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In this article, **Nigel Tree** examines the pre-Budget report, and the government's tactics to deal with the coming recession.



These are exceptional times and require exceptional measures.

These are the words of the chancellor, Alistair Darling, as he delivered his pre-Budget report on 24th November 2008. With Britain moving into recession like the rest of the developed world and a world-wide struggle to contain the global credit crisis, what measures did the government have up its sleeve to help alleviate the problem?

The chancellor announced a fiscal stimulus of £20bn, which is equivalent to about 1% of GDP. The stimulus was mainly in the form of a cut in value added tax (VAT) from 17.5% to 15%. This was to begin almost immediately and last until the end of 2009, after which it will revert to its previous level. At the same time the Treasury is bringing forward £2.5bn of capital spending which had been scheduled for a later date. This will obviously have some impact on the economy but will be offset by any increased saving and also consumption which might be diverted to other economies as we buy more imported goods. The Treasury expects this stimulus to limit the downturn by half a percentage point.

What is happening to economic growth?

With the UK economy shrinking by 0.5% in the 3rd quarter of 2008, the chancellor forecast a further three negative quarters and expressed a hope that growth would resume in the second half of 2009. He forecasts that growth will be 0.75% in 2008, but that the economy will shrink somewhere between 0.75% and 1.25% in 2009, before recovering to growth of

between 1.5% and 2% in 2010. The recent trend, together with the government forecasts, can be seen in Figure 1.

If the chancellor is correct in his forecasts, this recession will not be as bad as the previous three recessions in 1974-75, 1979-81 and 1990-92. In these, output fell by 2.3%, 3.5% and 1.5% respectively. However, many commentators and analysts feel that the chancellor's forecasts are on the optimistic side.

The Treasury did point out that the recession, rather than being just a temporary cyclical downturn, will result in output which is lost permanently. The assumption is that 4% of output, amounting to about £60bn, will be lost forever. The output gap is the difference between the economy's actual output and the level of production it can achieve

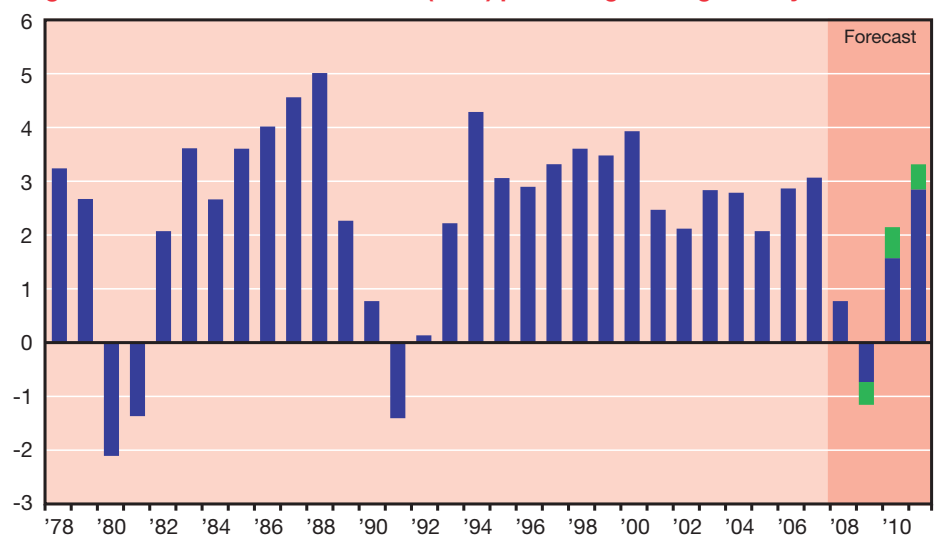
with existing factor inputs without putting upward pressure on inflation, and can be seen in Figure 2.

The output gap is positive when actual output exceeds the economy's potential and negative when actual output is below potential output. Figure 2 shows how the forecast output gap between quarter 3 of 2008 to its closure in quarter 4 of 2014 is relatively modest compared with previous recessions. However, the chancellor has still felt able to forecast growth of 3.25% every year after 2011-12, even though there will not be a huge amount of excess supply in the economy.

Live now, pay later

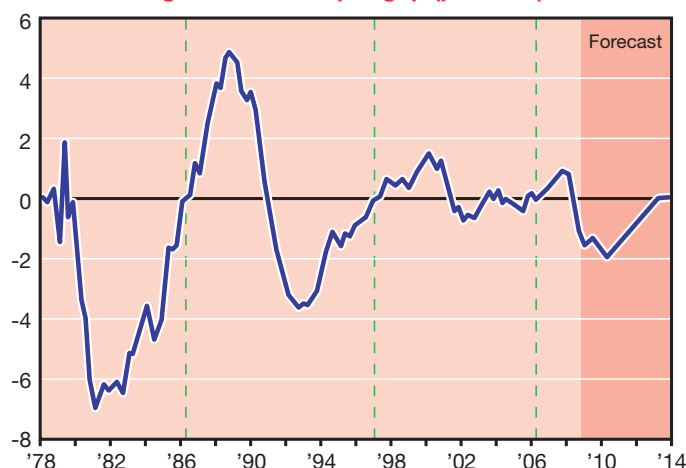
The mess the UK is now facing has been because of excessive borrowing and the government is countering that by – yes,

Figure 1: Gross Domestic Product (GDP) percentage change on a year earlier



Source: HM Treasury Green areas on bars represent forecast ranges

Figure 2: The output gap (per cent)



Actual output less trend output as a percent of trend output (non-oil basis).
Vertical lines indicate start and end cycle points as identified by HM Treasury.
Source: HM Treasury

even more borrowing. As someone said: “Mr Darling believes profligacy is the new prudence.” The fact is that the government will have to borrow no less than £118bn during 2009-10. This is £80bn more than was forecast at the last budget in March 2008. The details of annual borrowing and total government debt as a percentage of GDP can be seen in Figures 3 and 4.

Figure 3 shows that the public sector’s net borrowing will rise from 2.6% of GDP last year to 8.0% next year, before gradually falling back to 2.9% in 2013-14. One problem with the government raising this huge level of borrowing by issuing government bonds, is that it may crowd out other private sector investment. If so, this could slow down any eventual recovery.

Figure 4 shows how public sector net debt, which is supposed to remain below 40% of GDP will reach a level of 57% in four years time.

Did the government have an alternative to these actions? It is already forecast that unemployment will rise to three million during the recession, and if action had not been taken both domestically and on a global scale, this figure could well have been worse. The implication of this is that with so many companies going out of business and people losing their jobs there would be a huge fall in the tax take at the same time as there would be an enormous increase in welfare payments. In the government’s view it is better to spend and borrow now and worry about the consequences for inflation and taxation at a later date.

The tax man cometh

According to Robert Chote, director of the Institute of Fiscal Studies, between 2010-11 and 2013-14, “the Treasury expects to see the tax burden increase by 1.4% of national income but (it expects) to cut spending by 2.5% of national income.” In 2012-13, “the government will raise about £4bn from tax increases compared to almost £19bn from spending cuts.”

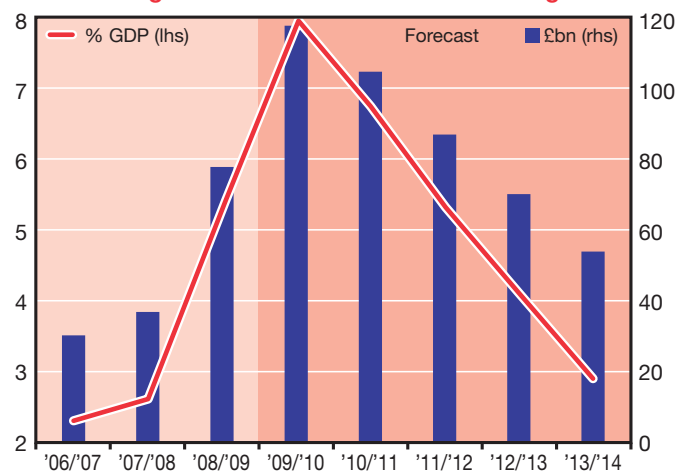
Where will the increased taxation come from? The announcements in the pre-Budget Report were that national insurance contributions would rise by 0.5% from 2011 for both employers and employees; VAT would be restored to 17.5% at the end of 2009; a higher, 45% rate, of income tax would be applied to people earning over £150,000 and there would be higher alcohol and tobacco duty.

Overall, the chancellor expects to get the public finances back onto an even keel by 2015-16. The difference between the peak borrowing figure and the end borrowing figure reveals a total figure of £104bn which will have to be clawed back. In fact, only £19.5bn of this amount will come from tax increases. A further £19.7bn is expected to come from economic growth which will raise tax revenues faster than public spending; £29.8bn is expected to come from fiscal drag, which refers to the process where tax thresholds are either not adjusted for inflation, or fail to keep pace with earnings growth, causing in either case an automatic rise in tax revenues; and finally, £35bn is expected to come from the squeeze on public spending which will only grow by 1.2% in real terms from 2011-12 compared to the original plans of 1.9% growth. There will also be a freeze on capital spending.

Conclusion

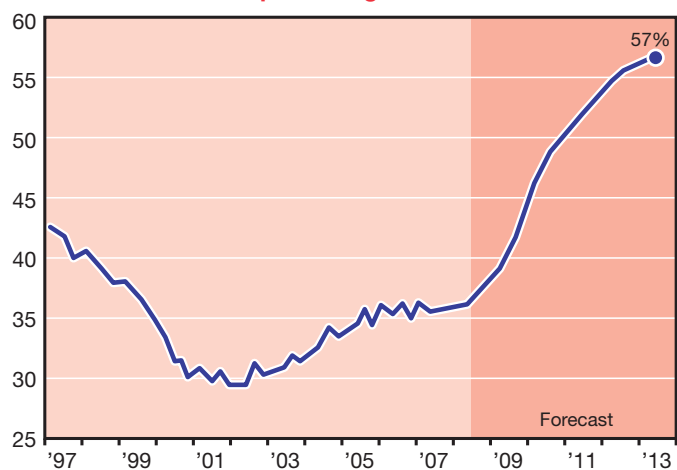
Basically the government is urging us to spend, spend, spend during 2009 to prop up the economy and prevent the expected recession from being as severe as it might have been. We will then have to endure seven years of higher taxes and lower increases in government spending to reduce the accumulated debts. Will it work? No-one really knows. The government has placed its bet on the roulette wheel that we will avoid a really deep recession by its actions. If this is not the case, we may see an even more prolonged period of spending cutbacks, increased taxation and austerity.

Figure 3: Public sector net borrowing



Source: HM Treasury

Figure 4: Total government net debt as a percentage of GDP



Source: HM Treasury

Should the Government rely on the Market Mechanism alone to Produce Clean Alternatives to Fossil Fuels?

Neil Folland, Richard Huish Sixth Form College, Taunton, considers the role of free market forces in respect of energy policy.

The area for discussion in this article finds topical flavour in abundance as during 2008 we saw the price of oil reach almost \$150 per barrel in July, then fall back to less than \$70 per barrel four months later. Gas and electricity price hikes have been grabbing headline news and in October last year the Secretary of State in the government's newly-created 'Energy and Climate Change department', Ed Miliband, announced commitment to all of the recommendations in Lord Turner's report on climate change. The target is to reduce carbon emissions by 80% on 1990 emission levels by 2050, excepting aviation and shipping emissions. In addition, the UK has overtaken Denmark to become the world leader for offshore wind energy.

Exam Board	AS	Unit	A2	Unit
AQA	✓	(1)3.1.1 & 3.1.5		
Edexcel	✓	1(1.3.4) & 1.3.8		
OCR	✓	F581		
WEJC	✓	EC1(C)		
CCEA	✓	1		
Int. Bacc.		Standard (2.1)		

Resource use and incentives

The demands on planet Earth's resources continue to grow as its population expands and developing economies place increasing demands on the resources and goods that are called forth by economic growth and the changing wants of consumers. Some of these resources are *renewable*, for example, water is replenished by rain, the forests can be replanted and land that is properly tended can continue to provide crops. However, the balance between replenishment and the rate of use will determine how quickly stocks run down.

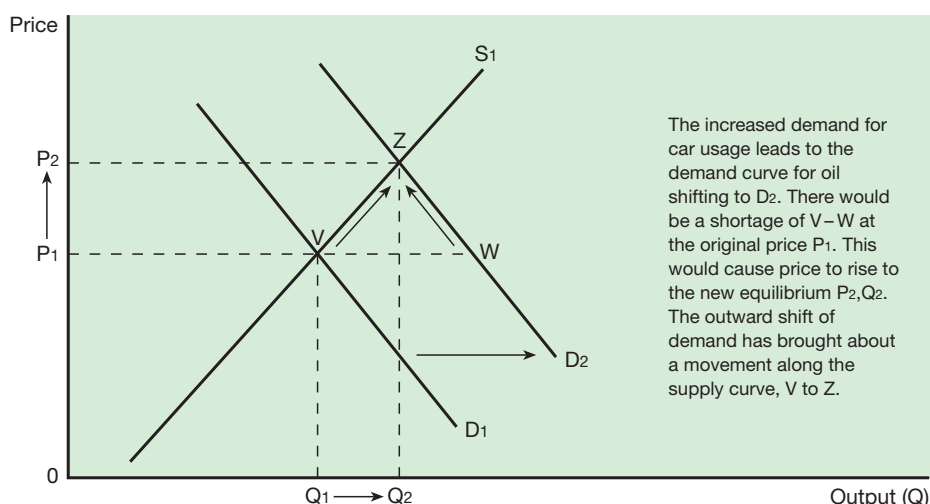
Other resources, namely *non-renewable* ones, cannot be replaced: literally, they are used up (**resource depletion**). In the course of this process (look up the concept 'peak oil'), the price of such resources will tend to rise. This means we can all expect to pay more for fossil fuels as reserves are depleted. Demand and supply will determine price levels. The more we want to use our cars, the greater the demand for oil. The supply will be determined by the way that suppliers react to the price signals in the commodity market – higher returns will call forth an expansion of supply (as shown in Figure 1), provided that stocks are there or are newly discovered and that the costs of production are not prohibitive.

From a market-oriented perspective there might be a cause for optimism because as resources are run down and/or there is increased usage, the prices of such resources rise thereby creating *incentives* for people to behave differently. We economise, change some of our habits – walk to the shops, cycle to work, use public transport or smaller and more fuel-efficient cars and generally reduce the amount of goods and services we buy. On the supply side, alternative renewable sources of energy like solar, wind and wave power become cost effective and profitable as companies research new technologies and alter methods of production. Some of these adjustments, especially those emanating from the consumer can occur over a relatively short time scale. Others, like the introduction of new technology are more long-run decisions that will take years to implement.

The relevance of supply response

In the search for a renewable substitute resource for oil, namely biofuels, the

Figure 1: Demand and supply of oil



short run supply response is usually small given the limited ability to change the production technology. However, given higher prices for both oil and maize (a resource for ethanol) there is room for a significant supply response. But, price is only one component of the total effect. Elasticity of supply must be considered too (as illustrated in Figure 2). If the elasticity of supply is low, and the supply curve steep, then even a very large increase in price may fail to generate a significant increase in production. This tends to be the case in developing countries (Sb in Figure 2) where the lower levels of mechanisation, lower use of fertilisers and pesticides and lack of general 'know-how' inhibit the supply

response. So, one unintended consequence of a drive to expand the production of biofuels is to disadvantage countries such as those of sub-Saharan Africa who are net importers of cereals and where maize and wheat account for as much as 30% of the expenditure of the poor in low-income countries. Internationally-coordinated strategy may not only apply to global carbon emissions but might also need to consider the effect on agricultural commodity prices resulting from the search for and the development of such sustainable fuel alternatives, especially as the production of biofuels competes for land with agricultural production to meet the world's food demands.

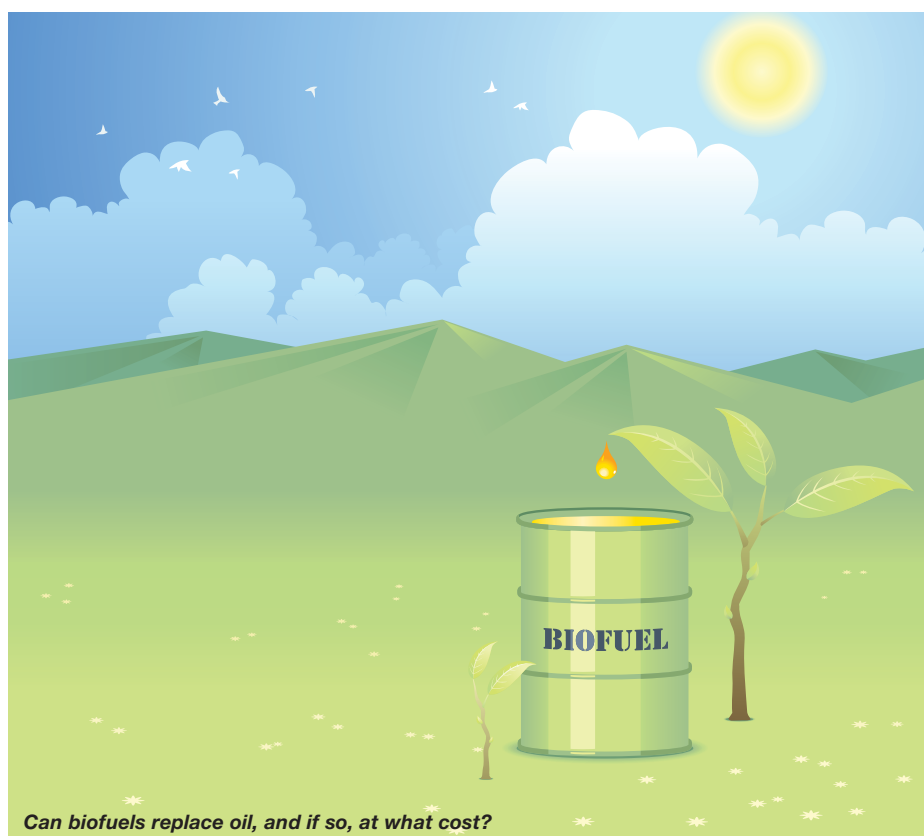
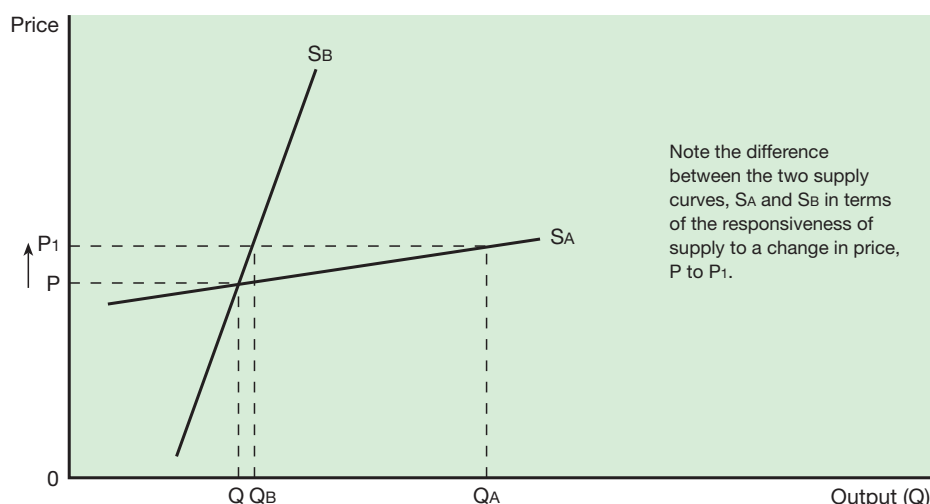


Figure 2: The responsiveness of supply



External costs

Nevertheless, we learn through our studying of economics that markets are imperfect and that they can fail. When we consume natural resources we do not take into account the full costs. The burning of fossil fuels creates harmful environmental effects in the form of acid rain and the greenhouse effect (resource degradation). A major cause of undesirable environmental degradation is

the existence of **external costs** associated with production and consumption decisions. Because these decisions are made in a framework that does not reflect the full costs of our actions, it can mean producers and consumers undertake too little environmental conservation or too much environmental degradation (Figure 3 shows this phenomenon). However, when resource users face the full costs of their actions,

they take into account the costs born by others, in addition to the costs and benefits they accept themselves. Under such circumstances, people are more likely to behave in ways that are consistent with society's objectives. Nobody enjoys paying taxes, but the brutal truth is that they work. They force us to value what was previously taken for granted, and provide the funds needed to achieve socially and environmentally beneficial outcomes or to correct market failures.

Market prescriptions and green taxes

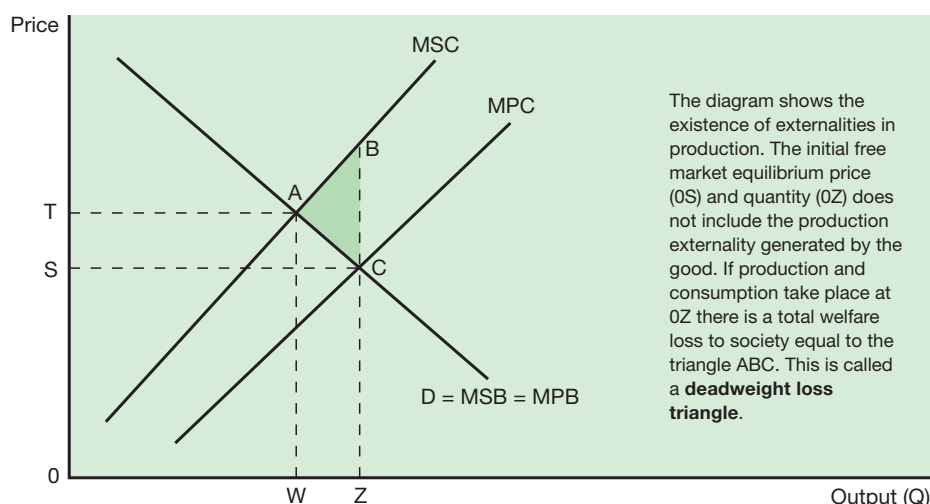
The market-based prescription would argue that it gives the individual the flexibility to choose the amount and means of reducing environmental degradation, depending on their own circumstances. A further advantage of market-based solutions is that they provide a continuing incentive to find innovative ways to further reduce emissions, such as the development of more advanced clean energy sources.

But just as a soaring oil price can provide a powerful temporary incentive

The burning of fossil fuels creates harmful environmental effects in the form of acid rain.



Figure 3: The divergence between private and social cost



to move away from fossil fuels whose emissions change the climate, it may not last. Ben Verwaayen, the former Chief Executive of BT, believes that the Stern Report was right to describe climate change as a market failure and he agrees that innovation will be critical to the solution. Nevertheless, he feels that innovation has got to be encouraged by government and embraced by consumers. The consumer will also need empowering in order to make the right decisions. This will be achieved partly through improved information and partly through better incentives to make environmentally friendly choices. It seems that the market needs a nudge every so often in order to develop solutions. However, sometimes the 'nudge' from governments can promote heated disagreement. Greenpeace, for example, does not have much time for a retrospective tax on old cars, which they argue penalises a person for a choice made seven years ago. Instead, governments should be forcing car manufacturers to build more efficient vehicles. Friends of the Earth, on the other hand, believe the government is right to stick with its tax disc reforms and dissuade people away from the 'gas guzzlers' to seek alternatives.

As 'green taxes' continue to be used to alter corporate and consumer behaviour their success will depend largely on three aspects. First, a degree of 'transparency' is desirable so that business and the consumer know what is coming at them and therein, 'green' does not appear as 'stealth'. Second, a certain degree of fiscal neutrality might be looked for so that 'green taxes' are not used primarily to raise revenue. Perhaps they should be hypothecated. Third, a degree of fairness might be

hoped for so that the less well off in society are not disadvantaged. In this way, government intervention might be effective and not lead to government failure.

Questions for discussion

1. Explain the nature of the economic problem using the examples given in this article.
2. Explain the difference between resource depletion and resource degradation.
3. How does the market mechanism provide incentives?
4. Can you think of other incentives that might be required to advance the supply of renewable energy sources?
5. How does market failure occur in the burning of fossil fuels? Use diagrammatic analysis to help you explain.
6. Discuss whether government intervention in the form of 'green taxes' produces considered and fair outcomes.

Summary of key points

- The demands on our planet's resources can lead to resource depletion and resource degradation. The free market mechanism provides signals to both consumers and producers.
- When market failure occurs, the economist can correct for that market failure to bring about socially-optimal outcomes.
- There are advantages to market-based policies but sometimes other incentives are required to bring about requisite changes.
- The government would do well to listen to all the arguments in the debate in order to avoid any failure of its own.



with Chief Examiner,
Robert Nutter

1. Investigate how the climate change levy operates in the UK and how Levy Exemptions can be claimed by business energy users.
www.carbontrust.co.uk (search engine) www.greenprices.com
2. Research the way in which Renewable Obligations Certificates work in the UK energy market.
www.greenenergyjobs.com www.greenprices.com
3. Investigate the policy of Friends of the Earth towards renewable energy in the UK.
www.foe.co.uk (search engine)
4. Research the key points of the Stern Review on the Economics of Climate Change.
en.wikipedia.org news.bbc.co.uk www.sternreview.org.uk
www.guardian.co.uk/politics/2006/oct/30/economy.uk

Should a Developing Country pursue a Free Trade Policy?



Allan Hodge, Head of Economics, Cheltenham Ladies' College, reviews the latest thinking at the World Bank on trade liberalisation.

The questions that need to be clarified in discussing this question are, firstly, what we mean by a 'free trade policy' and, secondly, what benefits, or otherwise, such a policy might bring to a developing country if adopted.

What is a free trade policy?

Free trade implies an absence of those controls put in place by governments which affect the volume and value of imports and exports of goods and services. Most commonly, we think of controls such as import restrictions, or protectionism, by such means as tariffs, quotas, exchange rate manipulation and bureaucratic regulations. But controls can also refer to export restrictions either by quotas or export taxes, commonly to maintain domestic supply and keep prices down, as happened, for example, in certain South East Asian countries in 2008 faced with rice shortages. Conversely, governments might want to encourage certain imports such as capital goods while discouraging others, particularly consumer goods. It can achieve this for example by having a multiple exchange rate system that makes it cheaper to import some things (higher exchange rate) than others (lower rate). Some South American countries have done this in the past. Governments might also wish to boost exports, for example with subsidies. In practice, no country in the world practises trade which is wholly free of these devices across the whole range of its imports and exports – we can only talk, realistically, about 'freer' trade.

Why should any country adopt a free trade policy? There are two main strands of economic thought behind this: the **theory of comparative advantage**, and the role of markets in efficient resource allocation.

Exam Board	AS	Unit	A2	Unit
AQA			✓	4(3.4.3)
Edexcel			✓	4(4.3.2)
OCR			✓	F585
WEJC			✓	EC4(D)
CCEA			✓	4
Int. Bacc.		Standard (4.2)		

Comparative advantage theory and free trade

The theory of comparative advantage states that a trading country should specialise in exporting those goods which it can produce at a lower opportunity cost; in other words, goods which it is *relatively* more efficient at transferring resources to compared with other countries. It should import those which it can only produce at a higher **opportunity cost**. It must be said that this might result in a more efficient *global* allocation of resources, raising output without an increase in total inputs, but it is by no means clear that an *individual* country would necessarily feel better off, or wish to adopt this strategy. For example, many developing countries have a comparative advantage in primary products (for example, Angola in oil, Vietnam in rice), but would not want to specialise in them long term. There are a number of reasons for this outlook amongst which would be a reluctance to have dependency on other countries for manufactures, and the volatility of world primary product

markets. But the benefits of organising production and trade according to comparative advantage will only be maximised if trade is free – otherwise, countries will export some goods in which they have a comparative disadvantage and import others in which they have a comparative advantage, and there will be resource misallocation. This is a reflection of the reality that world trade is driven primarily by *competitive* advantage, linked to price and quality differences, rather than *comparative* advantage, and this can be influenced by governments through their policies of discouraging or encouraging particular imports and exports. However, it is true to say that developing countries may wish to specialise, whether following comparative advantage or not, but that dropping all import restrictions at the outset may inhibit this by providing too much competition for emerging industries. For this reason, many successful economies, such as South Korea and Taiwan, have initially grown behind import barriers whilst pursuing an

export-oriented policy, a point which will be developed further below.

Free markets and free trade

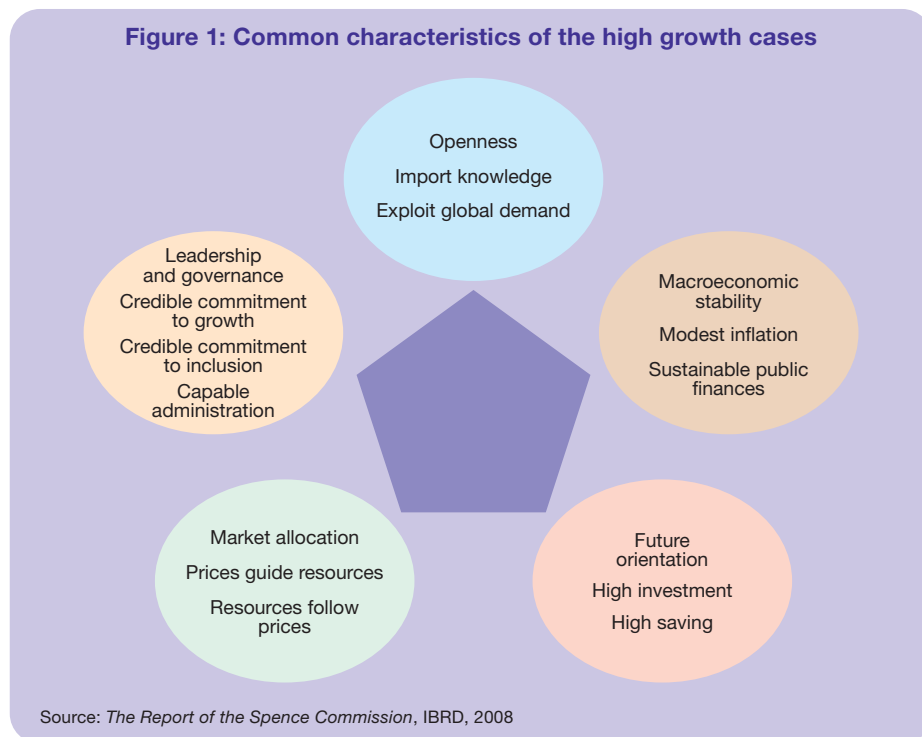
How does a view of the role of markets in efficient resource allocation support a call for free trade? Advocates of free markets (as opposed to government direction of resources) claim that import barriers, which shield domestic industry, create inefficiencies, leading countries to make goods at a higher resource cost than necessary, and which other countries might be able to supply to them more cheaply anyway. On this view, free trade would expose the country to the disciplines of international competition and ensure that it specialised in those goods in which it could be competitive itself. This was one strand of thinking in the ‘Washington Consensus’ in the 1990’s, which was a summary of the increasingly-dominant free market approach to development issues at the time.¹ The World Bank and the International Monetary Fund were much criticised subsequently for requiring trade liberalisation in developing

Taiwan is one of many successful economies which grew from behind import barriers.



1. See this author's earlier article 'Should economic development only be left to market forces?', *Economics Today*, Vol. 12, No. 3, January 2006, pp. 2-5.

Figure 1: Common characteristics of the high growth cases



countries as a condition of receiving development assistance. What is clear is that requiring developing economies to reduce or eliminate import barriers before their domestic industry can cope with competition is a recipe not for growth and development but collapse, with a detrimental effect on poverty reduction.

If support for free trade policies in developing countries is meant to produce growth and poverty reduction, the evidence for their effectiveness is mixed at best. A recent, comprehensive report on growth and development has no mention of free trade as a route to achieving those aims.² Its research suggests there are 'common characteristics of high, sustained growth':³ Figure 1 illustrates this latest IBRD thinking.

We can see that there is support for market-based policies in the bottom left circle of the diagram, but this does not extend to an explicit support for free trade. In the centre top, a developing country's economic relationship with other countries is clearly thought to be important, but in terms of 'openness', 'import knowledge' and 'exploit global demand'. What is meant by these, and how do they relate, if at all, to 'free trade'?

Import substitution and export orientation as routes to growth

Firstly, it must be said that the authors of the IBRD report do not believe that the best way to grow is through 'import-substitution' policies, whereby countries put up barriers against imports and

attempt to grow behind those barriers by exploiting domestic demand free from foreign competition. Brazil had initially grown strongly by following this policy until the mid-1970s, and actually achieved a doubling of its exports/GDP ratio at the same time, but from the early 1980s its economy stagnated as it became more inward looking in the face of economic shocks. India had for many years been notoriously unwilling to open itself to foreign competition, and it is apparent its current high growth rates owe much to the trade liberalisations started in the early 1990s. The IBRD consider an adoption of import-substitution policies, which are the antithesis of free trade, without a balancing commitment to export expansion, is not a reliable route to growth:

Domestic demand is no substitute for (an) expansive global market. In a poor country, the home market is small and therefore relatively 'inelastic'. For sales to rise, prices have to fall. Size is not the only problem. The pattern of domestic spending may not correspond well to the strengths of domestic supply. What home consumers want to buy may not match what home producers are best at making. Since specialisation is limited by the extent of the market, home markets give an economy less scope to specialise in its areas of comparative advantage.⁴

By 'openness' is meant the willingness to learn from the world and take advantage of the opportunities presented. The World Bank report examined the dominant characteristics of thirteen high-growth developing economies. These thirteen countries were Botswana, Brazil, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Malta, Oman, Singapore, Taiwan and Thailand. Of these countries' individual relationships with the outside world the Spence Commission reported:

The high-growth countries benefited in two ways. One, they imported ideas, technology, and know-how from the rest of the world. Two, they exploited global demand, which provided a deep, elastic market for their goods. The inflow of knowledge dramatically increased the economy's productive potential; the global market provided the demand necessary to fulfil it. To put it very simply, they imported what the rest of the world knew, and exported what it wanted.⁵

The advantage to be gained by pursuing an export-led growth strategy is shown in Figure 2. Over the last 50 years, world exports have grown faster than world GDP, and developing countries have taken an increasing share. Within this grouping, outward-looking countries have done much better than inward-looking ones.

Nevertheless, openness in the sense of exploiting best practice, importing technology, encouraging inward foreign direct investment (FDI) and being export-oriented does not necessarily imply a wholesale commitment to free trade on the import side as well. There have been many critics of attempts to enforce developing countries to reduce trade barriers against imports before their industries were competitive enough to withstand the competition. The former Chief Economist of the World Bank and Nobel Prize winner, Joseph Stiglitz is perhaps the best-known of these critics.

2. Commission on Growth and Development (the Spence Commission), *The Growth Report: Strategies for sustained growth and inclusive development*, IBRD/World Bank, 2008.

3. *Ibid*, p. 22.

4. *Ibid*, p. 23.

5. *Ibid*, p. 22.

'Infant industries' should only be protected until they are sufficiently developed to compete.



Trade liberalisation is supposed to enhance a country's income by, as economists would say, utilising comparative advantage. But moving resources from low-productivity uses to zero productivity uses does not enrich a country, and this is what happened all too often under IMF programs. It is easy to destroy jobs, and this is often the immediate impact of trade liberalisation, as inefficient industries close down under pressure from international competition.⁶

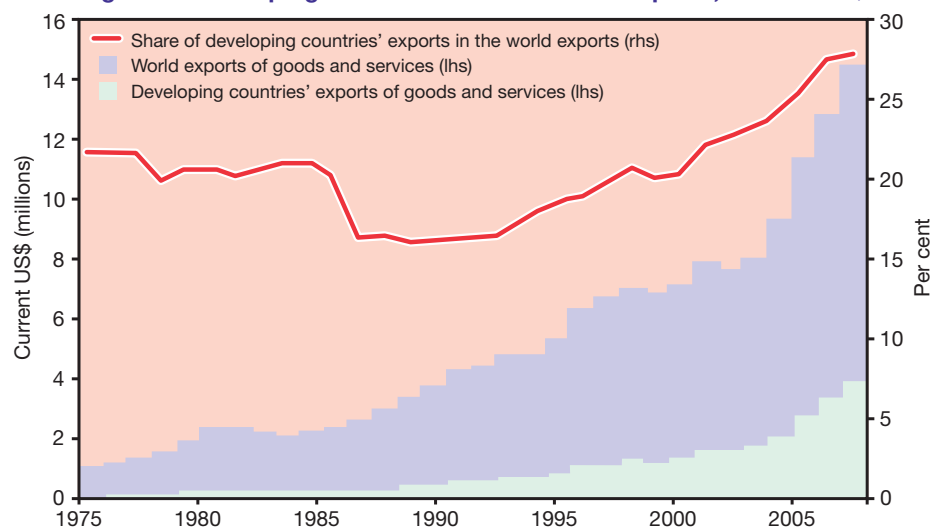
There may be other issues, too. For example, tariff revenue may be a significant part of a developing country's tax receipts; if import barriers are lowered, a reduction in tariff receipts would have to be made up with rises in other taxes, such as those on sales or income, which could distort production and reduce living standards of the poor. The alternative, to cut government spending, is equally unattractive.

There is a distinction to be made between protection of 'infant industries' by import barriers, a policy designed to

be dismantled when those industries are sufficiently developed to be competitive internationally, and import-substitution policies which also entail import barriers, but which are more comprehensive and permanent, and meant to be a means by which countries can protect domestic firms. The high growth countries in the Spence Commission study followed the first path, matching infant industry protection with a robust export orientation. Import-substitution policies have been associated with slower growth. A change from one policy to another can

have dramatic results: for example, South Korea followed an import-substitution route in the 1950s, growing at 2-3 per cent a year. Then in the 1960s it changed to an outward-oriented strategy based on export promotion, and its growth rate rose to more than 7 per cent which was sustained over a long period. Of course, South Korea also adopted a number of other policies at the same time which enhanced this growth rate, and it should not be assumed that the rise was solely attributed to the change mentioned above. Nevertheless,

Figure 2: Developing countries' share of world exports, current US\$



Source: *The Report of the Spence Commission*, IBRD, 2008

6. J. Stiglitz, *Globalisation and its discontents*, Norton NY, 2002.

it is clear from the Spence Report that 'all of the sustained, high-growth cases prospered by serving global markets. The crucial role of exports in their success is not much disputed'.⁷

From what has been said above, it is clear that import barriers associated with import-substitution policies have not been a good route to growth and poverty reduction. The evidence is that a country should adopt 'freer' trade, in the sense of moving away from this policy and dismantling controls, if it wants to raise real GDP and living standards faster, provided it then switches towards export-orientation. It is also clear that fast-growth developing countries, whilst rejecting an import-substitution approach, have nevertheless often been willing to raise import barriers on industries they wish to protect, and that this has been justified, for them at least, on the evidence of their sustained high growth rates. What is not clear, however, is whether they would have grown equally as fast without infant industry protection. Hong Kong, for example, unlike the other 'Asian Tigers', adopted a much more liberal approach to import controls, but nevertheless managed to maintain a real growth rate of 7 per cent or more for nearly four decades between the period 1960 to 1997.

Conclusion: should a developing country dismantle import barriers?

It is difficult to be categorical, because the circumstances of different countries are not the same, but experience seems to point towards the following:

- ▶ A wholesale elimination of tariffs and other controls is unlikely to lead to sustained growth and poverty reduction (despite what free market theorists may think). It is more likely to lead to agricultural and industrial collapse and tariff revenue shortfalls as lower cost foreign exporters (perhaps made more competitive themselves with export subsidies) gain entry to markets.
- ▶ There is some evidence that infant industry protection is beneficial to developing economies, but permanent protection is in the interests neither of the developing economy nor other countries, and should not be supported.
- ▶ Import-substitution policies do not provide the best route to growth and

development, and the import barriers that sustain these policies should be eliminated progressively, to be replaced perhaps with selective and temporary infant industry barriers and a switch to export-orientation.

Questions for discussion

1. To what extent would a reduction in developed countries' import barriers benefit developing countries?
2. Why has the Doha Round of trade talks been so difficult to bring to a conclusion which is satisfactory for developing countries?
3. Many developing economies are joining Regional Trade Agreements (trading blocs); do these promote the spread of free trade, or hinder it?
4. Discuss the connection between free trade policies in developing countries and their environmental impact (United Nations Environment Programme (1999) 'Trade liberalisation and the environment').
5. Which of the Spence Commission's 'common characteristics of the high growth cases' do you consider most important for a developing country, and why?

Summary of key points

- ▶ **Free trade means the absence of government measures to influence the level of imports and exports.**
- ▶ **Free market supporters of the elimination of import barriers in developing countries claim that, by enhancing competition and efficiency, it will promote growth and development. Critics of the policy claim that premature liberalisation can lead to collapse of fledgling industry and a setback to growth.**
- ▶ **Import substitution policies, where comprehensive barriers are raised against foreign competition, do not appear to be the best way of achieving high, sustainable growth.**
- ▶ **A common characteristic of high growth developing countries has been receptiveness to foreign ideas and technology and a commitment to exports, usually accompanied by barriers to protect infant industries.**



with Chief Examiner,
Robert Nutter

1. Millennium Development Goal number 8 is to "Develop a Global Partnership for Development" and one of the targets to achieve that goal "to develop further an open, rule-based, predictable, non-discriminatory trading and financial system". Access the Millennium Development Goals Report 2008 to assess progress in this area.
<http://mdgs.un.org/>
2. Investigate the latest progress in the Doha Development Agenda.
www.wto.org
3. On the IMF website read the paper entitled: 'Can Africa make trade an engine for growth?' Ethiopia has unveiled its first locally-assembled saloon car, with parts imported from China. The car named Abay – Amharic for the Blue Nile – was launched in October 2007.
www.imf.org
4. Research the role of UNCTAD in promoting the trade and development opportunities of developing countries.
<http://www.unctad.org>

⁷ Spence Commission, p. 48.



Falling Commodity Prices

Quintin Brewer, a Chief Examiner and teacher at North London Collegiate School, comments on a question concerning markets and market failure.

If you started your AS Economics course in September 2008 you are the first candidates being prepared for the new syllabuses all of which demand some knowledge and understanding of markets and how they work. The following question considers the topical theme of falling commodity prices associated with the current global economic downturn and also includes some elements of market failure.

The global financial panic and economic slowdown have sent prices tumbling for many of the raw ingredients of the world economy. Since the spring and early summer of 2008, when prices for many commodities peaked amid fears of permanent shortage, wheat and corn – two cereals at the base of the human food chain have dropped more than 40 per cent. Oil has dropped 44 per cent. Metals, like aluminium, copper and nickel have declined by a third or more. However, prices for most commodities remain relatively high compared with past standards but the trend seems to be downward as traders weigh the prospect that the global economic crisis will lead to sharp falls in demand.

The price increases of recent years served their economic function, calling forth additional supplies of many commodities – farmers planted every acre they could, mining companies opened new mines and oil companies went to the far corners of the earth to drill wells. For example, big increases in world wheat production because of increased acreage in the United States, Canada, Russia and much of Europe have brought wheat prices to less than \$6 a bushel in October 2008 compared with \$13 a bushel in March 2008. However, in the case of mining companies, the availability of diggers, power plants and mining engineers has remained limited resulting in an increase in costs.

In many cases, the high prices also caused demand to decline even as supply started rising. Americans, the world's largest fuel consumers, have been cutting back on gasoline all year. Motorists pumped 9.5 per cent less gasoline for the week ended 3 October 2008 compared with the same week in 2007. There is now a danger that lower oil prices will lead to an increase in oil use both by car drivers and energy producers.

Source: Adapted from C. Krauss, 'Commodity Prices Tumble', www.nytimes.com, 14 October 2008.

- (a) With reference to the extract, explain the functions of the price mechanism.
- (b) With reference to the first paragraph, would you expect the supply of commodities such as aluminium, copper and nickel to be price elastic or inelastic? Explain your answer.
- (c) With reference to the first paragraph, analyse the effect on the total revenue of wheat farmers of the fall in price of wheat.
- (d) Using a supply and demand diagram, explain why the price of oil has fallen.
- (e) Illustrating your answer with a diagram, assess the external costs associated with using oil to produce electricity.

Suggested approach to the questions

(a) With reference to the extract, explain the functions of the price mechanism.

This question demands a basic understanding of the purposes of the price mechanism. These are implicit in all you have studied in supply and demand analysis but are sometimes not outlined explicitly in economics courses.

The key function of the price mechanism is to allocate resources between industries. The increase in commodity prices acted as a signal for farmers to produce more crops and for mining companies to open more mines. It also provided an incentive for these producers to increase supply because there was an increasing possibility of making a profit by producing these commodities.

The price mechanism also acts as a rationing device: in the USA, for example, the higher price of gasoline has led to a 9.5% reduction in consumption over the year.

(b) With reference to the first paragraph, would you expect the supply of commodities such as aluminium, copper and nickel to be price elastic or inelastic? Explain your answer.

It is good practice to start with a precise definition of the elasticity of supply. Given that the most important factor influencing price elasticity of supply is time, it is worth considering how elasticity of supply might vary over time.

Price elasticity of supply refers to the responsiveness of quantity supplied to a change in price and it is measured as follows:

$$PES = \frac{\% \text{ change in quantity supplied}}{\% \text{ change in price}}$$

Elastic supply implies that a price change would cause a more than proportionate change in quantity supplied whereas inelastic supply implies that a price change would cause a less than proportionate change in quantity supplied.

In the short run the supply of aluminium, copper and nickel is likely to be inelastic because of the time required for exploration, obtaining planning permission and to open new mines. In addition, the extract states that "the availability of diggers, power plants and mining engineers has remained limited" which implies that there are significant difficulties involved in obtaining new supplies. However, these commodities can be stored so if there are stocks then supply will not be perfectly inelastic. In the long run, more mines

can be opened so supply is likely to be more responsive to the rising price and therefore more elastic. Obviously, in the very long run there is a finite amount of these commodities so supply would be perfectly inelastic.

(c) With reference to the first paragraph, analyse the effect on the total revenue of wheat farmers of the fall in price of wheat.

The command word is 'analyse' which should encourage you to apply an appropriate concept. However, this is an example of a question where the concept required is not explicitly stated. In this case, price elasticity of demand should be at the heart of your answer as shown below:

The concept relating the responsiveness of quantity demanded to a change in price is price elasticity of demand. It is measured as follows:

$$PED = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}$$

Wheat is a basic commodity used in the production of bread and, as such, demand for it is likely to be price inelastic i.e. a fall in price is likely to lead to a less than proportionate increase in quantity demanded. Therefore, the total revenue of wheat farmers will fall (because total revenue is calculated by multiplying price by quantity sold).

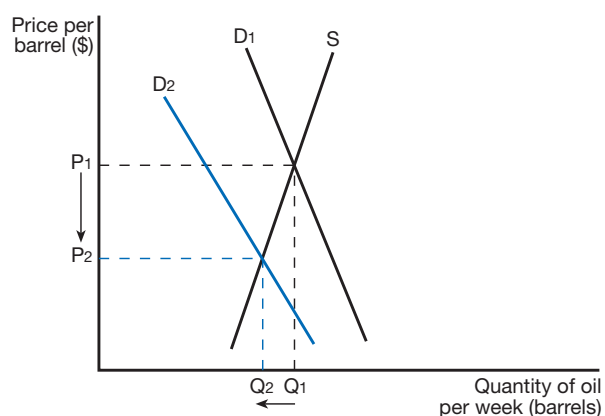


Is the supply of aluminium price elastic or inelastic?

(d) Using a supply and demand diagram, explain why the price of oil has fallen.

It is likely that you will be required to use supply and demand analysis to explain price changes so it is important that you can explain the causes of price changes and draw accurate diagrams which are accurately labelled to support your analysis. The following response provides a sound approach to answering this question:

*Essentially, much of the demand for oil is a **derived demand**, that is, it is dependent on consumers' demand for goods and services produced with oil. Consequently, the general slowdown in the world economy is causing a reduction in the demand for oil since there will be a reduction in production of goods and services. Further, there is evidence that drivers are reducing their car usage so causing an additional fall in demand for oil.*



The above diagram shows that a decrease in demand will cause a significant fall in price. The reason is that the supply of oil is very price inelastic so that the leftward shift in the demand curve causes a very sharp fall in price. Indeed, the extract states that the price of oil has fallen by 44% since July 2008.

(e) Illustrating your answer with a diagram, assess the possible external costs associated with using oil to produce electricity.

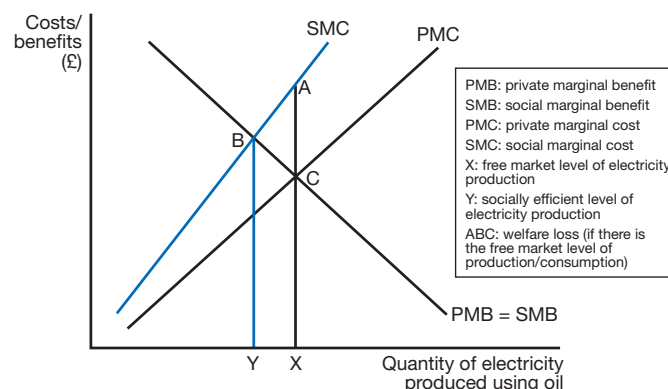
This question takes us into the field of market failure which occurs when market forces fail to allocate resources efficiently. As in question (b), it is important to start with a definition of external costs and examples of the possible external costs should be included. A clearly-labelled diagram with supporting explanation is required with a clear reference

to the context. In addition, the command word is 'assess' which implies that some evaluative comments must be included. This answer provides the basis of a sound response which covers all these elements:

External costs are those incurred by third parties who are not involved in the transaction. They are, therefore often described as 'spillover' effects which affect people who are neither the producers or consumers of the product/service.

External Costs = Social Costs - Private Costs.

The production of electricity using oil has a series of external costs. For example, it leads to emissions of carbon dioxide, contributing to global climate change; emissions of sulphur dioxide, contributing to acid rain; emissions of nitrous oxide, contributing to urban smog. All of these emissions affect people not directly involved in the production of electricity.



The diagram shows that under a free market the level of production/consumption would be at X, higher than the socially efficient level of production/consumption at Y. Therefore, there is over-production/consumption of electricity produced using oil of XY. In practice, however, it is difficult to place a monetary value on external costs so it is not possible to identify precisely the socially efficient level of production. Further, some of the external costs caused by the production of electricity using oil might be offset by external benefits e.g. some people and countries might actually benefit from global warming. The generation of electricity might also lead to an increase in GDP which could mean that the government receives more tax revenues which could be used to deal with the external costs.

And finally...

Here is a summary of the key elements of good answers to questions in examinations in economics:

Define terms and concepts.

Apply: use the data and information provided: refer to this in your answer; relate your answer to the specific context provided by the information.

Analyse: include logical steps in your answer.

Diagrams: these are usually a vital ingredient of a sound response and these should be integrated into your analysis by explaining what they show.

Evaluate: whenever the command word suggests that this is required e.g. by considering the magnitude of the effect, short and long run effects, prioritising importance of factors identified, considering how factors other than those included in the data might be significant.

Should we be Concerned about the Foreign Takeover of UK Companies?

UK plc for sale

These pictures show some of the most famous brand names in UK business – some of them epitomising the very essence of ‘Britishness’. But what they have in common is that over recent years they have all fallen into foreign ownership. Should we be proud of the fact that British assets are so attractive to overseas investors, or does the selling of the ‘family silver’ leave us vulnerable to the whims of foreigners who are interested only in profit rather than in the best interests of the nation?



Kay Moxon, Department of Economics at Tonbridge School, considers the impact of British companies becoming foreign-owned.

Exam Board	AS	Unit	A2	Unit
AQA			✓	4(3.4.3)
Edexcel			✓	4(4.3.3)
OCR			✓	F585
WEJC			✓	EC4(E)
CCEA			✓	4
Int. Bacc.		Standard (4.5)		



ScottishPower



The size of the sale

The years between 2000 and 2007 saw an explosion in global takeovers, with each year during this period seeing a new record in terms of the value of foreign takeovers of UK companies. ONS data indicates that in 2007 this grew to a peak of £81.4 billion. Three million British jobs are directly dependent upon foreign owners and 20% of Britain's GDP is contributed by foreign-owned companies.¹ And takeovers are coming from all around the globe: Abbey is controlled by a Spanish Bank (Banco Santander); Allied Domecq – which is the company behind many of the country's favourite spirits – was taken over by the French drinks company Pernod Ricard; Asda is owned by America's Walmart; Land Rover, Jaguar and steel manufacturer Corus are all part of the global empire of Indian company, Tata. P&O was bought by Dubai Ports, and Chelsea football club was, of course, famously bought by a Russian oil magnate. Even the London Stock Exchange itself has been subject to – as yet several unsuccessful – foreign takeover bids!

Of course we should bear in mind that the takeover flow has not been all 'one way traffic': British companies such as HSBC, GlaxoSmithKline and Vodafone have expanded rapidly abroad, and the value of UK firms' takeovers of foreign entities also reached a peak in 2007 – but at £58.1 billion, it is only around two-thirds of the value of foreign takeovers of UK firms.

Globalisation is good

Foreign investment can be viewed in the same way as foreign trade. In just the same way as free trade means that goods can be produced globally where they are produced relatively most cheaply and efficiently, so the absence of global capital constraints mean that investment can flow to where the relative returns are greatest. And just like the free flow of goods and services, free international capital flows promote economic welfare on both sides of the exchange.

As well as static gains, there should also be dynamic gains. Greater competition leads to higher productivity, and the country benefits from the new technology and management know-how that foreign investors bring with them.



International takeovers show the global market working efficiently.

It is also important to appreciate that in a free market economy, market discipline comes not only from the product market (where competition forces productive efficiency) but also from the stock market (whereby the threat of takeover forces technical efficiency – and thereby maximum profits for any given output). Takeovers are therefore a healthy sign of the free market at work, and international takeovers are a sign of the global market working efficiently.

Effects on the balance of payments

The net effect on Britain's balance of payments from a foreign takeover is uncertain. For example, when NCP Car Parks were taken over by Macquarie (an Australian Bank), the most immediate effect would have been an inflow on the Financial Account of the UK's balance of payments. However, the long term effects are then uncertain and will depend upon what those selling NCP shares then do with the income received – obviously if they invest the money abroad then an outflow will appear on the Financial Account. It will also depend upon whether the trading pattern of the acquired company changes. Car parks are not a traded commodity, but if Tata's ownership of Corus or Land Rover leads to these subsidiaries becoming more internationally competitive as a result of productivity improvements, then a long term boost to the Current Account might be enjoyed. However, this must be

balanced by the fact that, if either Macquarie or Tata make profits from their newly-acquired British companies, then the Current Account balance might deteriorate as a result of an outflow of interest, profits and dividends. The net effect on the balance of payments will be further complicated if the overseas parent company brings in some of its managers from overseas or if some British workers are required to work at the company's overseas headquarters for a period.

Cause for concern

There are various reasons why there might be a concern that foreign takeover might actually diminish rather than enhance national economic well-being. Trade unions are, understandably, particularly concerned about the effect on wages and on jobs. One fear is that foreign firms will expatriate workers who steal the jobs that should have been offered to local residents. There is also a fear that foreign investors are attracted by low wages which can then spark the so-called phenomenon of a 'race to the bottom'. In fact these concerns are fundamentally contradictory: if foreign investors are attracted by cheap labour, it hardly seems logical that they will then replace that labour with – presumably more expensive – workers from their own country.

Of more concern might be the *quality* of jobs on offer: some fear that the new owners will favour their own countries when it comes to important strategic

1. Figures from thisismoney.co.uk 25 June 2008.

2. See P. Thornton: "Foreign takeovers boost wages of their British targets' workers", *The Independent*, 18 April 2006.

decisions and that British managers will lose out when it comes to top jobs. But in fact this does not seem to tally with the available evidence, which shows that many UK industries (such as much of the financial services industry) have actually thrived under foreign ownership. Rather than narrow nationalistic loyalties, the same business criteria which leads multinational companies to invest in the UK in the first place – such as the best mix of low costs and skilled labour – also drives them when making further strategic decisions. Indeed, after US firm General Electric acquired Amersham International for £5.7bn in 2003 it moved its global healthcare headquarters to the UK from Milwaukee.

Many trade unions have successfully secured guarantees for their workers when taken over by foreign companies: for example, trade unions at Land Rover and Jaguar secured from Tata job and pension guarantees for their members, as well as guarantees on some local sourcing of materials. Moreover, research suggests that on average, wages rise in foreign owned firms in line with the positive effect on technical efficiency in such firms.²

A foreign acquisition might be contrary to the national interest if it reduces competition in local markets. However, whilst the UK government has an open-door policy on foreign takeovers, where appropriate, such a takeover would be

subject to exactly the same competition legislation whether the bidding firm is British or not.

A further objection is that foreign companies can shift profits made in one country into another jurisdiction for the purposes of paying income tax. This means that the tax burden in the UK shifts away from multinational firms onto the personal sector. However, this doesn't really justify blocking overseas takeovers since the fault lies with ineffectual or poorly-enforced tax laws rather than with the foreign investor.

Economists do not agree about much, but in this area there seems to be a consensus. Britain is the easiest country in the rich world, and possibly the whole world, for foreigners to acquire companies.

Andy Beckett, 'Everything must go',
The Guardian, 4 July 2006

"We're kicking uphill!"

Whilst, as established earlier, takeovers are a sign of a well-functioning free market economy, the complaint of many UK businesses is that they are not operating within a well-functioning free market global economy: in fact, when it comes to international takeovers, they are very much 'kicking uphill' on an uneven playing field. Whilst Britain's liberal capital markets welcome bids

from all around the globe, it is, in many respects, far more difficult for UK firms looking to takeover firms overseas.

Much of the problem lies in different systems of **corporate governance**. The UK has a system of 'shareholder capitalism' and a bidding company simply needs to persuade just over 50% of shareholders to sell to it in order to take control of a company. In contrast, in countries like France and Germany companies operate under a system of 'stakeholder capitalism' within a 'dual board' structure. This involves shareholders and workers electing members of a supervisory board which can then actively obstruct any takeover attempt. This largely explains why German carmaker, Volkswagen was for a long time able to repel predatory bids: VW even has the public authorities represented on its board.

But in addition to this many governments, unlike the UK government, have actively intervened to prevent what they view as 'strategic industries' from falling into foreign hands. For example, the US government used 'national security considerations' to block a £9.5bn takeover of oil company Unocal by one of China's largest oil firms and forced Dubai Ports – owners of P&O – to sell its US wharves because the US was unhappy about them being owned by Arabs.

There is a similarly protectionist story in parts of Europe. The Spanish Government issued an emergency decree to create a state body to prevent E.ON's £20bn offer for Endesa, a power company. In France, they have even declared Danone yoghurt to be an asset of 'national and strategic importance' that cannot be taken over by foreigners. And the Germans have recently agreed a new law which will allow foreign investments to be blocked.

What is a 'British Company' anyway?

Some UK firms may be household names, but to what extent are BP, BA, Barclays and BT (all of which are nominally still British owned) 'our' companies? Importantly, even companies controlled by British directors and with their headquarters in the UK, are owned by their shareholders. But shares in these companies are publicly traded on the stock exchange and can be bought and sold by anyone: and in the global market place this will increasingly mean that they are held by

Many UK companies feel they are 'kicking uphill' on an uneven playing field.



institutional investors spread far and wide. So perhaps the issue of corporate ownership is becoming irrelevant when pension and investment funds which hold shares in German, French, British and American firms are increasingly the same people.

Moreover, many large UK firms not only have globally dispersed ownership but globally dispersed customers. If a company like BP does the majority of its business overseas and the majority of its shares are held by large global investors, then to what extent is it really 'British?'

The 'Wimbledon Effect'

The UK has undoubtedly benefitted in many respects from its open economic borders, free markets and its welcoming of foreign capital and talent. But we might be suffering from some kind of national 'Wimbledon Effect': every year we stage the world's most prestigious tennis tournament, but have enjoyed very little success for over 30 years. This doesn't undermine the status of the tournament – but how we yearn every summer for a British Champion! Perhaps we have become one of the most desirable 'hosts' for economic success – but it offends our sense of national sovereignty and pride that the prizes, whilst earned on national soil, ultimately go elsewhere. However it is, of course, very difficult to put a measure on the welfare effect of the loss of national pride that comes when a company such as 'Boots' falls into foreign ownership.

Moreover, as discussed, it may be the case that the British 'players' are having to hit the ball over a rather higher net than some of their foreign competitors. And it remains to be seen whether, in a global downturn, overseas firms will cut back on their foreign subsidiaries first out of a sense of national responsibility.

Questions for discussion

1. Why does the government give grants and tax breaks to companies investing in UK? Are they justified in doing so?
2. Why are UK companies so attractive to foreign investors?
3. Why might the risk of takeover not force technical efficiency in markets?
4. What would be the effect on the UK balance of payments if a foreign parent company employs some of its overseas staff in a UK subsidiary?

Summary of key points

- ▶ A large number of UK firms have been taken over by foreigners. Investment by UK firms overseas is less substantial.
- ▶ Foreign investment enhances competitive pressure and provides scope for higher rates of economic activity and employment than could be achieved from domestic levels of savings.
- ▶ The net effect of foreign investment on the UK balance of payments is uncertain.
- ▶ Many of the concerns expressed about foreign takeovers do not appear to be supported by available evidence.
- ▶ Many countries actively protect their industries from foreign takeovers.



with Chief Examiner,
Robert Nutter

Share of residential energy market

British Gas	32%
E.ON	16%
Scottish and Southern	16%
Npower	14%
EDF	11%
Scottish Power	11%

Source: Ofgem

Annual average household bills

	Gas	Electricity
British Gas	£656	£414
E.ON	£642	£421
Scottish and Southern	£533	£355
Npower	£631	£425
EDF	£650	£385
Scottish Power	£679	£432

How dual fuel bills have risen

	2003	2004	2005	2006	2007	2008
British Gas	£567	£646	£703	£1120	£912	£1049

Source: energywatch

1. The six major energy companies in the UK are:

British Gas	EDF	Npower
E.ON	ScottishPower	Scottish and Southern Energy

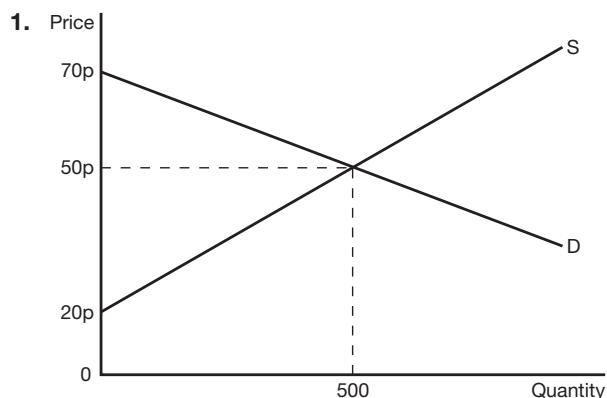
Research the ownership of these companies investigating the extent to which they are British owned.

2. Investigate the role of transfer pricing in reducing the tax liability of multinational firms.
en.wikipedia.org/wiki/Transfer_pricing
3. Research the recent history of BP's activities in Russia, in particular the TNK-BP venture.
www.tnk-bp.com <http://news.bbc.co.uk>
4. Investigate the extent to which multinationals are moving their tax domicile from the UK as a result of dissatisfaction with the UK corporate tax regime.
www.tax-news.com (search engine – 'UK tax exodus')



In this regular feature Chief Examiner **Robert Nutter** of Watford Girls' Grammar School, 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.

Questions

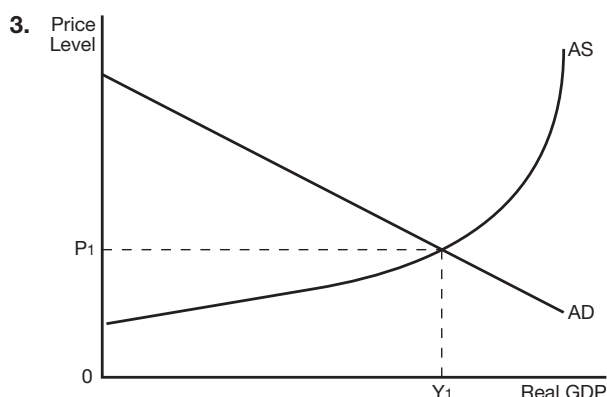


From the above diagram it can be deduced that the producer surplus value is

- A. £50 C. £100
B. £75 D. £250

2. Assume that the market provides a demerit good and that there is no government intervention. When compared with the socially efficient level of output (where marginal social cost = marginal social benefit) the price and quantity will be

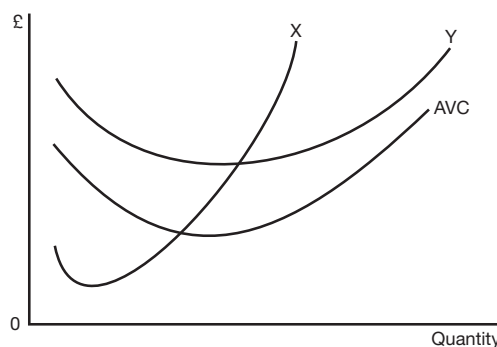
- | Price | Quantity produced |
|-------------|-------------------|
| A. Too low | Too high |
| B. Too high | Too low |
| C. Too low | Too low |
| D. Too high | Too high |



The above diagram shows an economy in equilibrium. Which one of the following will only shift the aggregate demand curve?

- A. A rise in business investment.
B. A fall in income tax rates.
C. A rise in government spending on road and rail infrastructure.
D. A rise in consumer spending.

4. The diagram below shows the average variable cost curve (AVC) and two other cost curves labelled X and Y.

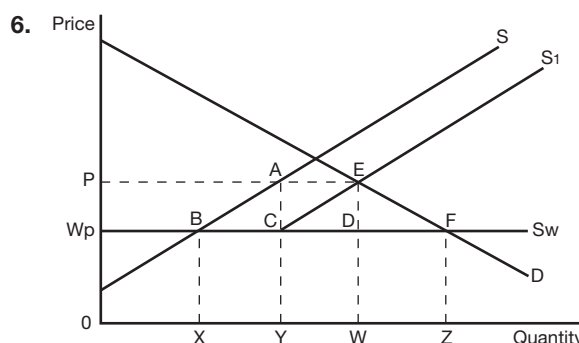


The two cost curves X and Y can be identified as

- | X | Y |
|-----------------------|--------------------|
| A. Marginal cost | Average cost |
| B. Average fixed cost | Average cost |
| C. Marginal cost | Average fixed cost |
| D. Average cost | Marginal cost |
| E. Average fixed cost | Marginal cost |

5. A substantial rise in the national minimum wage can be expected to lead to all of the following outcomes except one

- A. a rise in the natural rate of unemployment.
B. a fall in labour productivity.
C. a shift in the long run aggregate supply curve to the left.
D. a fall in the demand for labour.
E. a shift in the short run aggregate supply curve to the left.

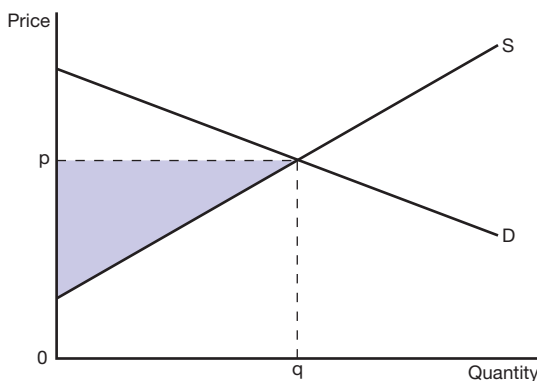


In the above diagram the world price for a product is W_p . The government imposes a quota on imports shifting the supply to S_1 , and as a result revenue for importers changes from

- A. BFZX to AEDC
B. BCYX to CDWY
C. AEWY to DFZW
D. CFZY to BFZX
E. BFZX to AEWY

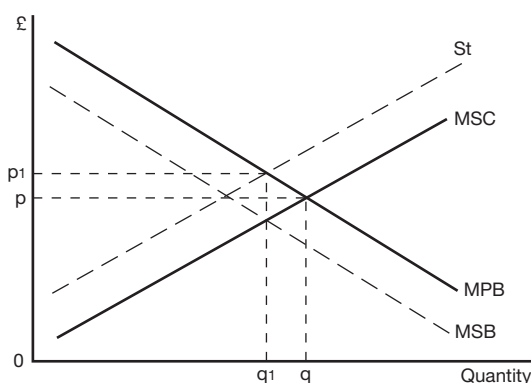
Answers

1. The producer surplus is the benefit received by firms in a market when they receive a price for their product which is above the supply price. In a perfect market where the supply curve represents the marginal cost curve the area representing the producer surplus (shown below) is the profit made (after subtracting fixed costs).



The value of the producer surplus in the question is the area of the triangle which is half the base (250) multiplied by the height (30p) which is £75. The answer is thus B.

2. A demerit good provides short-term satisfaction to a consumer but will often give long-term problems e.g. smoking and drinking. Consumption of demerit goods also imposes external costs on society, e.g. NHS costs and crime. Thus demerit goods produce consumption externalities resulting in the product under-priced and over-consumed as shown in the diagram below.



Consumption should be at q_1 not q and price should be at p_1 not p . The latter would be achieved by a sales tax in order to internalise the external costs. The answer is thus A.

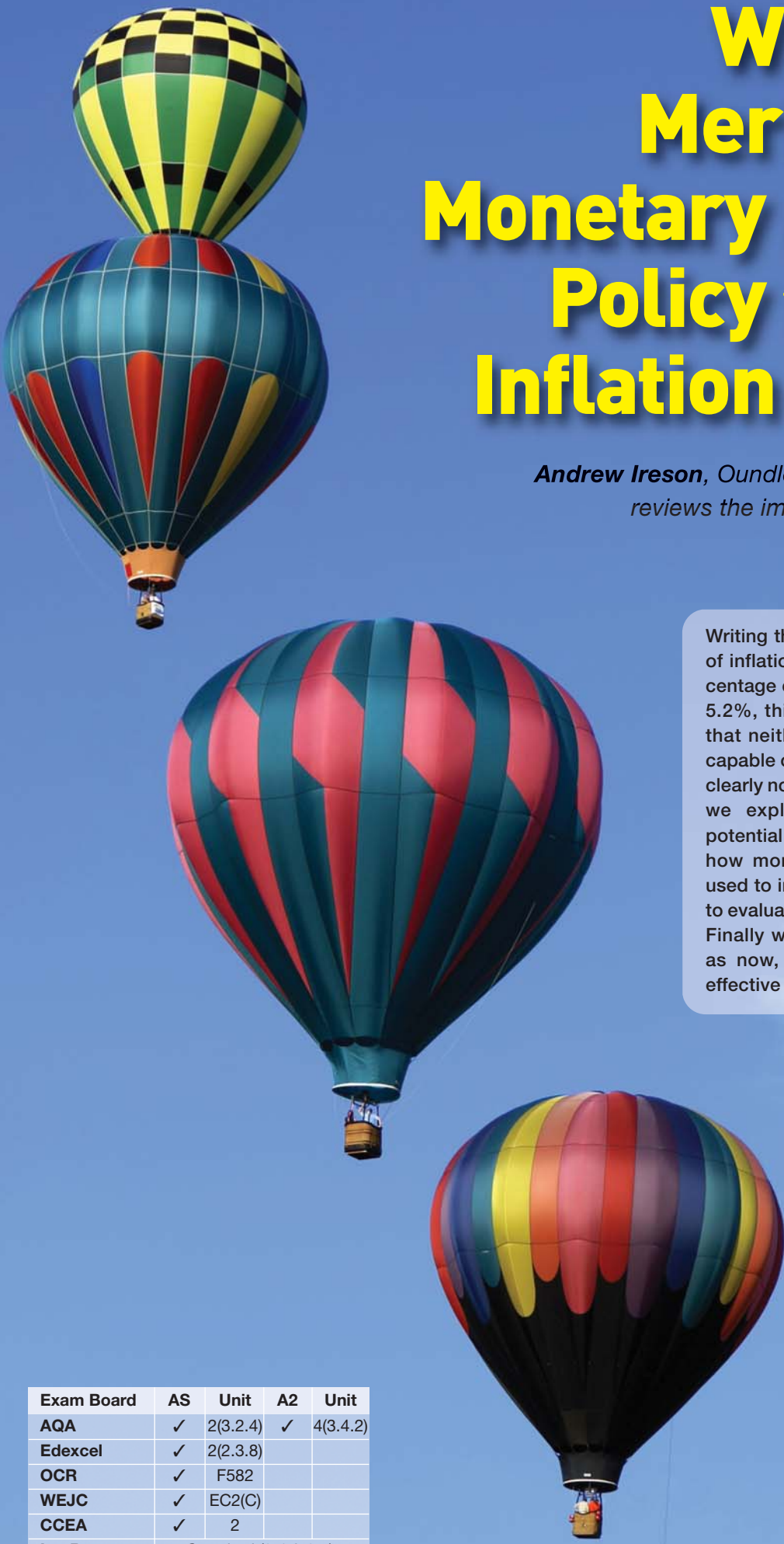
3. All four options which shift the aggregate demand curve to the right. Investment, government spending and consumption are all components of aggregate demand. A fall in income tax rates will increase disposable income and is likely to raise consumption. However investment and government spending on infrastructure will also affect aggregate supply increasing the economy's productive

capacity. In addition a fall in income tax rates may increase the incentive to work and to work harder increasing labour market participation rates. This will increase aggregate supply. A rise in consumer spending will only affect aggregate demand and thus the answer is D.

4. Marginal cost (MC) is defined as the addition to total costs as a result of producing one more unit of output. The MC curve cuts the average variable cost (AVC) curve at its lowest point and it also cuts the average cost (AC) curve at its lowest point. Average fixed costs (AFC) fall continually as output increases and since the curves in the above diagram are downward then upward sloping then X must be marginal cost and Y average cost. The answer is thus A.
5. A substantial rise in the national minimum wage would increase the level of natural unemployment and shift the long run aggregate supply curve to the left. In addition the increase in the price of labour will have a similar effect on the short run aggregate supply curve. The demand for labour will fall with the minimum wage above the free market wage in many labour markets. However, employers faced with high wage costs, are likely to be incentivised to increase the skill levels of their workers so that they may become more productive. The answer is thus B.
6. A quota is a fixed quantitative upper limit on the amount of imports allowed into a country. Thus by limiting supply to the domestic market it will lead to a rise in price. Before the quota was imposed the level of imports was XZ with domestic producers only supplying OX. The quota shifts the supply curve to S_1 and raises the price to P. Domestic firms increase their supply to Y and imports fall to YW. This means that revenue for importers falls from BFZX ($W_p \times XZ$) to AEWY ($P \times YW$). The answer is thus E.



Alcohol is an example of a demerit good in Q2.



What are the Merits of both Monetary and Fiscal Policy to Control Inflation in the UK?

Andrew Ireson, Oundle School and a Chief Examiner, reviews the impact of macroeconomic policy.

Writing this article in late 2008 after the rate of inflation, as measured by the annual percentage change in the CPI, had just reached 5.2%, this author felt tempted to conclude that neither policy has merits as neither is capable of controlling inflation! However, it is clearly not as simple as that and in this article we explain both the measure and the potential causes of inflation. Then we look at how monetary and fiscal policy might be used to influence the rate of inflation and try to evaluate the relevant merits of each policy. Finally we briefly consider situations, such as now, when neither policy can be that effective in the (short-run) control of inflation.

Exam Board	AS	Unit	A2	Unit
AQA	✓	2(3.2.4)	✓	4(3.4.2)
Edexcel	✓	2(2.3.8)		
OCR	✓	F582		
WEJC	✓	EC2(C)		
CCEA	✓	2		
Int. Bacc.		Standard (3.4 & 3.5)		

Ever since its independence in 1997, the Bank of England has been given as one of its tasks a particular target rate of inflation to try to achieve for the UK economy. The current target rate is for the CPI to grow at an annual rate of 2%. There is for some reason a common misconception that the target rate is between 1% and 3%. However, as the Governor of the Bank of England, Mervyn King, has stated on numerous occasions, the target is 2%. The 1% and 3% levels merely give the limits which, if the rate falls outside, require him to write an open letter to the Chancellor of the Exchequer explaining why the rate of inflation is more than 1% away from the target.

Before we go any further, it is important to outline the two basic causes of inflation – namely demand-pull inflation and cost-push inflation. Figure 1 outlines the simple case where an increase in aggregate demand leads to an increase in the general price level – i.e. inflation, whereas Figure 2 shows how inflation can result from an increase in costs.

Whilst a simple diagram shows just one of these two situations, in analysis and evaluation it is always worthwhile stating that, in reality, there will be ‘pressures’ from both situations, whether positive or negative. Indeed, many would state that the main reason for low inflation during the ‘NICE’ nineties (**Non-Inflationary Consistently Expansionary** economy, a phrase coined by Mervyn King in 2003) was the impact of falling costs due to the growth of globalisation and in particular the increased supply of low-priced goods from China.

It is with demand-pull inflation that both monetary and fiscal policy can have the most direct effect. We now look at how they can affect aggregate demand within an economy. As you hopefully know $AD = C + I + G + (X - M)$ (as an aide-mémoire, think of someone smoking a cigarette to get the first three terms in the ‘correct’ order). We therefore need to consider how monetary and fiscal policy might affect the various components of aggregate demand and hence the level of demand-pull inflationary pressure within an economy.

Monetary policy

We begin with monetary policy. Normally this is said to concern **interest rate policy**, **exchange rate policy** and **control of the money supply**. In practice, ever since the UK’s departure

Figure 1: Demand-pull inflation

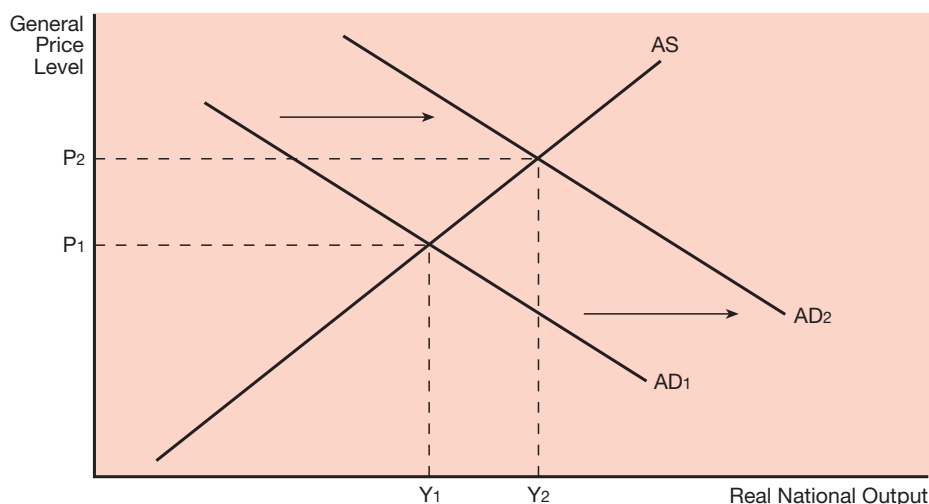
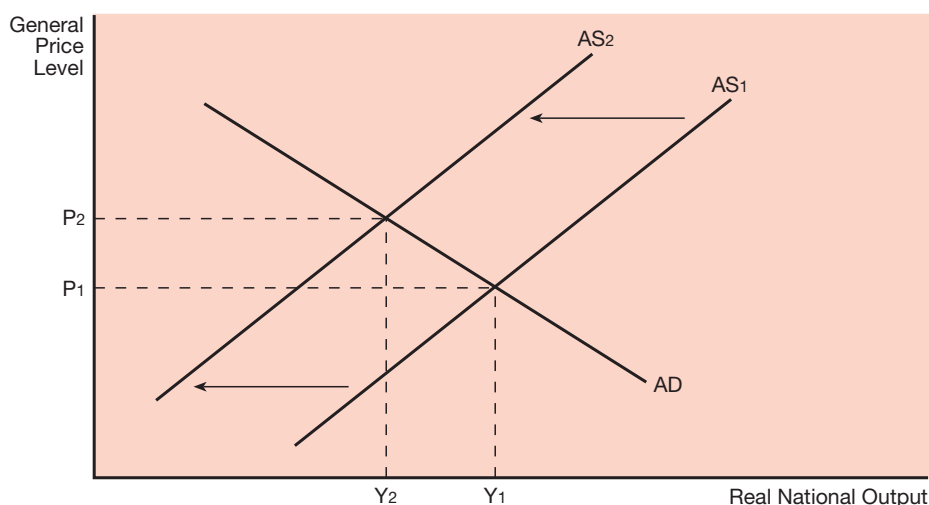


Figure 2: Cost-push inflation



in 1992 from the Exchange Rate Mechanism (ERM), the forerunner of the Eurozone, UK monetary policy has concentrated on manipulation of the interest rate and, since 1997, any changes have been implemented by the Bank of England, following the monthly meeting of the Monetary Policy Committee (MPC). As an aside, the recent announcement from the Bank of England on Wednesday, 8th October 2008, to cut interest rates from 5% to 4.5% in response to the global crisis in the banking sector – a day before an official announcement was due – was only the second time in 11 years that a change had been made outside of the usual monthly meeting. The only other time was in the aftermath of the 9/11 attacks on the World Trade Center.

The interest rate is basically the cost of borrowing and in simple supply and demand terms, if the price of borrowing goes down, demand goes up. With more borrowing comes more demand for goods and services from households and hence more consumption. Other things being equal, this increase in C in

our AD equation will lead to higher prices. It is not difficult to see therefore that an **increase in the rate of interest should consequently have the effect of reducing AD** and hence bringing down the rate of inflation. At this stage it is worth mentioning that, whilst a leftward shift in the AD curve implies a fall in the general price level – hence ‘negative inflation’ or ‘deflation’, in practice what is far more likely to happen is that there will be a fall in the rate of inflation, but prices in general will still continue to rise. This is one of the drawbacks of using a fairly simply diagram to try to explain a highly complex combination of factors over a period of time!

However, will an increase in interest rates be effective in reducing the level of consumption within an economy? The problem is **time lags**. The Bank of England itself recognises that it can take up to 18-24 months for the full effects of a change in the rate of interest to feed through into the economy. Why is this so? In practice, an increase in the rate of interest can initially cause an **increase** in borrowing. One reason for this is that for



An increase in taxation would reduce the disposable income in consumers' pockets.

many people who have a mortgage on their house, the rate of this is linked to the Bank of England's rate of interest. If there is an increase in so-called 'contractual spending', individuals may, in the short-run at least, have to increase the amount of spending that they put on credit cards etc. as they have less 'disposable income' left – if we use the definition of this as being money left over after all taxes and contractual spending have been paid. This however opens up another 'can of worms' as to what should be included in the measure used to calculate the rate of inflation. Clearly there is not an increase in the quantity of goods and services bought in this case, it is just the price of mortgages that has increased and many measures used, including the CPI, exclude mortgage costs in their calculations.

However, there is no doubt that an increase in the cost of borrowing will, over time, cause a reduction in the level of consumption, and certainly this is the primary reason that the Bank of England has raised the rate of interest in recent years when it feels that inflationary pressures are too great within the economy. Whilst the effect on household consumption may be the obvious one to consider, it would be wrong to exclude consideration of the other components of Aggregate Demand. Investment by firms is also likely to fall as the cost of borrowing increases and, depending upon how UK interest rates have changed relative to global rates, an

increase by the Bank of England in its rate might cause the exchange rate to rise, due to the influx of so-called **hot money**. This will have impacts on the relative price competitiveness of Exports and Imports and might also lead to a fall in Aggregate Demand – again, after a time-lag.

Therefore monetary policy has the merit of being quite easy to implement, but the changes take time to feed through into the real economy and it must be remembered that any change cannot be considered in isolation of what is happening in the wider economy, both at home and globally.

Fiscal policy

We now turn to fiscal policy. This is the use of spending and taxation by the Government and any changes are usually announced in the Pre-Budget Statement which occurs in the Autumn each year and in the actual Budget which occurs in the Spring, when the Chancellor of the Exchequer, after the annual photo shoot with the famous 'Red Box' on the steps of the official residence at 11 Downing Street, reveals its contents to the House of Commons. Now clearly, any changes in Government spending and taxation can have implications for the level of Aggregate Demand within the economy, and hence on inflationary pressures. For example, if there were to be an increase in the basic rate of taxation, households would have less disposable income left –

however it might be defined – and hence the likelihood is that there would be a fall in the level of consumption of goods and services from individuals. Similarly if the Government were to increase the rate of taxation on a company's profits – Corporation Tax – this could well have a disincentive effect on firms and hence there might be a fall in the level of investment that takes place within the economy.

On the expenditure side, clearly the level of Government spending undertaken has a direct influence on the level of Aggregate Demand. It is important to note though that Aggregate Demand is to do with spending on Goods and Services. Therefore, whilst it is undoubtedly somewhat confusing, there is a difference between G when we are talking about $AD = C + I + G + (X - M)$ and G when we are comparing G and T , when looking at the overall fiscal position for an economy. This is because a lot of the Government spending in this latter case is on so-called **transfer payments**, such as Pensions, Job Seekers Allowance, Invalidity Benefits etc. for which no goods and services have been produced. When there is a change in the level of transfer payments, this shows up in Aggregate Demand as a change in the level of household consumption, as it directly affects the ability of households to buy goods and services.

Fiscal policy can also affect the level of inflation in a few other ways. For example, in the short-run changes in 'indirect taxes' such as VAT and excise duties on goods such as alcohol, tobacco and fuel can affect prices. Similarly, so-called **supply-side policies** are often integrally linked with both the taxation and benefit system and also with spending on areas such as education and on the infrastructure of the economy. These can result in, hopefully, an improvement in the efficiency of production both in terms of worker productivity and also in general terms and hence reduce cost-push factors in the longer term.

Therefore, as far as the merits are concerned, this final point means that whilst fiscal policy might take longer to implement, it is potentially true that any changes to inflationary pressure, particularly with regard to cost-push pressures, may be long lasting.

Cost-push inflation

This takes us back to the whole area of cost-push inflation which we saw earlier

in Figure 2. In recent months the rapid increase in the rate of inflation has been brought about not through excess Aggregate Demand but through an increase in costs, most notably with fuel and food costs. There are many reasons for this, and these are not for discussion in this article, but suffice it to say, when the root cause of inflation within an economy is cost-push pressures, whilst any attempt to control Aggregate Demand may reduce the overall impact, the underlying causes are likely to be unchecked by the use of either monetary or fiscal policy. There may be a role for a prices and incomes policy although it is now many years since such a strategy has been used.

Conclusion

In conclusion, it is probably true to say that monetary policy is most effective when trying to reduce the level of Aggregate Demand within an economy, although there will be time-lags involved. An interesting point to ponder is the fact that, if there were to be a wish to **increase** the level of consumption and investment within an economy, not only is the cost of borrowing important but of equal, if not nowadays greater, importance, is the availability of credit within an economy, as witnessed by recent events across the world.

Fiscal policy has the merit of potentially being able to alter the underlying conditions within an economy as well as having more immediate impacts on the level of Aggregate Demand but, in recent years, its use to manage day-to-day spending in the economy, as was the case in the days of Keynesian Demand management, is a thing of the past. Only time will tell whether the recent calamities within the World's banking system will result in a return to more direct fiscal management.

Questions for discussion

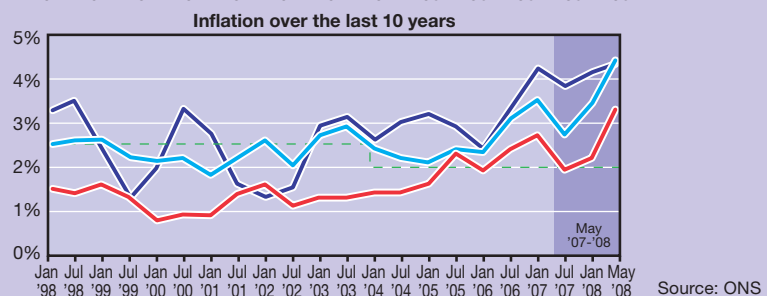
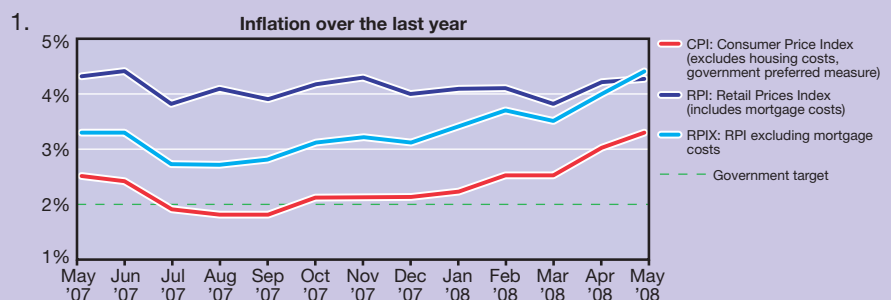
1. Is it ever right for governments to try to reduce demand-pull pressures when inflation is rising due to cost-push pressures?
2. What would be the implications for monetary policy if the UK were ever to join the Eurozone?
3. Why might an increase in interest rates have a greater effect on the consumption of a home-owner as opposed to someone living in rented accommodation?

Summary of key points

- It is important to consider the underlying causes of inflation – whether they are demand-pull or cost-push pressures?
- Use the components of Aggregate Demand, $AD = C + I + G + (X - M)$, in a systematic way to analyse the effects of any changes in either the rate of interest (the current method of monetary policy used within the UK) or in fiscal policy.
- Time-lags are important when considering the merits of the policies, as are impacts on the supply-side of the economy.



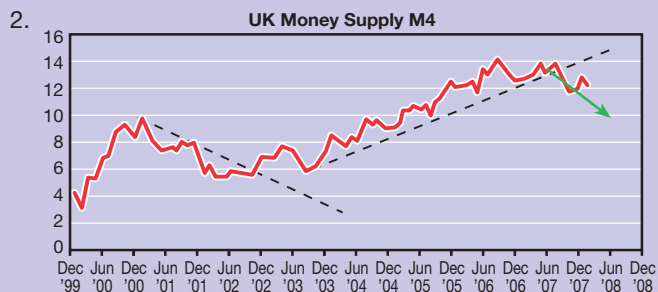
with Chief Examiner,
Robert Nutter



(a) Investigate the reasons why the government changed its inflation target in January 2004.

(b) Research the key differences between the CPI and the Core CPI when measuring inflation.

<http://www.fxwords.com>



Investigate how growth in the money supply can affect inflation.

http://en.wikipedia.org/wiki/Monetary_inflation

3. Read the paper 'Inflation: The cost-push myth' by Dallas S Batten.

http://research.stlouisfed.org/publications/review/81/06/Inflation_Jun_Jul1981.pdf

4. Investigate how in the past governments have used Prices and Incomes Policies to control inflation.

http://en.wikipedia.org/wiki/Incomes_policy



Exchange Rates

Rachel Cole, teacher at Cheltenham Ladies' College and a Principal Examiner, examines the meaning of changes in international currencies.

At around \$1.50 to a pound, sterling has hit a five-year low against the dollar. Only a few months ago you could buy more than two dollars to a pound, which made going to America for the January 2009 sales shopping very attractive. By contrast in 1985 a dollar cost you almost a whole pound. So the questions I find myself asking are what causes these currency changes, what will be the effects on exports and imports, and is a falling exchange rate a quick and easy way to get rid of problems of competitiveness? There is much more to ask about exchange rates, but this article just aims to demystify a few starter questions about the value of the pound today.

The latest slide in the pound came when Mervyn King, the governor of the Bank of England, announced that yes, Britain is at the threshold of a recession.¹ Immediately the pound fell in value. Why? The reason is that currency traders who are holding pounds will sell if they suspect that interest rates will fall. Falling interest rates mean that they get less return on their currency holdings, so they sell their pounds. More pounds relative to demand on the market makes prices fall, and so the pound falls against the dollar. Strange really, when there are clearly worries about the US economy. But confidence is a relative thing.

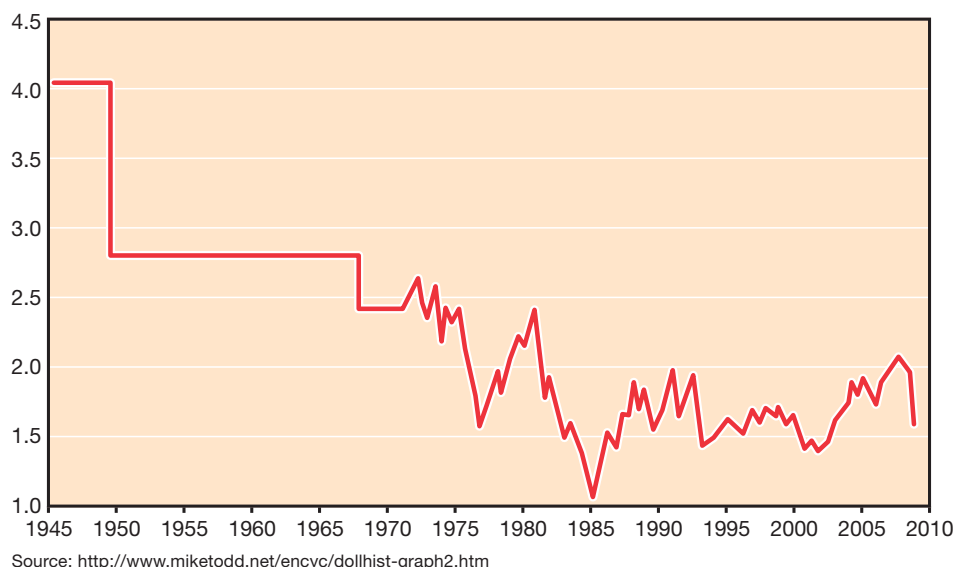
So what actually determines the value of one currency in terms of another? Clearly interest rates, confidence and speculation are major factors, but there are basic economic forces influencing the currency movements, which boil down to simple demand and supply.

Just another application of demand and supply?

In Britain there are 1.5 million cars made every year of which up to 80% are exported, mostly to the euro zone countries. The workers making these cars don't want to be paid in euros. But the people buying them in the euro zone don't tend to have sterling bank accounts. Although the workers and the buyers in the car showrooms may not be aware of it, some currency changing must take place at some point. People need to buy pounds, which is 'demand' for a currency. To do this, buyers of British exports go to the foreign exchange market (forex), where buyers and sellers of currency meet and exchange. This is most likely to happen online, but also happens by going into a bank or other retail outlet to get pounds. So exports hold up the value of a currency, and an increase in exports will make the currency stronger, or fall less sharply.

By contrast, when I want to buy the latest hi-tech gadget it certainly isn't likely to have been made in Britain. Or at least if it was it would have been made in the UK for, and with profits being sent to, a multinational company abroad. This is true too for most clothes, heavily-branded food or drink. Even when you shop at Boots, a company which seems very British, the profits go to the USA

Figure 1: The pound against the dollar since 1945



because it is American-owned. And so technically, your spending means that on the foreign currency markets you are supplying more pounds to pay profits to American shareholders in dollars. To get foreign currency I need to supply my pounds, either online in the forex, or via a retail outlet. For these items I am ultimately putting pounds into the forex and there is pressure on the pound to go down – supply of pounds is increasing. An increase in imports will make the currency fall, or rise less quickly.

All the millions of purchases made every day for goods and services across international borders affect the value of currencies. These individual demand and supply forces determine the equilibrium price, which is the exchange rate. If a country is making things that other countries think are good *value* or *quality* then the currency will tend to rise. But if firms are becoming complacent or

lack efficiency and innovation then the currency is likely to fall.

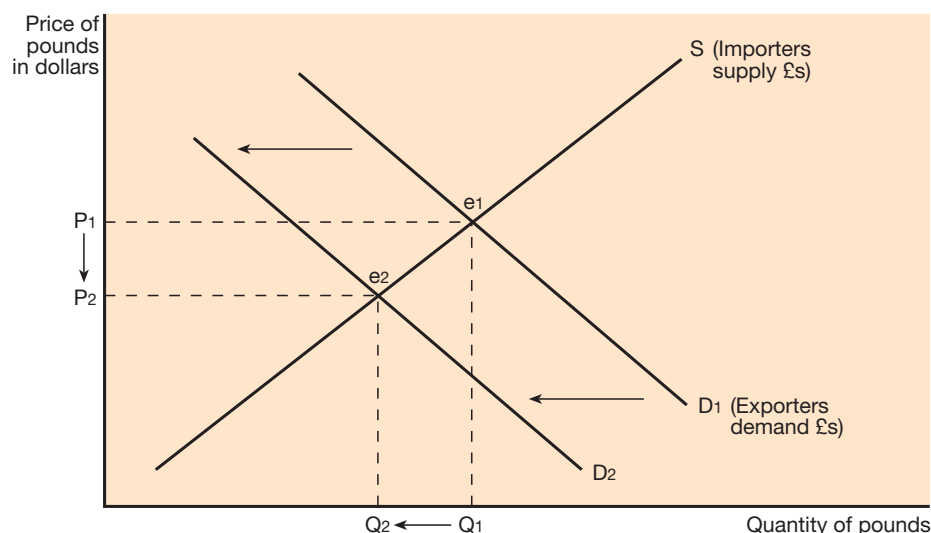
Let's try to show this on a diagram. Remember that this is the market for pounds, and you can't show the price of pounds *in pounds*, just as you can't say the price of an apple is an apple, but you could say it was two pears. So the price I've chosen here on the vertical axis is dollars, but you could use any currency. Here demand is determined by the success of exports. Assume British goods become less competitive relative to products made in another country. The demand for pounds will fall (to D₂ in Figure 2) and the exchange rate will fall. Luckily for Britain this fall in the pound will make its products more competitive again.

Or an international casino?

However, only a small fraction – about 5% – of the pressure on exchange rates

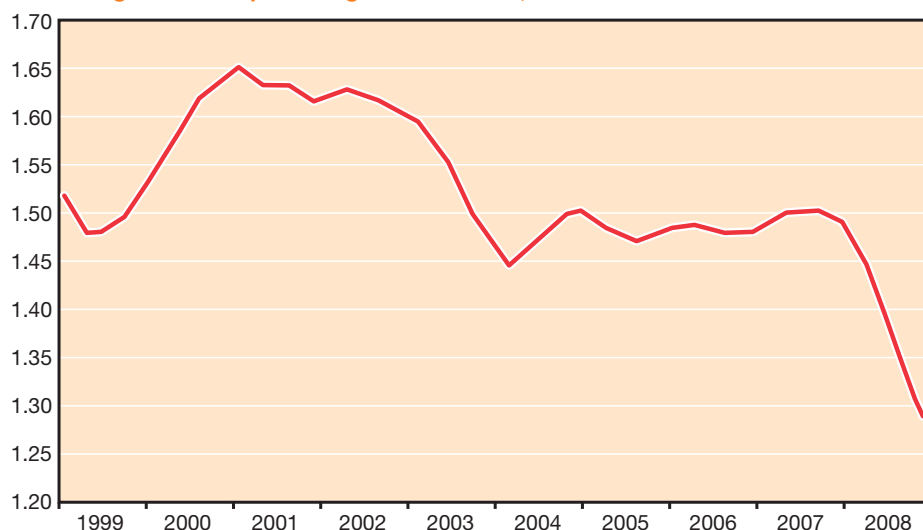
Figure 2. The forex market

A fall in demand for exports means that the pound falls in value



1. Speech on 21 October 2008, one of only three that he gives annually on the state of the economy.

Figure 3: The pound against the euro, since it was formed in 1999



Source: <http://www.tapprofessional.de/charts/Pfund-Euro-Bar-Chart.htm>

comes from trade in goods and services.

Speculation is a far bigger influence on exchange rates than the physical effects on trade of exports and imports, and it is the buying and selling of currencies in the expectation that prices will change in the near future which causes most currency movement. If people holding pounds for speculative purposes think that the pound will fall then they will sell pounds, which is what has been happening recently as the pound is falling against many currencies. This must mean that people do not want to hold pounds, or at least that holding other currencies offers a greater return. The problem in countries such as Hungary, South Korea and Argentina in Autumn 2008 was that so many people were convinced that **the credit crunch** was going to make the currencies fall that they sold the currencies in enormous quantities, and the increase in supply itself pushed the prices right down. As a currency trader you can make money by selling a falling currency and buying it back when it's cheaper, and buying one that's about to rise. It's like a massive casino, as Keynes said – you can make money *if you know what is going to happen*.

A basket of currencies

Although the pound has been strong against the dollar for the past few years and only recently headed downwards, against the euro it has been getting weaker since the start of 2002 as shown in Figure 3.

Many think that the pound will settle in at these lower rates, and most argue that this will be good for exporters. However there are two important issues as to

whether a weak pound is going to improve our trade balance: first, what proportion of exports is sold to countries in which a low pound will give us an advantage? And secondly, how much of our exports rely on imported raw materials, which of course are now costing us more? For both of these questions a trade-weighted exchange rate index is far more useful in helping to predict the impact on trade. We do most of our trade with the EU – almost 60% – and so exchange rates with the euro are more significant than with other countries, such as the dollar which accounts around 17% of our trade. We must factor into our equation the proportion of trade with a country before we can assess how the change in exchange rates will affect net trade.

Do falling exchange rates improve the balance of trade?

How *responsive* are consumers when the exchange rates change? In economics the key measure of responsiveness is always *elasticity*, and the way to apply this concept to exchange rates is using the **Marshall-Lerner condition**.

Alfred Marshall is the economist perhaps most famous for his explanations about elasticity. When elasticity is applied to exchange rates (there are some modifications by Abba Lerner) we get a formula for deciding whether a change in the exchange rate will improve or worsen our net trade. The condition states that, for a currency devaluation to have a positive impact on net trade, the sum of price elasticity of demand for exports and imports must be greater than 1. Look it up on Wikipedia and you will see a complex set of equations, but

essentially, changing exchange rates only affects the balance of trade if people respond to price changes, which clearly they often don't, at least not straightaway.

What about inflation and exchange rates?

It looks as if a floating exchange rate will mean that a country can restore its competitiveness through devaluation. Britain is suffering from inflation at 5.2% CPI and this is higher than its major trading partners. So if people who usually buy British cars start thinking that domestic car prices are becoming expensive, they could buy a more competitively-priced car from another country. If this happens the demand for British cars falls and so does the demand for British pounds. The price of the currency falls and eventually, as this starts to happen in a wide range of goods, the pound will go down. So it might appear that we can 'export the inflation' problem, and some see this as a good reason for having a floating exchange rate – it restores international competitiveness and removes Balance of Payments problems.

But the problem for the UK is that when the pound falls in value its imports become expensive. 40% of everything we buy is imported. So devaluation doesn't *export* the inflation, but actually *causes* inflation. The weaker pound will affect our export prices too because components will become more costly. Devaluation as a way of trying to make a country more competitive can have the reverse effect.

So this 'quick fix' solution of course has its own problems, and many economists argue that we should return to a fixed exchange rate, such as the euro, or even go back to fixing to gold.

Is it time to go back to the gold standard?

The gold standard is a system where a currency has a fixed exchange rate against gold. It is an alternative to having a floating currency, where fickle demand and supply determine the value of our pound. If someone wants to buy a pound, they have to pay the equivalent value of their own currency in gold. If all exchange rates were linked to the value of gold then all exchange rates would be fixed to each other. This is not a new idea, but our several attempts at imposing it have result in misaligned trading patterns, and ultimately break-

down. It is like having any fixed price in a free market mechanism: it causes distortions. *The Wonderful Wizard of Oz* written a hundred years ago is a story which parodies the gold standard with the imagery of a 'yellow brick road' to success, with ounce being 'oz' for short. There had been a run on the banks in 1893 quite similar to 2008's, and it had been followed by widespread unemployment. Similarly when the film of the book was released in 1939 the worldwide recession was coming to an end and it was felt that there was a need to fix currencies for the sake of the war. Today with the evident problems of allowing free markets to do as they will, and the powers of speculation and unstable markets, some economists are arguing for a return to regulations and controls, an end to volatility and some sort of structure. What are the arguments for fixing the currency? Should we follow another yellow brick road?

There are not many people who are convinced by fixing values to gold to stop currencies moving, but you can see the advantages of having exchange rates that do not move when people trade or speculate. Some more rigidity in the economic system might be what we are all now looking for in 2009. Certainly you will not hear much this year of people wanting to let markets just do whatever they will. Unless of course you're one of those lucky traders benefiting from the latest wild fluctuation in the exchange rate.

The pound has been falling sharply against the euro.



3. As an exam tip, you can never be too careful when dealing with changes in direction of exchange rates. Even examiners get it wrong sometimes, as with a major international paper in Summer 2008 with a question that assumed that the increased amount of a currency needed to buy a dollar meant that there was a revaluation. Though rest assured it wasn't the exam board I work for! Can you think of a rule of thumb, which makes it clear that the currency has got stronger?
4. '0% commission finance' is a wonderful marketing tool. Many people really do believe that Marks and Spencer give away foreign currency out of pure philanthropy! You of course know that M&S exists to make profit. So how do they make money on this currency deal?
5. You might be keen on buying some shares now that the financial crisis is over. However when you log onto the internet share dealing service there are shares listed from across the world's stock exchanges. In what way should you take into account the strength of the currency when buying shares from abroad?

Questions for discussion

1. Textbook theory tells us that if interest rates fall then the pound will fall. The argument is based on 'hot money' leaving the country, the supply of pounds increasing and the price falling. Why then do so many who struggle in A Level examinations feel tempted to argue that the pound will rise?
2. When should I buy my holiday money? Visit Google finance and find the trend for the pound against the

Key terms

Euro zone countries – those European countries that have adopted the common euro currency.

Exchange rate – the price of one currency in terms of another.

Exchange rate index – a basket of exchange rates, weighted according to the amount of trade that the countries do in these currency forms.

Forex – a short hand phrase for the foreign exchange market.

Foreign exchange market – where buyers and sellers of currency come together and exchange. This is most likely to happen online, but also happens when you go into a bank or other retail outlet to get foreign currency.

Speculation – the buying and selling of currencies in the expectation that prices will change in the near future.



The North-South Divide

Peter Cramp of Nottingham High School considers geographical differences in economic indicators in the UK.

Do economic data for the UK as a whole hide the fact that ‘the south’ is generally much more prosperous than ‘the north’? There is plenty of evidence to suggest that the highest living standards are to be found in the south, in the shape of a range of indicators including the distribution of income, unemployment figures, life expectancy, house prices and the proportion of youngsters gaining places at elite (‘Russell Group’) universities. However opinions vary widely about where the dividing line between north and south might be drawn. An attempt to take a scientific approach to the issue was made by the Social and Spatial Inequalities Research Group at the University of

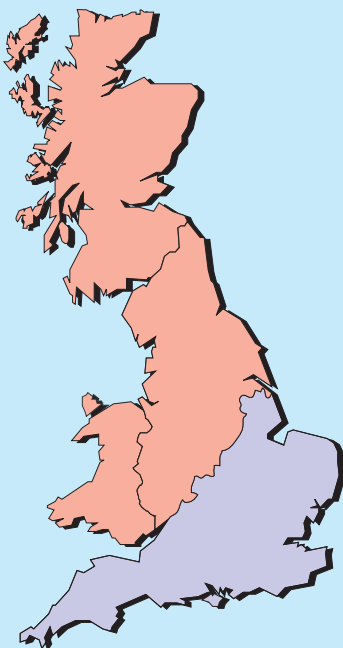
Sheffield in 2007. According to their research, “moving from the south to the north is not a gradual experience”. In other words, it *is* possible to draw a dividing line between the north and south and areas either side of that line have sharply differing characteristics, even where they are only a few miles apart from one another.

The results of the Sheffield University study are shown in Figure 1. The dividing line runs diagonally from Gloucester, ending just below Grimsby. It should be noted that such a division does throw up a few anomalies, however. For example, it puts Hereford in the north while Lincoln – actually 155 miles to the north east – is in the south.

This north-south dividing line takes into account not only economic factors, but also social and cultural differences. This is illustrated by the observation of Professor Danny Dorling, lead of the research group, that areas to the north of the dividing line often vote Labour while those to the south often favour the Conservatives.

Figure 2 gives details of some of the places just to the north or just to the south of the dividing line and identifies some adjacent Parliamentary constituencies.

Figure 1: The North-South Divide



Source: Social and Spatial Inequalities Research Group, University of Sheffield (www.sasi.group.shef.ac.uk)

What are the economic differences between the north and south?

Economists often use income statistics in an attempt to measure living standards. We would expect the north-south divide to show clearly in the regional distribution of income and indeed this is the case, as shown in Figure 3. The most densely-shaded areas are those with the highest incomes, and the vast majority of these are to be found in the south. On the other hand, the map does help to show that drawing a north-south divide involves making generalisations. In reality, of course, parts of the north are significantly more prosperous than parts of the south. Further, pockets of poverty are to be found in the south, most notably in the south west of England and in parts of London.

While income statistics may provide some guide to material

Figure 2: Along the dividing line



the UK is more dependent on the secondary sector of the economy than the south. Over the past decade, the UK has faced strong challenges in this sector from low-cost producers in countries such as China, with its plentiful supply of cheap labour. Meanwhile, the increasing contribution of the service sector to the economy has been to the benefit of southern areas, especially the south east.

Areas suffering from the decline of industries upon which their communities depend have been hit by multiplier effects as those who lose their jobs are no longer able to spend in order to create jobs and incomes for others. Such effects were particularly strong during the recessions of the early 1980s and early 1990s, but have been ongoing as UK industry has struggled to compete internationally.

Economic advantages and disadvantages also tend to be self-perpetuating. Children born to parents with lower incomes are statistically likely to have lower earnings potential than those born into higher income households. Meanwhile, economically prosperous regions are likely to attract inwards migration from those with high earnings potential. There may be a 'brain drain' as the brightest minds of the north seek to further their economic prospects by moving south.

Conclusion – What next for the north-south divide?

It seems at the time of writing late in 2008 that 2009 will be a year of recession for the UK economy. A recession causes widespread pain as incomes fall and jobs are lost. The 2009 recession may hit the service sector of the economy particularly hard, not least those working in financial services, given that a financial crisis comes before the damage to the real economy starts to hit home. Thus the north-south divide may be about to narrow, but, it would seem, for all the wrong reasons!

standards of living, we may wish to supplement them with other data to get a more complete picture. This might extend to examining non-material aspect of living standards by broadening our study to include a range of other data including health, educational and environmental indicators.

The following information from a recent newspaper article provides some interesting numbers:

- ▶ **£265,000** is the average cost of a house on the south coast compared with £159,000 in the north.
- ▶ **54.9 years** is the average healthy life expectancy – the age at which ill-health sets in – in Middlesbrough, against 86 years in Didcot, Oxfordshire.
- ▶ **10 years** is how much younger boys born in Manchester are likely to die than those in Kensington and Chelsea.
- ▶ **90 per cent** of areas with highest rates of emergency hospital admissions due to alcohol are in the north.
- ▶ **75 per cent** of NHS trusts in the north-east were rated excellent or good, but three-quarters were rated fair or weak in the south-east.

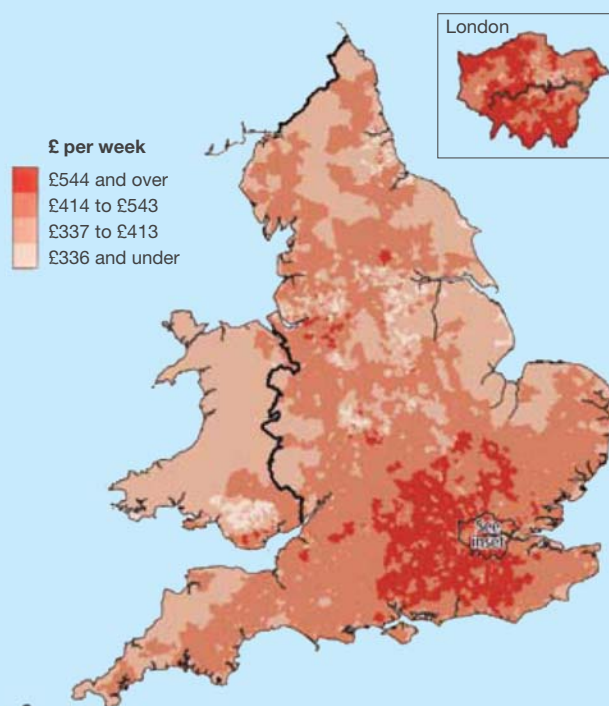
Source: Elizabeth Day, 'North v South', *The Observer*, 28 October 2007.

Further research, data on the differences between regions is readily available from the UK Statistics Authority. The most comprehensive reference source is *Regional Trends* which is published annually and is available online free of charge. The 2008 version can be found by typing www.statistics.gov.uk/RegionalTrends40/ into your web browser.

Explaining the differences

The north of the UK would once have been generally more prosperous than the south when the country's economic strength was based primarily in industry and manufacturing. As a broad characterisation, it remains true that the north of

Figure 3: Average household disposable income by area, 2004/05*



Source: UK Statistics Authority, *Social Trends 38* (2008 edition), www.statistics.gov.uk/downloads/theme_social/Social_Trends38/Social_Trends_38.pdf
*Equivalent household disposable income before deduction of housing costs



Commodity Prices

Andrew Reeve, Head of Economics and Business Studies, King's School, Macclesfield, reviews the recent movement of oil prices and their impact on the global economy.



Brian Clough, the legendary football manager, once said that it was a game of two halves and 2008 was certainly a year of two halves in terms of commodity prices.

Until the summer, commodity prices around the globe were at record high levels. During April 2008, *The Guardian* reported that there was a threat of potential food riots as rice prices hit record high levels. In the four months from January to April 2008, the price of basic staple foods increased by 50% and the stocks of rice fell to their lowest levels for 30 years. By August, the price of rice had risen by 111% since January and the price of a loaf of bread had risen by 30% due to the rising price of wheat. Oil approached \$150 per barrel and analysts reported that a barrel of oil would reach \$200 within a year. Think back and you will recall the prices at the

pumps reaching £1.20 for a litre of unleaded and discussion in the press about £2.00 per litre petrol prices being inevitable.

Three months later and commodity prices had fallen significantly, oil had slumped to \$64 per barrel and across the board commodity prices such as copper and platinum dropped from their summer highs.

This article examines the trends in the prices of various commodities and analyses why these prices have fluctuated so much in the last twelve months. It also examines how the prices of these commodity input prices have impacted on inflation levels within the United Kingdom. It should be noted that this is an extremely dynamic topic and all figures relate to late October 2008 when this article was written.

A well-known index of commodity prices is produced by *The Economist*. Figure 1 shows how the boom in commodity prices in early 2008 came to an end. The index is measured in dollar terms and excludes oil and precious metals. It shows that compared to early July 2008, the index in late October had fallen by 37%. Metals had dropped considerably by almost half since March and countries are now cutting back on the production of commodities such as tin, nickel and copper. The Food index also shows how the prices of basic foodstuffs have fallen dramatically.

Oil – a case study

On 11 July 2008, the price of Crude Brent Oil briefly reached a record peak of \$147.02 before stabilising at the end of the financial day at \$144.49. Three months later in October the price of oil stood at \$62. The falling price of oil was despite OPEC meeting in Vienna on 24 October and agreeing to cut oil production by 1.5 million barrels per day from December.

Christof Ruhl, the chief economist at BP was reported telling a conference in Edinburgh that he could see the price of oil falling to as little as \$50 to \$60 a barrel over the next 18 months before recovering to a mid-range price of \$80 to \$90 in the longer term. These new predictions were contrary to the \$200 per barrel predictions by the Chatham House report in August 2008.

The dramatic rises in oil prices in the first half of 2008 cannot be blamed on one single factor. Here we focus on four issues which can partially be linked to the hike in prices:

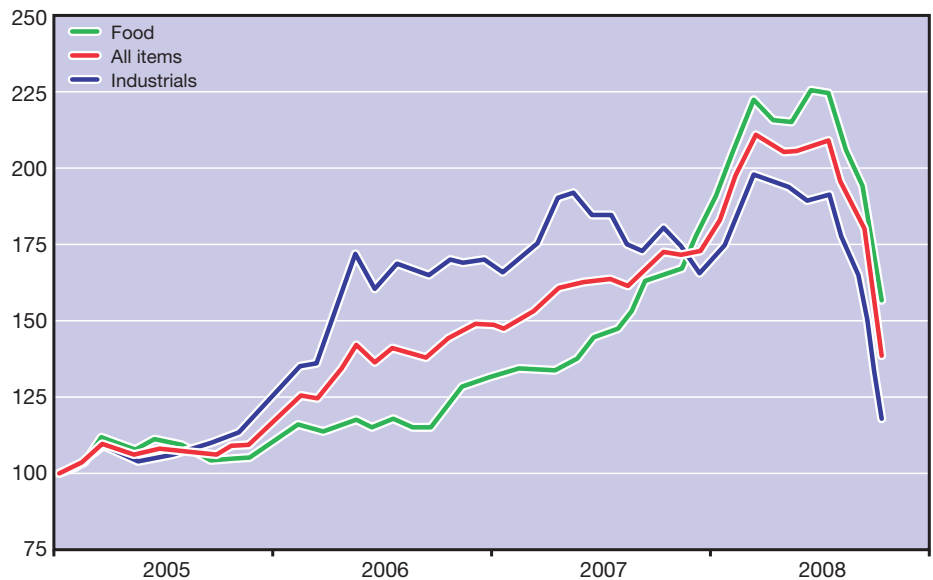
- The weak US dollar
- Supply constraints and the growth in demand
- Geopolitical instability
- Speculation

We consider each of these factors.

► The weak US dollar

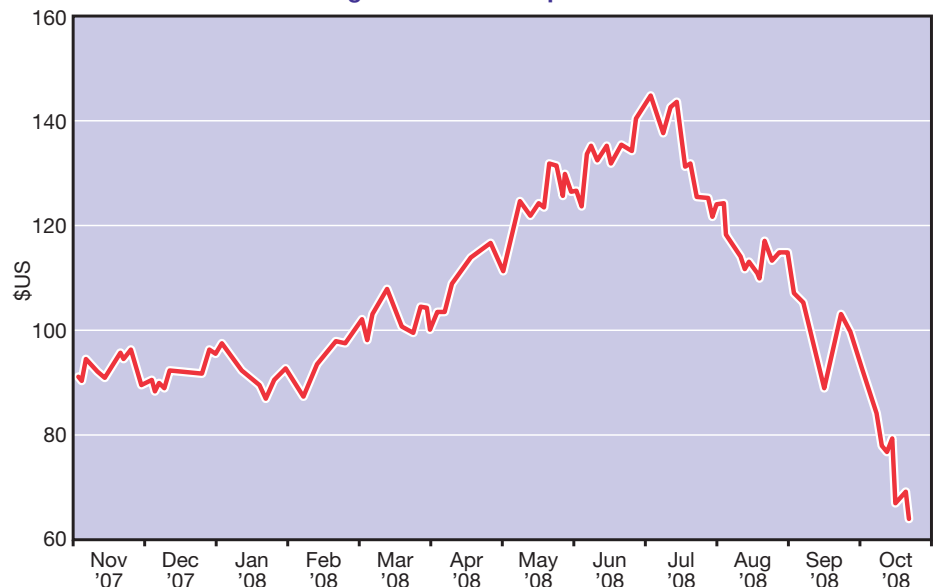
The rise in the price of oil coincided with a fall in the external value of the US dollar. This can be clearly seen in Figures 2 and 3. As oil is traded in US\$, the depreciation in the dollar effectively made it cheaper to buy for other nations and therefore led to an increase in its demand. In addition to this, the falling price in the US\$ also led to financial investors moving out of the dollar into non-currency assets such as oil.

Figure 1: The Economist commodity-price index, January 2005 = 100 (\$)



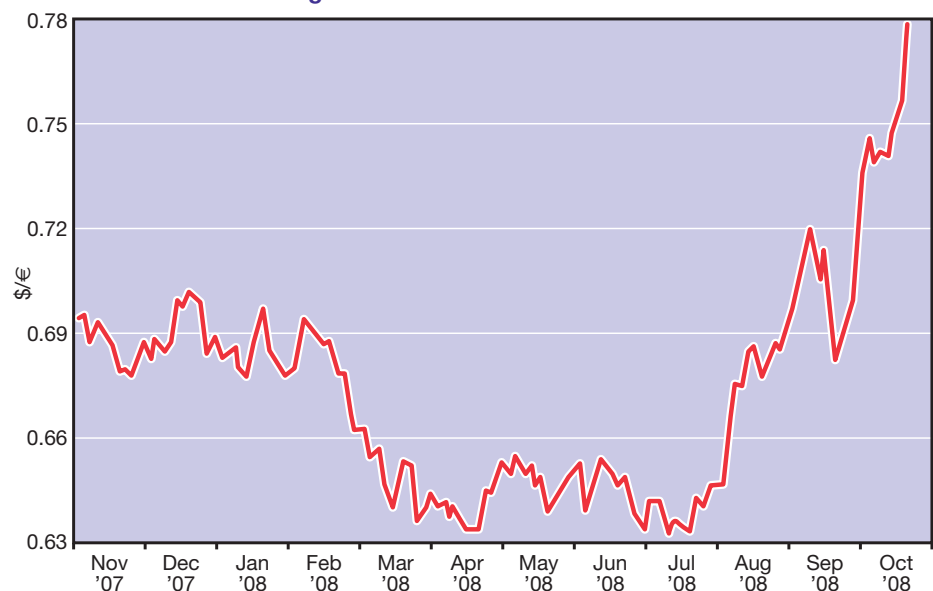
Source: http://www.economist.com/markets/indicators/displaystory.cfm?story_id=12474594

Figure 2: Crude oil prices



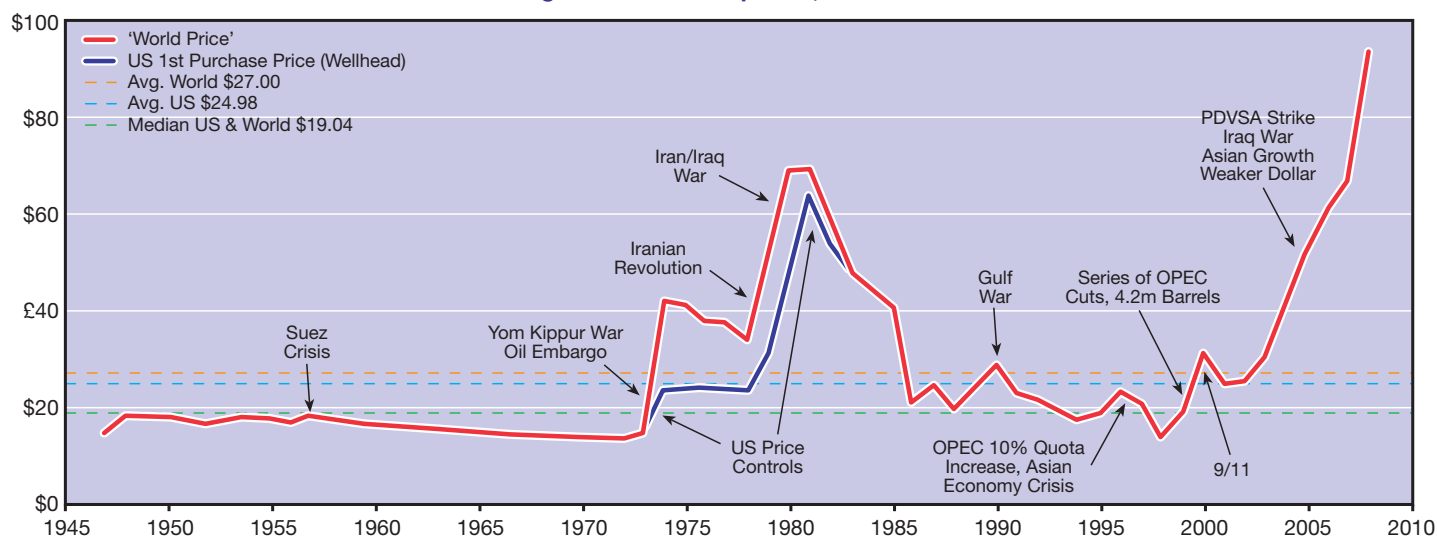
Source: http://newsvote.bbc.co.uk/1/shared/fds/hi/business/market_data/commodities/28696/twelve_month.stm

Figure 3: The Dollar : Euro value



Source: http://newsvote.bbc.co.uk/1/shared/fds/hi/business/market_data/currency/12/13/twelve_month.stm

Figure 4: Crude oil prices, dollars



Source: http://www.wtrg.com/oil_graphs/oilprice1947.gif

► Supply and demand drivers

The issues relating to demand and supply are complicated as the supply of oil is artificially regulated by OPEC. Some oil theorists believe that oil production has now peaked and the global producers of oil are finding it increasingly difficult to keep pace with the demand for the commodity. However, others disagree that this is the case in the short to medium term. What is agreed upon, is that over the past few years the world economy has undergone high levels of economic growth which in turn, has increased the level of demand for oil. The main drivers of the increased demand for oil were China and other developing nations. According to the *World Economic Outlook* report by the IMF, published in October 2008, the projected GDP growth for China in 2008 is 9.7% and 9.25% in 2009. Likewise, India has a projected growth rate in its real GDP levels of 7.9% in 2008 and 6.9% in 2009. There is a growing belief that the demand for oil by the developing world will exceed the demand by the first world economies by 2025.

► Geo-political factors

One of the most significant factors causing short term changes in the price of oil are geo-political concerns. For example, the record rise in the price of Crude oil on 11 July 2008 was partially caused by concerns of Iran testing missiles capable of reaching Israel, combined with a large militant group in

Nigeria threatening to resume attacks on the nation's oil production facilities.¹

The significance of geopolitical events on the price of oil can be seen in Figure 4 showing the price of crude from 1947 to 2008. It can be clearly seen that during any period of political unrest there is a spike in the price of oil.

► Speculation

The price of crude oil today is not made according to any traditional relation of supply to demand. It's controlled by an elaborate financial market system as well as by the four major Anglo-American oil companies. As much as 60% of today's crude oil price is pure speculation driven by large trader banks and hedge funds. It has nothing to do with the convenient myths of Peak Oil. It has to do with control of oil and its price.²

This viewpoint is shared by other observers who also believe that the boom in oil prices did not reflect the true forces of demand and supply. These beliefs are echoed by George Soros, the billionaire investor who stated that:

"speculation... is increasingly affecting the price. The price has parabolic shape which is characteristic of bubbles."³

And the fall...

So what about the dramatic fall in commodity prices, including crude oil? Well it is simply the unfolding of some of

these factors. If you consider the price of the dollar against sterling and the euro it is possible to see a relative strengthening of the currency. Indeed the dollar is strengthening on a global scale and as it does, the relative price of dollar based commodities rises and simultaneously the demand for commodities diminishes as investors buy into the dollar instead, in order to profit from its rising strength. The rising external value of the dollar has affected virtually all commodity prices. For example, gold prices have fallen in recent months due to the falling price of oil and the rising dollar, although the market for gold still remains strong, particularly in India.

In addition to the rising value of the US Dollar, the global economic growth rates are now dropping, particularly in the west. The IMF announced, in its bi-annual *World Economic Outlook* report, that the world economy was entering a major downturn in the biggest financial crisis since the 1930s. The report suggested that global economic growth would slow to 3.9% in 2008 and 3.0% in 2009. The United Kingdom economy was seen as officially shrinking for the first time in 16 years, with GDP figures in late October highlighting that the economy contracted at a rate of 0.5% over the 3rd quarter of 2008.

Across the western world, indicators all point to the onset of recession. The September Retail Sales figures in the United States showed that consumer spending fell 1.2% during the month, the largest fall since August 2005 and the third successive monthly fall in the nation. The United Kingdom unemployment statistics for September showed an increase in unemployment levels by

1. www.guardian.co.uk, 12 July 2008.

2. F. Engdahl, Centre for Research on Globalisation, a Canadian research group, 2 May 2008.

3. <http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/2790539/George-Soros-rocketing-oil-price-is-a-bubble.html>

164,000 people, with the overall figure standing at 1.79 million.

All of this indicated weakening demand for products and this in turn leads to weakening demand for commodities. The US Department of Energy reported in October that the demand for oil in the nation averaged 18.66 million barrels a day, down 8.6% against the same period in 2007.

The *Monthly Oil Market Report* published in October 2008 by OPEC suggests that the demand for oil by OECD nations would fall by 1.81% over the period 2007-2008.

The falling demand in the housing market has also affected the demand and therefore the price of certain commodities. Take, for example, the price of copper, which hit a record high price of \$4.26 per pound in May 2008. This price fell to \$2.05 in futures trading during October meaning that the price of the metal has essentially halved. The reason for this fall is that 46% of the demand for copper comes from the construction industry, according to the Copper Development Association. This fall in price has detrimentally affected the profitability of mining companies, such as Codelco, the world's largest copper producing company which reported a fall in profits of 12% compared to the same period in 2007.

Platinum and palladium have also seen falls in price and this is mainly caused by a downturn in the automotive industry which uses the metals in the manufacture of exhaust systems. Platinum future prices for January 2009 fell to \$1005 an ounce compared to a high of \$2308 an ounce in March, whereas palladium has dropped in price by 48% over twelve months.

Food for thought?

One of the most concerning effects of the global hike in input commodity prices in 2007-2008 is the soaring cost of staple foods. In April 2008, *The Financial Times* had reported that the rising price of basic foodstuffs might trigger widespread social unrest across the developing world after localised riots in Niger, Senegal, Cameroon and Burkina Faso had taken place. This is not surprising when one considers that the price of rice has risen by 111%. By September 2008, the rise in commodity prices had increased the import bill of the poorest nations in the world by 4%



The price of copper has fallen following the downturn in the housing market.

of their GDP. One of the reasons behind the rising cost of food prices is the changing nature of diets in the developing world. As GDP levels increase, populations in many developing nations are changing their diets to a more meat orientated one. This not only places pressure on meat prices but also grain which is used as an animal feed.

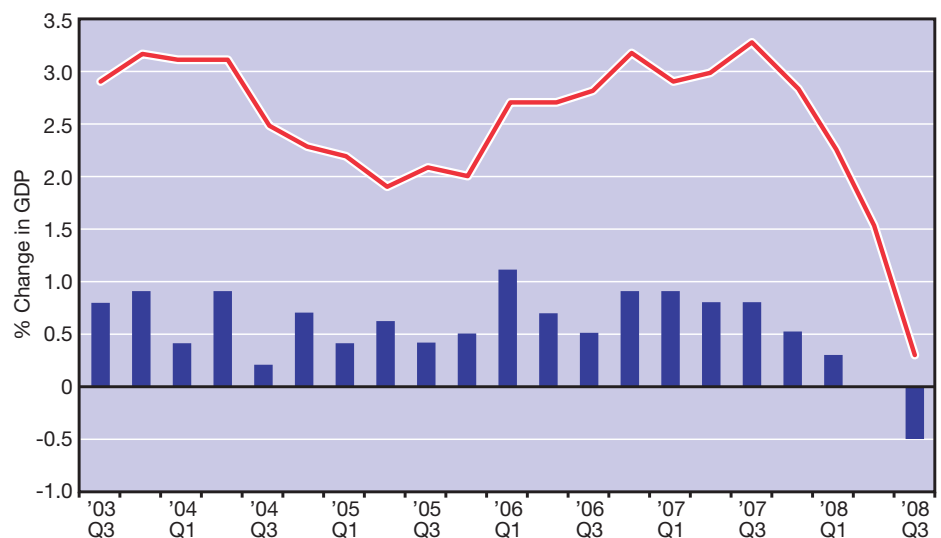
petrol, there were continued rises in the prices of household utility bills such as gas and electricity bills. However, producer price inflation eased to 8.5% in September down from 9.1% in August and Input Price Inflation fell to 24.5% compared to 28.8% in August. Alan Clarke, an economist at Deutsche Bank, said:

Effects on the cost of living?

It is surprising that despite the falling prices of commodities, the United Kingdom reported its highest level of Consumer Price Inflation (CPI) of 5.2% in October 2008, with the Retail Price Index (RPI) rising to 5.0%. Although downward pressure in prices came from the food sector such as fruit, bread, cereals, oils and fats and the oil sector with falls in the prices of diesel and

What the figures demonstrate is that the sharp increase in costs over the last few quarters is still working through to underlying inflation. We expect this process to continue for at least another six months, before the effects of the economy slowing below potential have the opposite effect.⁴

Figure 5: The shrinking UK economy



4. www.ft.com, 14 October 2008, Norma Cohen.

Source: <http://www.statistics.gov.uk/cci/nugget.asp?id=192>

What are the Consequences for the Airline Industry of the Open Skies Agreement?



Stephen Romer reviews the nature of competition in the transatlantic airline market.

In 2007, negotiations were concluded between the US government and the European Commission on an important new trade agreement: the partial deregulation of the transatlantic airline market. The resulting Open Skies Agreement (OSA) came into effect in March 2008. It inaugurated new arrangements which mean that all US airlines are now permitted to fly to any destination in the EU, and all EU airlines are permitted to fly to any destination in the US.

The agreement has also deregulated access to Heathrow Airport (LHR), allowing its use on the transatlantic route by all US and EU carriers. The OSA can be expected to result in more competition on the route between LHR and JFK – Kennedy Airport in New York City. This is because until the implementation of the OSA just four airlines were allowed to operate the world's most profitable passenger air route – British Airways (BA), Virgin Atlantic, American Airlines and United Airlines. Competition for these four airlines came from several so-called 'fifth freedom' carriers (Air India and Kuwait Air) operating flights originating in third countries.

EU-US trade agreements are often difficult to finalise, particularly in the light of the strong protectionist tendencies in the US Congress. The OSA was no exception, abortive talks having taken place intermittently for about 30 years; agreement during this long period was sometimes near but, as in 1999, talks would eventually break down.

The arrangements of 2007, finally agreed with input from George W. Bush, Tony Blair and others at the very highest levels of the governments concerned, are nonetheless merely a temporary agreement. The OSA was accepted by the EU only on the basis of an undertaking by the US that there will be further negotiation by 2010. The EU regards as indispensable a second agreement – an OSA2 – which will do away with current legal restrictions under which EU airlines are prevented from operating internal flights in the US, and which forbid European airlines from acquiring the ownership of a US carrier.

For the critics of OSA (including BA and Virgin Atlantic), the EU gave away too much in the negotiations. The feeling was that inadequate concessions were granted by the US, and that the UK government should have withheld its consent to the OSA – and used its veto in Brussels. The UK and European critics were angry for two key reasons. Firstly, the agreement allows US airlines to run internal flights in Europe, but does not permit European carriers to offer services within the US. Secondly, under the agreement of 2007, European ownership of US airlines is restricted to 25% of the equity and 49.9% of non-voting shares.

It is hoped that an improved agreement in 2010 will ease these legal restrictions. Some of the European majors would like to own a domestic US airline or to set up their own operation in the US to compete on internal routes there. In the second stage of Open Sky negotiations, the objective of the EU is to create an 'Open Aviation Area' in which all restrictions on foreign ownership in the EU-US sector will have become a thing of the past.

An agreement of this nature would indeed be a remarkable development given that the EU and US markets jointly account for well over half of all aviation worldwide. The EU argues that without a 'bonfire of regulation', it is impossible for the airline industry to achieve new efficiency through merger and acquisition activity.

As regards the likelihood that a new agreement (OSA2) will be forthcoming, the EU has an important bargaining weapon at its disposal. Under the 2007 OSA, the Europeans are entitled to suspend the provisions of that agreement if they feel there has been insufficient progress regarding the 2010 OSA2. Specifically, any one EU country's government is entitled to rescind US airlines' access if there is an absence of progress on developing new arrangements which will grant EU airlines the opportunity for more access to the US market.

This would appear to give the EU serious bargaining power since it implies that without a second agreement on Open Skies policy, US carriers could be excluded from the airports of London, Paris or Frankfurt.

What progress has been made regarding OSA2?

By Autumn 2008, it appeared increasingly likely that the US restriction on foreign ownership might eventually be eased somewhat. However, as the OSA2 negotiations developed, it remained unlikely that outright foreign ownership of a US major carrier would be allowed. In the ongoing bargaining, the US offered to raise the 25% limit on equity ownership to 49%. Wanting more, the EU rejected this proposal.

Competition

The economic logic of Open Skies is, of course, the belief that an increasingly competitive transatlantic airline industry will deliver benefits to the consumer, driving down prices, increasing the volume of passenger travel and raising the level of consumer welfare. When agreement was reached in 2007, the European Commission claimed that the OSA would mean the following benefits: (a) transatlantic passenger numbers would increase by 50% by 2013, (b) passengers would make aggregate savings of €15 billion in fares and, (c) 80,000 new jobs would be created.

In the UK, the Transport Secretary asserted that consumer welfare would rise by £250 million per annum as a result of the OSA. And IATA, the trade association of the airlines, forecast 7,000 more seats per week on the London-New York route.

We are accustomed to politicians and businessmen making exaggerated claims on behalf of the policies they put forward, making promises they subse-

quently do not adhere to later. But what about Open Skies? Will it, in reality, lead to the kind of benefits noted above?

Will there be an intensification of competition in the air over the Atlantic? The hallmark of a truly competitive market is price competition. But can Open Skies lead to falling airfares? Specifically, is it possible for the price of an Economy Class transatlantic ticket, already very cheap, to fall any further? Can prices drop – or even stabilise – at a time when costs of production, the price of aviation fuel in particular, have been rising relentlessly?

Barriers to entry

Airline economics on long-haul routes means that profits are made 'at the front of the plane', i.e. from Business Class and First Class fares. In effect, Business Class passengers subsidise ultra-low Economy Class prices. For many observers, the price-reducing impact of new competition, exaggerated by the European Commission and by the UK government, may well be restricted to a limited reduction at the front of the aircraft – with little or no significant impact on the majority of consumers, those who endure the so-called mass market 'cattle class'.

A further point concerns the conditions of entry: as you are aware, textbook competition requires that firms have freedom of entry to markets. Although it is hoped that the OSA will lead to a more competitive transatlantic passenger aviation sector, it is interesting to note that there are barriers to entry to the most profitable routes: specifically, there is the question of access to take-off and landing slots at airports – airports which, like Heathrow, are operating at capacity.

To enter the market, an airline must acquire takeoff and landing slots. If airports are already full up, the only way to achieve this is by bidding up the price of slots to attract them away from other airlines – the existing owners of the slots.

Thus, the financial cost of entry is high. For instance, on the most profitable routes to the US from Heathrow, soaring post-OSA demand has seen the US carrier Continental Airlines pay £100 million for four LHR slots. Only at this cost is entry to the LHR-US market made possible.

However, the incentive to enter the market is very real: other things being equal, transatlantic routes from the UK are profitable, and LHR-JFK has for many years been the most profitable

sector in the entire worldwide passenger aviation market. BA's operations on this route (about 40 flights a day) have been the source of more than half of its profits in recent years.

Supporters of the OSA point to the fact that no sooner had the new arrangements come into effect in 2008 than about 18 more daily departures were taking off from Heathrow to the US. The LHR-US market saw Air France launching flights to LAX, and there were services to Seattle (North West Airlines), Denver (United) and Philadelphia (US Airlines).

At the time of the OSA, Air France/KLM was the proud possessor of 27 LHR slots. These had been used for services to Paris and other European destinations. Reallocating its existing slots to transatlantic routes (ultimately, it plans to compete with BA in the LHR-JFK sector), Air France faced no entry barrier to the LHR-US market.

And what about the British airline, BMI? It had the potential to emerge as a major new LHR-US competitor. After BA, BMI, in possession of 12% of all slots was the second largest LHR slot-holder (BA 40%) when the Open Skies era began. It is interesting to speculate as to just how vast a fortune BMI could have realised by auctioning its slots.

In the event, BMI announced that it would not go down this route, hoping instead to use the slots to compete with BA and others. But questions remain. Would a BMI, or a slot-acquiring newcomer, at LHR be able to compete effectively? Or are there further barriers to open competition? It is worth noting that BA has the enormous competitive advantage at LHR of running its own facilities (Terminal Five), whereas other airlines using Heathrow must come to terms with the fact that the airport is essentially full-up. Specifically, there is a severe shortage of vacant aircraft stands, and a lack of space to introduce dedicated check-in and other passenger facilities.

Rationalisation

In discussing competition in the airline market, we are focussing on an industry whose chief characteristic is that many of its constituent firms are substantial loss-makers. In 2008, total airline losses were expected to amount to an aggregate sum in excess of \$5 billion.

In recent months, the constraints on the airline industry, always an economically precarious business, were

formidable. In the first place, there were soaring oil prices to contend with. In mid-2008, Willie Walsh, the Chief Executive of BA said that his company's fuel bill in 2008 would increase by \$1.8 billion.

And then there is the slowing of the rate of economic growth – and possible recession – in the US, Europe and elsewhere. Naturally, this is a development likely to cause a slowing in the rate of growth of demand for air travel. According to IATA annual growth of passenger air travel had, by mid-2008, fallen to a mere 1.9%. This situation illustrates a gloomy environment reinforced by the fact that activity in the air freight market had actually been falling.

The price of a barrel of oil peaked in July 2008 at \$147. But despite the post-July 2008 fall, the average oil price in 2008 was expected to be significantly higher than in 2007 (\$73). In the air in 2008, the extent of the knock-on impact of oil prices on firms' costs was indicated by the fact that jet fuel now constituted well above one third of airline industry costs of production. As recently as 2002, fuel was about 13% of industry costs.

Assuming an average daily price of oil of \$113, mid-2008 saw an IATA forecast that, worldwide, the industry would lose \$5.2 billion in 2008. And with oil at an assumed average price of \$110, losses will be \$4.1 billion in 2009. With adverse forecasts of this magnitude, it is clear that the organisation of the airline industry will have to change as otherwise its very survival is threatened.

BA-AA

"I'm leaving on a jet plane," sang Peter, Paul and Mary years ago. "I don't know when I'll be back again." Why not? In 2008, it would be because by the time I go to the airport to make the return flight, there is a significant probability that my airline will have gone bankrupt.

Indeed in 2008, 25 carriers had already gone out of business by August. Grounded airlines included the Canadian operator Zoom, the Business Class-only transatlantic outfit Silverjet, Oasis (of Hong Kong), XL (Iceland) and Aloha (US).

National flag-carriers were not immune: in August, Lufthansa rescued Brussels Airlines, the successor to the Belgian national airline, Sabena. And the bankrupt Alitalia, the Italian standard bearer filed for administration.

But what was particularly interesting as the OSA came into force in 2008 was

what Open Skies would mean for an industry embroiled in a crisis of soaring costs, heavy losses and widespread bankruptcy. Many observers shared the view that the coming of the OSA in 2008 could be expected to trigger off a number of mergers among airlines, an inevitable rationalisation of a troubled industry.

Take for example Iberia of Spain. Prior to the OSA, only a Spanish-owned airline was permitted to fly from Spain to the US. The ending of this restriction helped to encourage BA's interest in acquiring Iberia.

And in August 2008, Iberia figured in BA's announcement of plans to form a major new alliance, one which would also involve American Airlines (AA), the second largest US passenger airline. BA-AA-Iberia: it's an alliance which will co-ordinate fares and integrate schedules... if the competition authorities in Brussels and Washington DC give it the green light.

As a matter of fact, this is the third occasion upon which BA and AA have tried to obtain permission to integrate in this way. Earlier plans in 1997 and 2001 failed to satisfy the anti-trust authorities. In 1997, the OFT had called for BA and AA to give up a total of 168 take-off and landing slots as a condition for the granting of permission for their alliance.

And in 2001, the proposals fell through when the European Commission's Competition Directorate imposed slot-divestment conditions, unacceptable to the airlines: BA and AA would have had to relinquish 32 LHR slots before permission would be forthcoming.

The dominance of routes was the chief factor leading the competition authorities to reject the previous attempts to bring BA and AA together. The slot-reduction conditions – too high a price to pay, said the airlines – were designed to prevent BA and AA consolidating their LHR monopoly. Selling slots to rivals would ensure competition survived, said competition policy makers.

Arguing in support of today's revived BA-AA alliance, the parties say that the introduction of the OSA means that the whole business environment has changed. Specifically, BA points out that the post-OSA introduction of numerous transatlantic flights by rival airlines confirms that the proposed alliance (and a full BA-AA merger after 2010?) no longer implies a threat to competition.

By August 2008, nine airlines were operating the LHR-JFK sector, up from



Terminal 5 at Heathrow: An alliance between BA, American Airlines and Iberia would give them 50% of all 'slots' at Heathrow.

four pre-OSA. Thus, argues BA, the basis of the earlier rulings blocking the alliance is no longer of any relevance whatsoever: the OSA ensures that there will be competition on transatlantic routes, including those from LHR.

This viewpoint is nonsense, say BA's critics, including Sir Richard Branson the head of Virgin Atlantic, an airline which competes directly with BA and AA on the LHR-JFK route. Branson responded to the news of the revival of plans for a BA-AA tie-up by characterising it as a "monster monopoly" which would be bad for competition. He said that the alliance, if allowed to proceed, would mean higher prices and a reduction of choice for consumers. Why?

BA and American would have a combination of a transatlantic network that could not be replicated, and a frequent flyer programme that would make it impossible for other carriers to compete for time-sensitive corporate or business travellers. The alliance partners will be able to use their leverage on routes where there is little or no competition to tie in consumers on routes where there are plenty of other alternatives.

Richard Branson as quoted in the *Sunday Times*, 17 August 2008.

These observations are reinforced if we note that in 2008 BA, AA and Iberia had, between them, almost 50% of all slots at LHR, and operated almost two thirds of all LHR-JFK flights. Moreover, the BA-AA combined market share on other LHR-US routes was already dominant in 2008: LHR-Chicago 66%, Boston 80%, Miami 75%, LAX 50% and Dallas 100%.

Naturally, BA-AA reject the views of critics of their plans. They say that their coming together is designed to offer a better service to passengers and greater consumer choice. If, as separate entities, BA and AA were to collude on prices, flight schedules and other tactics, they would be in breach of competition law and would, in consequence be subject to a severe punishment (recall that BA was fined more than half a billion dollars in 2007 following exposure of collusion with Virgin Atlantic on passenger fuel surcharges). On the other hand, if an alliance were allowed, integration of the respective schedules and pricing would go ahead, paving the way for a more efficient service.

Desperate times call for desperate measures

In the US in 2008, there were several interesting events taking place. Firstly in September, Jet Blue (the 8th largest US carrier) resorted to auctioning seats on

ebay. The seats put up for sale sold at an average price 40% below the normal rate. Secondly, most domestic US airlines resorted to charging passengers for each suitcase checked in, and charging for in-flight food and water (\$2 a small bottle being the standard rate). Thirdly, the number of routes offered was cut back in an emergency attempt to make savings. The five largest airlines together cut domestic capacity by at least 10%. And fourthly some well-established airline names were disappearing: North West Airlines (the 6th largest US carrier) was acquired by Delta Airlines (the 3rd largest) to make Delta the world's largest airline (with annual revenue forecast at about \$32 billion). These developments suggested that only the strong can survive in the long term. Hence global alliances of airlines appear to promise to facilitate such strength. Alliances integrate their services and compete forcefully on both long and short-haul routes.

BA, AA and Iberia are already part of the One World Alliance of ten airlines. On many routes, One World jockeys for position with the Star Alliance (Lufthansa, United Airlines and others) and Sky Team (Delta, Air-France-KLM *et al*).

In the Open Skies era, we can foresee these alliances furthering their dominance on routes between the major cities of the US and Europe. In 2008, the

Star Alliance (European hub in Frankfurt) had a 28% share of the transatlantic market, Sky Team (Paris and Amsterdam) had 27% and One World (LHR) 21%.

If as seems increasingly the case in the transatlantic market, go-it-alone small airlines (Zoom, Silverjet) and traditional national flag carriers (Sabena, Alitalia) face bankruptcy, it looks increasingly as if the market structure will be one characterised by competition between a handful of giant airline alliances.

But what is unfair, says BA, is that it is a transatlantic market in which both Star Alliance and Sky Team have been granted anti-trust immunity by the competition regulators in the US. Surely, say BA and AA, that is a precedent which should be extended to us.

There may well be a degree of logic in this, and one might feel reasonably safe in assuming that the BA-AA link-up will – eventually – get the green light.

As for Alitalia, it does not take the powers of deduction of a Sherlock Holmes to figure out the reasons for its downfall. Why was Alitalia one of the least popular airlines? *Elementario*, my dear Watson. Alitalia? It stands for Always Late In Takeoff, Always Late In Arrival.

Questions for discussion

1. What is the Open Skies Agreement of 2007? What economic logic lies behind its introduction?
2. What does the OSA hope to achieve? Can these objectives be fulfilled?
3. "For the OSA to succeed, the government must override all objections to the building of a third runway and a sixth terminal at Heathrow." Discuss.
4. Consider Richard Branson's quoted objections to the proposed BA/AA alliance. Should the alliance be permitted under competition policy?
5. "The Open Skies Agreement of 2007 will mean 26 million more air passengers by 2013, according to the EC. It will mean more than 15 million tonnes of additional CO₂ emissions. Thus transport policy and environment policy cannot be compatible." Discuss.
6. Describe the structure of the transatlantic airline industry both pre- and post- the Open Skies Agreement.



Only the strongest airlines will survive in the long term.

Summary of key points

- ▶ Under the new EU-US Open Skies Agreement, the transatlantic aviation market has been partly deregulated.
- ▶ A second stage OSA is under negotiation, aiming to remove restrictions on European ownership of US airlines.
- ▶ The EU claims that the OSA will benefit consumers through lower fares but existing economy fares and soaring costs suggest limited scope for price cutting.
- ▶ Access to slots in overcrowded airports may further limit the competitive impact of the OSA.
- ▶ The new environment has seen the revival of proposals for a BA-AA alliance.



Data Supplement 2009

Stephen Romer

Statistics in Crisis

As a student of Economics, you spend your time looking at inflation and unemployment, economic growth and the balance of payments, investment and output. What is fascinating is that these are all real world variables for which statistical data is compiled and published: the rate of inflation and the number of people unemployed, the rate of growth of the economy and the size of the balance of payments deficit, investment as a percentage of GDP and the value added to output in industries.

All of this information is available. In the UK, the task of collecting and publishing the official statistical data is in the hands of the Office for National Statistics (ONS). Since April 2008, the new UK Statistics Authority has had the job of overseeing the quality of ONS data. This follows a period of controversy about the reliability of some of the ONS data, controversy which has served to undermine the credibility of some of the output of the official statisticians.

Further recent damage was done to the status of official statistics when the government imposed a 14% cut in spending on the ONS. In 2007, 700 redundancies were necessitated, and the scope of the work of data collection and publication had to be reigned in.

The Bank of England made clear its concern at the alarming news that, following the cuts, the ONS felt obliged to reduce the extent of its annual updating of the National Accounts. And the Statistics Commission (forerunner of the new Statistics Authority) said that “announcements of cuts in sample sizes, reduced data validation and frequency of statistical outputs are seen as worrying signs by both the Commission and by users of statistics”. (*Financial Times*, 10 July 2007.)

To make matters worse, a simultaneous cost-cutting government relocation scheme meant that the ONS and its 1,200 staff was obliged to move lock, stock and barrel from London to Newport in South Wales. In 2007, the House of Commons Treasury Committee reported that the move was “inadequately planned” and that there was “considerable evidence that the relocation programme... poses risks to the quality of statistics provided by the ONS”. Loss of valuable members of staff was at the basis of these fears. (*Financial Times*, 23 July 2007.)

Major Statistical Publications

The current concern about the quality of official data implies that there is a kind of ‘health warning’ we should be aware of when we use ONS data. But let’s put that aside for the time being while we make a note of the major statistical publications.

For macro economic analysis, one turns to the *United Kingdom National Accounts*, also known as the *National Income Blue Book*. Here you will find GDP data set out according to the income, expenditure and output methods of calculation. Further economic statistics can be found in the monthly *Economic Trends*, *Economic Trends Annual Supplement* and the *Pink Book*. The latter supplies information about trade and the balance of payments – its formal title is *The United Kingdom Balance of Payments*.

If you are interested in such sociological (and applied economic) questions as education, health, crime, the environment or travel, the annual *Social Trends* is an important source of data. It is a comprehensive statistical account of these and other aspects of the contemporary environment, appropriately described by the ONS as “a portrait of Britain”.



Like *Social Trends*, another major annual data source, *Regional Trends*, has been published for more than 30 years. It carries economic and other data for the nine regions of England, and for Scotland, Wales and Northern Ireland.

When you sit down at your desk to write an essay or prepare a presentation, there is often an EU dimension to your research. Fortunately there is no shortage of European data. Eurostat is the European Commission's statistical agency, and it provides a wide range of European economic and other statistics at <http://epp.eurostat.ec.europa.eu>.

In the UK, the ONS also publishes *Economic and Labour Market Trends*, a monthly account of the UK labour market. Then there is *Travel Trends*, a report based on the International Passenger Survey, an attempt (widely criticised) to count entry to and exit from the UK. *Population Trends* is a quarterly journal: it includes articles on such demographic and social matters as migration, marriage and co-habitation. And *Health Statistics Quarterly* covers a range of statistics on birth, death, illness and the health of the UK population.

Having looked at this long list of data publications, you may be wondering, quite frankly, what is the point of it? What is the value of statistics to society? How are the statistics produced? What are they used for? If you *are* asking questions of this nature, you must turn immediately to ons.gov.uk/about/our-statistics where each of these questions is dealt with.

Interpreting Data

It is important to bear in mind when interpreting published data such as that supplied by the ONS that the statistics you are looking at may well have been collected on the basis of *sampling techniques* – not full surveys. It will mean that the sample results are accompanied by a statement of the *sampling error*. A familiar example is when there is a report in the media that if a General Election were to be held today, the vote for a particular party would be 35% *plus* or *minus* 3%.

Sampling is used in data collection when the parent *population* (i.e. the whole group about which we are trying to compile statistics) is too large for a full survey to be practical. You cannot survey *every* voter in the country when conducting a political opinion poll; you cannot observe every firm in the economy when compiling an industrial survey; you cannot record the spending habits of every consumer in the market when undertaking market research.

Instead, a *random sample* of the population is taken. The statistician assumes that the use of random methods in the selection of sample membership will mean there is a high probability that the make-up of the sample will, in microcosm, reflect the characteristics of the parent population. Thus, the voting intentions or investment plans or consumption patterns of random samples of voters, firms or consumers will amount to a close approximation of these characteristics among *all* voters, *all* firms or *all* consumers.

Thus, sampling is a practical, cheap and efficient statistical method. But why is it necessary for a margin of sampling error to be stated alongside the results of sample surveys? The point to keep in mind is that there is an ever-present chance that the composition of a random sample will carry an element of *bias*. And it is this possibility which necessitates that any statement of sample results is hedged by citing a margin of error.

Suppose, for example, that a population of 1,000 people had a 50:50 male:female make up. Having drawn ten names out of the hat at random, you *might* have five women and five men in your sample. In practice, however, you would not be very surprised to find a six:four divide – or even a seven:three breakdown.

To reduce the hazards of this sort of chance bias in the sampling, it is important that samples are not too small: the smaller the sample, the larger the sampling error. National political opinion polls invariably canvass the views of more than 1,000 voters – any sample much smaller than that would imply too large a standard error, one which would render the results largely meaningless.

Stratified sampling methods are a further safeguard: if you are planning a survey, a stratified sample is a good way to make sure that the proportionate distribution of the major population characteristic – 50:50 male:female in our example – is accurately reflected by the make-up of the sample.

To ensure that our random sample of 10 items has the appropriate male:female composition, we stratify the sample, drawing 5 males at random from all males in the population, and 5 females from all females.

Unfortunately however, taking this precaution does not eliminate bias completely. And here is the reason why: behind the 50:50 male:female stratification of the population, there are endless sub-strata. Suppose 20% of the women in our population are over 60 years of age, 80% under 60. Of those over 60, 30% are in employment. And of the women over 60 in employment, 40% earn the national minimum wage. And of those... In practice, the statistician cannot guarantee that all of this detail will be precisely reflected in the composition of the sample.

A further interesting variation on these themes concerns the kind of survey where we do not have a definitive account of the population. With a political opinion poll, the electoral register provides a list of all members of the population. It's a list of every person entitled to vote. It is our *sampling frame*.

But what about a market research survey looking into, say, the opinions of consumers of chocolate? Suppose that a firm was launching a new product in the chocolate market, and it did not know what shape its new chocolate bar should be: would consumers prefer the countline (like a Mars Bar)? Or would they favour a slab (like Cadbury's Fruit and Nut)?

The trouble is no sampling frame is available: you cannot go to the library and consult a concise list showing the names and addresses of all consumers of chocolate bars in the country – a list comparable to the electoral register, one from which we could draw the random sample needed in our market research.

Instead, we will have to draw on our experience and intuition. We think that 80% of chocolate purchasers are women, a quarter of whom are students. A crude method known as *quota sampling* will be used. We instruct our enumerators to go into shopping malls and canvass the opinions of 80 chocolate-eating women including 20 students.



The Expenditure and Food Survey

What about sampling methods and the collection of official data? An interesting example is to be found in the annual Expenditure and Food Survey (EFS) published by the ONS. The objective of the EFS is to find out how people allocate their expenditure across all the goods and services available in markets.

For the EFS, approximately 12,096 UK households are randomly selected. But as opposed to a *simple random sample*, the EFS is a *multi-stage sample*: the first stage is to take a random sample of 672 postal code areas chosen from all postal code areas. And then, from the sample of postal codes, a random sampling of addresses is made.

The EFS sample is also *stratified*: in order to minimise systematic bias in the survey, it is important to avoid the over- or under-representation of households defined in terms of regional and socio-economic factors. For instance, if 10% of all households in the country are located in rural areas, then stratification ensures that 10% of all households in the sample will be drawn (at random) from rural locations.

The EFS is based on meticulous sampling techniques, but that is no guarantee of a high response from households selected for sample membership. In fact, the response rate is usually little more than 50%. And in the 2006 EFS, only 5,927 of the 12,096 households in the sample participated fully, and a further 131 respondents supplied incomplete returns with only some useable information.

Why is response this low when participation is not an arduous task? If your household happens to be chosen for the EFS, everybody aged 16 or over is asked to keep a detailed diary for two weeks, an account of daily expenditure (children have a simplified diary to write up). The EFS covers one calendar year, and respondents also record periodic payments (rent or mortgage outgoings, poll tax, utility bills) as well as any one-off items of expenditure (holiday, new car or washing machine) during the year.

This Survey plays an important role in official statistics in general. For fifty years, the EFS and its forerunner – the Family Expenditure Survey (FES) – has provided the raw data for the weights used in the construction of the RPI. It is also an invaluable source for various aspects of other official statistics, including the National Accounts.

By the time of the 50th anniversary publication of the EFS in 2007 (reporting the 2006 Survey), the EFS/FES had, cumulatively, surveyed 320,000 UK households. The 2007 edition of the EFS (www.ons.gov.uk) celebrated the 50th anniversary by including a fascinating account of how UK household expenditure patterns have evolved since 1957.

It shows, for instance, how spending on food and beverage items would, once upon a time, dominate the budget of the typical household. However, by 2006, indicative of the extent of the increase in the UK standard of living over the last half century, the only food-related entry in the top ten items of household spending was meals eaten out in restaurants, a very income elastic form of consumption.

Shortcomings in Published Data

The small size of a sample can make published statistics controversial: when the sample size is inadequate, survey conclusions lack credibility. But there are other potential flaws in published data about which we – the users – should be wary. As we have noted, the ONS has been in the news recently because the accuracy of some of its data has been questioned on an increasingly frequent basis.

For instance, the September 2008 ONS figures on retail sales volume provoked controversy – and not for the first time. The published numbers showed a revival in activity in the retail sector with sales volumes up in August by 1.2% over July, and up in August by 3.3% over August 2007.

As for the retailers themselves, however, the reality was completely different: against a background of stalled economic growth, fear of recession and a collapse in consumer confidence, the economic environment of retailing in August 2008 was worse than it had been for many years. Thus, it was baffling for the shopkeepers to be informed by the statisticians things were going rather well.

And what about the official data on prices in the retail sector? As you will be aware, an important feature of the present economic environment is the sudden upsurge in food inflation: the era of cheap food is over, say the headlines. In this regard, the job of official statistics is to present an accurate account of the extent of food inflation. Everybody is asking, at precisely what rate of increase are food prices rising?

In May 2008, the ONS published figures that showed food inflation running at an annual rate of 6.6%, far in excess of the overall rate of inflation in general. But was 6.6% correct as a measurement of the annual rate of food inflation



at that point in time? It seemed plausible to the disinterested onlooker... but, as with the retail sales numbers, some of the practitioners in the retail sector were unconvinced by the official account of food prices.

Rejecting 6.6% out of hand, the Chief Executive of Sainsbury's claimed that the true rate of food inflation was a mere 2%. He said that the ONS had used inappropriate methods of data collection: it had failed to understand the "sophisticated nature" of food retailing.

Specifically, the ONS had based its methods of data collection on too small a range of food items, said Sainsbury's boss. Worse still, the ONS had completely overlooked the price-reducing impact of supermarket discounts, vouchers and buy-one-get-one-free promotions. This amounted to a serious flaw in statistical methods for the simple reason that discounts applied to about one third of all supermarket food sales – they acted as a major constraint on food inflation.

As you can see, the world of official statistics can be a surprisingly controversial one. And it is not only a matter of disputed retail prices or sales volumes. In recent times, the accuracy of GDP data has been questioned by the Bank of England, and the Governor of the Bank (among others) has complained about the inadequacy of the immigration statistics.

And then there is housing data: things went from bad to worse for the official statisticians in August 2008 when a three-year run of housing numbers supplied by the ONS to HM Revenue and Customs had to be withdrawn – HRMC's own statistical experts had found inconsistencies in the data.

But the episode that, arguably, inflicted most damage to the credibility of official statistics in the UK recently was a House of Commons Treasury Select Committee report entitled 'Counting the Population' (May, 2008). The Report found fault with official population data: it observed that the quality of ONS data on migration and population was unreliable, and its improvement was an urgent priority.

The UK Statistics Authority

As we have noted, UK official statistics have been widely attacked for their lack of credibility. But what are the authorities doing to repair the situation? What steps is the government taking to restore the necessary unassailability to the official figures?

April 1st 2008 was an important date in this regard. It was the day when a major new agency, the UK Statistics Authority (UKSA), opened for business. The UKSA was set up as a publically funded independent body answerable to Parliament. Its remit is "to promote and safeguard the quality of official statistics that serve the public good". It must "safeguard the comprehensiveness of official statistics, and ensure good practice in relation to official statistics".

The new UKSA has responsibility for the oversight of the ONS. Soon after its launch, it began publishing (www.statisticsauthority.gov.uk) a succession of 'Monitoring and Assessment Notes'. These are reports on the 'factual correctness' of official statistics, and they will give (or withhold) a seal of approval to ONS statistical methods. It is hoped that, in turn, this will help to restore the definitive status to published data. If all goes to plan, eventually the kind of controversies noted above will become an increasingly distant memory.

To explain its role, the UKSA put out a press release:

"The level of trust in official statistics is currently very low in Britain, recognised by the government in setting up the independent Statistics Authority with all-party support in both Houses of Parliament. A recent survey released by the ONS... found that only one in five people think [official] figures are compiled without political interference. The UK came 27th out of 27 in a recent survey within European countries of trust in their governments' statistics."

UKSA press release, April 2008

Never has the world of official statistics been more exciting than in 2008. And as regards topical disputes about the accuracy of the ONS data on the retail sector, the UKSA's very first Monitoring and Assessment Notes (entitled 'The Volatility of the Retail Sales Index') called for future ONS monthly retail sales data to be accompanied by explanatory notes regarding survey methods. Also, the underlying trend in retail sales should, in future, be published alongside potentially misleading month-to-month changes, said the UKSA.

By far the most important task for the new agency, however, is to take action on the crisis in immigration and population statistics. Over the last few years, almost literally *everybody*, from the Governor of the Bank of England down to the humblest university research assistant, has complained about the lack of quality in the population data.

In this period, the ONS has emerged as the Millwall of government agencies: no one likes us, but we don't care. In dramatic contrast, however, the new UKSA immediately got stuck into the task of finding satisfactory methods of delivering the kind of accurate data that Mervyn King and others have been crying out for.

At the outset, the UKSA announced the setting up of two major reviews on migration statistics – reports due in 2009. The UKSA also spelt out plans to promote better sharing of migration-related data between government departments. The point is that plenty of data *is* collected already, but there is a job to do in terms of connecting the dots: in the

absence of what is sometimes called 'joined-up government', it has not been the practice to compile comprehensive migration data from these existing sources.

For example, a set of records known as the Migrant Worker Scan is kept by the Department of Work and Pensions. This means it has up-to-date information on foreigners allocated a UK National Insurance number (in order to take employment or go on the dole). Meanwhile, in the hands of another government department, the Department for Children, Schools and Families, there resides a Schools Census which records, among other facts and figures, numbers of immigrant children in each municipality.

Put these two sources (and others) together and an invaluable up-to-date register of immigration begins to emerge. It's clear why the limited use made of existing sources has come to be seen as a remarkable failure in demographic statistics.

On this theme, the Commons Treasury Committee's 'Counting the Population' went as far as to make the startling recommendation that the next ten-yearly Census of Population, due in 2011, should be the last of its kind. It was argued that there is no longer a need for the traditional Census with its census forms to fill in (and troublingly low response rate) given that the wide variety of existing data sources could – if only they were efficiently co-ordinated – provide the basis for the publication of high quality population statistics on an annual basis.



Data Presentation

(a) Tabulation

When you turn to a major compendium of official statistics such as the *Monthly Digest of Statistics* or *Economic Trends Annual Supplement*, you tend to find lengthy runs of data set out in tables. Table 1 provides an example of a tabulation of time series data. It offers selective coverage of the UK labour market over the last decade or so.

Tabulated data can supply much detail on a concise basis. In Table 1, the number of Workforce Jobs shows the size of the labour market expanding rapidly (almost three million more jobs) in this relatively short period. Output Per Worker measures labour productivity, but the tabulated data on this variable suggests limited scope for generalisation.

The rate of change Unit Wage Costs (column 3 of Table 1) is an indicator of the competitiveness of the economy (other things being equal). The tabulated unit wage costs would appear to trend downwards in the decade to 2007, as does Claimant Count Unemployment (final column of Table 1), falling well below the one million threshold after 2001.

Table 1: The UK Labour Market: Jobs, Productivity, Labour Costs and Unemployment, (1997 to 2007)

	Workforce Jobs (000s)	Output Per Worker (Whole Economy) Annual % Change	Unit Wage Cost (Whole Economy) Annual % Change	Unemployment Claimant Count (000s)
1997	28,705	1.6	2.5	1,602.4
1998	28,835	2.7	3.7	1,362.3
1999	29,165	2.2	2.1	1,263.0
2000	29,604	2.7	2.7	1,102.3
2001	29,923	1.4	3.8	983.0
2002	30,078	1.1	1.2	958.8
2003	30,375	1.9	1.9	945.9
2004	30,683	1.7	2.0	866.1
2005	31,040	1.1	2.3	874.4
2006	31,294	2.0	1.7	956.7
2007	31,536	2.3	1.7	873.0

Source: ONS

Table 2: UK Inflation: CPI and RPI, 1997 to 2007

	All Items RPI (1987 = 100)	CPI (2005 = 100)
1997	157.5	89.7
1998	162.9	91.1
1999	165.4	92.3
2000	170.3	93.1
2001	173.3	94.2
2002	176.2	95.4
2003	181.3	96.7
2004	186.7	98.0
2005	192.0	100.0
2006	198.1	102.3
2007	206.6	104.7

Source: ONS



(b) Graphs

Statistical data invariably seems more interesting when you look at some form of pictorial presentation of the basic tabulation. Here, the simplest approach is to draw a graph. Graphs may help to throw light on the extent of trends, and to draw attention to possible relationships between variables.

Figure 1: UK Unit Wage Costs, annual percentage change, 1997-2007

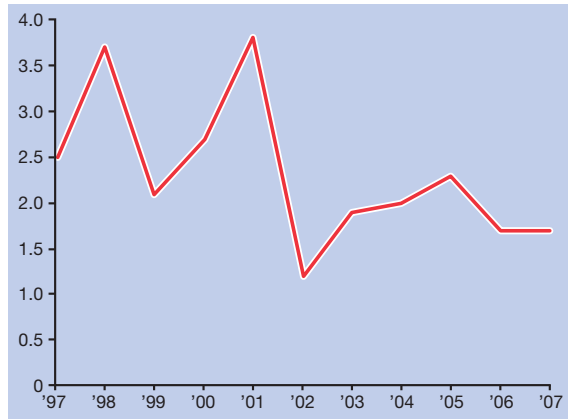


Figure 2: UK Unit Wage Costs (annual percentage change) and Claimant Count Unemployment (million) 1997-2007

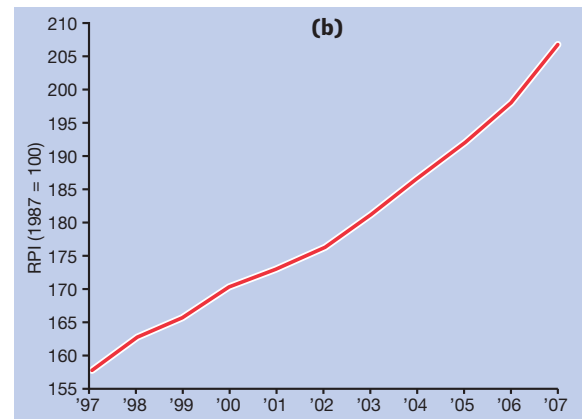
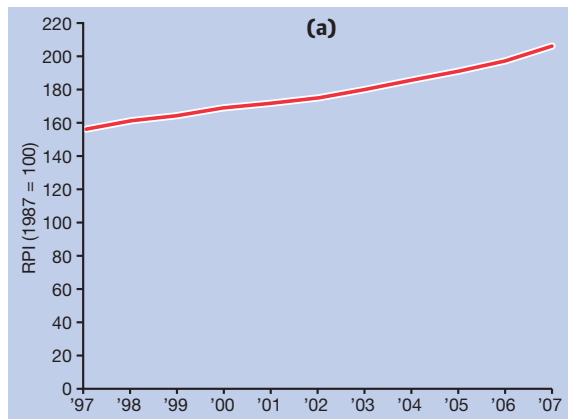


Figure 1 indicates the direction of unit wage costs in the UK over the last decade. And Figure 2 compares unit wage costs with unemployment.

When you glance at a graph like Figure 2, it is unwise to rush to judgement about the statistical relationships it might seem to be revealing. Specifically, it is inappropriate to jump to conclusions about causation. Just because both unit wage costs and unemployment are falling in our graph, it does not mean that changes in one variable (wage costs, say) have caused the changes in the other variable (unemployment). In this example, the predominant cause of falling unemployment is probably increased aggregate demand – a variable extraneous to our graph.

Another point to bear in mind in presenting data in graphical form relates to the use of the axes. Custom dictates that the independent variable (usually time, as in Figures 1 and 2) occupies the horizontal (or X) axis. The dependent variable – unit wage costs, unemployment – is assigned to the vertical (Y) axis. Too large a scale on the Y axis can have the effect of exaggerating the apparent rate of increase or decrease in a variable. Consider Figure 3(a) and (b): what's wrong with 3(b)?

Figure 3: Consumer Prices (RPI)



(c) Bar Charts and Pie Charts

Pictorial presentation is sometimes more effective when we present data in the form of bar charts and pie charts. As you can see from Figure 4 and Figure 5, the construction of these diagrams is largely self-explanatory. The magnitude of each component of a series is represented by the height of its bar in the bar chart – or by the size of its proportion of the circle which comprises the pie chart.

Figure 4: % of Weekly Household Expenditure in the UK, 2006

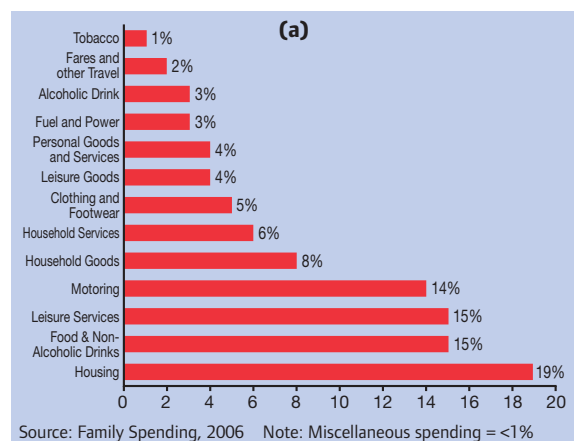


Figure 4: % of Weekly Household Expenditure in the UK, 1957 (2006 prices)

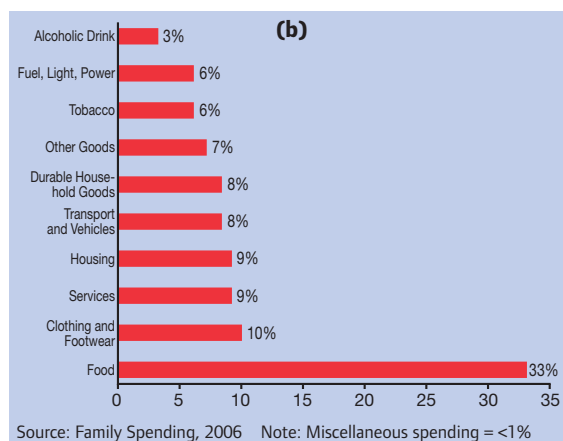


Figure 5: % of Weekly Household Expenditure in the UK, 1957 (2006 prices)

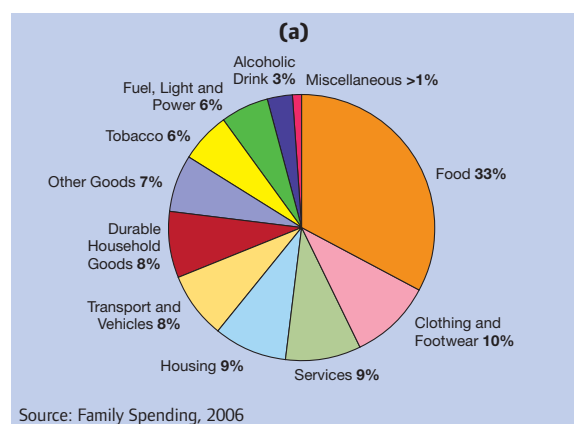
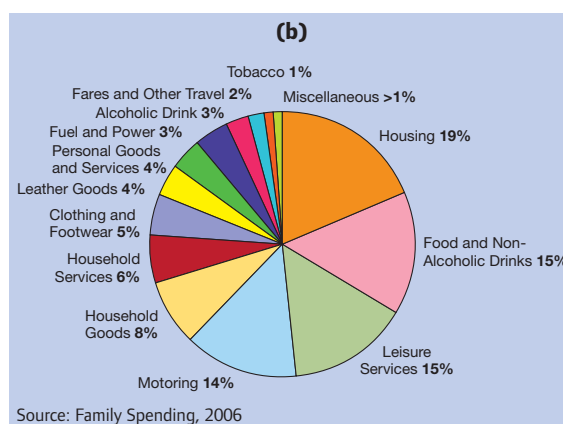


Figure 5: % of Weekly Household Expenditure in the UK, 2006



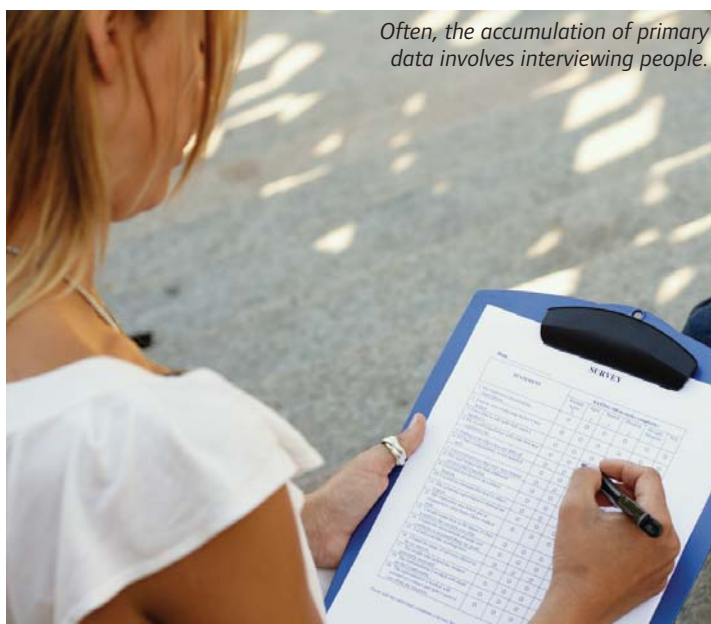
Terms You Come Across

(a) Primary and Secondary Data

It is useful to draw a distinction between two kinds of statistical information. On the one hand, there is 'primary' data. The statistician or researcher goes out into the field and unearths the data for him/herself. Simple counting is, fundamentally, the basis of data collection: your primary data might, for example, be obtained by standing beside the motorway and counting the number of cars per hour on that stretch of road.

Often, the accumulation of primary data necessitates interviewing people, either face-to-face or through the use of questionnaires. In the latter case, questionnaire design can be a surprisingly tricky task if there is to be a strict avoidance of bias in the data.

Fortunately, we can often avoid the difficulties associated with the collection of primary data because somebody else has already done all of the hard work: the statistics we require have already been published. This is 'secondary data'. The ONS and other statistical agencies such as Eurostat provide secondary data on all of the key variables we are going to need in order to describe the economic environment. Growth, investment, employment and unemployment, inflation, the balance of payments, and so on – it is a very long list.



Often, the accumulation of primary data involves interviewing people.



(b) Seasonal Adjustment

When you look at secondary data on, say, unemployment or output, you often notice a statement that the numbers in front of you are (or are not) seasonally adjusted. To avoid presenting data which creates a misleading impression, seasonal adjustment is important for any variable which is subject to a seasonal cycle.

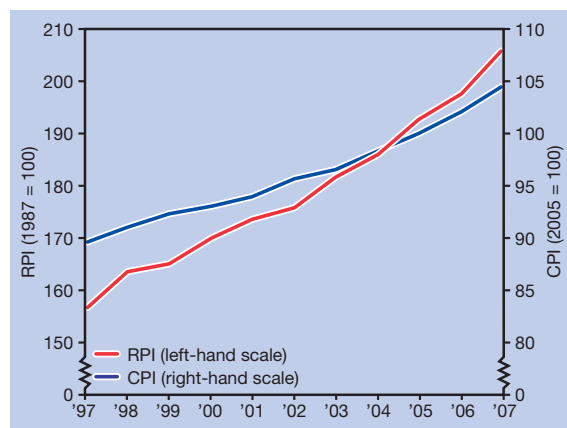
Take unemployment, for example. In the Summer, more jobs are available simply because better weather facilitates outside work and holiday resorts hire temporary staff. With the onset of Autumn, these jobs disappear. Thus, in order to give a true picture of unemployment in August, the statisticians adjust the raw unemployment number, *subtracting* from it the mean seasonal variation above the trend. Likewise in February, seasonally adjusted unemployment numbers require *adding* to the unadjusted unemployment figure February's average seasonal deficit below the trend.

(c) (2005 = 100)

Sometimes statistics are presented in *absolute* numbers – there were 873,000 people unemployed in 2007, for example (see Table 1). But it is also important to measure numerical changes on a *relative* basis: for instance, the CPI (see Table 2) in 2007 stood at 104.7 (2005 = 100).

This means that consumer prices were 4.7% higher in 2007 than in 2005. The abbreviation (2005 = 100) indicates that 2005 is the *Base Year* for this series, the point of reference against which all of the CPI inflation numbers in the series can be compared.

Figure 6: UK Inflation, CPI and RPI, 1997-2007



In Table 2, we have two inflation series, the CPI and the RPI. But these two variables, inconveniently, happen to be based on different base years – 2005 for the CPI, 1987 for the All Items RPI. Comparison of the series is not particularly simple – even in graphical form, we would require two Y axis scales. See Figure 6. If one wanted to make CPI-RPI comparisons easier, it would pay to re-base one of the series so that both series had the same base year.

To change the RPI series in Table 2 from (1987 = 100) to (2005 = 100), you should express each of the existing RPI index numbers as a percentage of the old index number of the new base year (192.0).

In this way, the RPI for 2007 (2005 = 100) is recalculated as 107.6. In turn, this makes possible a direct comparison

of the RPI in 2007 with the CPI for 2007 (2005 = 100): 107.6 versus 104.7 – a significant divergence in a mere two years. As economists, we can react to this information by turning to a fascinating search for an explanation.

When you hear the news about inflation, it is a simple matter of an *annual rate of inflation*. For example, the official target is 2% inflation per annum, but in 2008 the CPI peaked at an annual rate of 5.2%. In terms of indexes, these annual rates are known as *chain index numbers*, i.e. an index number where the base year is always the previous year. If you look at the CPI data in Table 2 (2005 = 100), only the CPI number for 2006 (102.3) happens to be shown as a chain index: annual inflation as measured by the CPI was 2.3% in 2006.

However, it is not difficult to convert the rest of the series (and the accompanying RPI data) to a chain. Here is how you do it: express each index number as a percentage of its counterpart in the previous year. For example, to show the annual rate of CPI inflation in 2007, calculate 104.7 as a percentage of 102.3. The answer is 102.3. Thus, it turns out that inflation in 2007 was running at a rate of 2.3%, the same as in 2006.

(d) Systematic Bias

As we have noted, much statistical work in the field is carried out on the basis of observing the characteristics of samples taken from populations. At the outset, crude bias is avoided by the care with which we take *random* samples. A simple random sample is one that ensures that every member of the population has exactly the same chance as every other member of that population of being chosen for sample membership.

Despite religious adherence to this and other principles of random sampling, our work can, nevertheless, remain subject to 'bias'. Take the annual Expenditure and Food Survey discussed above. Despite the careful use of multi-stage stratified random sampling methods, there is still a danger of *systematic bias* in the response rate: earlier in this Data Supplement, we observed that about 50% of households selected for the EFS comply with the request to supply data, but 50% do not comply.

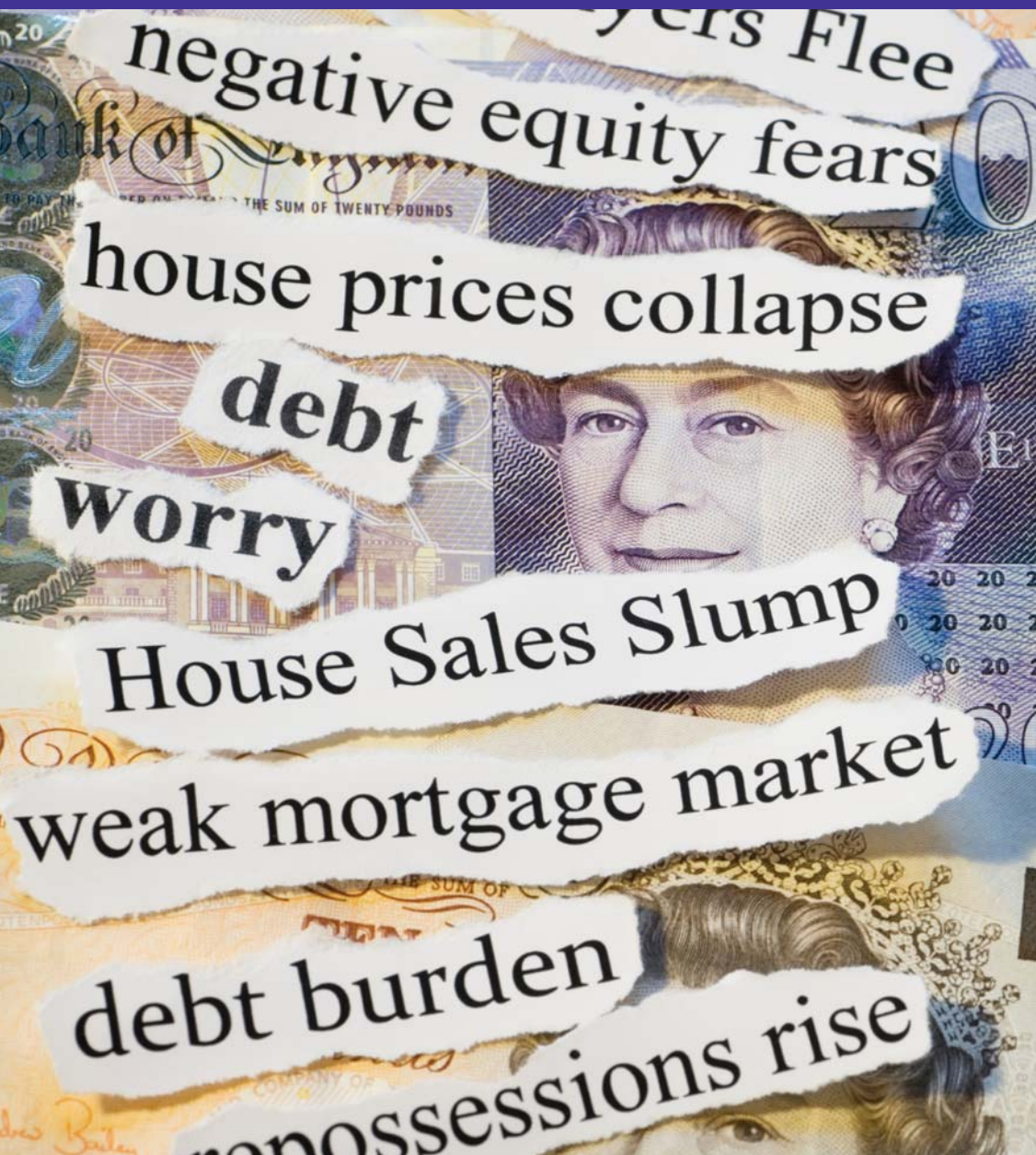
Can we assume that the socio-economic characteristics of the non-responding households are, on the average, more similar to the characteristics of other non-responding households than they are to the characteristics of typical households that *do* respond? If as a statistician your answer to this sort of question is yes, then you have an element of systematic bias in your survey. What do you propose to do about it?

et

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ECONOMICS TODAY



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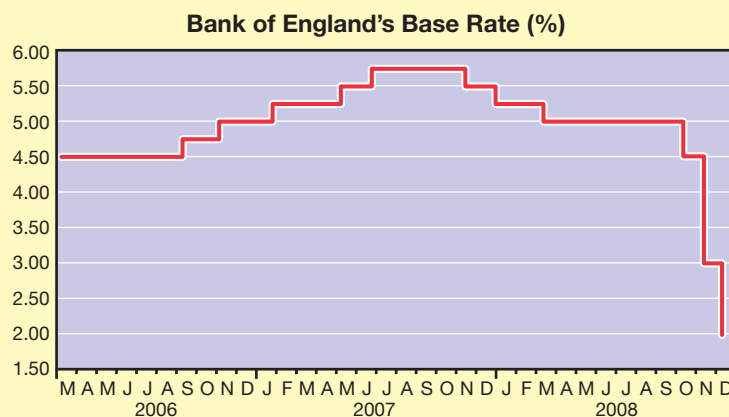
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ECONOMICS TODAY



UK interest rates reduced to their lowest level for 57 years



Source: Bank of England

On 4th December 2008 the Monetary Policy Committee of the Bank of England reduced the official Bank Rate by one percentage point down to 2.0%. The last time interest rates reached such a low level in the United Kingdom was in 1951 when Winston Churchill became prime minister for the second time.

It is hard to believe that interest rates were at 5.0% at the beginning of October and have fallen by more than half in three months. Why were interest rates reduced once again? According to the Monetary Policy Committee it was because the economic signs show that the downturn is gathering pace. For example, house prices continued to decline with a fall of 2.6% in November according to the Halifax, which meant that they were falling at an annual rate of 14.9%. Also, the sale of private cars in November was down 45.1% and there were a number of high profile companies going into administration.

Although a number of fiscal measures had been set in place the Committee noted that it was "unlikely that a normal volume of lending would be restored without further measures." They cited the fact that CPI inflation had eased back to 4.5% in October and that commodity prices continued to fall whilst the growth in earnings was subdued. Also, CPI inflation was expected to fall further as energy and food prices declined and this was further aided by the temporary fall in VAT to 15%.

The Committee decided that there "remained a substantial risk of undershooting the 2% CPI inflation target in the medium term" and that was the reason that they had reduced rates. The UK was not the only country to reduce rates as the European Central Bank made its largest ever cut, reducing rates from 3.25% to 2.5% and Sweden cut its interest rate from 3.75% to 2.0%.

Prize Competition

for AS Students



Controlling Inflation

Read the article 'What are the Merits of both Monetary and Fiscal Policy to Control Inflation in the UK?' on pages 22 to 25 and then answer the questions. The numbers in brackets tell you how many letters there are in each word of the answer. All you have to do is send your 10 answers to us by 14th April 2009. The first one out of the hat will win £25 in music tokens.

1. What is the target rate of growth in percentage terms that has been given to the Bank of England for the CPI? (1)
2. There are two basic causes of inflation, one is demand-pull inflation, what is the other? (4-4,9)
3. An increase in interest rates will not be immediately effective in reducing the level of consumption because of these. (4,4)
4. What does this define in reference to individuals: "Money left over after all taxes and contractual spending have been paid." (10,6)
5. Interest rate increases will cause firms to reduce this. (10)
6. If the Bank of England raises interest rates compared to other countries this may cause our exchange rate to rise due to an influx of this. (3,5)
7. What is the term for government spending on items such as pensions, invalidity benefits and job seekers allowance. (8,8)
8. VAT and excise duties are examples of what sort of taxes? (8)
9. Spending on areas such as education and the infrastructure can improve efficiency. What are such policies called? (6-4)
10. To increase the level of consumption and investment in the economy, not only is the cost of borrowing important at the moment, but also the availability of this. (6)

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Prize Competition

for A2 Students



Developing Countries and Free Trade

Read the article 'Should a Developing Country pursue a Free Trade Policy?' on pages 8 to 12 and then answer the questions. The numbers in brackets tell you how many letters there are in each word of the answer. All you have to do is send your 10 answers to us by 14th April 2009. The first one out of the hat will win £25 in music tokens.

1. Governments could use this system to encourage certain imports such as capital goods whilst discouraging others, such as consumer goods. (8,8,4,6)
2. The theory of comparative advantage states that a trading country should specialise in exporting those goods which it can produce at a (5,11,4)
3. In what sort of products do many developing countries have a comparative advantage? (7)
4. World trade is driven primarily by this advantage which is linked to price and quality differences. (11)
5. Many successful economies, such as South Korea and Taiwan, have initially grown behind import barriers whilst pursuing this policy. (6-7)
6. There was much criticism of the World Bank and IMF for demanding this in developing countries as a condition of receiving development assistance. (5,14)
7. Brazil had initially grown strongly by following this policy until the mid-1970s. (6-12)
8. What does this define? "Exploiting best practice, importing technology, encouraging inward investment and being export-oriented." (8)
9. This may be lost, which may be a significant part of a developing country's tax receipts, if import barriers are lowered. (6,7)
10. These industries may be protected by import barriers, a policy designed to be dismantled when those industries are sufficiently developed to be competitive internationally. (6)

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