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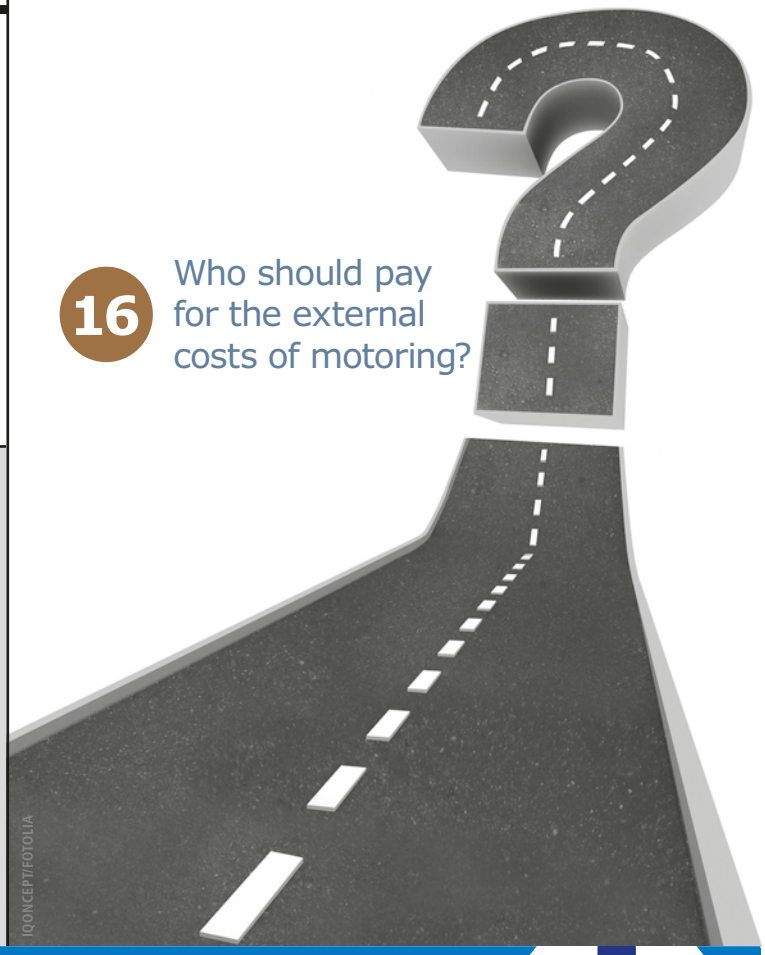

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Economical with the truth?

Sadro Brusco and **Carmine Ornaghi** question whether politicians believe in what they say or if they mislead the general public. Which is better for the economy?

In 2004, the EU Commission found that Greece had hugely underreported its budget deficit between 1997 and 1999. In the same year, the former Greek minister of finance George Alogoskoufis assured the EU partners that, 'The newly elected Greek government will persist in the policy of transparency and credibility of fiscal data with a view to complete the effort that began after the March elections'. However, a report published by the EU Commission in January 2010 found that Greek authorities had again misreported figures in 2009.

It is now public knowledge that Greek politicians have more than once understated the dire condition of their economy over the last 15 years. But what about the statements from other EU governments since the start of the economic crisis? For instance, in January this year George Osborne said that, 'Britain can be confident about its economic outlook this year, with inflation falling, interest rates low and plans in place to deal with a record budget deficit'. Similarly, the Italian prime minister, Mario Monti, declared that, 'the eurozone is no longer in the midst of the crises but heading towards a solution'. Do politicians believe in what they say or are they misleading financial operators, businesses and the public in general? Would it not be better to tell the truth, however bleak it is?

DO POLITICIANS BELIEVE IN WHAT THEY SAY OR ARE THEY MISLEADING FINANCIAL OPERATORS, BUSINESSES AND THE PUBLIC?

This article will explain how economics can help us to answer these questions. The analysis will use the scenario of a fire in a theatre to give an understanding of some vital tools and concepts used by economists — in particular game theorists — such as **multiple equilibria** and **private information**.

Multiple equilibria with no lies

Imagine a crowded theatre. At some point, all of the members of the audience notice that a part of the stage has caught fire. The audience can clearly see that the fire has just started and that it will take some time to spread, so there is enough time to ensure an orderly evacuation of everyone. But, if people start panicking and begin to stampede, then the evacuation will be hampered, and the last members of the audience to start running will end up being caught by the flames.

Self-fulfilling scenarios

This is generally described in economics as a situation where there are multiple equilibria. If everyone is convinced that the rest of the audience will exit in an orderly way, then it is optimal for everyone to walk calmly out of the theatre. Thus, the expectation of an orderly evacuation is self-fulfilling — if everyone expects an orderly flow, then it is a rational choice for each person not to rush and everyone will evacuate calmly and safely. Unfortunately, this is not the only equilibrium. If everyone expects that the rest of the audience will run chaotically towards

the exit, then nobody wants to be the last to reach the exit. Even here the expectation of a chaotic evacuation is self-fulfilling — if you expect other people to run, then the optimal strategy is to run sooner and faster than them.

Theory

The theory cannot predict which of these two equilibria will actually happen but this does not mean that the theory does not make useful predictions. For example, the theory predicts that it will never be the case that half of the audience run while the other half remain still. Which of the two situations will actually materialise depends on factors that may be more or less random. One of the people in the theatre may be particularly authoritative — for instance, the main actor in the play — and proclaim that the fire is under control, and that the audience should walk calmly towards the exit. Or, some people may be especially hysterical and start screaming, thus starting an uncontrolled race. In essence, random and impalpable elements will determine the selection of the equilibrium.

Public debt

You might be wondering how this is related to the statements of George Osborne and Mario Monti, and the state of public finance. Consider the following scenario. Everyone knows that current budget decisions are insufficient to reduce the public debt of the UK or Italy. But in both countries, people expect that the government will further increase taxes and reduce expenditure over the next few years, thus ensuring that the country will reduce its public debt to an acceptable level. However, this scenario will only materialise if interest rates do not rise steeply because, in that case, the government will default on its debts.

The analogy with the fire in the crowded theatre is hopefully clearer now. If I expect other people to continue lending money to the UK, or Italy, then I also expect interest rates to remain at reasonable levels, and therefore I am confident that the government will be able to repay its debt. But if I expect investors to get nervous about the state of public finance, thus pushing interest rates to a level that makes recovery unlikely, then I too get scared and I will not lend my money either. This is another self-fulfilling expectation — nobody lends money to the government, interest rates rise steeply, and the country will default on its debt.

'Good equilibrium'

So, there are two equilibria — one in which the expectation of recovery keeps rates low and makes recovery possible, and one in which the expectation of bankruptcy makes the rates shoot up thus making the default inevitable. In this context, the statements of George Osborne and Mario Monti play the same role as the recommendations of the main actor in the theatre — his statements are aimed at convincing the audience to coordinate on the 'good' equilibrium.

Note that we cannot say that the two politicians are misleading the public. In fact, nobody knows whether the UK or Italy will go bankrupt — this is only one option, and depends on expectations of economic agents. The politicians' statements are aimed at changing the reality, so that some expectations prevail over others.

'Bad' equilibrium

At this point, we need to clarify an important issue concerning the history of multiple equilibria. This type of explanation is what some politicians have in mind when they rail against credit-rating agencies and pessimists in general. The argument is that negative statements on the state of public finance are likely to be self-fulfilling because they favour the 'bad' equilibrium. But this is only half of the argument. Not making any negative statements encourages the government to continue to delay the reforms needed. The dire state of public finance will sooner or later be apparent to everyone, and at that point the collapse could be even more dramatic.

Private information and white lies

In the scenario above, there are no lies. Politicians basically tell the truth because, 'what they say helps to make true what they say'. To talk about white lies, we need to define a more complex model, allowing someone to know things that others do not know. To understand this, we need to complicate the fire in the theatre scenario.

Probabilities

Assume now that everyone in the theatre sees the fire, but the fire can be of two types — slow or fast. Only the main actor knows if the fire is slow or fast. Everyone else gives a 90% probability to the fact that the fire is slow, and 10% to the fact that the fire is fast.

THE POLITICIANS' STATEMENTS ARE AIMED AT CHANGING THE REALITY

- If the fire is slow, an orderly evacuation ensures that everyone will get out of the theatre safely. But if people start panicking, the first person to run towards the exit has a 10% probability of dying while, on average, the probability of dying for the rest of the audience is 30%.
- If the fire is fast, even in the case of a calm evacuation, some of the audience will die — say 20% of them. If instead the panic spreads, then the first person to run has a probability of dying of 10% but the average probability of dying for the rest of the audience is 50%.


RISTOVITANEN/FOTOLIA

What are the equilibria? As before, there are two. If I expect the rest of the audience to exit calmly, my chance of dying is 0.9 x 0% + 0.1 x 20% = 2%. If I am the first person to run, my probability of dying is 10%. So, I do not run.

On the other hand, if I expect the rest of the audience to start running, then my chance of dying is 10% if I am the first to run, but 0.9 x 20% + 0.1 x 50% = 23% if I wait. So, I will start running. However, everyone else will do the same, so my chances of dying will be the average (i.e. 0.9 x 30% + 0.1 x 50% = 32%). This example shows that the equilibrium with orderly evacuation minimises the likelihood of death whether the fire is slow or fast.

Revealing private information

Now imagine that the main actor knows the exact nature of the fire. He can make a

HUGH O'NEILL/FOTOLIA

statement to reveal this 'private' information. Should he tell the truth? Not necessarily. At least, not if he cares about the survival of the audience. In fact, if the actor has announced that the fire is fast, the equilibrium with the orderly evacuation disappears.

Once the audience is told that the fire will spread fast, if I expect that everyone else will walk out in an orderly way, then the probability that I will die is 20% if I too walk out calmly. But if I run first (and I will be the first because I expect everyone else to leave in an orderly way), then the probability becomes 10%. However, this means that there cannot be an equilibrium in which everyone gets out calmly because everyone would have an incentive to deviate. So, only the equilibrium with a chaotic evacuation survives and 50% of the audience will die.

The truth hurts

This example shows that telling the truth can be very costly in terms of human lives. Imagine a situation where, in the absence of announcements from the actor, the audience remains calm. In this case, the deaths are 0% in the case of a slow fire and 20% in the case of a fast fire. But if the actor reveals that the fire is fast, deaths will rise to 50%. So, if the actor cares about the lives of the audience, he will always announce that the fire is slow, even if this is not true. Anticipating this, the audience will not listen because they know that the actor will always say that the fire is slow and that they should leave the theatre in an orderly way. What the actor says does not add information. On the contrary, if he were to tell the truth, things would be worse.

Review notes

1 Multiple equilibria occur when more than one equilibrium exist. Not all equilibria are good. It is also possible to have a bad equilibrium.
2 Government announcements about the state of the economy impact business expectations and confidence.
3 Negative statements on the state of public finance are likely to be self-fulfilling because investors become less confident.
4 However, not making negative announcements about public debt encourages the government to continue to delay the reforms needed. When the collapse does come it could be even more dramatic.
5 Politicians always try to deliver positive statements about the state of the economy in order to boost confidence and create a self-fulfilling scenario.

Conclusion

Hopefully, this article has made it clear why politicians will always try to deliver positive statements about the state of the economy. Even if the general public and the financial markets know that these statements are often overly optimistic, it is better to tell a 'white lie' that does not add any information to our knowledge of the real state of the economy, than admitting that the 'country is on fire' and thus burning millions of pounds of GDP.

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BECKY STARES/FOTOLIA

Why should Greece exit the eurozone?

Spyros Galanis argues the case against Greece staying in the eurozone. For the counter-argument, see pp. 26–29

The euro and the European Economic and Monetary Union (EMU) have been flawed since their inception. Even before the EMU was introduced, economists had developed a theory of optimal currency area — specifying which conditions were necessary in order for all members to benefit and for the union to last. In the case of the eurozone, most of these conditions were not satisfied.

Pre-conditions for an optimal currency area

The first requirement for an optimal currency area is that labour and capital should be allowed to move freely across countries. Second, prices and wages need to be flexible. Both of these requirements ensure that we are always in an equilibrium because differences in demand and supply in one region can quickly disappear by the movement of capital and labour from other regions. At the same time, the prices of factors and goods adjust everywhere accordingly.

The third requirement is that some form of a fiscal union should be established, so that fiscal transfers are possible between countries. It is very often the case that one country experiences growth while another is going through a recession. Automatic fiscal transfers essentially provide a mechanism of risk sharing between the countries, so that recessions are not severe.

Finally, the countries in a monetary union need to have similar business cycles, so that their booms and their recessions are roughly synchronised. The reason for this is that within a monetary union, the monetary policy is delegated to a central bank and it is therefore out of the control of the individual countries. If some countries experience a boom while others experience a recession, the central bank has a choice between a restrictive monetary policy to contain inflation and accommodate the former, and an expansive monetary policy to combat unemployment and accommodate the latter. Therefore, whatever the central bank chooses, some countries are bound to be worse off.

The eurozone and optimal currency conditions

It is evident that the eurozone does not satisfy most of these criteria. Although legislation ensures the free movement of capital and labour, in practice the actual movement of labour is not as widespread. This is because the countries in the eurozone are very different in terms of their culture and language, and therefore it is not easy for someone to move to a different country. Compare this with how easy it is for an American from Florida to move to California. They will not be treated as a foreigner, as the language and the culture are the same. They don't even need to change their mobile phone provider. The situation is very different in Europe.

More importantly, the eurozone is not a fiscal union. There is no mechanism of automatic fiscal transfers, and it is very difficult for politicians to convince their electorates that it is beneficial for them to transfer resources — collected from taxes or borrowing — to other countries. In other words, a necessary condition for a fiscal union is some form of a political union. It is not currently clear whether people in Europe are in favour of such an outcome.

Finally, the eurozone countries are not synchronised in terms of their recessions and booms. Some countries, such as Germany, base most of their growth on exports and have been doing quite well over the past few years, exhibiting growth and trade surpluses. On the other hand, the countries in the periphery (Greece, Spain and Portugal) have had a recession for many years, and traditionally they relied on heavy borrowing from abroad and on trade deficits.

The global financial crisis

The shortcomings in the design of the eurozone were sadly confirmed and exacerbated by the recent global financial crisis. Over the past decade, the interest rates in the eurozone had converged and countries of different capabilities were able to borrow with almost the same cost. In the countries in the periphery this led to a big increase in

prices of factors and goods, and consequently to the creation of asset bubbles and big fiscal and trade deficits.

In 2008, the credit markets froze and these countries faced the unthinkable prospect of not being able to borrow. The only other way of sustaining their income and standard of living was by increasing their exports substantially and decreasing their imports. In other words, they had to become more competitive overnight.

The Ricardian model

The Ricardian model of trade tells us that a country can be competitive in two ways. It can either have a high wage and high productivity, or a low wage and low productivity. Unfortunately, the countries in the periphery had ended up having a high wage and low productivity. A big increase in productivity can be difficult to obtain in a short period of time, as it requires structural changes in the economy, such as privatisations or legislation that removes fixed prices and barriers to enter different occupations. Moreover, such a country needs fiscal transfers that will ease the transition to a more export-based economy and at the same time provide the investments needed to kick start the economic activity. But fiscal transfers are forbidden in the eurozone.

A dramatic decrease of wages is also very difficult to achieve. The usual route would be the devaluation of the country's currency. However, this is impossible within a common currency area — especially if, as in the case of Greece, most of its exports are to other members of the eurozone. The only other solution is a nominal wage cut, which is what has happened during the last year. Politically, this is very difficult to implement and leads to social unrest.

THE NORTH EUROPEAN COUNTRIES MIGHT REALISE THAT THEY ARE BETTER OFF HAVING A SMALLER EUROZONE

Staying vs exiting the eurozone

Greece is therefore in a very bad situation. It is a member of an ill-designed monetary union, and the changes necessary to achieve growth again are very difficult to implement but are almost impossible while remaining a member of the eurozone. An exit from the euro would be messy and one could argue that, in the short run, the Greeks would be in a much more difficult position. The new currency would be devalued and their purchasing power would be greatly diminished. Moreover, there could be a flight of capital from the country that would plunge it into a bigger recession. The value of its external debt would skyrocket and Greece would have no other option but to default.

On the other hand, exports would instantaneously become cheaper and therefore increase in volume. At the same time, the price of imports would increase and therefore decrease in volume. The balance of payments problem (the difference between exports and imports) would be solved very quickly, without the need for painful decreases in wages. Products that were previously cheaper to import from abroad would be much more expensive and therefore domestic production would start being a viable option. The Greek Central Bank would have full authority over monetary policy and could therefore tailor it towards Greek, rather than European, needs.

Future investors

Greece would be a far more attractive option to future investors if it had a much smaller debt to GDP ratio because of a big default, rather than the 120% ratio that, under the current scheme, it is projected to have in 2020 if everything goes well. The reason for this is that the biggest portion of the debt has not been written down but merely transferred from the European banks to the European countries and the International Monetary Fund (IMF). Moreover, if it had its own currency, Greece would not run the risk of borrowing heavily again because of a low interest rate, thereby amassing a huge debt. If this was starting to happen, the currency would devalue in the free market, the value of the external debt would increase and Greece would decrease its demand for borrowing. Because the investors know this, they will lend less but will also be more confident that they will be paid back.

The need for a fiscal and political union

If the conditions for a fiscal and political union do not materialise, the shortcomings of the monetary union will never be fixed and there is a high probability that it will break up in a few years. For example, the north European countries might realise that they are better off having a smaller eurozone, consisting of members with similar economies and cultures, and therefore making it much easier for their voters to support a fiscal and political union. In this scenario, it would be much better for Greece to have the first mover advantage and exit before the union breaks up.

If the union broke up, there would be global economic turmoil with many countries simultaneously trying to either reintroduce their local currency, or negotiate a separate monetary union. It would be much easier for a small country, such as Greece, to sort out this issue when the global economy is relatively calm, rather than when everyone else in Europe is facing the same problem.

If Greece exits, the markets will remove their focus and concentrate on the remaining weakest link of the eurozone. This has the potential of giving Greece the much-needed time to implement the changes to its economy.

The efforts to 'fix' the weaker economies — rather than rectifying the flawed architecture of the eurozone — could result in undermining democracy within the European Union. A good scenario for the eurozone would be a political and fiscal union where each country would be able to check and control the fiscal affairs of every other member, but also be subject to the reciprocal checks and controls from the other countries.

KONSTANTINOS TSAKALIDIS/AL AMY

A protest against the austerity measures in Greece, February 2012

However, if the political union does not materialise and the periphery countries stay in the euro, the sheer amount of debt between the countries means there is a danger of having one-way control from the lender countries (such as Germany, France, Netherlands and Finland) to the debtor countries (Greece, Spain, Portugal, Ireland and Italy). As this control is not reciprocal and not agreed upon with a treaty, it could lead to a democratic deficit in Europe. The people in the periphery countries might start feeling that they are not well represented in a Europe that caters more to the goals of the lender countries than to their own. Such an outcome would be tragic, as support for the European Union, now almost universal, would start diminishing and eventually disappear because of an ill-fated attempt to fix a flawed system — the eurozone.

Conclusion

The eurozone has proved to be an ambitious experiment that was doomed from the start, as the necessary conditions for its survival and the welfare of its members were never satisfied. The global economic crisis of 2008 revealed the eurozone's shortcomings and exposed the less-prepared countries. The route is now either a powerful fiscal and political union, or a break up. Since the former does not have the necessary political support from the electorates, the latter seems inevitable.

In this situation, Greece — being the weakest link and having suffered the most — faces a very difficult predicament. Staying in the eurozone requires implementing painful restructuring without having the opportunity to devalue its currency and without having control over its monetary policy. Therefore, Greece needs to resort to wage cuts that are difficult to implement and can create social unrest. Within the eurozone, and with the current scheme implemented, most of its debt is not written down but merely transferred from the banks to the other European countries and the IMF. Thus, it continues to remain insolvent for all practical purposes and the restructuring needs to take place within the schedule of the debt repayment.

An exit from the euro and a subsequent default on most of its external debt would be equally painful in the short run, but it would create the possibility that Greece could emerge in a much better position within the next decade. Without the burden of a huge debt and with a domestic currency that would always accurately reflect the state of the economy, Greece would be able to transform its economy at its own pace. More importantly, the Greek citizens would feel that their success or failure was wholly within their hands, and not dependent upon a plan that was devised by the governments of the debtor countries. And when people feel that they own their destiny, they are more inclined to fight to improve it.

Review notes

1 A number of conditions are necessary in order for all members to benefit from a currency union. First, labour and capital should be allowed to move freely across countries. Second, prices and wages need to be flexible. Third, some form of a fiscal union should be established, so that fiscal transfers are possible between countries. Finally, the countries in a monetary union need to have similar business cycles.

2 Greece is a member of an ill-designed monetary union and the changes necessary in order to achieve growth again are almost impossible while remaining a member of the eurozone.

3 An exit from the euro would be messy and, in the short run, the Greeks would be in a much more difficult position. The new currency would be devalued and their purchasing power would be greatly diminished. Moreover, there could be a flight of capital from the country that would plunge it into a bigger recession. The value of its external debt would skyrocket and Greece would have no other option but to default.

4 On the other hand, exports would instantaneously become cheaper and therefore increase in volume. The price of imports would increase and therefore decrease in volume. The balance of payments problem (the difference between exports and imports) would be solved quickly, without the need for painful decreases in wages.

5 The Greek Central Bank would have full authority over the monetary policy and could therefore tailor it towards Greek, rather than European, needs.

THE EUROZONE HAS PROVED TO BE AN AMBITIOUS EXPERIMENT THAT WAS DOOMED FROM THE START

Spyros Galanis is a lecturer in economics at the University of Southampton.

Economic models

In this column, **Peter Smith** introduces some key economic concepts that you will meet in the early weeks of your course

Economists often work with **models**. This is not a reference to beautiful people who work in the fashion industry — it is to do with the way that economists think about the world. The world is a complicated place in which things are constantly changing, people are interacting with each other, and in which events can seem wholly unpredictable. How do economists make sense of all of this? Through building simplified models of reality.

Working with models

In order to build a model, we first make some simplifying assumptions and then work through the implications of those assumptions for economic behaviour. The model may be — and often is — represented by diagrams that help to analyse how the model works, and to interpret economic behaviour and events. If you go on to study economics at university, you will find that models can also be expressed through mathematics, which helps to increase the complexity of the models and thus move closer to the real world.

FERNANDO MADEIRA/FOTOLIA

The demand and supply model

One of the first models that you will encounter in economics is the demand and supply model, so we will use this to illustrate how we build and use a model. Not only is this one of the first models that you will encounter — it is also one of the most important and most useful. We will start by thinking about **demand**.

Let's consider a specific example — the demand for pizza. What sorts of factors will influence consumers when they are considering whether to buy a pizza? In particular, what will determine whether you wish to buy a pizza?

Key influences

One obvious important factor will be whether you are hungry and whether you like pizza. We can classify this as 'consumer preferences'. You may then look at whether you can afford to buy a pizza — this will depend upon the price of pizza ('the price of the good') and on the funds at your disposal ('consumer income'). Finally, you may also look at the prices of competing products — perhaps a burger, or fish and chips. We will refer to this as 'the price of other goods'.

So, we have identified four key influences on an individual's demand for a good:

- consumer preferences
- the price of the good
- consumer income
- the price of other goods

Total demand (which we refer to as **market demand**) would also depend upon the number of consumers demanding pizzas.

Introducing assumptions

In order to start building a model, we have to introduce some assumptions, as we may not wish to try to understand everything all at once. In the demand and supply model, we begin by focusing on one of the factors that influences demand — the price of the good. We do this by assuming that the other three factors remain unchanged. This may seem a little artificial but we will relax this assumption soon. Given this assumption, we can then ask how we expect the demand for pizzas to vary at different prices (of pizzas). This allows us to construct the first building block for our model — the demand curve.

The demand curve

The **demand curve** (Figure 1) shows the quantity of pizzas that will be demanded at any given price, under the assumption that other factors affecting demand are held constant.

In drawing this curve, we have introduced another assumption about behaviour — that demand will be higher when the price of pizzas is low than when the price is high. Therefore, the demand curve is downward sloping. This is intuitively plausible. Note that we have drawn this curve under the assumptions that the price of other goods, income and preferences are constant. In terms of the diagram, this is effectively saying that the position of the demand curve depends upon these other factors. Suppose that there is a health scare surrounding pizza and consumers become convinced that eating pizza will damage their health. The result is likely to be that consumers will be prepared to buy fewer pizzas at any given price — in other words the demand curve would shift to the left. We will come back to this point later on.

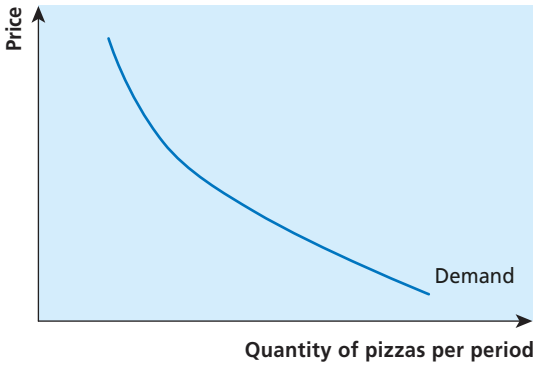

Figure 1 The demand for pizzas

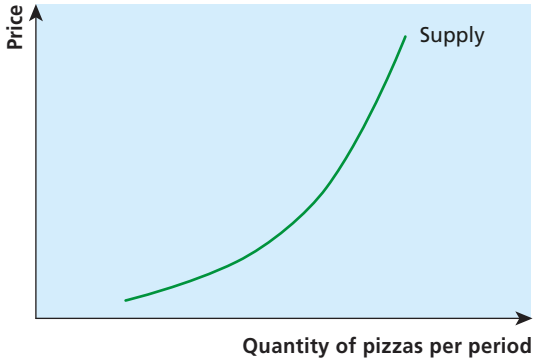

Figure 2 The supply of pizzas

The supply curve

It is the demand and supply model, so we also need to consider **supply**. Figure 2 shows the **supply curve** for pizzas. It shows how many pizzas firms are prepared to supply at any given price of pizzas. Again, there are some assumptions that underpin the way that this curve is drawn. We suppose that firms aim to maximise profits by selling pizzas. A key part of the decision on how many pizzas to supply at a given price will be related to the costs of producing a pizza — ingredients, heating the oven for cooking, wages and so on. This time, we expect the curve to be upward sloping, as we would expect firms to be prepared to supply more pizzas at a higher price, which will be more profitable. Again, notice that the supply curve shows the relationship between the quantity supplied and the price of the good, holding other things constant.

EconomicReview*Online*

What factors would you expect to affect the position of the supply curve? See EconomicReview*Online* for a discussion of this question.

STUART MILES/FOTOLIA

The visible balance shows the balance between exports of goods and imports of goods

The overall balance of payments must always balance. The exchange rate plays an important part here. If the exchange rate is allowed to adjust, this will help to reduce any imbalance between demand for imports and supply of exports, just as the price helps to bring demand and supply into balance in the market for a good or service. However, the situation for the balance of payments is more complex, as a deficit on part of the accounts can be balanced through a surplus elsewhere in the accounts. For the UK, the persistent deficit on the current account has typically been compensated by a surplus on the financial account. A surplus on the financial account could arise from the use of foreign exchange reserves, or from the sale of UK assets. It has primarily been through the latter route that balance has been maintained.

In the short run, a deficit on the current account of the balance of payments must be met by a surplus on the financial account. If the deficit persists in the long run, this may have implications for the ownership of UK assets, and for the flows of investment income that follow from the ownership of those assets.

Question 8

Figure A2 illustrates the effect of a minimum wage on a competitive labour market. In the absence of a minimum wage, the market equilibrium occurs with the wage at w^* and labour employed at L^*. If a minimum wage is set at w_{min}, then the demand for labour falls to LD, as this is the maximum amount of labour that firms are prepared to employ at that wage.

In this figure, unemployment is now the distance $LS - LD$. Some workers who were previously employed are now unemployed — this is the distance $L^* - LD$. In addition, more workers would have been prepared to work at the new wage (the distance $LS - L^*$), so unemployment is more than the change in employment.

It is not clear that this would be the impact in all labour markets. For example, it may be that in many

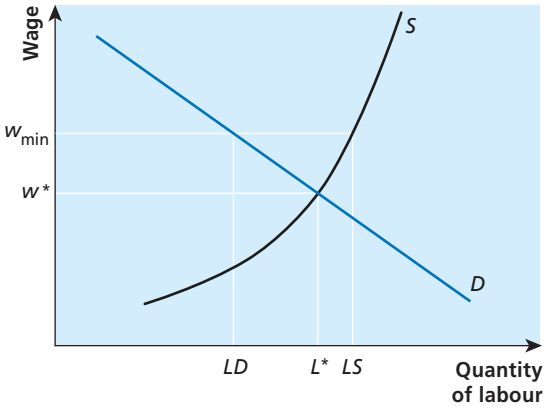

Figure A2 The effects of a minimum wage

markets, the equilibrium wage would turn out to be higher than w_{min}, in which case it would not be binding, so the policy would have no effect.

The figure was also drawn on the assumption that the market was competitive. In reality, there are some markets where employers have some market power. In this situation, they may be able to offer workers a wage that is below the free market equilibrium. Analysis of such markets shows that the imposition of a minimum wage can actually increase the amount of employment, by forcing employers to pay closer to the market equilibrium.

EconomicReview*Online*

This situation is explained in a brief presentation on EconomicReview*Online*.

Question 9

If a government believes that visiting museums has more benefits for society than people perceive, then this is an example of a **merit good**. This is tantamount to saying that the marginal social benefit from consuming the good is greater than the marginal private benefit. In other words, we have an example of a **positive consumption externality**.

This is shown in Figure A3. Marginal private benefit (*MPB*) is below marginal social benefit (*MSB*). This means that without any government intervention, the

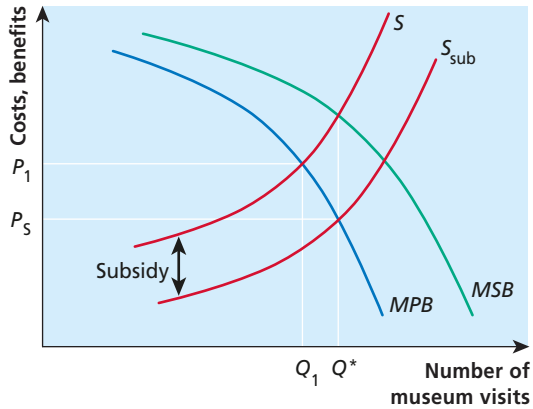

Figure A3 Museums — an example of a merit good

supply curve of museum services is given by S, and the market equilibrium is obtained with a price P_1 and quantity Q_1. However, from the society's perspective, the preferable position is where supply is equal to marginal social benefit, at Q^*.

A subsidy can take the market to this position. S_{sub} represents the supply curve with a subsidy to museums such that they are prepared to supply more museum services at any given price. With the subsidy, the optimum quantity Q^* can be reached, with museums charging the lower price of P_s.

Note that in practice, it is quite difficult for a government or local authority to reach this position exactly. It is not straightforward to discover exactly what the demand curve (*MPB*) looks like, and the extent to which this falls below marginal social benefit is in part a subjective judgement. Nonetheless, the economic analysis here tells us that a subsidy will encourage more visits to museums. This is the positive side of the analysis (see Question 2).

Question 10

The Competition Commission and the Office of Fair Trading exist to protect consumers. Economic analysis provides the basis for understanding why such protection might be needed, and so underpins the work of these two public bodies.

The economic argument can be seen by using Figure A4 to compare a market under perfect competition with a monopoly. In order to simplify the analysis, we assume that we have an industry with no economies of scale, so that long-run marginal cost is horizontal. On the figure this is labelled LRS_{pc} (= LMC_m), indicating that when the market is operating under conditions of perfect competition this represents long-run supply, whereas under monopoly it is long-run marginal cost. $D = AR$ is the demand curve.

First, let's assume that the market is operating under perfect competition. Equilibrium is obtained where market demand is equal to supply, with price being P_{pc} and quantity Q_{pc}. Note that consumer surplus in this situation is given by the triangle $AP_{pc}E$.

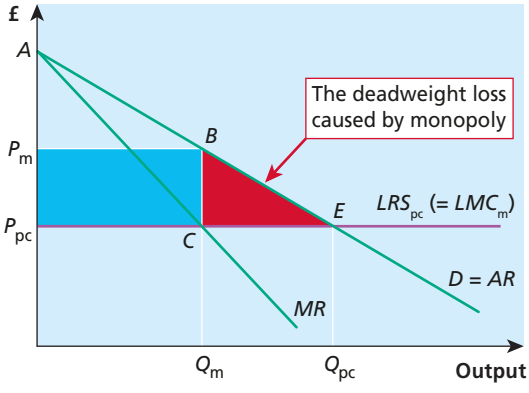

Figure A4 Comparing perfect competition and monopoly


ALAN DAVIDSON/FOTOLIA

If a government believes visiting museums has more benefits for society than people think, then this is an example of a merit good

Now consider the market being run as a monopoly. *MR* represents the marginal revenue curve that corresponds to the market demand curve. A monopolist would maximise profits by producing where marginal revenue is equal to marginal cost, and would thus restrict output to Q_m and charge a price of P_m.

The two market situations are different, but can we say anything about the relative merits of the two situations? Recall that consumer surplus under perfect competition was $AP_{pc}E$. What has happened to that surplus now? The amount AP_mB is still consumer surplus but this is considerably smaller than under perfect competition. The rectangle P_mBCP_{pc} now represents the profits made by the monopolist — in other words, there has been a transfer from consumer surplus to the firm. However, the triangle *BCE*, which was formerly part of consumer surplus, is now 'lost' — this is the deadweight loss that monopoly imposes on society when it uses its market power to restrict output and increase price.

The Competition Commission has the job of investigating markets that are potentially monopolistic. It is not always easy to evaluate the extent to which a monopoly position may lead to consumers being exploited. For example, there may be economies of scale in the market, such that a monopoly firm is able to produce more efficiently than many small firms under perfect competition. It may be that a market is contestable, such that a monopoly firm is not able to exploit its market power fully for fear of potential competition. These and many other issues have to be considered by the Competition Commission before it takes action in a market.

Summary

I hope that reading through the discussion above, having tried these questions for yourself, will help you to prepare for the economics questions that you may face under exam conditions. The more practice you get, the better equipped you will be to cope with your exams.

Country B

Country B is classified by the World Bank as a lower middle-income country, with GNI per capita of US$1,020 in 2009, which is only just over the middle-income threshold. In terms of the human development index (HDI), Country B falls in the low human development category, registering a value of 0.504, with a ranking of 145 out of 187 countries in the world in 2011.

Country B has a population of about 170 million. It is estimated that 22.6% of the population are living below the international poverty line of $1.25 per person per day, and 60.3% are living on less than $2 per day. This represents a severe challenge for the country. The economy of Country B relies heavily on agriculture, which contributes 21.6% of GDP, and 63.8% of the population live in rural areas.

Country B has had a patchy growth performance in the past, and has been subject to periodic shocks and crises. One difficulty faced by Country B has been the government's inability to raise tax revenue, which has led to reliance on monetary methods to finance the government fiscal deficit. Figure 1 shows annual inflation rates for the country since 1961 — you can see that there have been bouts of macroeconomic instability, which may have hampered growth. As a net importer of food, the increases in food prices in the late 2000s further added to the country's problems.

The current political situation facing the country is difficult. The country also suffered devastating floods in mid-2010, which added to the dire economic situation — recovering from this will be slow and costly.

Figure 2 shows how human development in Country B has evolved since 1980, compared with a selection of other countries.

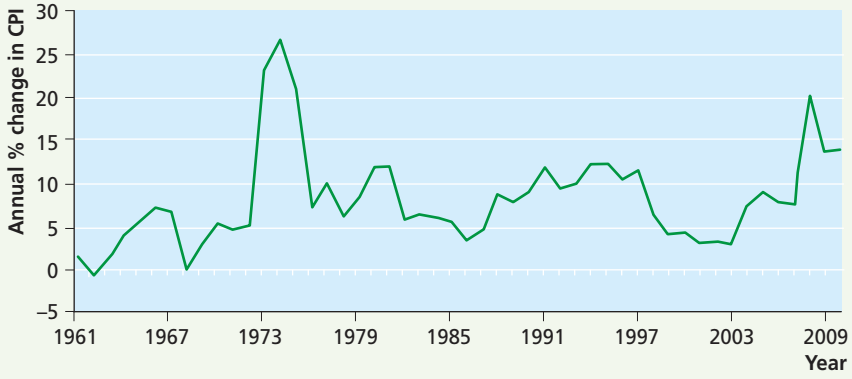

Figure 1 Inflation in Country B, 1961–2010

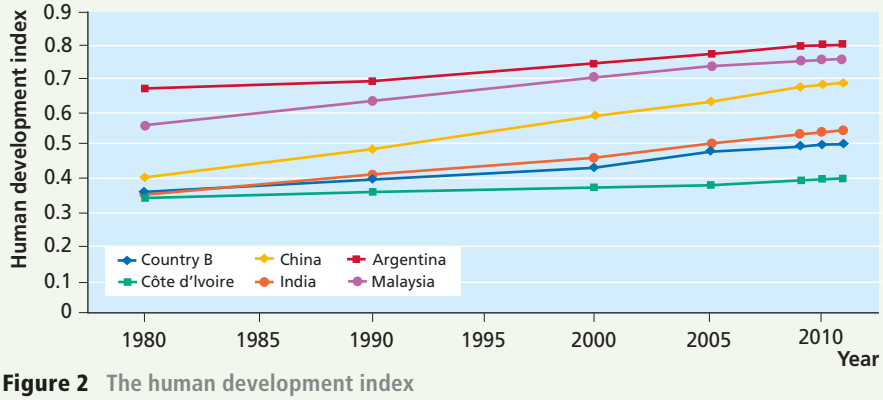

Figure 2 The human development index

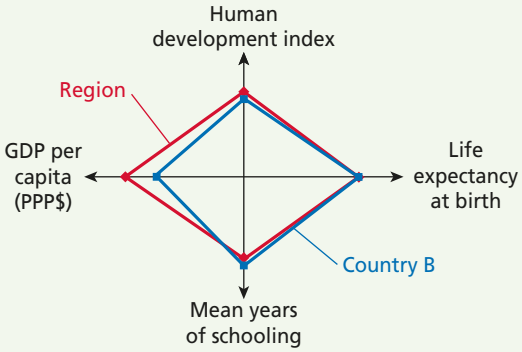

Figure 3 Development diamond comparing Country B with the average for its region

You can see that progress has been steady, but slow when compared to many of the other countries shown in the figure. Country B began the period with similar levels of human development as Côte d'Ivoire and India — as you can see, more progress has been made than in Côte d'Ivoire but less than in India.

Figure 3 shows a development diamond comparing Country B with the average for countries in its region. This reveals that Country B performs close to the regional average in education and health (and in human development generally) but nonetheless has lower average incomes than the average for the region.

A notable feature of Country B's economy is the number of nationals who work overseas. Remittances from these overseas workers are important to the economy, making up about 5% of GDP.

?

- Can you identify the country and the region in which it is located?
- Why might a government have difficulty raising tax revenues?
- Discuss how you would expect periods of high inflation to affect economic growth.

EconomicReview*Online*

A discussion of these questions will be made available on EconomicReview*Online* a few weeks after publication of this issue of Economic Review.

Peter Smith

Data used in this profile were taken from the *Human Development Report 2011* and *World Development Report 2010 Indicators*. The BBC website was also used in compiling the material.

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