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ECONOMICS TODAY

In this issue:

- ▶ Why are we irrational?
A look at behavioural economics
- ▶ The new television deal for football
- ▶ Competition in UK banking and the rise of the challenger banks
- ▶ Tax breaks and tax avoidance
- ▶ Fluctuations in the value of the pound and the euro
- ▶ Public goods, private goods and free riders



The long, slow road to recovery

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The long, slow road to recovery

George Buckley, Chief UK Economist, Deutsche Bank, shows how the global economy is struggling to recover since the 2007 financial crisis

The financial crisis casting a long shadow

Since the financial crisis of 2007 and associated global recession which followed it, the recovery in gross domestic product – the amount of output an economy produces – has failed to impress. Time and time again we have been disappointed as one event after another has conspired to derail the recovery. The debt fuelled boom in the run up to 2007 has left a long shadow.

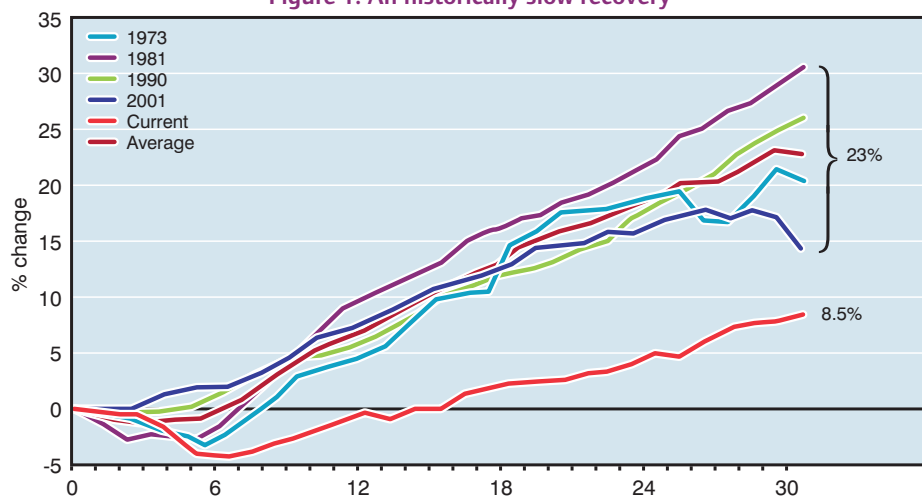
Among the major developed regions of the world, North America (the US and Canada) has been the best performer when it comes to the post-crisis recovery. There are, however, two important caveats to this statement. First, while the rise in aggregate output is larger in these countries than their competitors, the recovery has been uninspiring relative to those of the past. Take the previous four recessions/recoveries in the US, for example – in the early 1970s, 1980s, 1990s and 2000s. At this stage of the game – that is, about eight years on from the onset of recession – GDP on average had risen by close to 25% from its pre-recession peak. This time, the increase in output has been less than 10%. In other words – the US has outperformed its competitors, but by historical standards it's been nothing to write home about, as Figure 1 shows.

The importance of aggregate vs. per capita GDP

The second caveat relates to demographics, and highlights the use of the word 'aggregate' when referring to GDP above. While North America outperforms its peers when it comes to total GDP, that is not true of 'per capita' GDP. Per head of population, it is Germany that is the outright best performer – explained by the fact that Germany's population has been falling over recent years.

When we look at demographics, there are two highly important metrics that define a country's economic make-up. There is the growth rate of the population itself, and then there is the dependency ratio – the number of people of working age relative to those of non-working age. Among the G7 and the BRIC (Brazil, Russia, India & China) economies there is only one country where demographics are expected to move in a direction supportive of aggregate GDP – i.e. higher populations and lower dependency ratios. That country is India. For some countries, such as Germany, Japan and Russia, demographics are moving in precisely the opposite direction – falling populations and rising dependency ratios, both negatives for aggregate output. Of course that looks to be changing dramatically in the case of Germany as it accepts significant numbers of migrants from the south.

Figure 1: An historically slow recovery



Source: Haver Analytics, Bureau of Economic Analysis



The long-run growth outlook

As a result, the International Monetary Fund's latest long-run (five years ahead) forecasts do not come as a surprise. For the first time, the IMF now expects the Indian economy to grow at a faster rate than that of China in the long-run, as Figure 2 shows. Demographics is not the only factor, however. Much is expected of India's relatively new prime minister, Narendra Modi, who was elected a year and a half ago. He has a long list of reforms that he will attempt to pass through parliament, including making the labour market less sclerotic and limiting unionisation. It will be tough going – there is much opposition to change, and it will take a long time before India moves significantly up the 'Ease of Doing Business' rankings (it is in the bottom quartile of all countries in the world on this indicator).

The slowdown in China

At the same time economists are generally optimistic on India's long-term economic prospects, they have brought down those for China. The IMF expects annual growth of 'only' around 6% for China in five years' time. While that might seem strong (China's 6% is higher in a single year than the UK economy has grown over the past seven years cumulatively) it is a far cry from the 10%-plus rates of growth enjoyed in the first decade of this millennium.

There are both structural and cyclical elements to China's slowdown. Structurally, the Chinese government is encouraging a shift in the country's focus from being an export- and investment-led economy to one in which its population spends more. It would be surprising were this adjustment process to produce no teething troubles along the way. Moreover, demographics have played an important role in generating strong Chinese growth in the past as migrants moved from rural jobs to higher-value-added urban employment. After internal migration has run its course – and there are signs that it has already eased off – so too will economic growth slow. At the same time as these structural adjustments China looks to be experiencing a cyclical weakening too, which the central bank is addressing by loosening monetary policy. This has included cutting interest rates and the proportion of commercial banks' cash holdings that have to be held at the central bank – thereby freeing up more lending in the economy.

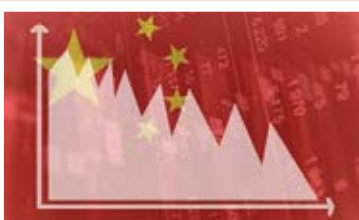
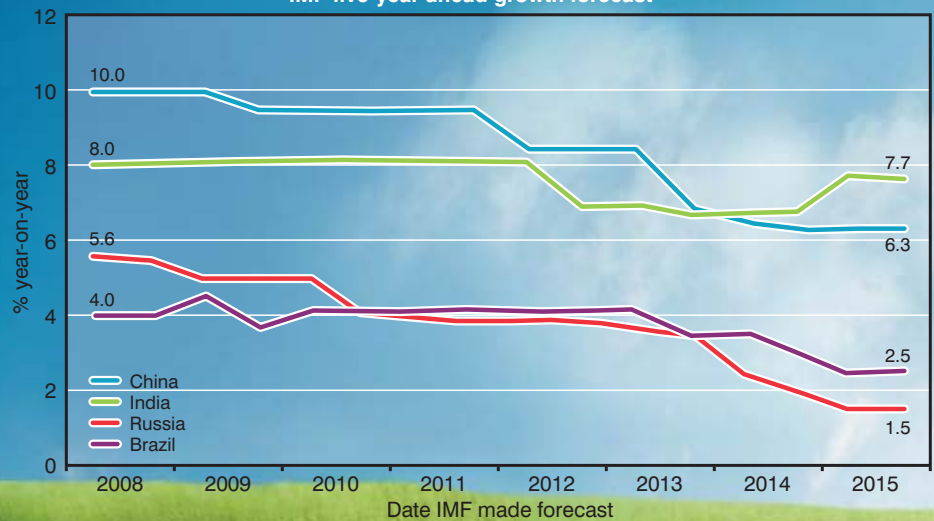
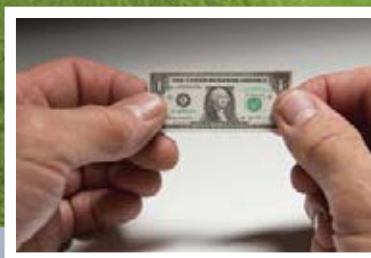


Figure 2: India is outpacing China
IMF five-year ahead growth forecast



Source: International Monetary Fund



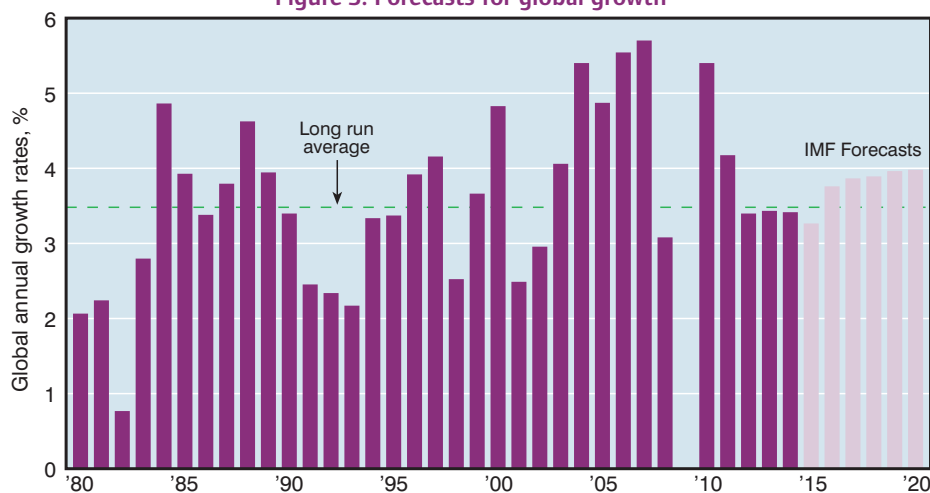
Weak demand or supply?

The cyclical/structural debate about weaker economic growth has been an important one in developed markets too over recent years. On one side of the debate, some economists believe that the slowdown in growth has been cyclical – or due to deficient demand. Larry Summers, an ex-Treasury Secretary of the United States government during the final years of the Clinton administration, has taken this side of the argument. He borrows his views from Alvin Hansen – an economist who shot to fame in the late 1930s for suggesting that the US economy was mired in '**secular stagnation**'. In short – that monetary policy cannot be loosened sufficiently to generate enough demand required to ensure that inflation remains at its target.

Bob Gordon, an economics professor at Northwestern University, Chicago, takes a subtly different view. Rather than growth being weak due to deficient demand, he argues it is thanks to the supply side of the economy. Think of economic innovation moving in very long '**Kondratiev waves**' (named after the Soviet economist's work of the early 1900s). In other words, in some eras innovation produces strong growth in economic output, whereas in other times it doesn't. Professor Gordon's view is that we are heading into an era of less productive innovation, which in turn will limit the economy's ability to produce goods and services.

While Summers' and Gordon's theses both imply slower economic growth, they could have very different consequences for inflation. Insufficient demand tends to produce low inflation, whereas weak supply should mean the opposite. The path that inflation eventually takes will tell us which of these hypotheses is correct – but as with many things in economics, it may turn out to be a little of both explanations.

Figure 3: Forecasts for global growth



Source: International Monetary Fund



Global growth in the future

“Prediction is very difficult, especially if it’s about the future.” This quote is attributed to Nils Bohr, Nobel Prize winning physicist, though it could equally have come from an economist. How often do you hear of an economist predicting a recession in some particular year in the future? The answer is very rarely, because as populations expand and productivity rises, the notion of falling output is not the ‘normal’ state of the world. Yet, of course, they do happen.

We should, therefore, interpret cautiously forecasts of global growth returning to its historic norm. An important question is ‘what is normal’ – is it weaker, stronger or the same as previous averages? As we are constantly told by investment professionals, ‘past

performance should not be taken as a guide to future outcomes’. How reliable are forecasts such as those produced by the IMF, which show global growth returning to above its long-run average of between 3.5–4% in each of the following five years? It seems highly unlikely that global growth will end up being as stable as the IMF and other forecasters believe. But in the absence of being able to predict the various shocks – both positive and negative – that may wash through our economies in the future, forecasting a sustained recovery is as good as any other forecast.

While there is a chance that, finally, a stable recovery takes hold, there is also a risk that global growth once again disappoints. There

are signs of stress in emerging markets, for example – in particular, risks to the Chinese economy have risen. And in developed economies, as households, governments and firms continue to repay their excess borrowing of the past, periods of subdued spending growth may continue longer into the future. Once this rebalancing is complete, however, it may be that economies can grow more strongly again, albeit at a slower rate than before the crisis as lessons of borrowing too much have been learned. But memories can be short. The past decade has not been the first – and certainly won’t be the last – financial upheaval that economies will have to live through.

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The new television deal for football

Allan Hodge, teacher at Cheltenham Ladies' College, reviews the latest auction of broadcast rights to Premier League matches



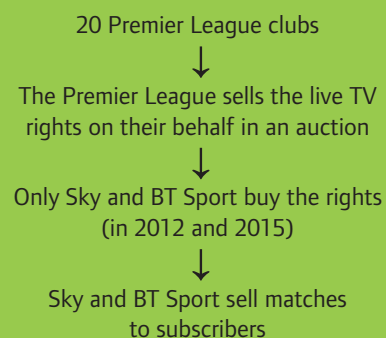
At first glance, this looks an unlikely topic for economic discussion, perhaps something more at home in a business studies journal. In fact, though, it gives some very important insights into our study of the theory of the firm, and in particular the concept of **market power**. Market power exists when either the buyer or the seller (and sometimes both) wields disproportionate influence in the bargaining process which determines how much is sold, and at what price. In a perfectly competitive market, market power cannot exist, due to the conditions of the model which take away any possibility of dominance from either side – for example, the existence of large numbers of small firms and buyers, homogeneous products, perfect information and perfect factor mobility. But in the real world, this model does not exist, and a degree of market power, however slight, can be identified in all markets, from monopolistic competition to pure monopoly (or monopsony).

Legally, the TV rights are intellectual property rights owned by the producers of the games (football clubs), or, as in this case, the body they have agreed can act for them (the Premier League). The ownership of intellectual property rights, which include copyright, trademarks and patents, reduces the *contestability* of a market by raising an entry barrier against new sellers. In the case of the Premier League live football market, its ownership of the intellectual property right makes the market perfectly uncontestable – i.e. no competing entry is possible. In such cases, the competition authorities may step in to regulate the market – this has happened in this case, as we shall see below, although many would argue that the authorities have not gone far enough.

A **duopoly** exists when two firms dominate the market (in this case, 100% of the live UK football broadcast market), and is non-collusive when they act independently in bidding for the TV rights and selling to their

customers. It is in the Premier League's interest to ensure that they do not work together, because to do so would produce a countervailing force (a monopsonist) to its monopoly, and reduce its market power. They do this by a blind auction of the rights, of which more later.

The market relationships are as follows:



Why are economists concerned about the exercise of market power by a monopolist? It is because of the poor outcome likely to be



NOTE THIS

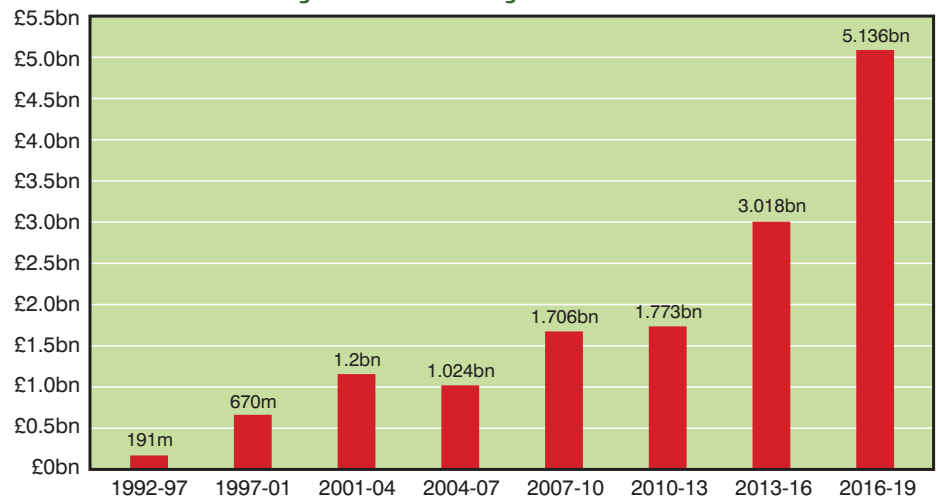
Market power can exist on the seller or the buyer side. The most extreme examples are pure **monopoly**, which controls 100% of the sale of the product (selling power), and **monopsony**, which controls 100% of the purchase of the product (buying power). The television deal for football, which involves the sales of broadcast rights to live English Premier League football matches, renegotiated every three years, is of interest in the context of market power because it has involved a monopolist (the Premier League) dealing with a non-collusive duopoly (Sky and BT Sport), who buy matches from the Premier League and then sell on the right to watch the games to their subscribers.

Exam Board	AS	Unit		A2	Unit	
		Old	New		Old	New
AQA	✓	1(3.1.4)		✓	3(3.3.3 & 3.3.5)	
Edexcel				✓	3(3.3.9-3.3.11)	
OCR	✓	F581		✓	F584	
WEJC				✓	3(D)	
CCEA				✓	A2(1)	
Int. Bacc.		1(1.4)				
Cambridge Pre-U		Microeconomics (d)				

Key words

Market power · Price discrimination
Duopoly · Contestable markets

Figure 1: Premier League TV revenue



Source: Mailonline, 10 February 2015.

experienced by the buyers, in this case Sky and BT Sport and, further down the line, their millions of subscribers. The main concerns are that:

- The product will be sold at a price above competitive levels, and in lower quantities. In the auction held in early 2015, the rights to only 168 matches out of a possible 380 per year were sold, at a cost to the buyers of £5.136 billion over three years, a rise of 71% on the previous auction in 2012 (as shown in Figure 1).
- Prices remain above competitive levels because there is no body that can provide substitutes for live Premiership games, and price elasticities of demand are likely to be very low for the committed football fan.
- The firm, facing no competition, may neglect investment, innovation and quality improvement. This is denied by the Premier League, who have said that the auction money will be used for stadium

improvements, youth development and 'good causes', but there is no denying that the bulk of the proceeds will remain with the clubs themselves. The Chief Executive of the Premier League, Richard Scudamore, responding to criticism that the League could do more to support grassroots football and reduce admission prices for fans, insisted the league's priority was to get the best deal for their clubs:

*"We're not set up for charitable purposes... we are set up to be the best football competition."*¹

- To maintain its dominant position, the firm may take steps to exclude potential competitors. On this point, the Premier League has it easy, because by definition there is only one Premier League with no competitors in England, and it controls the entry and exit of participant clubs (3 are relegated to the Championship at the end of each season, and 3 promoted from there). It has also consolidated its selling power by negotiating on behalf of *all* the

Premiership clubs, rather than allowing each club to negotiate TV rights individually, as happens, for example, in Italy with the equivalent league, Serie A. Individual clubs at the top of the League with a large, world-wide supporter base, such as Chelsea and Manchester United, could probably raise their revenues by *negotiating individually*, but the League as a whole does better with a collective bargaining position, a point not lost on the clubs that sit below the elite at the top. Even clubs that languish at the foot of the table, and which may be relegated at the end of the season, benefit handsomely from their share of TV revenues. An interesting point is that the collective sale of rights *reduces broadcast competition* compared with individual sales, but potentially *increases competition amongst the clubs themselves* by spreading the TV revenues more widely and allowing more modest performers to improve their facilities and employ better players.



How does the auction process work?

The Premier League uses a blind auction model, otherwise known as a sealed bid auction. In the 2015 round, seven packages of broadcast rights were offered, each relating to a different time of the week – this inevitably makes some packages (for example, Sunday 4pm kick-offs) more attractive to buyers, and therefore potentially more lucrative to the seller. Although sold by auction, this is a form of **price discrimination**, where the same product is sold at different prices in different markets. The packages are exclusive, that is, a given match can never be shown live on

1. BBC interview, 11 February 2015.

more than one channel. The process is loaded in favour of the seller, because:

- Bidders do not know who the other bidders are, or indeed if there are any other bidders at all!
- Secret bids have to be made for individual packages without the bidder knowing which other bids, if any, have been made.
- They are not told if they are the top bidder, initially, although later in the process they may be invited to improve their offer, which tells them that they currently are not.
- Bids cannot be withdrawn.
- Bids cannot be made on one package conditional on success having been achieved in another.

This model is used because it maximises the opportunities for the Premier League to play one bidder off against another, whilst effectively eliminating the chances of the bidders colluding in any way, for example by agreeing a carve-up of packages between themselves which would reduce competition for individual packages and therefore the selling power of the Premier League. To see how successful this has been, the 2012 auctions produced a sale figure of £3.018 billion, a record at the time. Sky apparently thought it was bidding against the very wealthy Qatar-based Al-Jazeera channel, encouraging it to bid high for the packages it wanted. In fact, Al-Jazeera did not bid, but BT Sport (unknown to Sky) entered the competition and secured some rights for the first time. This duopoly endured for the 2015 round, although commentators expected bids from, variously, Al-Jazeera again, and the Discovery Channel, neither of which materialised. The threat of entry is greatly to the Premier League's advantage, because it encourages higher bids from the incumbents in order to keep potential competitors out. All this, of course, represents a further market failure (the prime cause being the existence of the monopoly), demonstrating both a lack of information generally, and an asymmetric information problem where the seller (the Premier League) knows a great deal more about what is going on than the buyers, and so can always remain one step ahead. Indeed, it has been argued repeatedly that the current process breaches competition rules and should not be allowed.



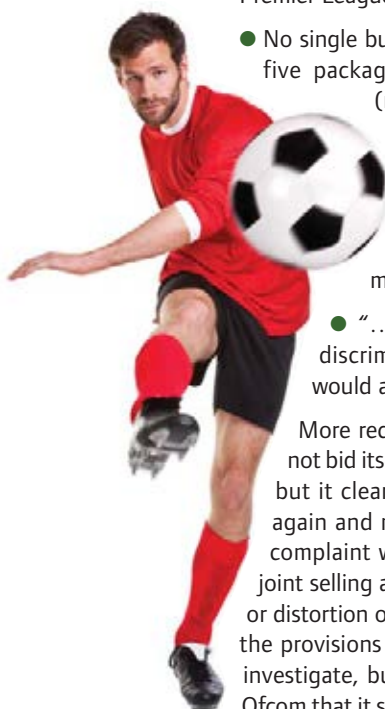
Competition law and football rights

The European Commission investigated the TV rights issue, reporting in 2006. It is worth quoting its main finding:

Joint selling prevents clubs from taking independent commercial action regarding the exploitation of the media rights pertaining to Premier League matches. In place of twenty clubs, each having a relatively small market share and each pursuing its own media rights policy, the arrangements result in a single (joint) sales organisation with exclusive rights, enjoying significant market share, and pursuing a single sales policy. Markets on which no-one possesses market power and whose development would typically be dictated by the demand for rights become subject to the commercial choices made by a joint sales organisation with a significant market share. Markets that would be demand-led thus become supply-driven.²

In other words, the arrangements were anti-competitive and designed to increase the market power of the Premier League and maximise its revenues, to the detriment of buyers. Under Commission pressure, the Premier League agreed the following reforms, which are still in place:

- No single buyer of all packages would be allowed, with no more than five packages to be awarded to an individual bidder out of six (now seven). In the 2015 auction, Sky obtained five and BT Sport two.
- More live matches would be offered for sale (but still only 44% of total).
- Broadcast rights would be extended, for example for mobiles and radio.
- "...the rights would be sold in a transparent and non-discriminatory tendering procedure." It is not clear how many would agree that that has been achieved!



More recently, Virgin Media has entered the fray. Ironically, it has not bid itself for TV packages (at least, it is not known to have done!), but it clearly feels it has an interest in stoking up the controversy again and making its presence felt. In September 2014 it lodged a complaint with Ofcom, the UK communications regulator, that the joint selling arrangements for football matches resulted in a 'restriction or distortion of competition' in breach of the Competition Act 1998 and the provisions of Article 101 of the European Treaty. Ofcom agreed to investigate, but Virgin followed up in February 2015 with a request to Ofcom that it suspend the forthcoming auction pending the results of the enquiry. Ofcom rejected this, stating that there would be sufficient time to modify the outcome of the auctions before the new deal came into operation in August 2016, if it found the process to have breached competition rules in the UK. The enquiry has yet to publish any findings or rulings.

2. European Commission, 22 March 2006



TRY THIS

Compare the English TV rights model with that in Germany, Spain and Italy. Why are the financial outcomes different?

<http://www.espnfc.co.uk/german-bundesliga/story/2302817/bundesliga-considering-unpopular-measures-to-compete-with-epl-tv-deal>

Consider the relative advantages and disadvantages of collective versus individual bargaining of TV rights.

<http://bleacherreport.com/articles/2531538-why-bayern-munichs-tv-revenue-proposal-would-be-a-disaster-for-the-bundesliga>



WHY ARE WE IRRATIONAL?

A look at behavioural economics

Dr Graham Mallard, Head of Economics,
Cheltenham College and Visiting Research Fellow,
Department of Economics, University of Bath,

A question to answer

A bat and ball together cost £1.10. The bat costs £1 more than the ball. How much does the ball cost?

The growth of behavioural economics

Behavioural economics has been the fastest growing field of economics over recent years, enjoying astonishing expansion in both those interested in it and its influence. Although Adam Smith highlighted the importance of psychological influences on individual economic behaviour in his work *Theory of Moral Sentiments* of 1759, it has only been over the last 40 years – and particularly in the last 10 – that economists have started to take them seriously again. This is shown by the numerous *Nobel Prizes in the Economic Sciences* that have been awarded to academics for works of behavioural economics in recent years and also by the fact that it is now part of Sixth Form courses.

Exam Board	AS	Unit		A2	Unit	
		Old	New		Old	New
AQA				✓		4(4.1.2.3 & 4.1.2.4)
Edexcel	✓		1(1.2.1 & 1.2.10)			
OCR	✓		p.6			
WEJC	✓		p.12			
CCEA						
Int. Bacc.						
Cambridge Pre-U						
Microeconomics (a)						

Key words

Bounded rationality · Framing effects
Decision fatigue



Rationality and irrationality

Mainstream economics over the last century – both micro and macro – has been largely based on the assumption of *homo economicus*: that individual economic agents (consumers, producers, households and governments) make perfectly optimal, selfish decisions. This means they are able to faultlessly process all the available information about all the available options to identify their single most preferred choice, which they then select. In effect, each economic agent behaves as a computer with infinite information processing capacity and memory. This is the meaning of rationality, and of rational decision making, in economics.

Behavioural economics is the study of actual decision making by economic agents from the vantage point of psychology – a study that has found, perhaps unsurprisingly, the assumption of *homo economicus* to be seriously flawed. Economic agents – indeed all of us as decision makers – are not rational in the sense assumed in economics, instead exhibiting a range of *irrationalities*.

1. Most of the time, we are simply unable to process all the information relevant to a particular decision. Instead, we usually settle for a choice that we feel is satisfactory rather than perfectly optimal.
2. We try to simplify decisions and, rather than deliberating about each fully, we use rough rules of thumb (*heuristics*) to make them more quickly.
3. We are characterised by various biases, which seem to be innate to all of us. For example, we tend to be averse to loss: we dislike losing £10, for example, more than we like to gain £10. This means our decisions can be manipulated by changing the way they are presented (known as *framing effects*).

A number of explanations have been put forward for why we, as consumers for example, are irrational like this: the complexity and volume of decisions, and evolutionary change.



The complexity of decisions

Herbert Simon argued we are irrational because the complexities involved in making most decisions are greater than our brains can handle. To use his words, we suffer from *bounded rationality*. To identify the single choice we most prefer, in effect, requires us to consider each and every one of the available options and to remember perfectly how much we value each one, taking into account all of their individual characteristics. Only with all this information can we then make the optimal choice. This may be possible, for example, when deciding which film to watch at the cinema one evening: there are usually only a few options, which only need to be compared according to their showing times, duration and expected quality. It is highly unlikely when deciding what to have to eat beforehand, though: that would require us to consider every dish on the menu of every restaurant in the cinema's vicinity, taking into account its cost, its taste, its healthiness, the quality of the service in its restaurant and the ease and cost of getting to the cinema afterwards. The problem is that most decisions more closely resemble the restaurant choice than the film choice.

Instead of trying to select optimal choices, then, Herbert Simon argued we content ourselves with choices with which we are satisfied, which are good enough. In effect, we engage in search processes: for a given decision, we sample one option after another until we find one that will give us a level of satisfaction that is at least equal to the minimum we demand. This is known as *satisficing behaviour* and our minimum level of satisfaction in each case is known as our *aspiration level*, which adjusts as our budget changes and as we learn more about the available options. From the viewpoint of *homo economicus* this is irrational because we usually stop a search too soon and so select an option that gives us less satisfaction than the highest available.

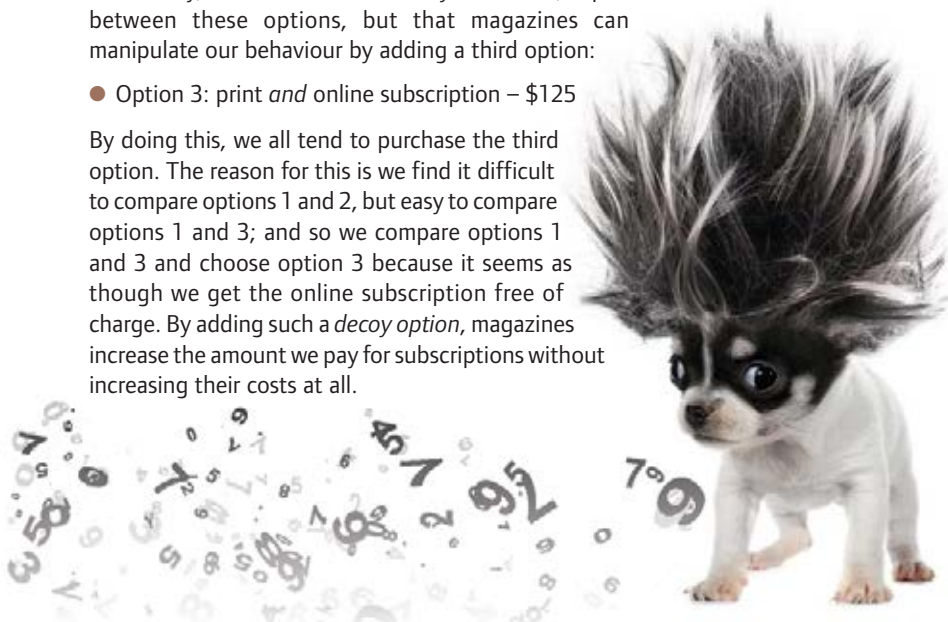
Not only is this behaviour irrational, it also makes us susceptible to manipulation. For example, which of the following subscription options to a magazine would you choose?

- Option 1: print subscription only – \$125
- Option 2: online subscription only – \$59

Dan Ariely, in his book *Predictably Irrational*, reports that we tend to be divided between these options, but that magazines can manipulate our behaviour by adding a third option:

- Option 3: print *and* online subscription – \$125

By doing this, we all tend to purchase the third option. The reason for this is we find it difficult to compare options 1 and 2, but easy to compare options 1 and 3; and so we compare options 1 and 3 and choose option 3 because it seems as though we get the online subscription free of charge. By adding such a *decoy option*, magazines increase the amount we pay for subscriptions without increasing their costs at all.



REMEMBER THIS

- Rational decision making in economics means choosing the single most preferred option, which results in the greatest amount of satisfaction.
- Economics has been based on the assumption that we always make decisions rationally in this way.
- Behavioural economics looks at how we actually make real life decisions and has shown that we are rarely rational in the sense assumed in economics.

The volume of decisions

A second explanation is that there are simply too many decisions for us to be able to make them all optimally. Psychologists have demonstrated that we find decision making tiring, in the same way that we find physical exercise tiring. We can start off making optimal decisions but doing so causes us to increasingly deplete our mental energy (a process known as *decision fatigue*), which leads to us either making subsequent decisions sub-optimally or avoiding them altogether. Sheena Iyengar and Mark Lepper have shown, for example, that we purchase fewer goods from a shop when there is a greater range of brands for each: greater choice for each good makes shopping more tiring, causing us to want to get out of the shop sooner.

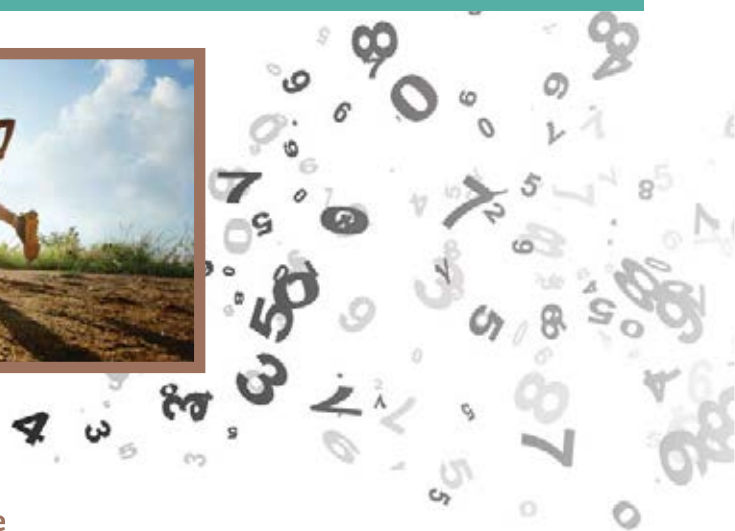
This behaviour is not rational in the sense of mainstream economics because we are avoiding decisions from which we would gain satisfaction. Also, it again makes us susceptible to manipulation. Jonathan Levav and colleagues, for example, show that car dealerships deliberately order the questions in the process of customising a new car (regarding engine size, in-car technology, colour and so on) so that we face those questions with the greatest number of options first. This causes us to become mentally tired earlier in the process, after which we tend to simply choose the default options as a way of avoiding further decisions. The snag is that dealerships put the highest profit margins on their default options and so, without knowing, we end up paying more for our new cars.



REMEMBER THIS

Three explanations have been suggested for why consumers are irrational:

- We suffer from **bounded rationality**, meaning we find most decisions too complex to make optimally.
- We suffer from **decision fatigue** and quickly become overwhelmed by the number of decisions we have to make.
- Some of the decisions we face nowadays are different to those we have evolved to make and so we are not equipped to make them optimally.

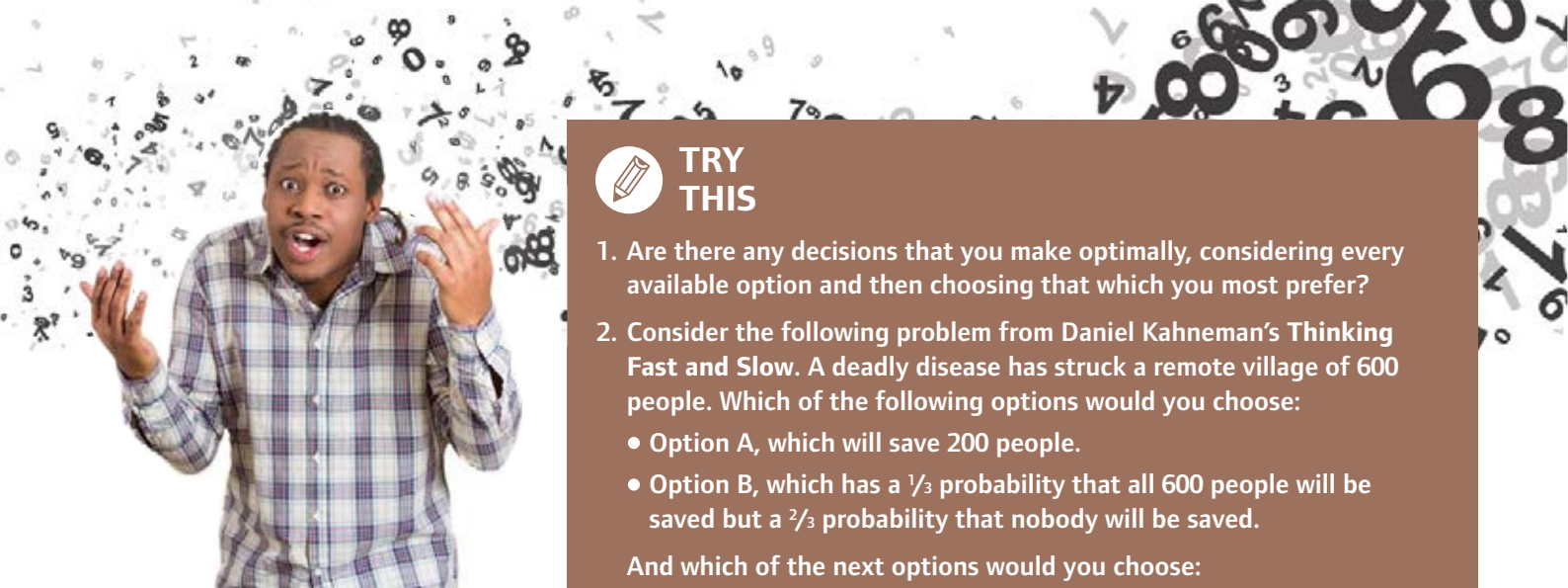


Evolutionary change

A final explanation is that the world in which we live and the decisions we face have changed and so are no longer those for which we have evolved. Suren Basov observes that when going out for a run, we are surprisingly adept at spreading our energy expenditure across its duration. Indeed, although we may not be able to run 5,000 metres as quickly as Mo Farah, we are almost as good as he is at pacing ourselves across the distance so that we hit our targeted level of exhaustion at the finish line. Our performance when solving maths problems, or when playing chess, though, tends to be significantly worse than that of professionals. The reason he gives for this observation has nothing to do with the complexity of the tasks: to pace oneself efficiently over 5,000 metres is highly complex. Instead, he suggests we have evolved with the ability to pace ourselves because that would have been the difference between life and death when we were hunter-gatherers trying to escape predators, whereas we have simply not evolved with the ability to solve differential equations or to play chess. Our irrationality, then, arises because of the mismatch between the decisions we are naturally adept to make and those we now face.

Daniel Kahneman, in his book *Thinking Fast and Slow*, explains we have two ways of making decisions. The first is through instinct: quick, subconscious reactions based on immediate feelings. He calls this *System 1* decision making. The second is through careful deliberation, a slower and more mentally tiring process during which we assess all the available information, making calculations and comparisons as required for identifying the preferred option. He calls this *System 2* decision making. We have evolved with these two processes because we need each for different decisions. System 1 is absolutely essential for life or death situations, in which an instant response is needed to overcome danger: fight or flight decisions in which any conscious deliberation would mean certain death. System 2, on the other hand, is required for more complex, but not immediately dangerous, situations, such as erecting shelters or constructing fires. Our irrationality arises because we are prone to using System 1 for making decisions that require deliberation, causing us to make mistakes.

Think back to the question at the start of the article, which is taken from *Thinking Fast and Slow*: most people answer that the ball costs 10 pence, but this is incorrect because that would mean the bat and ball together cost £1.20. The correct answer is the ball costs 5 pence. Most people instinctively use their System 1 thinking for answering this seemingly easy question when, in fact, System 2 deliberation is needed.



Conclusion

Through the study of how economic agents actually make decisions, behavioural economists have shown we do not behave in the way economists have tended to assume. We are not like *homo economicus*, always making perfect decisions as if like a machine. Because of the number and complexity of the decisions that we have to make, some of which are different to those we have evolved to make, we often settle for options that are good enough rather than optimal; we try to simplify our decisions, using heuristics and instinct where we can; we regularly avoid decisions because they are too tiring for us to tackle; and we make mistakes, often due to external manipulation. Governments are now using these findings to make more effective policies and to *nudge* us to make what they deem to be better decisions (an approach to policy known as *libertarian paternalism*). We are each being manipulated, for good or for bad, from all directions.



Essential reading

Dan Ariely, *Predictably Irrational: The Hidden Forces that Shape our Decisions*.

Richard Thaler and Cass Sunstein, *Nudge: Improving Decisions About Health, Wealth and Happiness*.

Daniel Kahneman, *Thinking Fast and Slow*.



TRY THIS

1. Are there any decisions that you make optimally, considering every available option and then choosing that which you most prefer?
2. Consider the following problem from Daniel Kahneman's *Thinking Fast and Slow*. A deadly disease has struck a remote village of 600 people. Which of the following options would you choose:
 - Option A, which will save 200 people.
 - Option B, which has a $\frac{1}{3}$ probability that all 600 people will be saved but a $\frac{2}{3}$ probability that nobody will be saved.

And which of the next options would you choose:

 - Option C, which will cause 400 people to die.
 - Option D, which has a $\frac{1}{3}$ probability that no one will die but a $\frac{2}{3}$ probability that all 600 people will die. See page 35.
3. Why is it that cinemas sell drinks and popcorn in such unusually large volumes?
4. Take a look at the work of the UK's Behavioural Insights Team (www.behaviouralinsights.co.uk), which examines how findings from behavioural economics can be used by the government to manipulate our decisions. Is it right for the government to take advantage of our irrationalities in this way?



with Principal Examiner,
Robert Nutter

1. The theory of equi-marginal returns (cardinalist theory) assumes that consumers are rational when allocating their expenditure between different goods and services. Investigate the theory of equi-marginal returns.
<http://www.economicshelp.org/blog/glossary/marginal-utility-theory/>
<http://www.yourarticlelibrary.com/economics/principle-of-equi-marginal-utility-explained-with-diagram/38944/>
<http://www.yourarticlelibrary.com/economics/the-principle-of-equi-marginal-utility/36654/>
http://economicsconcepts.com/theory_of_consumer_behavior.htm
2. Indifference theory (ordinalist theory), similar to equi-marginal returns above, analyses how a rational consumer chooses between different goods. Investigate the use of indifference curves and budget lines to explain how consumers allocate their expenditure.
http://www.bized.co.uk/virtual/vla/theories/indifference_curve.htm
<http://economictimes.indiatimes.com/definition/indifference-curve>
https://www.youtube.com/watch?v=P_N2hr9aMow
3. Research the assumptions behind revealed preference theory.
<http://www.britannica.com/topic/revealed-preference-theory>
<https://www.youtube.com/watch?v=kPXov3D1tfA>
4. Watch the video clip (link below) on the behavioural economics concepts known as relativity and anchoring.
<https://www.youtube.com/watch?v=EETCn8yYi1I>
<http://danariely.com/tag/anchors/>

Not so sweet

Brian Ellis discusses diet and health issues

Evidence A: Food for thought

In its report *Food for Thought*, the British Medical Association says that diet-related ill-health is estimated to cause 70,000 premature deaths per year in the UK, and costing NHS budgets more than either that arising from misuse of alcohol or tobacco. The number of diabetes patients has risen above 3 million.

Sugar is 'shovelled into' cheap and plentiful soft drinks whilst the relative prices of fruit and vegetables rise. Poorer households find it most difficult to maintain a healthy diet. The poorest tenth of the population have less than 3% of all income (jrf.org.uk) and have seen their share of total income fall. UK households purchased an average of 4.0 portions of fruit and vegetables per person per day in 2011, while households in income decile 1 (lowest income tenth) purchased an average of 2.9 (DEFRA).

A 330ml can of pop contains up to nine teaspoons of sugar that are 'empty calories'. The BMA report suggests an extra 20% tax on sugary drinks should be introduced to tackle the obesity crisis. The price of a 65p can of fizzy drink would rise to 78p; a two-litre bottle would go from £1.85 to £2.22. The Food and Drink Federation (representing producers) believes PED for food and drink is low.

Source: Adapted from bma.org.uk, gov.uk and jrf.org.uk



Exam Board	AS	Unit		A2	Unit	
		Old	New		Old	New
AQA	✓	3(3.1.2, 3.1.4 & 3.1.5)	3(3.1.2.2, 3.1.5.4 & 3.1.5.8)	✓		4(4.1.2)
Edexcel	✓	1(1.3.2 & 1.3.7)	1(1.2.3, 1.2.10 & 1.3)			
OCR	✓	F581	p.8-10			
WEJC	✓	1(B & C)	p.10, 13-14			
CCEA	✓	AS(1)				
Int. Bacc.		1(1.2 and 1.4)				
Cambridge Pre-U		Microeconomics (b) and (d)				

Key words

Price elasticity of demand · Behavioural economics
Rational decision-making

Evidence B: Treating diabetes

Obesity is a major cause of diabetes. This table shows millions of prescriptions issued for diabetes treatment in England in financial years. On average, prescription ingredients cost £10.

	2006/7	2008/9	2010/11	2012/13	2014/15
Prescriptions, mns	28.8	32.9	38.3	42.5	47.1

Source: data.gov.uk prescriptions-for-diabetes

Evidence C: Behavioural thinking

Attempts to study real decision making show that behaviour can often be irrational and inconsistent with the assumptions of much economic theory. We tend to use 'heuristics', which are simple rules to produce decisions that have habitually been good enough but are certainly not consistent with the 'economic man' of models. The behavioural economist Daniel Kahneman suggests that we often use 'system 1' for quick decisions based on little thought and 'system 2' when we are more thoughtful and behave more rationally. Reaching for a sugary drink is often an impulse or a habit, a system 1 decision with little thought.

Source: Adapted from D. Kahneman, 'Thinking Fast and Slow'.

Evidence D: Mexican experience

One-third of the Mexican population is obese and sugary drinks have been held partly responsible. On average Mexicans drink 163 litres of Coca-Cola and similar drinks a year, compared to 78 litres in the UK. A 10% tax was introduced in 2014 despite protests from the drinks industry.

The Institute of Public Health in Mexico, helped by the University of North Carolina, studied the impact of the tax. It cut sales by 6% in 2014, growing to 12% later in the year. Poorer households cut their purchases by 9% over the year and by 17% in the later months. Whilst sugary drink sales fell, sales of drinking water rose. The impact seems similar to other taxes on goods that are hard to give up, with the drop in sales increasing over time.

Source: Adapted from wired.com and npr.org



1. Using data in Evidence D, calculate the PED of both (a) all Mexicans and (b) poorer Mexicans for sugary drinks late in 2014. (4 marks)
2. Explain why PED might increase over time, after a tax is introduced. (5 marks)
3. Using Evidence B, explain the opportunity cost of the increase in treatment for diabetes. (6 marks)
4. Assess two reasons why poorer people find it more difficult to maintain a healthy diet. (10 marks)
5. Discuss reasons why people fail to make rational decisions. (15 marks)
6. Evaluate the case for a 20% extra tax on sugary drinks in the UK. (20 marks)

Suggested approach to the questions

1. Using data in Evidence C, calculate the PED of both (a) all Mexicans and (b) poorer Mexicans for sugary drinks late in 2014. (4 marks)

Price elasticity of demand (PED) is the responsiveness of quantity demanded to a change in price, measured as

$$\frac{\% \text{ change in demand}}{\% \text{ change in price}}$$

For all Mexicans the late 2014 calculation is: $-12\%/10\% = -1.2$

For poorer Mexicans the equivalent is: $-17\%/10\% = -1.7$

2. Explain why PED might increase over time after a tax is introduced. (5 marks)

Evidence C tells us that people use simple heuristic rules to make decisions that have habitually been good enough. So for example, if Mexicans habitually drink cans of fizzy and sugary drink, many of them are initially likely to carry on doing so when the price goes up. The average consumption of 163 litres per year is equivalent to nearly 500 standard size cans, enough that a price rise will make maintaining consumption noticeably more expensive. Over time, people might feel an impact on their spending power, particularly poorer people who tend to spend most of their income. They might simply be unable to afford to keep up the same consumption pattern as before for very long. There could also be some peer pressure involved. The people who first gain from reducing their consumption might gradually influence others, with an increasing impact on behaviour over time.

3. Using Evidence B, explain the opportunity cost of the increase in treatment for diabetes. (6 marks)

Evidence B shows an increase in prescriptions from 28.8 million to 47.1 million over an 8 year period. This is a 67% increase. Evidence B mentions an average prescription ingredient cost of £10, but this must be treated with caution. Diabetes prescription costs could easily be significantly more or less than the average so this is just a very rough guide. Secondly, there is more to treating diabetes than just the cost of prescription ingredients. We should add, for example, consultation time with doctors who decide prescriptions. The safest use of the data is to say that it suggests treatment costs for diabetes could have risen by around 67%, and an extra 19m x £10 would be a possible £190m for one element in the treatment. The total cost is likely to be far more than this.

Opportunity cost is the best alternative foregone. If NHS budgets were fixed, we could say that other NHS treatments would have to be cut back to spend more on diabetes. It is necessary to make choices and forgo some possible treatments within NHS budgets, given the heavy costs of new cancer treatments, for example. However, NHS budgets have risen over time. The opportunity cost of this rise is some combination of cuts to other government spending and/or some increase in tax or government borrowing. For additional diabetes patients who pay for prescriptions, part of the opportunity cost will be whatever cuts they make in their other spending in order to pay their prescription charges.

The most likely outcome is that the opportunity cost will be shared between alternative NHS spending, other government departments, taxpayers and some of the new diabetes patients.



4. Assess two reasons why poorer people find it more difficult to maintain a healthy diet. (10 marks)

The first and most obvious reason why poor people find it difficult to maintain a healthy diet is that relative poverty leaves them less able to afford as many goods and services as others. If 10% of the population share less than 3% of total income (Evidence A) their material standard of living will be far lower than others. They can afford less than a third of average spending. So, for example, most households have a car whereas those on the lowest incomes are unlikely to. This will make trips to supermarkets and discount stores, and buying in bulk, so spending less per meal, more difficult. The poorest households are unlikely to have a freezer, perhaps even a fridge, so will be less able to preserve healthy perishable foods. Food, as a necessity, will take up a higher share of their incomes but the amount and types of food they can afford will be more restricted than for others. This might help to explain their lower purchases of fruit and vegetables and perhaps a less balanced diet.

The consequences of low income levels will be made worse by the relative rise in the price of fruit and vegetables. This will further restrict the amount of these healthy foods which the relatively poor can buy. The poorest households' share of income is also falling. They could be forced to buy even more cheap but less healthy foods, simply to get enough to eat. When, for example, adults sometimes find it necessary to go without food in order to provide meals for their children, there will not be much scope for spending on the relative luxury of fruit and vegetables.

Both of the reasons outlined above can help to explain why the poorest households struggle to afford a healthy diet. However, it would be wrong to assume that limited income is the only factor at work. Information gaps are another factor. Many people are not aware that a can of fizzy drink contains up to 9 teaspoons of sugar, or perhaps that empty calories in sugars contribute to obesity and that obesity increases the risk of developing type 2 diabetes.

Even where people have full information, there is no guarantee that they will act rationally as a result. For example, poorer households contain a relatively high proportion of tobacco smokers. In addition to the harm tobacco does to health, it is also expensive and leaves less income for healthy food. Smoking potentially illustrates the three irrational elements of habit (or addiction), peer pressure from groups of smokers and weakness in computation when some smokers fail to see the cost(s) of their smoking. This is not to suggest that poorer people are even less rational than others. There is evidence that limited incomes do force them away from some of the irrational choices made by those with more money.

There are many interwoven reasons why poorer people find it more difficult to maintain a healthy diet. Their limited purchasing power is one important reason and this is compounded by adverse movement in the relative prices of healthy foods. These are two significant factors but there are also other elements in the overall explanation for their less healthy diets.

5. Discuss reasons why people fail to make rational decisions. (15 marks)

Human beings make many, many decisions each day. We might like to think that we are sensible people who predominantly make sound decisions. However, one of our skills is rationalisation, the ability to find reasons for something we have done after we've done it, and to convince ourselves that we were right. A great many of our decisions are made with little conscious thought, following a habitual routine that gets us through the day. If we have bought a particular brand of product and it has proved satisfactory, we are likely to continue to buy it even if other brands are cheaper and as good. For example, the Competition and Markets Authority has noted inertia in the household energy market, people sticking with their supplier even when others would supply the same product for far less.

Social needs include being accepted by others around us, at least for most people. We are generally wary of making choices of which we feel our peers would have a low opinion. There also seems to be people who are so determined to be different from others around them that they will make odd choices just in order to stand out. Whichever way round, decisions are made for social reasons rather than to maximise our material welfare. By the economic theoretician's narrow definition, that makes us irrational. Perhaps the issue here is really that economists take an unrealistically narrow view of how decisions should be made, ignoring the complexities of the real world. As another example of this, many people are not income maximisers because they prefer to choose work that satisfies them.

Many people trust that the 'special offers' in supermarkets are good value, and buy them without checking what the offers really add up to. Similarly, many people open cans of fizzy drink without knowing – or wanting to know – how much sugar they contain and how unhealthy their overall diet is. In another context, doctors believe that patients consistently underestimate their unit total of alcohol intake. All of these examples show weaknesses in computation. Such weaknesses can have a variety of causes. Some people are simply poor at computation. Others know they make mistakes so lack the confidence to work things out. A third group are capable yet don't bother, preferring to simply take things on trust.

The three reasons of habit, peer pressure and weakness at computation can all lead to irrational decision making. However, even in combination they amount to far less than a complete picture. Weakness at computation, for example, is compounded by information gaps. If a traveller has a choice between airlines, the headline fares might or might not include luggage, check-in and snacks on board. A full comparison can be very difficult. Social pressures can be very complex and don't exert a consistent influence. We might sometimes want to impress others, sometimes prefer to surprise them and at other times not consider them at all. Besides being creatures of habit we are also impulsive, given to leaping to decisions which are far from rational. Some people might describe themselves as habitually impulsive.

It would be possible to go on adding reasons for irrational behaviour, as behavioural economists such as Kahneman find when studying real behaviour. People are very complex and driven by a changing mix of thought and emotion which they can't entirely understand in themselves, let alone in others. Taking obesity and diabetes as an example, people don't set out to acquire these conditions in a conscious way and many are shocked by the problems they find themselves with. The simplifying assumption of rationality makes economic models easier to develop, but does not represent reality.



6. Evaluate the case for a 20% extra tax on sugary drinks in the UK. (20 marks)

There is no doubt that obesity and diabetes are linked and that both are significant problems. Roughly 60% of UK adults are overweight including 25% classified as obese. Although the BMA focus is understandably on National Health Service pressures, another starting point is the quality of life for those who have these problems. Being overweight leads to reduced life expectation and increased risk of various ailments, being obese increases these problems and adds a significant risk of type 2 diabetes. This is not just a question of insulin injections, complications such as a need to amputate a foot show that quality of life can be seriously impaired.

There is firm evidence that excess calorie consumption compared to energy expended is normally at the root of obesity. The amount of sugar in diets, particularly refined sugar, is a major source of calories. Refined sugar has become a demerit good. Action to reduce sugar intake would help millions of individuals, besides reducing a major pressure on the NHS. A tax on sugary drinks could harness market forces to counteract people's irrational choices on sugar consumption.

Experience in Mexico shows that a tax on sugary drinks can have a positive impact. A 10% tax gradually produced a 12% fall in overall consumption and a 17% fall for poorer households. If we use the 9 teaspoons of sugar per can figure and roughly 500 cans per year, 60 less cans (12%) would mean 540 less teaspoons of sugar per year on average. The BMA proposal is for a 20% tax, twice as much, so if PED is similar in the UK we could expect a larger proportionate fall in the consumption of sugary drinks. The results of excess sugar consumption can be seen as a market failure so the tax could help to correct that failure.

The UK and Mexico are very different. Poor people in Mexico are generally far poorer than most poor people in the UK. The income effect of reduced spending power from the tax increase will be greater in Mexico for two reasons. Firstly, with lower incomes the Mexican poor are likely to feel the impact of a price increase more keenly. Secondly, Mexicans' consumption of sugary drinks is more than twice as high as the corresponding UK figure (163 litres to 78, Evidence D) which would cancel out the effect of a higher UK tax. In addition, the UK has high consumption of sugary confectionery; if people do reduce their comfort giving fizzy drinks consumption they might switch to more chocolate or beer, for example. This means that consumption of sugar might not fall much or people might switch to other demerit goods.

One unintended consequence of such a tax is that it would make poor fizzy drink consumers even poorer, when the poorest of them start with around a tenth of average income. A 13p per can increase (Evidence A) might have a negligible impact on people with average incomes and above, but could be significant for someone with a very low income and relatively high fizzy drink consumption. The tax would achieve its greatest impact on the very poor, by making them even poorer. Poverty has already been linked to a variety of health problems; it is counter-intuitive to suggest that making people poorer will make them healthier. However, the consequences of risking obesity and diabetes are potentially worse than the effects of a slight fall in real purchasing power.

The policy option of raising tax should be considered against other options. Public education to alert people to the dangers of excess sugar and calorie consumption might be valuable, since many people fail to see or simply ignore the risks. However, expecting people to rationally weigh up the risks might be unrealistic, given our irrationality. Another possibility would be to increase regulation of fizzy drinks producers to reduce the amount of sugar they use and so make their drinks healthier. This would not be popular with the vested interests in the industry, but might well be more effective than attempting some voluntary agreement on drinks contents or clearer labelling of dangers. Yet another possibility could be positive rather than negative action, subsidising or somehow making healthier foods and drinks more easily available.

The best approach is probably a combination of measures. Simply presenting the health facts seems to have limited impact so a more forceful way of getting the message across could be one priority. Another could be finding ways to promote healthy food and drink. Additional taxation such as the proposed 20% extra tax on sugary drinks could be more effective and more widely acceptable if it was combined with increased availability of healthier options at affordable prices. Major drinks producers already offer low calorie options. Confining the tax to high sugar drinks would give these less unhealthy options a price advantage and so be one step in the right direction.



See also D. Carpenter, 'Should there be a tax on sugary drinks?', *Economics Today*, Vol. 21, No. 3, January 2014, pp. 6-9.

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Market competition in the UK banking industry has a vital role to play in providing choice, innovation and better service for both personal and business banking customers. The question of how to increase competition levels in the sector is currently high on the political agenda, with the UK banking industry remaining highly concentrated and ‘the Big Four’ – Lloyds, Royal Bank of Scotland, Barclays and HSBC – still dominating the market. The term ‘**challenger bank**’ has been used to describe all those other banks operating in the market for personal and business (SME and corporate) customers.

A 3D rendering of a classical bank building with four columns and a pediment. The word "BANK" is inscribed on the pediment.

There are a number of historical reasons why competition levels are low in the UK banking industry. In the 1980s, Midland Bank, then one of the country's biggest banking groups, introduced the 'free-if-in-credit' banking model. It has been argued that the UK's free banking model has stifled competition by making it more difficult for new entrants to break into the market, achieve the scale they need to become profitable and that it creates a lack of financial product innovation, effectively reducing choice for consumers.

The financial crisis of 2007-10 also had a major impact on the industry. As stated by HM Treasury in March 2015, the failures of Northern Rock, Bradford & Bingley and the Dunfermline Building Society reduced the number and scale of retail banking operations.³

Indeed, in the aftermath of the financial crisis, the Office of Fair Trading (OFT) calculated that the UK personal current account concentration reading of around 1.350 on the Herfindahl-Hirschman Index

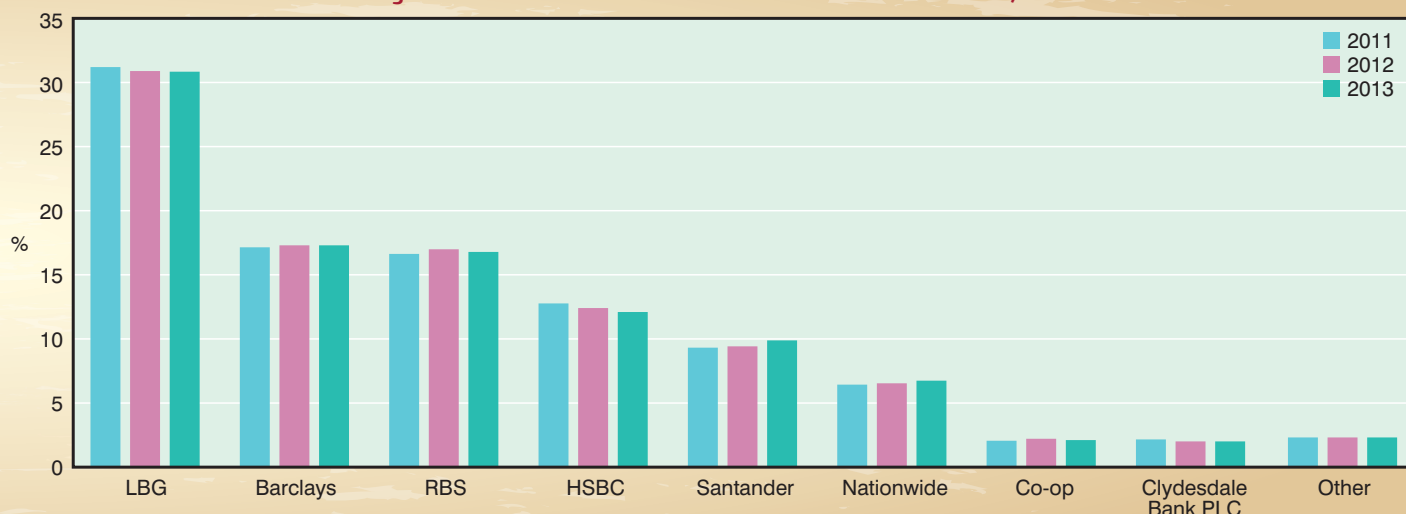
A 3D illustration of a 4x4 grid with blue and red pawns. The grid is composed of black lines on a light blue background. There are five pawns in total: four blue and one red. The blue pawns are located at (1,1), (1,2), (2,3), and (2,4) in a 0-indexed coordinate system where (0,0) is the top-left. The red pawn is located at (1,1).

Exam Board	AS	Unit		A2	Unit	
		Old	New		Old	New
AQA				✓	3(3.3.2-3.3.3 & 3.3.5)	4(4.1.8.7 & 4.2.4.1-4.2.4.2)
Edexcel				✓	3(3.3.7-3.3.11)	3(3.6.1) 4(4.4.1)
OCR				✓	F584	p.16 & p.26
WEJC				✓	3(D)	p.27&p.37
CCEA				✓	A2(1)	
Int. Bacc.						
Cambridge Pre-U	Microeconomics (e)					

Market concentration · Competition policy
Barriers to entry · Challenger banks

3. HM Treasury, 'Banking for the 21st Century: driving competition and choice', March 2015
www.gov.uk/government/uploads/system/uploads/attachment_data/file/416097/Banking_for_the_21st_Century_17.03.15_40_FINAL.pdf

Figure 1: Market shares based on number of active accounts, UK



Source: CMA 'Personal current accounts – market study update', 18 July 2014.



(HHI) increased to a peak of over 1,800.⁴ The British Banking Authority (BBA) estimates that with the divestment of TSB from Lloyds and Williams & Glyn from RBS (see *Note This box*), this measure of concentration will drop back to around 1,450, but this is still higher than it was pre-crisis.

While the relationship between concentration levels and competition is not simple, there is a tendency for more concentrated markets to be less competitive. This becomes more likely where barriers to entry are significant, which is the case in the UK banking industry.

In addition, building societies which had expanded into new markets pre-crisis are now quite narrow in their offerings in response to regulatory pressures – delivering mostly local personal banking services and mortgages, but only Nationwide is of sufficient scale to make a material difference. While their mutual status is an attractive business model for the customer, their capital dependency for growth means that there is a limit to how fast any can grow without needing years of profits to (re)build their reserves.

Despite government efforts to promote higher levels of competition in the banking sector through the Prudential Regulation Authority (PRA) and FCA, the increased regulation introduced since the financial

crisis has also raised barriers to entry to the market. Regulators have to balance the objective of increasing competition with their primary focus, which is safeguarding the financial system and the conduct that goes on within it. As the amount of regulation, capital requirements and liquidity control increases, so does the cost. This cost is set to challenge the business models of banks across the world as regulators seek to prevent a recurrence of the circumstances that led to the financial crisis. This cost also falls disproportionately on smaller banks and despite attempts by government to reduce the historic disparity between the capital requirements imposed on smaller banks and their largest competitors, this still represents a major barrier to competition.

Another major barrier is access to the necessary payment systems. These systems are essentially owned by the major banks, meaning that it can be difficult for new entrants to gain access on fair terms and that innovation may be stifled as improvements in the central system benefit all banks, therefore reducing any competitive advantage. In order to address this, the government has set up a Payment Systems Regulator (PSR), which aims to make access improvements in this area.

Customer behaviour and habits also stifle competition. For instance, according to the CMA, although customer satisfaction levels are below 60% for the four largest personal current account providers, there is little account switching or shopping around taking place.⁵ The Current Account Switching Service (CASS), was launched in September 2013 in order to make this process easier. However, movement is still low, perhaps reflecting the fact that differentiation between the Big Four is difficult to achieve and the marginal benefit to be gained by switching is not sufficient incentive.



HEALTH WARNING

The Herfindahl-Hirschman Index (HHI) is a measure of market concentration. It is calculated by squaring the market share for each firm competing in a market, then summing the resulting numbers. The more competitive the market, the lower the number. On the other hand, the less competitive the market, the higher the number. In a monopoly, HHI would equal 10,000 as if only one firm was operating in the market it would have 100% of the market share, meaning HHI would be 100^2 , which equals 10,000.

4. British Banking Authority 'Promoting competition in the UK banking industry', June 2014 www.bba.org.uk/publication/bba-reports/promoting-competition-in-the-uk-banking-industry-2/
5. CMA, *op.cit.*



NOTE THIS

In 2009, following the financial crisis, the European Commission issued guidelines stating that, in order to limit the distortions of competition resulting from state aid, banks requiring state support may need to divest themselves of some of their operations – hence, Project Verde for Lloyds and the splitting off of TSB, RBS creation of Williams & Glyn and Barclays acquisition of ING Direct in the UK.

See: http://europa.eu/rapid/press-release_IP-09-1180_en.htm?locale=en



The rise of the challenger banks

While the Big Four banks remain dominant, government efforts to break down barriers to entry by making the authorisation process simpler and cheaper have resulted in a number of new challenger banks emerging. Hampshire Trust Bank is part of a new generation of private equity-backed challenge banks, which are focused on providing a more specialised service.

According to HM Treasury, since May 2010 eight completely new UK banks have been authorised.⁶ This compares to just one new authorisation in the preceding five year period, which was Metro Bank. In addition, four more new UK banks have entered the market via a change in control and according to HM Treasury a further 10 are currently going through the regulators pre-application stage. New digital only players such as Atom Bank and Starling Bank look set to join this growing list in the near future.

While this is encouraging, the number of new challenger banks in the UK banking market is still fairly low.

Challenger banks tend to operate in niche specialist markets, which are often product specific such as asset finance, invoice discounting or mortgage lending. They also tend to focus on specific customer groups such as SMEs. In comparison, universal banks (e.g. clearing banks such as HSBC and Barclays) provide a full spectrum of financial products and services to meet customer needs.



The growth of substitutes

The entry barriers that exist in the UK banking industry have resulted in the growth of innovative new substitutes. Online technology has enabled the emergence of Fintech companies including peer-to-peer lenders, crowd funding platforms, PayPal, Bitcoin and Apple Pay, which bypass or disintermediate banks by directly matching borrowers with savers, or effecting payments.

Lending substitutes (such as peer to peer) offer significant notional returns but they are less regulated than banks and generally do not price risk into the equation. The saver trades the protection of a bank's capital, regulatory controls and depositor protection for these returns. Often they will not share in this risk with customers, giving a notion of collective protection to investors, which may not really exist. Issues remain such as the risk of lending in a downturn and the liquidity of the fund in the event that investors withdraw.

These platforms have been growing strongly over the past few years. However, the FCA and CMA states that it continues to account for only about 1% of SME lending.⁷ Their research also notes that senior bankers have expressed the opinion that peer-to-peer lending 'does not represent a real alternative to bank lending' but over time may help complement it.



NOTE THIS

Since May 2010:

- Eight completely new UK banks – One Savings Bank, Cambridge and Counties, GE Capital Bank, Virgin Money, Paragon, Hampden & Co, Charter Savings Bank and OakNorth – have been authorised by regulators.
- Four more new UK banks have entered the market via a change in control – Shawbrook, Hampshire Trust Bank, Tungsten and Bank and Clients (in addition, Aldermore acquired Ruffler Bank in 2008).
- New names have built their position on the high street such as Metro and TSB.
- About 10 are currently going through the regulators' pre-application stage.
- Of these, TSB, Metro and Virgin Money are mostly competing through high street branches, the rest are focused on specialist lending sectors, funded by centrally gathered retail savings.

Source: HM Treasury, *op.cit.*

6. HM Treasury, *op.cit.*
7. FCA and CMA, *op.cit.*

The future of the UK banking industry

Competition is at the heart of a thriving economy and the Hampshire Trust Bank, along with many clearing banks like us, welcome the steps that have been taken to break down barriers to entry, but more must be done. The CMA is currently conducting an in-depth investigation into the retail banking market, focusing specifically on the supply of personal current accounts and of banking services to SMEs. The independent inquiry is expected to reach its final conclusions in spring 2016 and the banking industry awaits the outcome with interest. Increased competition will not only benefit personal banking customers, it is also good for British business and in turn the economy. Smaller businesses account for almost half of turnover in the private sector and 60% of all employment, according to the British Business Bank.⁸

In order to grow, SMEs need access to finance. According to British Business Bank, while businesses are beginning to view finance as less difficult to obtain – 26% viewed it as very difficult to get in 2014 compared to 43% in 2012 – there remains a gap between perceptions of the chances of obtaining finance and actual approval rates. The British Business Bank states that the proportion of businesses discouraged from applying for finance remains significant and that the number of SMEs in this bracket could be as large as 160,000. This needs to be addressed.

The UK banking industry must become more competitive in order to keep up with the changing patterns of consumer demand. Generation Z, typically categorised as those born in the mid-1990s onwards who have grown up with digital technology, and Generation Alpha, born after 2010, want and will want different banking services to those offered by the traditional market. Local high street branches, once regarded as an asset of the major banks, now perhaps represent a liability and because of their cost of

operation and, as future generations turn to convenient online and mobile banking, these networks may become increasingly redundant. Mobile technology is set to revolutionise the delivery of banking services, as it is already doing in less well developed countries such as Africa.

The UK banking sector is moving in the right direction but still has a long way to go before it becomes the highly competitive industry that personal and business banking customers demand and deserve. Organisations like Google, Apple and Microsoft could

revolutionise the UK banking industry. They have the platforms, technology, brand, innovation and design and they are familiar to younger generations. That they have not yet become banks is probably down to the perceived challenge of regulatory scrutiny and compliance, but that could change and they could become the real challengers of the future.

8. British Business Bank, 'Small business finance markets 2014', british-business-bank.co.uk/wp-content/uploads/2014/12/BBB_Small-Business-Finance-Markets-2014_Online_Interactive.pdf

Further reading

To find out more about the challenger bank market, read:

KPMG – The game changers – Challenger banking results May 2015:

www.kpmg.com/channelislands/en/IssuesAndInsights/ArticlesPublications/Documents/challenger-banking-report.pdf



with Principal Examiner,
Robert Nutter

1. The article identifies the relatively low numbers of bank customers who switch banks even when dissatisfied with the service they are receiving from their current provider in relation to their accounts. Investigate the term 'customer inertia' among UK households when related to banking services and energy providers.

<http://www.bbc.co.uk/news/magazine-14989860>

<http://www.baringa.com/our-thinking/baringa-blog/july-2015/competition-in-retail-banking/>

2. In the near future UK banks taking customer deposits and providing overdrafts (what is called retail banking) will have to do so separately from their commercial and investment activities, according to bank reform plans introduced by the Government. The banks have until 2019 to separate retail and investment banking.

Research the reasons for, and the potential problems which may arise from, this reform of the banking sector.

<http://www.out-law.com/en/articles/2011/september/banks-have-until-2019-to-separate-retail-and-investment-banking-activities-says-icb/>

<http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/11322365/Banks-respond-to-ring-fence-plans.html>

<http://www.computerweekly.com/news/2240237122/Banks-need-to-plan-separation-of-investment-banking-and-retail-banking-IT>

<http://www.cnn.com/id/100430610>

3. The international regulatory framework for banks is enshrined in what are called the Basel Agreements. Basel III is a set of reforms, developed by the Basel Committee on Banking Supervision, to strengthen the regulation, supervision and risk management of the global banking sector.

Investigate the measures introduced for banks in Basel III and the extent to which these may raise entry barriers for potential 'challenger banks' in the UK.

<http://www.bis.org/bcbs/basel3.htm?m=3%7C14%7C572>

<http://www.eba.europa.eu/regulation-and-policy/implementing-basel-iii-europe>

<http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/10963748/Let-small-banks-lend-more-says-Bank-of-England.html>



Tax breaks and tax avoidance

Peter Cramp of Nottingham High School discusses how payment of taxation is subject to tax rules which are often complex and the subject of controversy



The rules by which the UK tax system operates are enormously detailed and complex. This is apparent from the fact that *The Daily Telegraph's Tax Guide 2015* is a book which runs to 288 pages!¹ The book is marketed as a guide to becoming more 'tax efficient', a phrase which refers to ways in which individuals and companies can use the rules of the tax system to reduce the amount of tax they pay. For example, interest on savings is a form of personal income and usually subject to income tax, but UK tax rules allow individuals to save up to £15,240 each financial year in an ISA (Individual Savings Account) without paying tax on the interest.² It would thus be tax efficient to move savings from ordinary savings accounts into an ISA.

In this review of the UK tax system we discuss what is the meaning of the terms tax breaks, tax avoidance and tax evasion.

Tax breaks

The tax-free interest available when saving in an ISA is an example of a **tax break**. Tax breaks are tax concessions or advantages offered by governments in order to encourage desirable behaviours and activities, and are also sometimes known as tax relief. In the case of the ISA, saving is seen as a good thing from an economic perspective. Savings provide the funds which allow financial intermediaries such as banks to lend to companies who wish to invest. Furthermore, savings can reduce the need for government spending. Those who save for private pensions may be less financially dependent on the state in old age, for instance. For these reasons, it is seen as good to create tax breaks which encourage saving. Pension saving is encouraged specifically by tax relief. Earned income paid into a pension

scheme is not usually subject to tax. This means that when a basic rate taxpayer pays £80 into a pension scheme, his/her pension account is also topped up with a £20 credit paid by the government. This £20 represents the tax he/she paid when earning £100 of income.

The government's *Gift Aid Scheme* exists to encourage charitable giving and works in a very similar manner. In this way, an £80 gift to a charity is actually worth £100 because the charity can reclaim from the government the tax which the donor had paid. The tax relief available for both pensions savings and as part of Gift Aid is even more generous for higher-rate tax payers. Basic rate tax payers have a marginal tax rate of 20%, but higher-rate tax payers pay 40% on their additional earnings beyond a certain threshold. A

higher-rate taxpayer would only have to make a contribution of £60 for it to be topped up by the government to £100.

Other tax breaks include the 5% VAT rate applied to the purchase of energy-saving materials such as solar panels for the roofs of houses. This contrasts with the UK's usual VAT rate of 20%, although in June 2015 the European Court of Justice ruled this particular tax break to be illegal.³

In April 2015, the UK introduced a *Marriage Tax Allowance*, which allows married couples to reduce their tax liability by up to £212 per year. This particular tax break was politically controversial as supporting marriage through the tax system appears to reflect a belief that marriage is superior to other forms of relationship.

Exam Board	AS	Unit		A2	Unit	
		Old	New		Old	New
AQA	✓	2(3.2.4)	2(3.2.4.2)	✓	4(3.4.2)	4(4.2.5.1)
Edexcel	✓			✓	4(4.3.7)	4(4.5.2)
OCR	✓	F582	p.13	✓		p.21
WEJC	✓	2(C)		✓		p.36
CCEA	✓		2			
Int. Bacc.						2(2.4)
Cambridge Pre-U						The National Economy (i)

Key words

Tax avoidance · Tax evasion · Tax breaks
Individual Savings Accounts · Gift Aid



1. http://www.amazon.co.uk/books/dp/0749473177/ref=sr_1_1?ie=UTF8&qid=1437916498&sr=8-1&keywords=daily+telegraph+tax+system
2. <http://www.moneysavingexpert.com/savings/ISA-guide-savings-without-tax>
3. <http://www.businessgreen.com/bg/news/2411691/uk-told-green-deal-tax-breaks-are-illegal>



TRY THIS

What would a gift of £200 from a basic rate taxpayer be worth under the Gift Aid Scheme? And how much would it be worth for a higher rate tax payer?

Tax avoidance

Tax avoidance is a term perhaps most easily understood by contrast to **tax evasion**. Tax evasion is illegal and would include practices such as dodging tax by failing to disclose earned income. It might be assumed, for instance, that much of the income received 'cash in hand' for jobs is not reported to the tax authorities. Indeed, when cash is requested as payment for work this might be to prevent their being any written record of the payment.

By contrast, tax avoidance takes place within the law. It is legal simply because it involves using the rules of the tax system to minimise payment of tax. In many respects, then, tax avoidance is simply another term for being tax efficient. Indeed, it could be argued that the government often deliberately encourages us to avoid tax, by offering the sorts of tax breaks which were discussed above.

Yet tax avoidance has a poor reputation. This is largely due to the fact that tax avoidance often involves exploiting loopholes in tax rules rather than taking advantage of tax breaks deliberately offered by the government.



● Starbucks

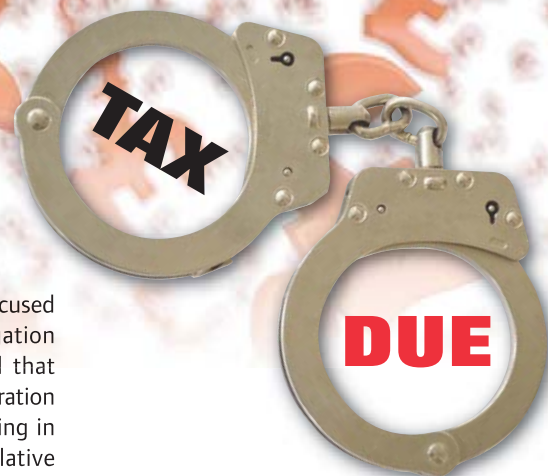
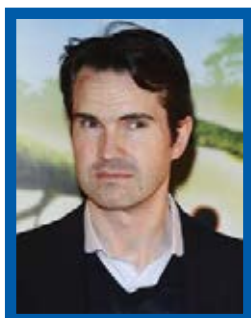
The Starbucks coffee shop chain was accused of doing this following an investigation by Reuters in 2012, which indicated that Starbucks had only paid £8.6m in corporation tax during its first 17 years of operating in the UK, despite having made cumulative sales worth over £3bn during the period. Starbucks was accused in many quarters of having made royalty and interest payments to other Starbucks businesses overseas in order to avoid making a profit in the UK. As a result, higher profits would be made in countries such as the Netherlands where less tax would be payable than if the profits had been made in the UK. While there was no suggestion that Starbucks had behaved illegally, public pressure led to it making a commitment to voluntarily paying £20m in tax in 2013 and 2014, while in February 2015 it reported its first ever profit in the UK.⁴

● Jimmy Carr

In addition to the revelation of Starbucks' tax situation, 2012 also saw another investigation by *The Times* which alleged that the comedian Jimmy Carr was involved in a tax avoidance scheme based in the low tax régime of Jersey. David Cameron felt prompted to comment critically on this case:

*"People work hard, they pay their taxes, they save up to go to one of his shows. They buy the tickets. He is taking the money for those tickets and he, as far as I can see, is putting all that into some very dodgy tax avoiding schemes."*⁵

Jimmy Carr announced that he was withdrawing from the tax scheme with an apology for his error of judgement but he must have felt cheered that one of his shows witnessed a doubling of the television audience the day following his apology!⁶



● Film schemes

In 2015 the Court of Appeal criticised a film scheme popular amongst high income earners such as Sir Alex Ferguson and Sven-Göran Eriksson. Eclipse Film Partners 35 LLP was one of several schemes promoted by tax breaks introduced by the Labour government after 2005. The Court of Appeal argued that the aim of encouraging film-making in the UK was in practice being used by persons interested in reducing their tax liability. Interest payments on large sums borrowed for investment in the Eclipse scheme were used to offset tax due on other income. It was reported that each investor gained £404k worth of tax relief for a mere investment of £173k.⁷

Stories such as this have led to tax avoidance being widely seen as just as unethical as its illegal counterpart tax evasion. Indeed, a survey by YouGov in early 2015 found that 59% of the people think it is 'unacceptable' to legally avoid tax.⁸ This perception is perhaps reinforced by the suspicion that tax avoidance is a path most open to the better-off in society who are able to employ tax experts and accountants to reduce their tax liability.

4. <http://www.theguardian.com/business/2015/feb/04/starbucks-first-uk-profits>

5. 'Jimmy Carr tax affairs 'morally wrong' – Cameron', <http://www.bbc.co.uk/news/uk-politics-18521468>, BBC News, 20 June 2012.

6. Jimmy Carr: Tax row sees Channel 4 ratings soar', <http://www.bbc.co.uk/news/entertainment-arts-18569728>, BBC News, 24 June 2012.

7. D. Hyde, 'Ferguson faces bill for film "tax dodge"', *The Daily Telegraph*, 18 February 2015.

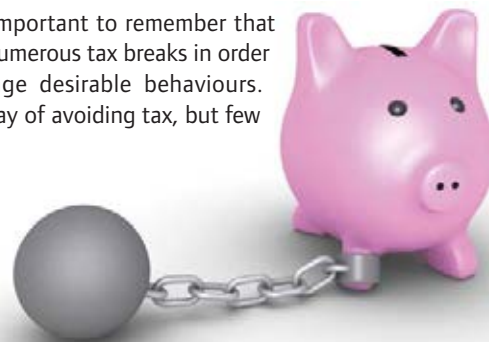
8. <http://www.independent.co.uk/news/uk/politics/most-people-think-legal-tax-avoidance-is-just-as-wrong-as-illegal-tax-evasion-10077934.html>



Conclusion

There is little doubt that there could be significant improvements to UK government finances were it possible to clamp down on tax evasion and close some of the loopholes which allow legal tax avoidance. Each year HM Revenue and Customs (HMRC) report a figure known as the 'tax gap', the difference between the amount of tax it estimates that it should have collected in total and the amount it actually did collect. In the financial year to April 2013, the tax gap was £34bn, roughly 30% of the budget deficit for that year.⁹ Some pressure groups, such as UK Uncut, suggest that the government's austerity programme is unnecessary and that rather than cutting government spending, strenuous efforts should be made to close the tax gap instead.¹⁰

As this debate continues, however, it is important to remember that the government deliberately offers numerous tax breaks in order to use the tax system to encourage desirable behaviours. Technically, saving for a pension is a way of avoiding tax, but few would see this as unacceptable.



TRY THIS

Research the details of the government's 'Rent a room scheme' which is a form of tax break. Why is it seen as desirable to encourage home-owners to let out rooms in their houses? Find as many other examples of tax breaks as you can.

9. <http://www.bbc.co.uk/news/business-29644274>
10. <http://www.ukuncut.org.uk/>

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Questions

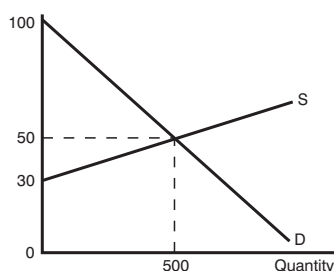
In this regular feature Principal Examiner Robert Nutter looks at AS and A2 questions which in this volume will aim to reflect the order that schools and colleges cover topics from the specifications. There are three AS (1-3) and three A2 (4-6) questions per edition plus explained answers.

- 1 A rational individual will consume a product provided at zero price until

A. marginal utility is maximised.
B. marginal utility starts to fall.
C. total utility is maximised.
D. total utility equals zero.

- 2 In the diagram the value of the consumer surplus exceeds that of the producer surplus by

A. £2,500.
B. £5,000.
C. £7,500.
D. £10,000.



- 3 The data below is the retail price index for a country with Year 1 as the base year.

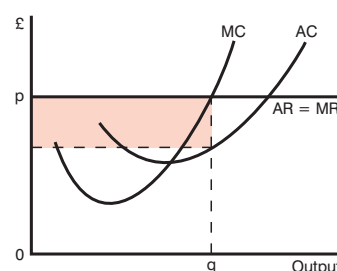
Year 1 100.
Year 2 105.
Year 3 108.
Year 4 115.
Year 5 120.

If this index is used to measure the annual rate of inflation it can be deduced that

A. the rate of inflation was zero in Year 1.
B. prices rose by 3% between Year 2 and Year 3.
C. prices rose by 10% between Year 2 and Year 4.
D. in some years the rate of inflation fell.

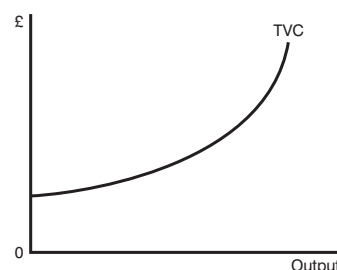
- 4 The diagram shows a typical firm in a perfectly competitive market in the short run. In the long run the market

A. demand curve will shift to the right.
B. supply curve will shift to the left.
C. demand and supply curves will both shift to the left.
D. demand curve will shift to the left.
E. supply curve will shift to the right.



- 5 The diagram shows the total variable cost curve (TVC) of a firm in the short run. As output increases it can be deduced that

A. marginal cost is constant.
B. there are increasing and then diminishing returns to a factor.
C. average fixed costs are constant.
D. there are economies and then diseconomies of scale.
E. marginal costs are constant.



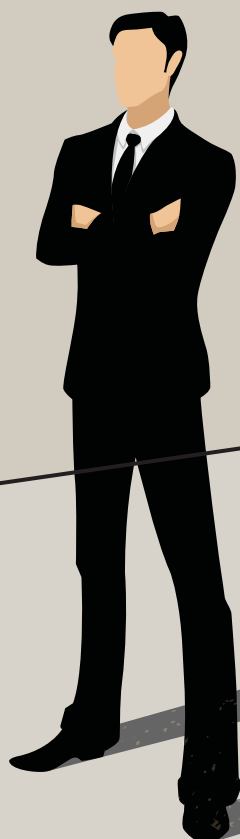
- 6 Following the depreciation of its currency a country's balance of payments current account at first worsens then over time improves.

This can be illustrated diagrammatically by a/an

A. Laffer curve. D. Lorenz curve.
B. Indifference curve. E. J-curve.
C. Production possibility curve.



Is the income of pensioners in the UK being protected compared with other households?



Dominique Ellis, Economics teacher at Alleyn's School, reviews how the incomes of different sections of the UK population have changed in recent years

With a widespread fall in fertility rates and significant rises in life expectancy, the median age of Britain's population is increasing. Britain's over-65s now outnumber people under the age of 16.

This ageing population is being made acute by the inevitable retirement of the so-called *baby boom generation* over the coming decades. The post-WWII 'baby boomers' were born during a time of fast population growth between the years 1946 and 1964. 17 million births recorded in Britain alone in this period but those born at this time are now beginning to reach retirement age and this has widespread ramifications for society, politics and the economy. There are currently 4 people of working age supporting each pensioner in Britain. However by 2035 this number is expected to fall to 2.5, and by 2050 to just 2. The number of people of working age in relation to retirees – the 'dependency ratio' is thus halving dramatically.¹



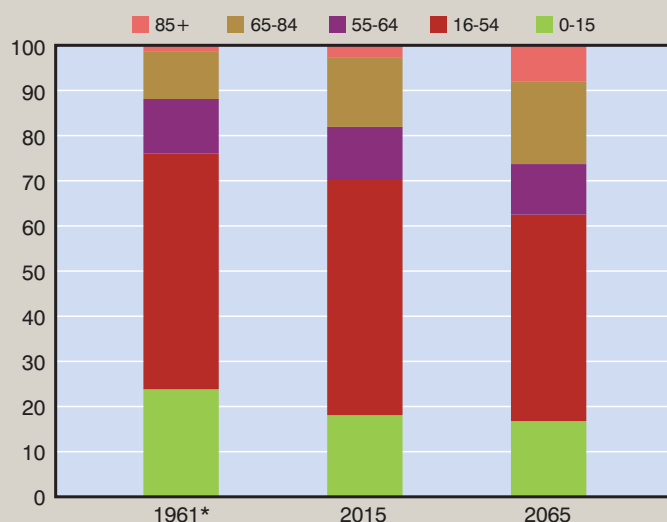
1. Royal Geographical Society with the Institute of British Geographers, <http://www.21stcenturychallenges.org/focus/britains-greying-population/>
2. IFS Report: 'Retirement in the 21st Century', <http://www.ifs.org.uk/uploads/publications/comms/R98.pdf>

Exam Board	AS	Unit		A2	Unit	
		Old	New		Old	New
AQA	✓	1(3.2.4)	2(3.2.4.2)	✓	3(3.3.4 & 3.4.2)	4(4.2.5.1)
Edexcel	✓	2(2.3.8)	2(2.6.2)			
OCR	✓	F582	p.13	✓	F585	p.22
WEJC	✓	2(C)	p.19	✓		p.36
CCEA	✓	AS(2)				
Int. Bacc.		2(2.4)				
Cambridge Pre-U		The National Economy (i)				

Key words

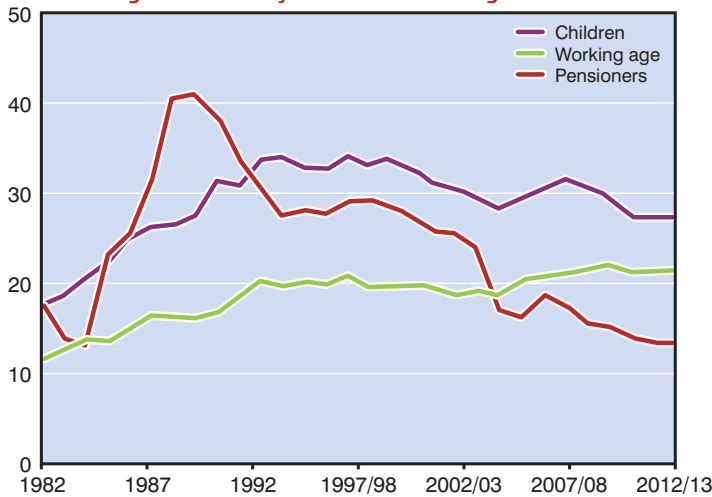
Ageing population · House prices
Pensions · Labour mobility · Tuition fees

Figure 1: Percentage of UK population



Source: ONS *England and Wales only

Figure 2: Poverty rates after housing costs*



Source: C. Milmo, *The Independent*, 24 November 2014
 *Poverty defined as less than 60% of 2010 median income



Why is an ageing population a problem?

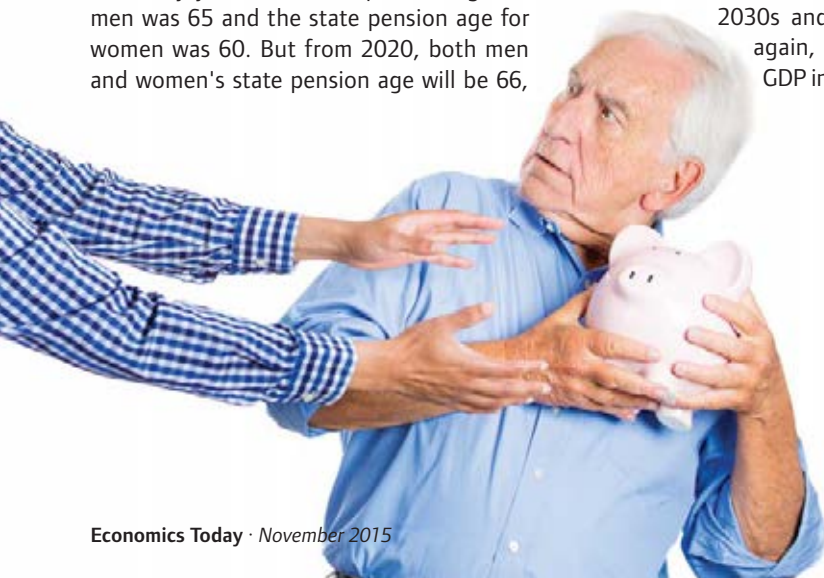
Those in employment pay taxes which are partly used to give money to pensioners through state pensions and means-tested benefits. Employees also save some of their earnings because they want to put some money aside for when they retire (these are private pension plans). An 'ageing' population means that the amount of resources being transferred from workers to pensioners will go up (and up!). The bottom line is, as explained in a recent IFS review, one (or a blend) of the following must occur:

- The incomes of retired people will have to fall relative to those of working age people.
- The proportion of incomes of workers that is transferred to pensioners will have to rise.
- People will have to retire later. (This increases the number of workers and decreases the number of retired people.)²

For many years, the state pension age for men was 65 and the state pension age for women was 60. But from 2020, both men and women's state pension age will be 66,

increasing to 67 between 2026 and 2028, and then linked to life expectancy after that. But the burden remains vast. The main drivers of upward pressure on key items of age-related spending are: health spending, the cost of long-term social care and the increased costs of the state pension.

In its annual *Fiscal Stability Report* published at the end of June 2015, the OBR estimated the financial cost of Britain's ageing population will require a fresh £20bn wave of austerity (so spending cuts or tax increases) from 2020 to bring the national debt back to pre-recession levels in 50 years from now. The OBR said that by 2065, 26% of the population of England and Wales would be more than 65 years old, up from 18% today, increasing the cost of pensions, health and social care. The OBR said that if left unaddressed, ageing would put increasing pressure on the public finances. The national debt would come down from its current 80% of GDP to 54% by the early 2030s and then start rising again, reaching 87% of GDP in 50 years from now.



Economic policy and intergenerational equity

The main policies UK governments have used to try to make the distribution of income and wealth more equal are: progressive taxation, transfers in the form of benefits (including pensions), the tax credit system and the national minimum wage. Income redistribution from the working population to retired citizens (in the manner described above), has traditionally been administered by the government because that segment of the population, as a result of their inability to work, have been less well off. However, if we take a closer look at the trend in relative incomes between generations, recent changes reveal a surprising outcome.

Figure 2 illustrates the extent to which the incidence of poverty has changed on a relative basis between young people and pensioners. In fact, the phenomenon is of such grave importance that commentators have labelled it *Intergenerational Theft*. We will look at the drivers of this and consider whether this trend is set to continue. We can identify at least four of these drivers. They are firstly the protection given to pensioners by government policies. Secondly, there is greater job security of today's young persons in employment. A third driver is the cost of tuition fees to study for a degree and the fourth, rapidly rising house prices. We review these drivers in turn.



Drivers of intergenerational inequity

1. Protected pensions and pensioner bonds

The Institute for Fiscal Studies (IFS) estimates that the incomes of those aged between 22 and 30 are still 8 per cent below 2007 levels. Meanwhile, the income of people aged over 60 have risen 7 per cent over the same period. A number of factors explain this, but of key significance is that pensioners have seen their incomes protected by the Government's 'Triple Lock' on pensions, while most young people have to rely on their job for their income. The 'Triple Lock' refers to the government's decision to ensure that the basic state pension always goes up by the *highest* of three measures – earnings growth, inflation and 2.5 per cent. This has equated to 5% real-terms rise since 2010, while wages and working-age welfare have fallen. Triple Locked pensions will get increasingly expensive over time. If in every year the state pension rises in line with the higher of average earnings or prices (or 2.5%), in the long run it will always rise faster than both (taken as an average). The Office of Budgetary Responsibility (OBR) estimate that by 2060 the triple lock pension, when compared to increasing it in line with average earnings, will cost £15bn more per year to service (in today's terms).

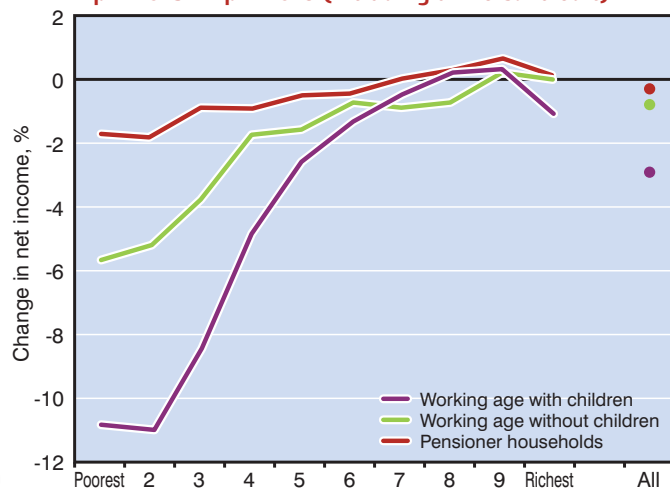
Other reasons for a widening income gap include the introduction of **Pensioner Bonds**, with enhanced returns, made exclusively available for pensioners. Pensioner Bonds pay those who buy them an interest rate of 2.8% for one year bonds and 4% for three year bonds which is significantly better than any retail bond product currently available. Conversely you can think of this as the cost, in interest, to government of borrowing from pensioners. By selling these Pensioner Bonds, as in the case of issuing Premium bonds or other National Savings and Investment (NS&I) products, the government can borrow money directly from its citizens. Alternatively, they could issue new government bonds or gilts directly into the gilt market. The government can today borrow in the gilt market and pay just 0.5% interest on a one year bond (about 20% of the cost of borrowing from its pensioners) and 1.03% on three year bonds, again considerably less. The government expects more than a million pensioners to take advantage of the scheme. Whilst pensioners are limited to buying



£20,000 of these bonds, it has been estimated that this pensioner will be about £550 better off than buying any similar private retail product.³ The issue here is not only that these products are offering pensioners much better interest rates on any savings than people of working age, they arguably represent a bad financial decision on the part of a government looking to get its national debt down (borrowing at much higher rates). There are also *unintended consequences* of this policy in terms of the impact of the retail investment sector, whose products become relatively less attractive, causing a loss of business and ultimately could see firms exit the sector.

Other enhancements to a pensioner's income include universal (so not means-tested) access to free bus passes, TV licences and winter fuel bonuses, although these are actually a small part of spending when compared to the outgoings on the state pension.

Figure 3: Impact of tax and benefit reforms April 2015 – April 2019 (including universal credit)



Source: Institute for Fiscal Studies Assumes full take-up of means-tested benefits and tax credits



REMEMBER THIS

The great squeeze on living standards over the past seven years has been unevenly felt between generations. According to the IFS, the government has almost entirely spared the elderly from austerity. Whereas households have lost on average about £500 from spending and tax changes, pensioners – particularly couples, have lost barely anything (£23 between them).

Key causes of this disparity have been: (1) Pensioner protection from the government (triple lock on state pension, universal free bus pass and winter fuel bonuses as well as Pensioner Bonds); (2) More stable employment versus younger generations; (3) Rising education costs with reduced funding options; and (4) Rapid house price appreciation benefiting older generations.

3. P. Hosking, 'Osborne's expensive gesture on pensioner bonds is tying the rest of us in knots', *The Times*, 21 January 2015, <http://www.thetimes.co.uk/tto/business/columnists/article4330529.ece>

2. Greater job insecurity

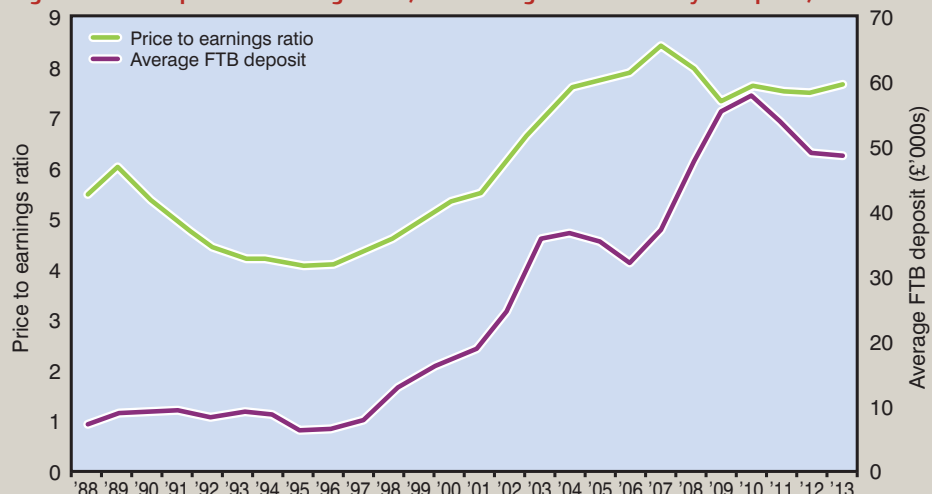
The number of jobs in the UK economy is close to an all-time high with some two million having been created over the past five years. However, much of that increase in total employment is due to older workers staying in the workforce longer. Headline figures imply young people are not doing too badly. The youth unemployment rate (of those aged 16 to 24) has fallen from a peak of 22 per cent in 2012 to around 16 per cent today. But what type of employment is being created and what are the opportunities for career development?

Research from the Resolution Foundation think-tank published in July shows labour mobility rates are still way below pre-crisis levels.⁴ Labour mobility refers to the extent to which workers are willing and able to move between jobs. Resolution think this means younger people are not getting the opportunities for promotion and pay available that previous cohorts coming through the ranks received. This is feeding directly through into prospects for pay. Resolution calculates that the typical earnings of the cohort born in 1983 are around £2,800 a year lower than those born in 1978 at a similar stage in their lives.

Increasingly controversial are the contractual basis the workers are being employed on. The rise of zero-hours contracts, and similar, cannot be ignored. Resolution use the term '*insecure*', to classify those working part time or in temporary jobs, those who have not been in position long enough to have various employment rights, or are relatively low paid. Focusing just on those 18-29 year olds who are in work, 66 per cent were *insecure* in 2014, up from 55 per cent in 1994. In contrast, 48 per cent of people aged between 50 and the state pension age were in the '*privileged*' group in 2014, up from 42 per cent in 1994 (privileged workers are part time workers – thus with rights gained from having been working for five years or more, and full-time workers (on a salary more than half the average). Headline employment figures clearly mask these developments but there are obvious repercussions for relative living standards.

4. Resolution Publication: 'A Steady job: The UK's record on labour market security and stability since the millennium, <http://www.resolutionfoundation.org/publications/a-steady-job-the-uks-record-on-labour-market-security-and-stability-since-the-millennium/>

Figure 4: House price to earnings ratio, and average first-time-buyer deposit, 1988-2013



Source: PWC



TRY THIS

- Using the data below and researching what has happened both to inflation (CPI) and average real wages (AWE), calculate how the basic state pension for a single person would have changed per annum had the government's 'Triple Lock' guarantee been introduced in 2005.

	CPI	AWE	BASE	Actual weekly pension (£)	Triple-lock weekly pension (£)
2005	2.1%	4.6%	2.5%	72.5	
2006	2.3%	4.7%	2.5%	74.0	
2007	2.3%	5.0%	2.5%	75.7	
2008	3.6%	3.6%	2.5%	77.5	
2009	2.2%	-0.2%	2.5%	80.3	
2010	3.3%	2.3%	2.5%	82.0	
2011	4.5%	2.5%	2.5%	84.7	
2012	2.8%	1.5%	2.5%	88.5	
2013	2.6%	1.2%	2.5%	91.0	
2014	1.5%	1.2%	2.5%	93.4	

- What might be the political motives for the government protecting the incomes of pensioners?
- Consider some of the wider economic implications of this trend for society.
- Write a paragraph to explain why an ageing population is an economic problem for the UK. See page 35.

3. Increased costs of education and financing education

Tuition fees have risen since 2010 meaning the typical student will graduate with around £45,000 of debt. The 2015 Budget brought with it two major changes to how students finance this debt. Currently, students from families with annual incomes of £25,000 or less get the full grant of £3,387 a year. This will now be replaced by a loan which the same student will have to repay. The replacement of maintenance grants by loans from 2016-17 will raise debt for the poorest students, but do little to improve government finances in the long run. Government have also proposed freezing the repayment threshold for loans, so students will have to start paying back their loans at lower levels of real income. This – if implemented – will significantly improve government finances because it will result in a higher level of graduate repayments.

4. Increases in housing prices

Housing is something on which people spend a substantial proportion of their lifetime income and for many homeowners, it is a very large component of their net wealth. Hence the potential for housing trends to contribute to important inequalities across the population is very large.

The UK housing market experienced a decade of soaring prices prior to the 2008 financial crisis. In the wake of the crisis much more onerous deposit demands (in terms of % loan) and their size has soared creating a significant barrier to first time buyers (see Figure 4). As a result a generation of private renters has emerged and this will increasingly be the norm for the 20-39 age group. There is a rising gulf between those who own and those who rent, and increasingly between those (mostly older) households who own outright (have no mortgage) and those who rent or have a mortgage. In addition, a recent report published by PWC reveals that the 'still at home' ratio is up from 18 per cent before the crisis to 25 per cent of 22-30 year olds.⁵

For most people, their home represents their biggest asset (or use of capital), it can thus be argued that if owning a home is increasingly less possible for successive generations, this will further widen the income and wealth gap between today's 'mortgage-free' pensioners and the rest of us.

"Why are over 75-year-olds given free (£12 per month) licences? The ones I know are content to spend more than £60 a month on Sky."

A comment in a recent issue of *The Sunday Times Culture*.

5. PWC Generation Rent: <http://www.pwc.co.uk/the-economy/publications/uk-economic-outlook/ukeo-july2015-housing-market-outlook.jhtml>

Conclusion

"We're all in this together" has been the mantra frequently quoted by David Cameron and the Conservative party when describing their plans for austerity. The issues raised in this article should go some way towards illustrating how this is highly questionable. Incomes of pensioners have been enhanced whilst those of the rest of the population have suffered.

What is concerning is that with national debt now standing at almost £1,600bn, future generations look set to suffer further. When he became Chancellor in 2010, George Osborne inherited a budget deficit in excess of 10 percent of GDP, the biggest in the UK's peacetime history. Our public finances are now healthier, but in 2014, the UK still had a fiscal deficit equal to 5.7 percent of GDP – the worse fiscal shortfall in the European Union except for Spain and Cyprus, despite our economy growing faster than other large EU nations. As a result of its efforts to balance the budget, the Government forecast in 2014 that the structural deficit will be eliminated in the financial year 2017/18. However, it postponed this to 2019 in March 2015, and to 2020 in July 2015. The concessions for pensioners discussed in this article explain part of this shortfall. Why does this matter for the rest of us?

National debt constitutes a painful legacy handed over to offspring who will have to pay it off. Younger generations will be forced to do this through higher taxes, less infrastructure and social spending, and, inauspiciously, the prospect of painfully slow growth for the foreseeable future.



with Principal Examiner,
Robert Nutter

1. Both public and private sector pension liabilities are classified as being either funded or unfunded. Investigate the difference between the terms funded and unfunded and examine how this may impact on future generations.

<http://www.if.org.uk/archives/2031/ons-reveals-full-uk-pension-liabilities>

http://www.taxpayersalliance.com/revealed_government_underestimates_public_sector_pension_liability_by_610_billion

2. The government has recently introduced 'automatic enrolment' into a workplace pension scheme for employees who do not already have a pension. Examine the way the scheme will work and the reasons for its introduction.

<http://www.bbc.co.uk/news/business-19589265>

<http://www.bbc.co.uk/news/business-32087038>

<https://www.gov.uk/workplacepensions>

3. In recent years it has become evident that public sector pensions (those received by teachers, local government employees, health service workers etc) are generally far more generous than those received by private sector employees. In 2012 the Association of Consulting Actuaries asserted that there had been a 'seismic collapse' in the private sector pensions market.

Investigate the reasons why workers in the private sector have seen a deterioration in their pension provision.

<http://www.telegraph.co.uk/finance/personalfinance/pensions/10336591/Gap-widens-on-public-vs-private-pensions.html>

<http://www.bbc.co.uk/news/business-16385381>

4. According to Age UK pensioner poverty remains stubbornly persistent in the UK, affecting 1.6m people living on or below the poverty line and 900,000 people living in severe poverty.

What measures are in place to reduce pensioner poverty?

<http://www.ageuk.org.uk/>

5. Quantitative easing has had a negative impact on pensioner incomes. Investigate the process that has brought this about?

<http://www.spectator.co.uk/spectator-money/spectator-money-features/9456812/warning-qe-is-eating-your-pension/>

<http://www.theguardian.com/money/2012/jul/05/quantitative-easing-affect-annuities-pensions-inflation>



Ruth Tarrant, Economics teacher, Bedales School, Petersfield, reviews the retail grocery market



How much competition is there in food retailing?



The difficult economic climate from 2008 forced many people to focus more carefully on where and how they were spending their money. Food, as an essential item, was of particular concern in most households. This consumer concern was exacerbated as a result of the 18% increase in real food prices in the UK from between 2007 and 2014.¹ This partly explained why household total spending on food shopping rose 30% over the same period.

Economic theory tells us that prices can rise as a result of a number of factors. In a competitive market, prices could rise due to an increase in demand and/or fall in supply. In an imperfect market, prices can rise due to a lack of competition and the subsequent abuse of power by dominant firms. The significant increase in the price of food at a time when many households were struggling to pay bills prompted a number of competition authorities to investigate the nature of food retailing more closely.

For example, in October 2013, the OECD Competition Committee analysed the level of competition in food retailing across the OECD countries. This Committee was investigating complaints of anti-competitive mergers, abuse of monopoly power, price-fixing in cartels, vertical restraints and exclusive practices in food retailing in its member states. These investigations were taking place at a number of different points in the so-called food-retailing 'food chain' i.e. in production, processing, distribution and final sale.

Figure 1 from the UK's Department for Food, Environment and Rural Affairs shows how this 'food-chain' operates in the UK.

An initial analysis of the data tells us that there are 53,112 food and drink retailers in the UK, along with 15,525 food and drink wholesalers, and 8,228 food and drink manufacturers. This looks like a lot of businesses, and at first glance suggests competitive markets exist. However, as economists, we should remember that the level of competition is not just about the *number* of firms in an industry, and that we should also investigate *concentration ratios* and *market share* to assess the extent to which there are large, dominant firms.



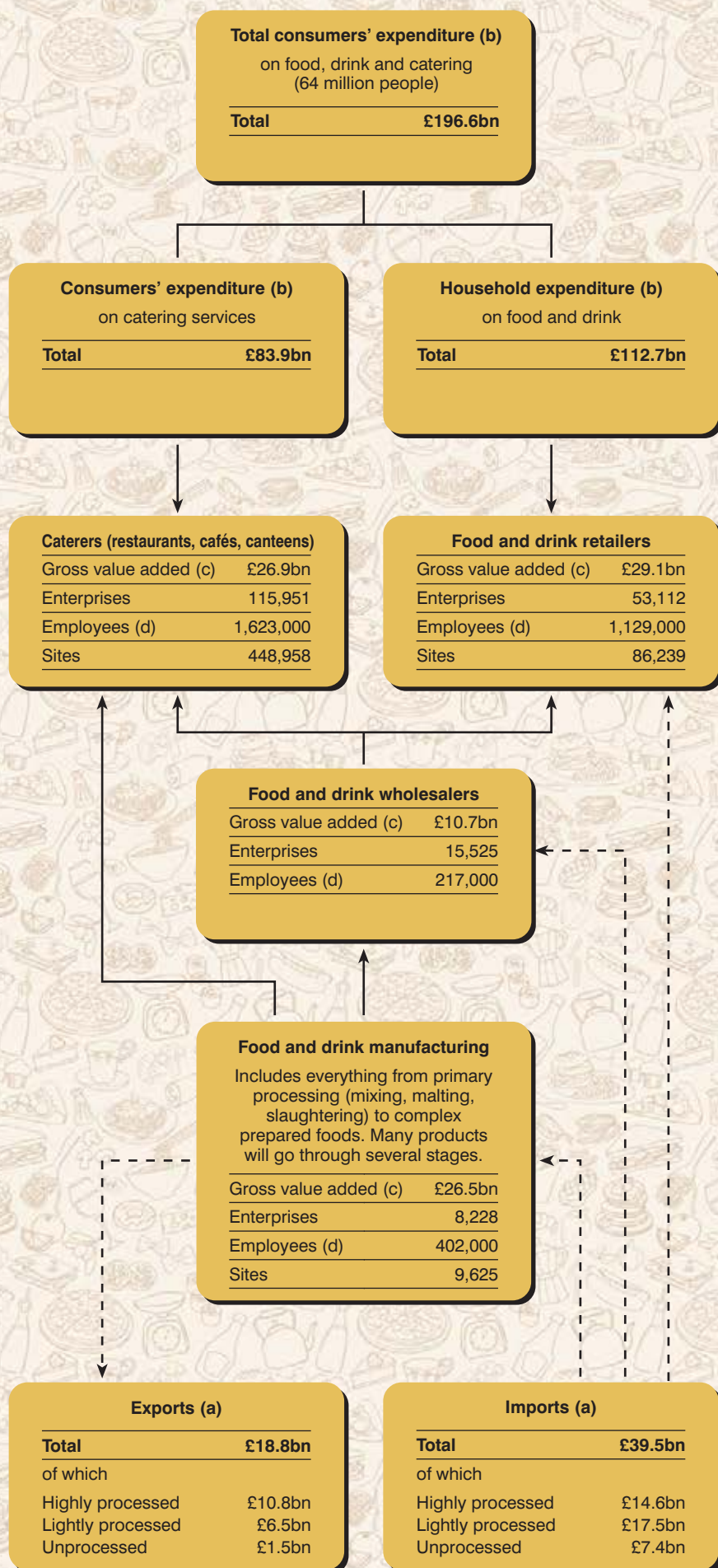
Table 1: Changing multiple retail chain market shares in the UK

Retail Chain	2015	2008
Tesco	28.5%	31.6%
Asda	16.4%	17.0%
Sainsbury's	16.5%	15.8%
Morrisons	10.9%	11.1%
Somerfield/The Co-operative	6.3%	3.7%
Waitrose	5.0%	3.8%
Aldi	5.6%	3.0%
Lidl	4.0%	2.4%
Iceland	2.0%	1.7%

Source: <http://www.igd.com/Research/Retail/retail-outlook/3371/UK-Grocery-Retailing/> and <http://news.bbc.co.uk/1/hi/business/7572199.stm>

1. Department for Food, Environment and Rural Affairs, *Food Statistics Pocketbook* 2014.

Figure 1: The food chain in the UK in 2014



Source: Department for Food, Environment and Rural Affairs, *Food Statistics Pocketbook 2014*, p.11.



Competition in the retail grocery market

The UK retail grocery market industry is worth around £180bn, with 54p in every £1 of retail sales spent on groceries. Table 1 shows how the market share of the main retail chains has changed from 2008 to 2015.

The data shows this market to be heavily concentrated in 2015 with a three-firm concentration ratio of 61.4%. Tesco is clearly still the dominant firm, aided by schemes such as Clubcard. Tesco has had its fair share of stories in the press of late regarding abuse of its dominant position, for example using its monopsony power to push down the price that it pays for milk, and buying up land to prevent other supermarket chains from opening stores.

However, Tesco's dominance has diminished. Discounters such as Aldi and Lidl have seen large increases in their market shares over recent years, achieved by selling a smaller range of products in no-frills stores. The Co-operative has also seen a revival in its fortunes since buying out Somerfield, having focused on selling to customers who want convenience coupled with a more ethical approach to grocery shopping. Waitrose, at the more luxury end of supermarket retailing, has also seen an increase in its market share as many people have switched from eating out to preparing meals at home from high-quality ingredients. There is a large amount of both price and non-price competition, and this is reducing the dominance of the major players in the industry. Much of 2015 has been characterised by heavy price wars by the dominant supermarkets in an attempt to claw back some market share; prices have fallen on average by 1.7% since Christmas 2014. This has taken its toll on suppliers – and this is where we turn our attention next.

Competition amongst food suppliers

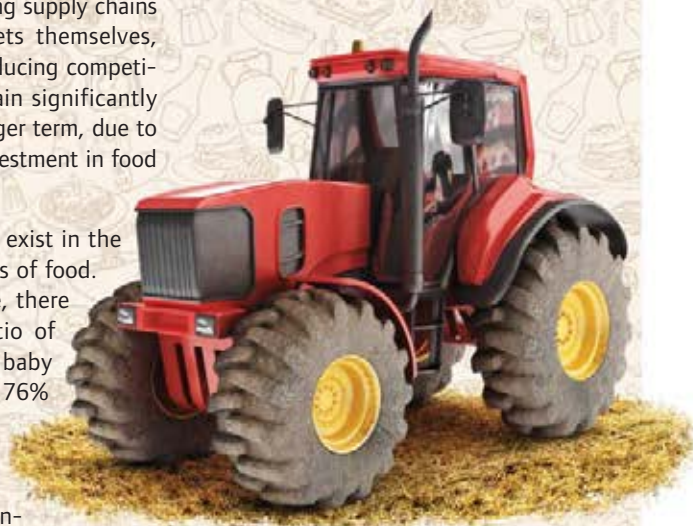
Over the last 12 months or so, the number of UK farmers and food suppliers struggling to stay in business has increased by over 50%, mostly due to the pressure they are facing from the dominant retail chains to accept lower prices for their food products and also the rise in 'fees' demanded by these chains of suppliers to allow them to be able to supply and be placed on eye-catching shelves in store. The dominant retailers are also under investigation by the Groceries Code Adjudicator (GCA) for persistently paying their suppliers late. Many suppliers are reluctant to bring their cases to this regulator for fear of losing future contracts to supply. Clearly, these examples all suggest significant abuse of monopsony power by the leading retailers. Small and medium size enterprises (SMEs) are the ones most likely to shut down, and this is likely to further increase the dominance of some of the UK's large food suppliers.

In the last 10 years or so, the UK's competition authorities have investigated over 120 mergers in the food-supply industry, in markets as diverse as Christmas puddings, malt vinegar and soft drinks. The authorities

have focused on investigating supply chains more than the supermarkets themselves, because they argue that reducing competition in the food supply chain significantly harms consumers in the longer term, due to a lack of innovation and investment in food supply.

Different market structures exist in the production of different types of food. For example, across Europe, there is 3-firm concentration ratio of around 88% for supply of baby milk, 76% for canned soup, 76% for breakfast cereal, 63% for pasta and 70% for wrapped bread.² However, for fresh fruit and vegetables, the concentration ratios are much lower. That said, in 2013, 90% of food consumed in the UK came from just 23 countries (50% of food consumed in the UK is actually produced in the UK).

Whilst consumers have more information and awareness of price trends in the supermarkets, perhaps it is the food supply chain that should warrant more of our attention.



The European perspective

Interestingly, the picture across Europe is often quite markedly different from the picture in the UK. In the retail grocery sector, for example, the 5-firm concentration ratios across EU countries differ quite significantly. Table 2 gives some detail.³

A useful exercise is to think about why there may be such large differences in these concentration ratios.

Table 2: Concentration ratios in selected EU countries

	5 firm concentration ratio
Bulgaria	14%
Denmark	76%
France	84%
Germany	58%
Italy	32%
Poland	24%
Slovakia	47%
UK	61%

Conclusions

There is certainly competition in the UK food retailing industry, but arguably not as much as in many other European countries. Perhaps more significantly for UK consumers is the combination of the lack of competition amongst suppliers of some types of food, with the increasing squeeze on the profits of retail chains that has forced many of them to behave irresponsibly towards the smaller suppliers.

2. OECD, Competition Issues in the Food Chain Industry, (2013) p.16.
3. *Ibid.* p.19.



Fluctuations in the value of the pound and the euro

Tony Emery looks at recent exchange rate movements and their explanation



The exchange rate movements of both the pound sterling (GB£) and the European euro (€) against the United States dollar (US\$) from mid-2013 to early 2015 showed some similarities but nonetheless were far from identical. This is shown in Figures 1 and 2.

We now turn to the relationship between the pound and the euro. From mid-2013 to early 2015 the value of the euro against the pound sterling fell almost continuously, meaning one obtained more euros for every pound. In March 2015 the exchange rate of the pound to the euro rose to its highest level for more than seven years. It reached €1.41 to £1 as shown in Figure 3. This shows the increased number of euros for every pound sterling, thus the graph is upward-sloping (reflecting the falling value of the euro). At the same time against the US dollar the pound sterling stood just below \$US1.50 to £1.

Figure 1: US dollars per 1 pound sterling, May 2013 to May 2015



Source: Professor Werner Antweiler, University of British Columbia, Vancouver BC, Canada. <http://fx.sauder.ubc.ca/plot.html>



Exam Board	AS	Unit		A2	Unit	
		Old	New		Old	New
AQA	✓		3(3.2.3.4)	✓	3(3.4.2) 4(3.4.2)	4(4.2.6.4)
Edexcel	✓	2(2.3.3 & 2.3.9)	2(2.2.5)	✓	4(4.3.3)	4(4.1.8)
OCR	✓	F582	p.15	✓	F585	p.25
WEJC	✓	2(D)	p.21	✓	4(F)	p.35
CCEA				✓		2
Int. Bacc.			3(3.2)			
Cambridge Pre-U		The National Economy (i) & International Economics (d)				

Two of the important influences on exchange rates are usually held to be changes in flows of international payments and the level of national interest rates. Details of some of these in 2013 and 2014 for the UK, US and the Eurozone are given in Table 1.

With the UK May 2015 general election resulting in success for the Conservative Party, the matter of a referendum on continuing UK membership of the European Union came to the fore.



Key words

Exchange rates · Interest rates · The Eurozone
Balance of payments on current account

Figure 2: US dollars per 1 European euro, May 2013 to May 2015



Source: *Ibid.*

Figure 3: European euros per 1 pound sterling, May 2013 to May 2015



Source: *Ibid.*



Table 1: Annual current account balances (billions, own currency) and central bank interest rate (%)

	2013 Current account balance	2014 Current account balance	2013 Central Bank interest rate	2014 Central Bank interest rate
United States	-400.3 (bns US\$)	-410.6 (bns US\$)	0.25%	0.25%
United Kingdom	-76.7 (bns GB£)	-97.9 (bns GB£)	0.50%	0.50%
Eurozone	+214.0 (bns €)	+235.5 (bns €)	0.25%	0.15%

- Using Figures 1 and 2, compare the behaviour of the exchange rate of the pound against the dollar with that of the euro against the dollar. (4 marks)
- Explain how the impact of the higher level of the pound against the euro might affect UK producers of manufactured goods and suppliers of services. (6 marks)
 - Analyse how these firms might react to counter any harmful effects of the higher exchange rate. (6 marks)
- Explain how changes in a country's balance on the current account and the level of its national interest rates might be expected to affect its exchange rate. (6 marks)
 - Identify the extent to which these effects are shown in Table 1 and suggest why the expected impact might be limited. (8 marks)
- Discuss the case for the UK replacing the pound sterling with the euro as its national currency. (10 marks)

Suggested approach to the questions

1. Using Figures 1 and 2, compare the behaviour of the exchange rate of the pound against the dollar with that of the euro against the dollar. (4 marks)

Both exchange rates rose until the summer of 2014 but then fell until March/April 2015. They both then recovered some ground from April 2015. Although the direction of change was very similar the amount of change was not. The pound rose more, by approximately 15% against the euro's 8%, but then fell by less, approximately 15% against 25%.

Be careful to take note of the different scales on the diagrams. Reasonable approximations of values and dates are acceptable.

2. (a) Explain how the impact of the higher level of the pound against the euro might affect UK producers of manufactured goods and suppliers of services. (6 marks)

The higher pound makes exports to the eurozone more expensive and imports from the eurozone less expensive. The value of foreign earnings of British firms from trade in the Eurozone falls as euros exchange for fewer pounds sterling. The influences will be whether the firms sell to Europe, buy from Europe or face competition from eurozone firms. Both manufactures and services are likely to sell to Europe, as it is a high income market, so will face reduced sales depending on their elasticity of demand. This may cut revenue and profits. Manufacturers are more likely to rely on imported materials than services so are more liable to benefit from falling costs. As the larger members of the eurozone are at a similar stage of development to the UK they are likely to provide significant competition in the UK market. This may reduce demand for both British manufactures and services. UK comparative advantage is likely to favour services more than manufactures, making them less susceptible to the increased competition.

Look for the reason behind the categories of firms specified in the question. There will usually be a distinction to be made.

2. (b) Analyse how these firms might react to counter any harmful effects of the higher exchange rate. (6 marks)

If a firm loses sales in the eurozone market and wishes to retain its market share it may reduce its prices, or at least not raise them to reflect the change in the exchange rate; cut its costs by raising productivity or passing on lower imported material prices and lower its profit margin. It may look for other markets where there is a different exchange rate relationship. It may try to avoid unfavourable exchange rate movements by entering into fixed price contracts; by hedging its future needs for foreign currency and by pricing its products in another currency such as the dollar. Increased marketing within the home market may act as a barrier to foreign competition.

Tailor the firm's reactions to the situations you have identified in the previous answer.

3. (a) Explain how changes in a country's balance on the current account and the level of its national interest rates might be expected to affect its exchange rate. (6 marks)

A deficit on the current account of the balance of payments would be expected to result in a net outflow of funds. This would be traded on the foreign exchange market as an increase in demand for foreign

currency or a supply of the pound. This increase in the supply of pounds would result in a fall in the exchange rate. A surplus would have the opposite effect. A fall in domestic interest rates, following a change by the central bank, would make holding funds in that currency less rewarding and so decrease the demand for the currency. The outcome would be a fall in the currency value. A rise would have the opposite effect.

Explain the process by reference to the demand and supply of the currency. Although not specifically asked for, a demand and supply diagram for the foreign exchange market would be useful.

3. (b) Identify the extent to which these effects are shown in Table 1 and suggest why the expected impacts might be limited. (8 marks)

Table 1 shows that both the UK and US were faced with worsening current account deficits. During 2014, the dollar strengthened against the pound and euro, which would not be expected. The pound weakened against the dollar but strengthened against the euro. The former might be expected but the latter would not. The eurozone had an improvement in its current account balance but faced a fall in its exchange rate against both other countries, neither of which would be expected. There is thus little evidence of the expected outcomes. The only change in interest rates is the fall in that of the eurozone. This might be expected to result in a fall in the value of the euro or might contribute to a rise in the value of the other two currencies. This seems to be borne out in the data. Why might there not have been clearer confirmation of the links? The scale of the changes may have been insignificant, a time lag might operate, it may be difficult to distinguish cause and effect, other influences such as confidence, foreign investment, government intervention etc may outweigh the influences shown in the data.

Remember that the real world is more complicated than theory suggests and you should be prepared to address contradictions.

4. Discuss the case for the UK replacing the pound sterling with the euro as its national currency. (12 marks)

Select arguments from such as the following and clarify their operation.

Potential benefits

- Lower transaction costs.
- Greater price transparency.
- Greater involvement in a larger market.
- Greater inward investment.
- Less fluctuation against other European countries' currency.
- A more powerful national currency (possible reserve currency).

Potential drawbacks

- Loss of independent monetary policy.
- A different economic cycle and structure e.g. housing and labour markets.
- Restriction on economic sovereignty.
- Possibility of increased rules and regulation.
- Economic instability and fragility of a diverse Europe.
- Difficulty and disruption of reversing the decision.

Remember that this is a piece of extended writing but is not a full-length essay. A selection of reasoned arguments covering both sides will be sufficient. A conclusion reflecting current discussion will be needed but keep an economic rather than a political approach.



TRY THIS

1. For an analysis by the Bank of England of the effect of appreciation of the pound sterling, showing the historical perspective and recent examples, go to pages 4 and 5 of the report at <http://www.bankofengland.co.uk/publications/Documents/speeches/2014/speech760.pdf>
2. Take a look at the European perspective on the weakening euro as reported in *Der Spiegel* at <http://www.spiegel.de/international/business/ecb-decision-to-weaken-euro-comes-with-pluses-and-minuses-a-1015322.html>
3. Produce a list of recent influences on the exchange value of the pound by going through the headlines at <http://www.hl.co.uk/investment-services/currency-service/latest-currency-report/currency-update>
4. For a light-hearted cartoon view of the eurozone crisis go to <http://www.theguardian.com/business/gallery/2012/may/23/eurozone-crisis-kipper-williams-cartoons>
5. Follow up the UK's last fateful experience of being linked to the European monetary system, including an interesting video of politicians under pressure and some newspaper headlines as the system crashed, at <http://www.theguardian.com/business/2012/sep/13/black-wednesday-20-years-pound-erm>

Answer to Behavioural economics, Try This question 2 on page 11.

The Deadly Disease

Think about your two choices. If you have chosen A and D or B and C, you have been manipulated by framing effects. Option A is the same as option C and option B is the same as option D: they are just worded differently.

Answer to Income of pensioners, Try This exercise on page 27.

	CPI	AWE	BASE	Actual weekly pension (£)	Triple-lock weekly pension (£)
2005	2.1%	4.6%	2.5%	72.5	72.5
2006	2.3%	4.7%	2.5%	74.0	75.9
2007	2.3%	5.0%	2.5%	75.7	79.7
2008	3.6%	3.6%	2.5%	77.5	82.6
2009	2.2%	-0.2%	2.5%	80.3	84.6
2010	3.3%	2.3%	2.5%	82.0	87.4
2011	4.5%	2.5%	2.5%	84.7	91.3
2012	2.8%	1.5%	2.5%	88.5	93.9
2013	2.6%	1.2%	2.5%	91.0	96.3
2014	1.5%	1.2%	2.5%	93.4	98.8



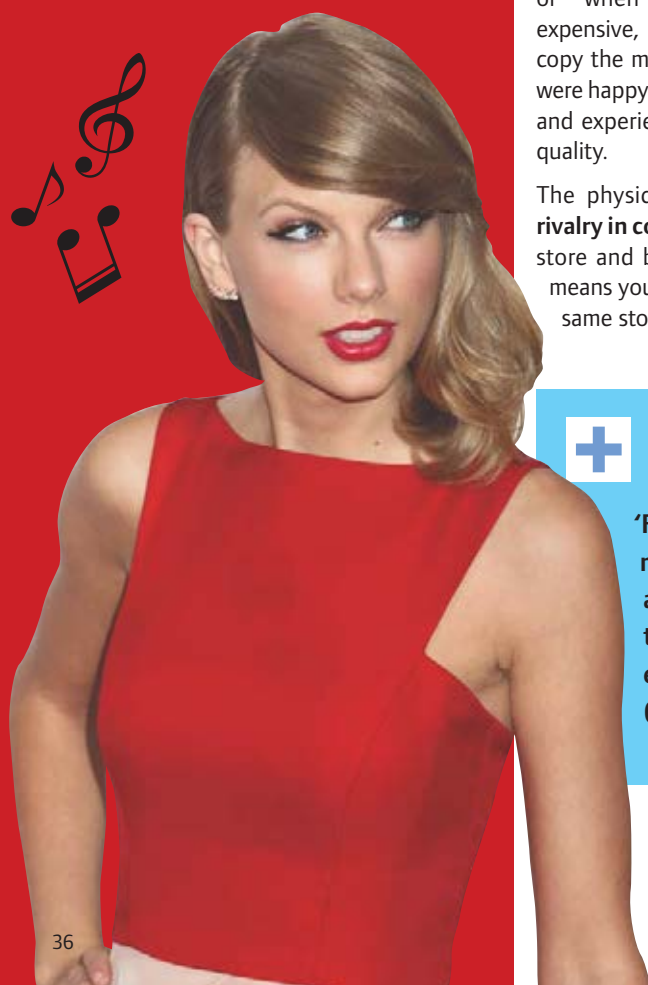
Answers

Public goods, private goods and free riders

Ian Black, Deputy Head of Sixth Form, St Alban's School, reviews some key microeconomic concepts

In 2014, Taylor Swift joined The Beatles and progressive rock band King Crimson in not allowing consumers to access her music back catalogue using Spotify. Many artists, including Swift, have cited the extremely low royalty fees Spotify pays to its artists. She has claimed that:

"Music is art, and art is important and rare. Important, rare things are valuable. Valuable things should be paid for. It's my opinion that music should not be free."¹



Private goods

Before the digital revolution, music was, and partly still is, a combination of the conceptual and the physical. If you buy a CD of 1989, you are buying both the 'art' involved – the music, the lyrics and so on, as well as the physical product. The art is very hard to put a monetary value on. However, the physical part of the album has **excludability**: when you purchase a CD, it comes with a license that states that you are allowed to make copies for yourself, but not for other people.² In the early days of CDs, before CD burners, or when burners were prohibitively expensive, it may not have been possible to copy the music anyway unless, like me, you were happy to copy them onto cassette tapes and experience significantly reduced sound quality.

The physical part of the album also has **rivalry in consumption**: if I walk into a music store and buy the last copy of 1989, that means you cannot buy that album from the same store if you walk in after me.

The above illustrates that the CDs in your Dad's and Mum's record collection are classed by economists as **private goods**. Private goods are excludable: if you don't pay for the good, you don't derive the benefits from consuming it. There is nothing to stop you from listening to the CD and deriving the benefits of the art, but the physical part of the CD is excludable. An ice cream is an even better example of what economists might term a pure private good. You have to pay for the ice cream in order to derive the benefits of consuming it: if you aren't prepared to pay, you are excluded. The ice cream is also rival in consumption: if the ice cream stall has run out of chocolate ice cream, you may have to make do with coffee flavour, which, unless you're a teacher, you may object to.



HEALTH WARNING

'Free' means something different in Economics to what it means in common parlance. A free good in Economics means a good with no **opportunity cost**. Though it may be of no comfort to her to know this, Taylor Swift's music will never be 'free' in the economic sense, as the resources used to produce her 1989 album (the labour, such as musicians; capital goods, such as the recording studio) could have been used to produce something else.

1. 'For Taylor Swift, the future of music is a love story', *Wall Street Journal*, 7 July 2014.

2. See P. DiCola, 'The Economics of Recorded Music', (2000) at <https://futureofmusic.org/article/economics-recorded-music> for a good discussion of these issues



REMEMBER THIS

Marginal cost is the cost of producing one extra unit of output of a good or service.

Table 1: Public, private and quasi public goods

	Rival	Non Rival
Excludable	Pure private: apples, oranges, Blu Ray players	Quasi public: driving on a quiet country road, listening to Spotify's 'Coffee Time' music playlist without adverts
Non Excludable	Quasi public: Free tickets to a concert in Hyde Park, NHS	Pure public: lighthouses, national defence, street lighting

Public goods

Undoubtedly, most of you reading this article won't have bought a CD for many years, if ever. You will consume music on YouTube (owned by Google), Spotify (a Swedish streaming service), or via other digital means, legal or otherwise. The digital revolution has meant that, because it has become so easy to listen to music free at the point of use, consumers have come to regard it as something from which they cannot and should not be excluded. In addition, because the **marginal cost** of distributing an mp3 file is essentially zero, music is non-rival in consumption. In other words, consumers, particularly younger consumers, have come to treat recorded music as a public good.

Musicians record music for a number of different reasons. I play in an acoustic quartet and we write and record music purely for the pleasure that it brings us and that it might bring to others. We put the music onto Sound Cloud and anybody can listen to it as many times as they wish. No one is excluded from the benefits of consuming the music (assuming they have perfect knowledge, i.e. they know the name of the band and know that they can access the music on Sound Cloud). The music is also non-rival in consumption – one person's enjoyment of the music does not reduce the benefits to others. So *our* music fulfils the characteristics of a public good.

When Taylor Swift was arguing in 2014 that music should not be free, she meant music made by musicians who make their living from recording and



performing. Consumers should access their music via legal means, for example and not resort to file sharing, while streaming services such as Spotify or Apple Music should pay their artists a 'fair' royalty fee. In short, she was arguing that music should not be treated as if it were a public good. The exclusivity should come from the willingness and ability of consumers to pay £9.99 a month to Spotify or Apple, for example.

Public goods are said to have two major characteristics:

- 1. Non-excludability.** The classic example of a public good is a lighthouse. Once it is provided, no one ship can be excluded from the benefits of consuming the lighthouse. If the lighthouse provides safe passage into dock for one ship, it will be providing the same, safe passage for all ships.
- 2. Non-rivalry in consumption.** The lighthouse provides a certain level of benefit for those operating the ship. However, if another ship docks on the same day, this does not reduce the amount of benefit gained by our original ship. There is no extra cost involved in additional ships benefiting from the lighthouse: the **marginal cost** is zero.



Extension material

Goods that could be argued to fulfill one characteristic of a public good, but not the other, are termed **quasi-public goods**. A taxonomy with examples is given in Table 1. However, this simple matrix does not tell the whole story. It might be argued that road space, for example, is *semi non-excludable*: building the infrastructure required to administer the Dart Charge, which is payable when using the Dartford crossing by car, is expensive. There are costs involved chasing up those that do not pay: the Highways Agency reported that during the first month of the Dart Charge, 15% of drivers didn't pay, twice what was originally estimated.³

Further, free tickets to a concert in a park may be argued to be *semi non-rival*: up to a point, my enjoyment of a concert doesn't reduce your enjoyment (unless you are much smaller than me and standing directly behind me), but eventually the park will fill up and not everyone will get to see the concert.



REMEMBER THIS

Public goods are non-excludable and non-rival in consumption. Private goods are excludable and rival in consumption.

3. 4. <http://www.bbc.co.uk/news/uk-england-30633955>



HEALTH WARNING

Although we can class the NHS as a quasi-public good, it is important not to refer to it as a public good in the examination. 'Health' is a private good, as confirmed by the existence of private health companies such as BUPA. Some examination boards may consider health to be a 'merit good' – a good that generates positive externalities.

The free rider problem

Economists assume that rational individuals make decisions by weighing up the marginal cost and marginal benefit. If you are thinking about whether to buy a physical copy of Taylor Swift's *1989*, the marginal cost is the £10 or so that it will cost you to buy it, plus either the time spent ordering it online and waiting for it to arrive, or the time and cost of going to a music store. The extra benefit is the enjoyment you experience listening to the music and browsing through the sleeve notes. If the marginal benefit exceeds the marginal cost, you buy the album; if not, you don't.

Now consider the decision to stream or download the music, legally or otherwise. The marginal benefit of enjoying the music is almost the same as it would be from buying the physical album.⁴ The marginal cost, however, is very, very low if you don't pay for your music: simply the time spent finding the music and possibly waiting for it to download. If you download the music illegally, there is also the cost of getting caught to consider, but this is very, very low. If you have paid your £9.99 a month to Apple or Spotify, you can stream as many songs as you like: if you stream 100 songs that month, the marginal cost of one song is effectively 10p – again, very small.

Of course, it is likely that most of you do not pay for the music you consume. So: what if I, as a representative of the music industry, emailed you and every global music consumer to say that you would have to pay £9.99 a month in order for your favourite bands to continue to offer their music for public consumption. As a rational decision maker, you would weigh up the marginal cost and marginal benefit of the decision.



If you decide to pay the money, that decision involves an opportunity cost – sacrificing the benefits of spending the £9.99 on something else. However, you would recognise that your £9.99 contribution would make next to no difference to the outcome – surely enough other people would pay without you having to, you would think. So it is very likely that you would not pay. The problem is that it is very likely that no one else would pay either, assuming they were treating the problem as a rational economic decision.

This problem is known as the **free rider problem**. As far as music is concerned, it pays not to pay. If you were faced with the decision above, you would free ride on the contributions of others. But if everybody thought the same way and decided not to pay, musicians wouldn't make any money, so they would choose not to make their living from recording and selling albums.

Policy implications

The free rider problem is the reason why street lighting, lighthouses and national defence are provided to consumers for free at the point of use and financed out of general taxation. It is very likely that consumers would free ride on the contributions of others; private companies would not make enough profit to provide these goods and services. Having said that, there are many examples of services that rely entirely on voluntary contributions. Many churches and cathedrals fund their upkeep partly from voluntary contributions, while the Lifeboat Service is financed almost entirely from legacies and voluntary contributions, with no UK government funding.

Music is a bit more complicated. Some consumers understand the arguments in favour of paying for recorded music and

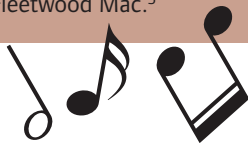


4. Some people purchase CDs or vinyl albums because they prefer the higher sound quality compared to mp3s.



continue to do so on principle. In the real world, individuals do not always make decisions in the rational, self-interested way that economists tend to assume.

An understanding of the market mechanism might help to convince you to pay for music in the future. Unless your favourite bands are making music purely for theirs and their fans' enjoyment and not for any monetary reward (unlikely), then younger musicians may, in the future, give up on a career in music and choose other professions instead. This is one of the reasons why middle class rather than working class individuals dominate today's mainstream popular music scene. Given that it tends to be older consumers that pay for music, it is perhaps unsurprising that one of 2015's biggest bands has been Fleetwood Mac.⁵



REMEMBER THIS

In a free market economy, public goods would not be provided by the private sector. Therefore, there is an argument for public sector provision of public goods, financed out of general taxation.



TRY THIS

1. Using a MSC and MSB diagram, explain why street lighting may not be provided by the private sector in a free market economy.
2. Using the concepts of non-excludability and non-rivalry in consumption, explain the arguments in favour of charging motorists for driving on motorways.
3. If you're interested in the wider economics of the changing music industry, the following article in the New Yorker is essential reading: <http://www.newyorker.com/magazine/2014/11/24/revenue-streams>

5. A group who arguably haven't made a decent record since 1987 (ask your parents).

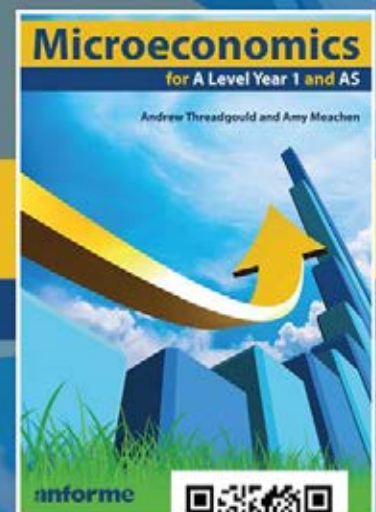
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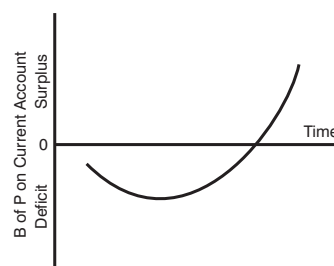
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Answers

1. A. Incorrect. Marginal utility is the extra satisfaction gained from consuming one more unit of a product. Individuals will continue to consume a free product while marginal utility (extra satisfaction) is positive.
B. Incorrect. Marginal utility is the extra satisfaction gained from consuming one more unit of a product. Individuals will continue to consume a free product while marginal utility (extra satisfaction) remains positive even though it may be falling.
C. Correct. Total utility (total satisfaction) is maximised when marginal utility ceases to be positive i.e. it equals zero. If a product is free then individuals will continue to consume this product as long as they are getting some positive marginal utility from it. If the product has a price decision making changes because the law of equi-marginal returns applies.
D. Incorrect. If total utility (total satisfaction) equals zero then it is likely that the product has been over-consumed with negative marginal utility reducing the total utility.
2. A. Incorrect. Find the areas of the two triangles for the consumer surplus and the producer surplus by using the formula half the base of the triangle multiplied by the height. The difference is not £2,500.
B. Incorrect. Find the areas of the two triangles for the consumer surplus and the producer surplus by using the formula half the base of the triangle multiplied by the height. The difference is not £5,000.
C. Correct. The area of the consumer surplus is $250 \times 50 = £12,500$ and the area of the producer surplus is $250 \times 20 = £5,000$. Thus the consumer surplus is greater than the producer surplus by £7,500.
D. Incorrect. Find the areas of the two triangles for the consumer surplus and the producer surplus by using the formula half the base of the triangle multiplied by the height. The difference is not £10,500.
3. A. Incorrect. Even though a certain year may be designated a base year there could still be inflation in the economy at that time.
B. Incorrect. It is important to use 105 as the base year here to calculate the rate of inflation.
C. Incorrect. It is important to use 105 as the base year here to calculate the rate of inflation.
D. Correct. The rate of inflation over the period shown was successively 5%, 2.85%, 6.5% and 4.35%. Thus over the five years shown, although prices rose in every year, in Year 3 the rate fell compared with the previous year and the same was true in Year 5 compared with Year 4.
4. A. Incorrect. The firm is making abnormal profit thus firms will enter the industry as there are no entry barriers. The demand curve will not be affected.
B. Incorrect. The firm is making abnormal profit thus firms will enter the industry as there are no entry barriers.
C. Incorrect. The firm is making abnormal profit thus firms will enter the industry as there are no entry barriers. The demand curve will not be affected.
D. Incorrect. The firm is making abnormal profit thus firms will enter the industry as there are no entry barriers. The demand curve will not be affected.
E. Correct. The firm is making abnormal profit thus firms will enter the industry as there are no entry barriers. The entry of firms to the industry will shift the industry/market supply curve to the right lowering the price and eliminating the abnormal profit of existing firms.
5. A. Incorrect. Marginal cost is rising because the slope of the TVC curve becomes steeper.
B. Correct. Increasing returns to a variable factor such as labour means that marginal cost while still being positive will be falling, thus TVC increases only slightly at first. Diminishing returns result in rising marginal cost hence the steeper gradient of the TVC curve.
C. Incorrect. Average fixed costs always fall as output increases.
D. Incorrect. Economies and diseconomies of scale are a long run concept.
E. Incorrect. Marginal cost being constant would produce a straight line TVC curve.
6. A. Incorrect. A Laffer curve shows the relationship between tax revenue and the tax rate.
B. Incorrect. An indifference curve shows along its length equal levels of satisfaction (utility) when different combinations of goods are consumed.
C. Incorrect. A production possibility curve shows the potential output of an economy with existing resources.
D. Incorrect. A Lorenz curve is used to measure inequality in an economy by using the Gini Coefficient.
E. Correct. The J-curve shows what is described in the stem of the question in the diagram.
The J curve effect comes about because in the short-run, the elasticities of demand for exports and imports are likely to be considerably less elastic than they are in the long-term.



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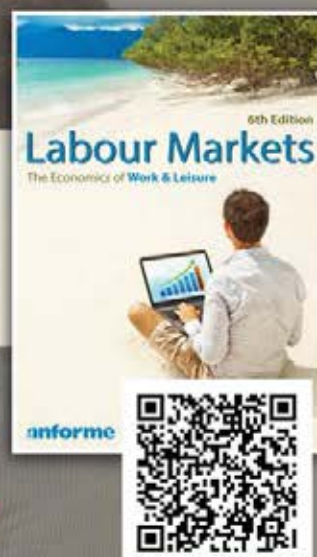
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Laissez-faire ou pas?

Steve Earley, Economics teacher, Guernsey Grammar School, reflects on the debate over the role of government intervention on health and safety issues



In 1681 when a group of French businessmen were asked by the keenly interventionist finance minister Jean-Baptiste Colbert as to how the state could be of aid in supporting and promoting their commerce, their spokesman, a M. Le Gendre, simply replied "*Laissez-nous faire*" – "let us be". Some seventy years later, with the flames of the industrial revolution taking hold, the debate was intensifying as to what the role of government should be in the economic system. With recollections of M. Le Gendre's riposte the slogan '*laissez-faire*' became the rallying cry of the opponents of state intervention, not only in France but beyond.

Over two centuries later in 1926 John Maynard Keynes launched a memorable attack on this doctrine in his critique *The End of Laissez-faire*. In this he challenged whether ubiquitous non-intervention was what oft-quoted advocates of laissez-faire actually did champion. The likes of Adam Smith, David Ricardo and Thomas Malthus, for instance, are frequently upheld as pillars of the philosophy which eschews any degree of government involvement in the economy. But, according to Keynes (his italics!),

"This is what (they) are *supposed* to have said."

He pointed out that these authors never once used the phrase '*laissez-faire*' in their writings. He instead suggests that the free market deductions of these writers were enthusiastically broadcast by proponents of the *laissez-faire* doctrine although, in his view, in a somewhat selective fashion. As such their backing for this viewpoint subsequently emerged into the mainstream as 'truth'.

In the mind of Keynes, universal non-intervention was never the foundation upon which the economic ideas of such writers were based. For him, writing in 1926, whether a market-based or a state-induced solution to an issue was appropriate needed instead to be resolved on a case-by-case basis.

There can be no definitive line drawn to determine what the state ought to take upon itself to direct and what it ought to leave alone. Cases appear in news reports all of the time which have one interest group calling for the state 'to do something about it' while, simultaneously, others are adamant that the government 'should keep their noses out of things which are not their concern'.

So where do you stand on the following?

The smoking of tobacco products has for many decades been subject to the attention of government action. The imposition of excise duties, aimed at raising the price of tobacco products, is perhaps the most obvious, and long-standing, method through which the state

has tried to amend consumer behaviour over the years. In the current century restrictions on advertising and on the sponsorship of sporting events have been put in place, regulations concerning how products must be displayed on shop shelves have been enacted, and curbs on where smoking can and cannot take place are all relevant examples of where government involvement in this particular market has become more and more obtrusive. In 2007, for instance, UK legislation banned smoking from 'any enclosed workplace, public building or on public transport' – in other words, lighting up was made illegal in places like restaurants, pubs, shops, public buildings (such as schools and hospitals) as well as on public service vehicles and in work-related vehicles.

Since October 2015, the arm of the law in both England and Wales has been extended to prohibit smoking in any *private* vehicle in which young people under the age of 18 are present. Fines and/or points on licences will be used to deal with offenders. The motivation for such intervention is the belief that the toxic chemicals contained in second-hand smoke are seen as a real and substantial threat to children's health. As Public Health Minister, Jane Ellison, puts it,

"We know that many (children) feel embarrassed or frightened to ask adults to stop smoking which is why the regulations are an important step in protecting children from the harms of second-hand smoke."¹

Opponents of the legislation have responded accordingly with feelings expressed varying from the perceived attack on personal liberties to the more pragmatic view as to how such a ban could be both effective and enforceable. Simon Clark, director of the pro-smokers' group Forest, says that the legislation is excessive.

"The overwhelming majority of smokers know it's inconsiderate to smoke in a car with children and they don't do it. They don't need the state micro-managing their lives."²

He stated that "The police won't be able to enforce the law on their own,"³ a view echoed by Police Scotland who are concerned that resources devoted to the enforcement of such a law will necessarily be diverted from other important areas. As Assistant Chief Constable Bernard Higgins puts it:

"One of our key priorities is reducing road deaths and reducing persons that are seriously injured on Scotland's roads. Last year... we had, sadly, 191 people killed on Scotland's roads. As I understand it, smoking was not a contributory factor in any of these fatal road accidents. So while there are absolutely clear health benefits for it, in terms of reducing the number of people killed on Scotland's roads it wouldn't be something that we would necessarily see as having a great impact."⁴

So where do you stand? Do you consider legal regulation a step too far? The 'space' involved is a private one after all and a rule is only useful if it is properly enforced! Or do you think this is a logical step in the battle against this evil? Ultimately the success of any form of smoke-free legislation has to be based on how attitudes and health outcomes change over time. Does a law of this type represent the most effective means to alter consumer behaviour?

1. www.bbc.co.uk/news/health, 11 February 2015.

2. *Ibid.*

3. *Ibid.*

4. www.bbc.co.uk/news/Scotland, 16 June 2015.

