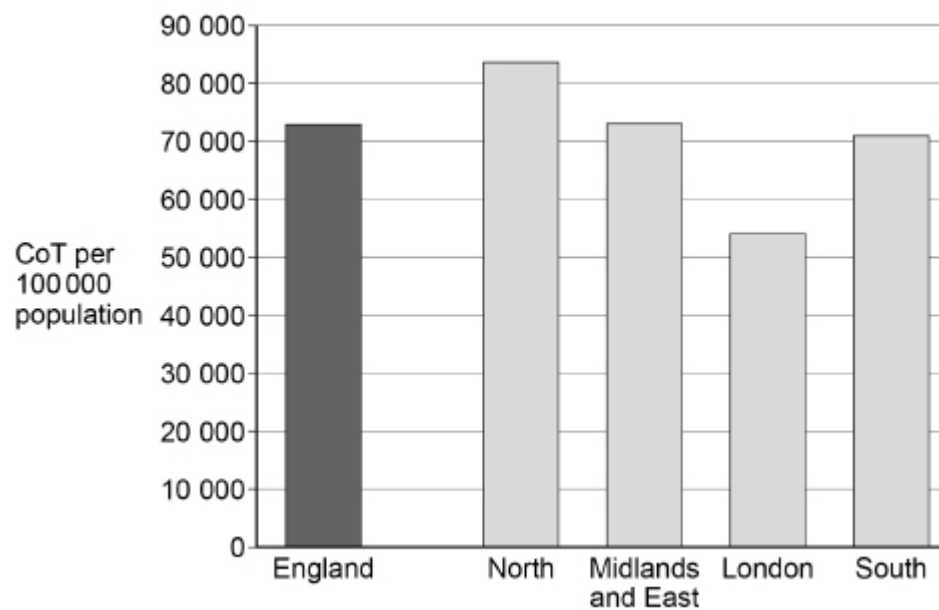
- So, what can be done to take advantage of the benefits but limit the problems of palm oil production and use? The Malaysian government has said that it will restrict the growth of palm oil plantations so that 50% of the country remains covered by forest. Also, since December 2014, palm oil must be listed as a separate ingredient on food labels in the European Union (EU) rather than just under the general heading of 'vegetable oil'.
- 10

- In 2004, the Roundtable on Sustainable Palm Oil (RSPO) was formed 'to promote the production and use of sustainable palm oil for people, planet and prosperity'. If growers and retailers, such as Waitrose and Starbucks, agree to be environmentally responsible and comply with certain standards, their brands can then be RSPO certified. However, meeting such standards adds to firms' costs and the prices paid by consumers. By 2016, only 19% of world palm oil was certified as 'sustainable'.
- 15

- Is enough being done? Who gains and who loses from controls on the palm oil industry? For example, should there be limits on the use of palm oil for biofuel, the so-called 'food versus fuel debate'? Is more international agreement required, and if so, about what? Or should the industry be left to market forces?
- 20

DENTAL CARE

Extract D: Courses of dental treatment (CoT) per 100 000 population in England, by NHS region, 2016–17



Note: A 'course of dental treatment' involves a single payment even if it includes more than one visit to the dentist to complete the work needed.

DENTAL CARE

Extract E: Is the current UK dental system 'fit for purpose'?

- 1 The recommended time between dental check-ups varies between 3 months and 2 years, depending on the person's dental health. A check-up can identify problems with teeth and gums, which may be more difficult to treat later: poor dental health is linked with an increased risk of heart disease and strokes. However, concerns are growing about the ability of the UK
- 5 dental system to provide an adequate service. In 2016, a letter from over 400 dentists to a national newspaper claimed that the NHS dental system in England was 'unfit for purpose'. Inadequate spending by government, targets to increase the number of patients treated and a lack of education about basic dental care have all been blamed for making the work of dentists very difficult. Meanwhile, a growing population is increasing the demand for dental care.
- 10 Dental care is one of the few services provided by the National Health Service (NHS) where people have to pay part of the cost, although it is provided free to children and those on certain benefits. However, the lack of access to NHS treatment in some parts of the UK, particularly in England, has forced some people to pay the higher cost of private dental care whilst others go without or go elsewhere. In Dewsbury, West Yorkshire, Dentaaid, a charity which mainly works
- 15 in poorer countries, recently trialled a scheme to offer emergency dental care for poor and vulnerable people, who only paid if they could afford to.

Staff shortages have attracted many foreign dentists but it may become more difficult for foreign dentists to work in the UK when we leave the European Union (EU). Given all these problems, a review of the current system for providing dental care in the UK may be needed.

DENTAL CARE

Extract F: What else could be done?

- 1 Recent NHS figures show that 48% of adults and 31% of children have not seen a dentist for two years. Research by Healthwatch, a group that promotes the interests of consumers, claims that in some areas, only 1 in 5 dental surgeries is taking on new NHS patients. However, NHS England has stated that over 90% of people who wanted an NHS dental appointment during the
5 previous two years got one. So, is there a crisis or not?

- Currently, about 60 000 people are admitted to hospital each year because of tooth decay, three-quarters of them children. With over 90% of dental diseases being preventable, perhaps there should be more education to reduce children's sugar consumption. Unlike Wales and Scotland, England does not have a national programme aimed at improving children's dental
10 health. The Royal College of Surgeons has suggested supervised tooth-brushing sessions in all nursery schools in England. Hopefully, policy interventions such as the new tax on sugar-sweetened drinks will help but parents also have an important part to play.

- Another relatively recent change has been the growth of 'dental tourism'. Prices for many dental treatments in Hungary, for example, are about half those of the UK, and more people are
15 choosing to go abroad for dental treatment. Cheap flights from low-cost airlines have also made such trips more affordable. It could be argued that the dental care industry is therefore becoming a more competitive market, with foreign clinics offering state-of-the-art equipment and friendly, English-speaking staff.

- 20 Taking all the evidence into consideration, is there a need for the government to take more action to improve dental health in the UK, and if so, what should be done? Or is the current system still 'fit for purpose'?

ARTIFICIAL INTELLIGENCE

Extract A: Industry employment and the potential for automation, selected UK industries, 2017

Industry	Employment (000s)	Percentage of jobs with the potential for automation
Accommodation and food services	1 784	65
Agriculture, forestry and fishing	351	61
Construction	2 367	45
Education	3 266	27
Health and social work	4 177	35
Information and communication	1 278	23
Manufacturing	2 943	49
Professional, scientific and technical activities	2 340	32
Transport and storage	1 602	58
Wholesale, retail and repair of motor vehicles	4 195	64

Note: Automation can be described as the use of technology to perform a process or procedure without human assistance.

ARTIFICIAL INTELLIGENCE

Extract B: Artificial intelligence: a cause for concern

- 1 Artificial intelligence (AI) refers to the creation of technology that makes it possible for machines to behave 'intelligently', to learn from experience and perform human-like tasks. It has the potential to enhance the quality of our lives in many ways, from 'smart' gadgets that act on our spoken instructions, to driverless cars. Predictably, AI and the use of robots have led to greater automation of tasks. A report by the Institute for Public Policy Research (IPPR) suggests that up to 44% of jobs in the UK could feasibly be automated which could equate to around 13.7 million job losses.

- 10 Whilst the timescale is uncertain, the changes are expected to take place over the next 10 to 20 years. Inevitably, some types of employment, industries and regions are likely to be affected more than others, and consequently we might expect to see a sharp rise in structural unemployment. According to the report, jobs in the north-east of England and Northern Ireland are most at risk. Subsequently, those affected would suffer a huge loss of spending power, and given that many of the job losses are expected to be in low to middle-income occupations, where the workers tend to spend a high proportion of their wage, the impact on the economy is likely to be severe. There could be a large fall in consumption, and the downwards multiplier and accelerator effects should not be underestimated.

ARTIFICIAL INTELLIGENCE

Extract C: Seizing the opportunities

- 1 Automation might not necessarily be all bad for the economy. The IPPR report suggests it is likely to transform jobs rather than eliminate them and new jobs will be created. Greater use of technology has the potential to increase UK productivity by as much as 1.4% each year, which would help to repair the UK's productivity gap and be a welcome boost to economic growth. In
- 5 addition, increasing productivity should enable workers to benefit from pay increases without creating inflationary pressure. However, the gains might not be shared equally, with only those workers who have the opportunity to retrain, or who are capable of using the most advanced machinery, seeing their incomes rise. This is likely to make it harder for the Government to achieve a more equitable distribution of income.
- 10 The Government is committed to embracing automation and overcoming potential obstacles. It has announced increased government spending on technological education and training. This will help to deal with skills shortages and the reskilling of unemployed workers. Funding has also been allocated to improving infrastructure, to try to ensure that the worst affected regions are not left behind.
- 15 Investment by firms should also increase. This is because one of the main determinants of investment is the need to keep up with changes in technology, taking advantage of the benefits of automation, such as increased efficiency and productivity. These enable firms to maintain a competitive edge. However, in the current climate of uncertainty, firms may require more encouragement to invest, for example, by the government providing subsidies or tax incentives.

UK EXPORTS

Extract D: Total UK exports and imports with selected non-EU countries, 2016

Country	Value of exports £ billion	Value of imports £ billion
Australia	8.6	4.5
Brazil	3.0	2.4
Canada	8.3	7.1
China	16.8	42.3
India	5.7	9.7
Japan	12.5	11.5
Saudi Arabia	6.2	2.2
South Africa	4.3	4.4
Switzerland	21.0	13.7
USA	99.6	66.3

Note: Automation can be described as the use of technology to perform a process or procedure without human assistance.

UK EXPORTS

Extract E: A world of opportunities

- 1 At the end of 2017 there was good news about UK exports. According to Bank of England data, UK firms have been taking advantage of the weaker value of the pound, which fell significantly in the months after the UK voted to leave the EU. Exports have been increasing to the main markets of Europe and the USA, as well as to other markets, such as Australia, the Far East and India. In addition, the Bank of England reported that export activity had increased across a range of sectors, for example, construction materials, chemicals and accountancy services.
- 5

- Economists at Standard Chartered Bank say there are many more exporting opportunities. They have identified the Emerging 7 (E7)*, a group of seven countries with whom the UK currently has annual exports of £24 billion. Collectively these countries represent over 50% of the world's population and 20% of global GDP. With young, growing populations and expanding middle classes, their GDP is likely to grow steadily for many years. Consequently economists believe that closer trading links with the E7 could add almost £10 billion per year to UK national income. This would be a welcome boost at a time of low domestic demand due to falling real incomes and high consumer debt repayments.
- 10
- 15 The UK's total trade deficit widened in the three months to January 2018. This was partly due to a £1.3 billion increase in the value of goods imported. Given that the UK is very dependent on imports, it is important that the increase in exports seen towards the end of 2017 is sustained. It is needed to reduce the trade deficit and have other positive impacts on the economy.

UK EXPORTS

Extract F: But are the benefits likely to be sustained?

- 1 An increase in exports should help to reduce unemployment, which is already very low at 4.2%. The multiplier effect of an increase in exports should lead to further increases in short-term growth, but can the benefits be sustained?

- 5 Firms need to ensure that the goods and services they produce for export markets are genuinely competitive, rather than merely relying on a weaker pound. When the Bank of England increased Bank Rate, the value of the pound against the US dollar increased sharply, so the benefits of the weak pound cannot be relied upon indefinitely. The UK economy continues to grow, albeit slowly. Hopefully, firms will feel encouraged by the increases in demand and output, and, according to the accelerator process, this should have positive effects
- 10 on investment. Further investment and innovation should lead to efficiency and productivity gains, which should result in improvements in international competitiveness.

- 15 Recently the UK has experienced disinflation, yet the CPI rate of inflation is currently 2.7%, still above the Government's target. Given that the global economy is expanding at its fastest pace for seven years, and the UK is currently benefiting from this growth, there could be further pressure on inflation. Consumption is also expected to rise as some workers start to see long-awaited real pay increases. However, this could lead to cost-push inflation if productivity gains are not achieved. In response, the Bank of England has hinted at an earlier than expected tightening of monetary policy to try to reduce the impact of these potential inflationary pressures.

LIBRARIES

Extract A: Percentage of people aged 16–24, 25–44 and 75+ who had visited a public library in England in the previous year, 2008/09 to 2015/16

Year	16–24 (%)	25–44 (%)	75+ (%)
2008/09	42.8	43.7	35.0
2009/10	40.0	40.9	32.9
2010/11	34.4	44.6	37.1
2011/12	34.5	44.0	38.9
2012/13	32.3	42.2	36.5
2013/14	33.4	40.4	33.3
2014/15	28.5	41.3	31.6
2015/16	27.4	37.4	34.3

* A public library consists of books and other information, provided mainly free of charge to the general public by local authorities.

LIBRARIES

Extract B: What has happened to the local library?

- 1 Many years ago, a library was a place where you went to borrow a book or perhaps to find
peace and quiet to study. However, a recent survey found that only a third of adults had used a
library in the previous year, a significant fall since data collection began in 2005. Reasons why
fewer people are using libraries include less free time, getting books from elsewhere, including
5 eBooks and preferring to use their leisure time for other activities. Changes in technology and
lifestyles have caused many to question the purpose of the local library.

- Despite this, in the year 2014/15, there were more library visits than to the cinema, Premier
League football matches and the top 10 UK tourist attractions combined. Libraries offer health
information, provide support for businesses and a venue for community events. They promote
10 lifelong learning and help people to live healthier and happier lives. A recent study put the value
of using libraries frequently, in terms of 'life satisfaction', at £1359 per person per year. Many
people in rural areas rely on mobile libraries, where large vehicles carrying a range of books
and other resources visit regularly.

- 15 In 2015, about 11% of the UK population lacked internet access. Library staff and volunteers
can help with online services and it is important that people have opportunities to develop new
skills, which could also increase labour mobility.

- In December 2016, the Department for Culture, Media and Sport published a plan for public
libraries over the next five years. Their aim is to increase the use of libraries by raising
awareness of what they do. A more innovative approach may be needed. Closer links with
20 other cultural organisations such as museums and schools, musical activities and talks by local
authors, could attract more users.

LIBRARIES

Extract C: Who should provide libraries?

- 1 Traditionally, libraries were funded by local authorities, such as Manchester City Council, helped by grants from central government. As the number of visitors and borrowers has fallen, many libraries have closed or been transferred to community groups, often run by volunteers. In Wales, for example, there were 1241 paid library jobs in 2010 but only 979 in 2016, whilst in
- 5 Oxfordshire, the number of volunteers rose from 108 to 831 between 2010 and 2015. Volunteering can improve people's skills and self-confidence, help their career prospects and productivity, as well as make use of the spare time of the retired. However, Philip Pullman, author of His Dark Materials, believes "It is exploiting people's goodness and willingness to work".
- 10 Faced with funding cuts, local authorities have to make difficult choices which have an opportunity cost. People's views differ and are influenced by moral and political judgements. A relatively small amount, approximately £762 million, was spent on libraries in England in 2014/15. This is perhaps surprising given their huge impact, including their positive externalities.
- 15 The first Libraries Week will be held in October 2017, an ideal opportunity to promote what libraries offer. It is hoped that by 2021, England's international literacy ranking will be higher, with more people reading for pleasure and closer links between libraries and local schools.
- A library is not a public good so it does not have to be provided by the state. Perhaps libraries should undertake fundraising or ask wealthy donors for support? Charging for services or links
- 20 with businesses and other local organisations may also provide much-needed funds.

AGRICULTURE

UK agriculture, forestry and fishing – employment, index of output and milk price, 2009 to 2016

Year	Employment in agriculture, forestry and fishing (000s)	Output in agriculture, forestry and fishing (2013 = 100)	Milk price (pence per litre)
2009	389	97.1	23.7
2010	419	96.5	24.7
2011	404	107.1	27.4
2012	426	99.3	28.1
2013	369	100.0	31.6
2014	419	113.9	31.5
2015	368	115.3	24.5
2016	370	111.4	22.7

AGRICULTURE

Extract E: UK agriculture in crisis?

- 1 Currently 68% of food consumed in the UK is produced in this country but the National Farmers Union (NFU) believe this could drop to 53% unless action is taken. The decision to leave the European Union (EU) has added to the uncertainty faced by farmers. A NFU representative described it as “one of the biggest challenges facing the industry but...a unique opportunity”.
- 5 Although, over time, the EU has reduced its intervention, many farmers have relied on subsidies, minimum price controls or other interventions to help them to survive or to finance improvements.

- 10 Recently, UK milk prices have fallen due to excess supply. One prediction was that 20% of dairy farms would close in 2016. Others may switch to other types of farming or offer holiday accommodation. But, if farms close, prices could then start to rise again. Extreme weather conditions in some parts of the world may also increase many agricultural prices. Inequality will always exist but which is worse – lower incomes for farmers or higher prices for consumers? Improved technology could increase productivity but many farmers are struggling to finance this due to falling or volatile prices.

- 15 And what about the environment? Many people accuse modern farming methods of damaging wildlife habitats and polluting rivers but farmers also play a part in managing and protecting the countryside. Should there be more restrictions on what farmers can do or should they receive more government support?

AGRICULTURE

Extract F: Crisis? What crisis?

- 1 The fall in the value of the pound since the Brexit vote has increased some import prices by 16% whilst UK grain exports have been at their highest for 20 years. Dairy prices are expected to rise in 2017 due to lower supply and strong demand – a growing world population needs feeding. Incomes are likely to rise for many farmers but higher costs of imported fuel and
5 fertiliser may prevent this.

Poultry farmers have been doing better recently, with strong demand for eggs, particularly free-range, and significant productivity gains. However, the cost of feed and the avoidance of diseases such as avian flu are crucial.

- 10 Sales of organic food have also been rising steadily in the last few years, partly due to their alleged health benefits. More than half the baby food now sold in the UK is organic. However, organic food is usually more expensive since strict standards lead to lower yields.

- Genetically modified (GM) foods do not occur naturally but have been developed by scientists to resist disease and increase yield. Some people fear that the food produced is unsafe but others claim that the increased output could raise revenue for farmers and lower prices for consumers.
15 Currently, no GM crops are grown commercially in the UK but the first GM products were sold in British supermarkets in 1996. Leaving the EU will enable us to explore this area further.

- It is clearly a time of uncertainty for the UK farming sector as over 40 years of EU involvement is replaced but by what? Should the UK government take an active role in agriculture, and if so, what policies should it implement? Or should it leave the sector to market forces with little, if
20 any, intervention?

ECONOMIC SHOCKS AND THE UK ECONOMY

Extract B: Tales of the unexpected

- 1 Looking back, 2016 could be described as a year of unexpected events. When, contrary to many forecasts, UK citizens voted to leave the European Union, it was arguably one of the largest economic shocks to affect the UK economy in a long time.
- 5 It was widely anticipated that weaker aggregate demand and significantly slower economic growth would follow, but this did not occur. In the three months to the end of July 2017 unemployment fell by 75 000, bringing the unemployment rate down to 4.3%, its lowest since 1975. Quarterly growth peaked in the final quarter of 2016 at 0.7%, though the economy has grown more slowly in the first two quarters of 2017.
- 10 So why did the UK economy perform better than expected? There are several reasons. The Bank of England's Monetary Policy Committee loosened its monetary policy in an attempt to prevent a downturn in the economic cycle. The Chancellor of the Exchequer, Philip Hammond, stated that the Government was no longer committed to achieving a budget surplus by 2020. Amongst other plans, he announced more government spending on infrastructure, housing, and research and development, all designed to boost productivity. Consumer confidence did not
- 15 appear to be lower and consumption remained strong. The UK economy was more resilient and adaptable than many people expected.

ECONOMIC SHOCKS AND THE UK ECONOMY

Extract C: So what happens next?

- 1 It is clear that the UK economy faces an unpredictable future. Inflation is on the rise again, fuelled by cost-push pressures resulting from a fall in the value of the pound, making a rise in Bank Rate seem more likely. Firms may delay investment decisions until they have a better idea of what a post-Brexit UK will look like. Two banks have announced that they will each cut
- 5 1000 jobs in London and transfer staff to mainland Europe. Some economists believe that a reduction in the level of economic activity and an increase in unemployment are inevitable.

- Yet whilst there are challenges ahead, there are also opportunities. During late 2016 the Government gave the go-ahead to the construction of the third runway at Heathrow airport in London, expected to cost around £17.6 billion, and to the extraction of shale gas in the North
- 10 West of England. Other investment projects include plans by a firm in Cornwall to launch the lithium mining industry, and in Wales there is optimism regarding the production of tidal energy. In addition, the fall in the value of the pound is likely to increase demand for UK exports and reduce the trade deficit. All of these have the potential to create many jobs and lead to strong multiplier effects, both locally and nationally.

A NEW APPROACH TO GOVERNMENT POLICY

Extract D: Northern Powerhouse * funding (January 2017)

Local enterprise partnership (LEP) **	Amount of funding, £m
Cheshire and Warrington	43.3
Cumbria	12.7
Greater Manchester	130.1
Humber	27.9
Lancashire	69.8
Leeds City Region	67.5
Liverpool City Region	72.0
North Eastern	49.7
Sheffield City Region	37.8
Tees Valley	21.8
York, North Yorkshire and East Riding	23.7

* The Northern Powerhouse refers to a plan to boost economic growth in the North of England, particularly in Manchester, Liverpool, Leeds, Sheffield and Newcastle.

** Local enterprise partnerships (LEPs) involve local authorities and businesses working together to help determine local economic priorities and lead economic growth and job creation within the local area.

A NEW APPROACH TO GOVERNMENT POLICY

Extract E: A more active role for government

- 1 In January 2017, the Prime Minister, Theresa May, launched the Modern Industrial Strategy. She explained that this industrial policy, part of the Government's supply-side policy, would be 'underpinned by a new approach to government...a new, active role that backs business and ensures more people in all corners of the country share in the benefits of its success'. The
- 5 previous Coalition Government had taken a less active role in the economy, and had placed a greater reliance on the private sector to ensure economic prosperity.

- The policy named five areas that could receive 'special government support': low-carbon-emission vehicles; digital technology in manufacturing; the creative sector; the nuclear industry; and life sciences. Potentially millions of pounds are available for research and development to
- 10 aid innovation and technological progress. The Government has also promised a new system of technical education, better transport infrastructure and regional support, such as that given to the Northern Powerhouse. All this combined should contribute to steady and sustainable economic growth.

- In addition, the tax and benefits system will continue to be an important part of Government
- 15 policy. The creation of incentives for individuals to work, and for UK and foreign firms to invest, must be balanced with the need to raise sufficient revenue to provide crucial public services such as healthcare and education. Progressive taxation in the UK has been reduced in recent years, and the 2017 Budget Report stated the intention to reduce the rate of corporation tax further to 17% by 2020.

THE GLOBAL CONTEXT

Extract B: Coal mining around the world

1 Over 6 billion tonnes of coal are currently produced annually worldwide. The top five coal
producers are China, the USA, India, Australia and South Africa. We have become used to
worrying about 'peak oil' (the time when oil starts to rapidly run out) and we describe fossil
5 fuels as a 'finite' resource. However, in February 2015, scientists reported that trillions of
dollars' worth of coal, oil and gas are available but should not be extracted if the global
temperature rise is to be kept under the 2 degrees centigrade (2°C) safety limit agreed by
leaders of the world's nations. If the scientists are correct, and if the politicians keep their
word on the 2°C limit, then energy companies could be wasting their time and money in
10 seeking out new, more expensive oil and gas sources. In 2013, fossil fuel companies spent
over £400 billion on exploration.

This means, in effect, that unless some new technology is discovered to remove carbon
emissions from coal when it is used, there is no future for coal mining. Many scientists say
that coal should be the first fossil fuel industry to have its remaining reserves simply left
underground. Some politicians are still sceptical of the science of climate change and claim
15 that policies like that of abandoning fossil fuels would be bad for business, making energy
unaffordable, affecting costs, and making industries uncompetitive. Others argue that the
predicted effects of global warming, such as extreme weather events, droughts and flooding,
would be even worse for business. However, it is still not clear whether the 2°C target can
be achieved unless aircraft can find a new means of propulsion, all cars are run on electricity
20 and coal fired power stations are urgently replaced by something else that will 'keep the
lights on'.