6 Macroeconomic problems
Core

On completion of this core section you should know:

- how to define inflation and how there are varying degrees of inflation
- the main causes of inflation
- how inflation affects the domestic and international economic well-being of a country
- why a low rate of inflation gives less concern than a high rate of inflation over a longer period
- what is meant by equilibrium and disequilibrium in the balance of payments
- the main causes of disequilibrium in the balance of payments
- the consequences of balance of payments disequilibrium for the domestic and international economic well-being of a country
- what is meant by a foreign exchange rate and the ways in which it can be measured
- how various types of exchange rate are determined
- why exchange rates fluctuate on world markets
- the effects on an economy of a changing exchange rate.

Introduction

Every day stories appear in the newspapers and on the news about how the economy is performing. Some recent ones have been:

- 'Pakistan: food price inflation hits quake survivors' (*Irin News*, 24 August 2009)
- 'Food prices double in Sierra Leone' (*Daily Telegraph*, 27 March 2009)
- 'US trade deficit is collapsing at its fastest rate ever' (*New York Times*, 2–3 May 2009)
- 'Renminbi on the way to being the world's most important currency' (*The Independent*, 12 June 2009)
- 'Land of the rising yen' (*International Herald Tribune*, 8–9 August 2009).

These stories appear in the media because, in all cases, the events affect the lives of people and in turn and over time, economic well-being. Each of the problems analysed in this section has significance for all economies, whether developing or developed.

How the economy is performing can have a major impact on people's lives. In this chapter we shall look at problems which arise from:

- a persistent increase in the general price level in the economy
- disequilibrium in the balance of payments
- fluctuations in the **foreign exchange rate**.

SELF-ASSESSMENT TASK 6.1

A good newspaper or newspaper website contains a lot of information on the macroeconomy. In some cases this information is for the home economy. In other cases features make comparisons with other economies. For your own country, see what recent articles you can find on:

- inflation
- the balance of payments
- the foreign exchange rate.

From these articles, produce a short summary of:

- the perceived causes of the problems
- the consequences for your country's economy in the short- and long-term.

Inflation

Inflation refers to a situation in the economy where there is a general and sustained increase in prices, measured in terms of the indices described in Chapter 5 Core. In virtually all economies over the last 20 years or so, the control of inflation has been the main priority of government economic policy. Price stability is crucial for governments to achieve all of their macroeconomic objectives.

A few important points should be made:

- An increase in a small number of prices does not constitute inflation. The key thing is for the increase to be measured across a wide range of items that affect the spending of consumers. One of the few exceptions to this is the price of oil. When increasing, it can have a substantial adverse effect on inflation and across the economy as a whole.
- The rate of increase recorded on an annual basis, as in Table 6.1, is likely to be variable. Although there are are a few exceptions like Zimbabwe and to a much lesser degree the former Russian republics and some South American economies, inflation in the 21st century has been more controlled than at any stage since the mid-1970s.
- A low and steady rate of inflation may not be a bad thing for an economy. This puts pressure on businesses to be competitive and at the same time, produces a situation where there is broad confidence in the macroeconomy.

Virtually all developed economies have managed to contain inflation to less than 5% per annum over the last decade. Emerging and developing economies have not found this to be the case, although global inflation rates are now much more under control than in the the mid to late 1990s. Table 6.1 shows the estimated consumer inflation rates for selected developing economies in 2008.

It is clear from Table 6.1 that all economies have been experiencing mild inflation and, in some cases, much greater inflationary pressures. Including the unique case of Zimbabwe, for most sub-Saharan African countries, inflation remains a serious underlying problem. Table 6.2 is useful when determining the broad extent of the severity of inflation as a macroeconomic problem.

Africa	**% change on 2007**
Botswana	12.6
Ghana	16.5
Sierra Leone	11.7
South Africa	11.3
Zimbabwe	11 200 000
Asia	
Bangladesh	8.9
Indonesia	9.9
Pakistan	20.3
Thailand	5.5
Middle East	
Bahrain	7.0
Egypt	18.3
Saudi Arabia	9.9
Caribbean	
Barbados	5.5
Grenada	3.7
Trinidad and Tobago	12.0
Central Europe	
Hungary	6.1
Poland	4.2
Ukraine	25.2

Table 6.1 *Estimated inflation rates for selected developing economies in 2008*

Source: World Fact Book, *CIA, 2009*

The recent inflationary history of Japan is particularly interesting as well as being unusual. This is shown in Figure 6.1. Even before 2003 retail prices were falling. This prompted and indeed was hastened by price cuts at many food stalls and the growth of discount stores selling cheap imported clothing and household items. Even McDonalds saw the need to slash prices. Despite increased corporate profits and a massive injection of government spending, job losses persisted and prices continued to fall until 2007 when it appeared that economic normality had

% change per annum over a period of time	Outcome
<5	Very mild inflation which can actually aid competitiveness.
5–9	Mild inflation, which must be kept under control to avoid future difficulties.
10–19	Inflationary pressures build up with increased wage demands and high interest rates; savings begin to be affected. Strict policies essential if problem is to be resolved.
20–50	Serious inflation. Economic relationships in real danger of breaking down. Confidence in money is seriously eroded.
50 and above	Signs of hyperinflation. Depending on severity, domestic economic structures collapse and currency becomes worthless on foreign exchange markets and also internally.

Table 6.2 *Degrees of inflation*

returned. Throughout the entire period, Japan has had a big balance of trade surplus.

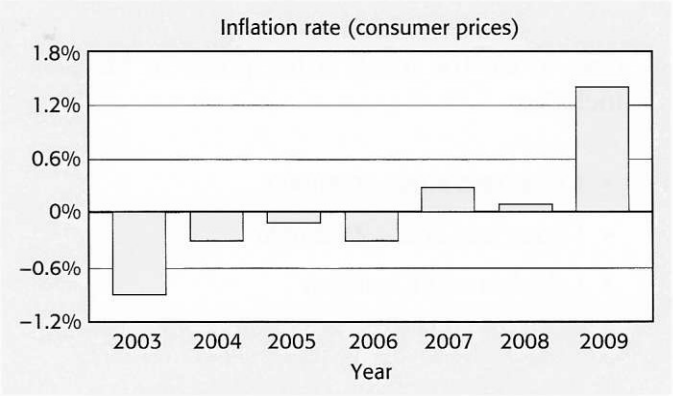


Figure 6.1 *Japanese inflation rate, 2003–2009*

Main causes of inflation

The persistent high rates of inflation that have been recorded by some countries have led to considerable interest amongst economists as to the causes of this inflation. A good starting point, as noted in Chapter 5, is **monetary inflation** and what the well-known US economist Milton Friedman had to say about inflation. He said that 'inflation is always and everywhere a monetary phenomenon'. In other

SELF-ASSESSMENT TASK 6.2

Read the feature below and then answer the questions that follow.

The millionaires who cannot afford to buy anything

The 100 billion Zimbabwean dollar note that went into circulation this week was officially worth just over 50p. On Harare's burgeoning undercover markets it was worth just 16p. Hours after printing, the price of a loaf of bread shot up by about 40% to Z$130000. These new notes are strictly speaking not currency – they are 'bearer cheques' signed by the governor of the central bank and have an expiry date of 31 December 2006.

Zimbabwean 100 billion dollar bill

At present, the highest denomination banknote is Z$50000. A typical restaurant meal for four is about Z$15 million – it is likely to take almost as long to count out the notes to pay the bill as it does to eat the meal! Other prices in May 2006 include:

- 1 litre fresh milk – Z$80000
- 1 litre Coca-cola – Z$120000
- 1 chicken – Z$1.2 million
- Small portable TV – Z$23 million
- Mercedes-Benz C180 – Z$15 billion

For Zimbabwe's people, everyday life is a misery. They stand in shops with two bags: one full of money, the other for the food they are purchasing. Many cannot afford public transport and many of those in employment get up in the middle of the night to walk to work. The currency is worth less each day. A barter system is rapidly emerging and farm workers invariably prefer to be paid in produce rather than a stack of banknotes that lose value as soon as they are received. Only condoms, which cost Z$300 because they are heavily subsidised by the international community, seem to be inflation-proof.

Source: The Times, *8 May 2006 (adapted)*

1 Zimbabwe is clearly experiencing severe hyperinflation. What effects is this having on the internal and external operation of the macroeconomy?

2 See what you can find out about how countries such as Argentina, Brazil and Nicaragua have dealt with similar hyperinflation problems.

words, periods of inflation coincide with increases in the money supply. So:

↑ money supply → ↑ rate of inflation

There is though an important qualification; namely, that this will only occur if the rate of growth of the money supply is greater than the increase in the level of output in the economy, so forcing up prices. This has been an obvious cause of inflation for some of the economies shown in Table 6.1 above, particularly Zimbabwe where the printing of money has been reckless. The Quantity Theory is an example in the macroeconomy of supply being greater than demand. This is illustrated in Figure 6.2 which shows that:

- the demand curve for money is like any other demand curve – people want to hold a larger quantity of money when the value falls as they need more money to buy their particular purchases
- the supply curve for money is vertical since it is fixed by the central bank
- at the initial equilibrium (X), the demand for money and supply of money are balanced – the value of money is at v and the price level at p
- an increase in the supply of money (for example by printing more notes) shifts the supply of money from S_1 to S_2
- the outcome is that there is a new equilibrium position at Y where the value of money has halved and the price level has doubled.

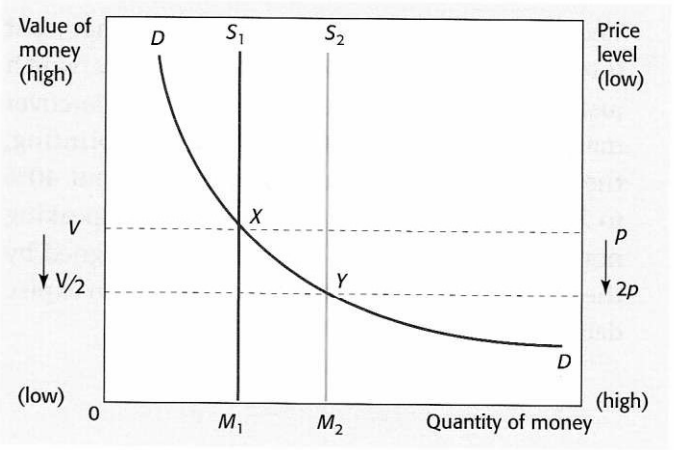


Figure 6.2 *The effects of an increase in the money supply*

Monetarists such as Friedman make use of the so-called **Quantity Theory of Money**. This theory is based on an interpretation of the equation

$$MV = PT$$

where M is the money supply, V is the number of times money changes hands, P is the price level and T is the output or transactions in the economy.

This equation (or Fisher equation as it sometimes known) has to be true since both sides represent total expenditure in the economy. By holding V and T constant, as they are unaffected by changes in the money supply, it follows that a change in the money supply causes an equal percentage change in the price level.

This is a highly simplified representation of what is a most complex situation, but it can be used to show quite clearly how the reckless printing of money can result in an increase in the general level of prices. This has clearly happened where governments have sought to get out of debt and finance their own spending by simply printing more money. It is by no means the only reason – where there is war, political upheaval and civil unrest, high inflation can result as people panic and lose confidence in the money supply, preferring to hold their assets in physical rather than monetary forms (see below).

There are two other recognised causes of inflation. Most developing economies rely heavily on imported oil. There have been times when actions by the Organization of the Petroleum-Exporting Countries (OPEC) have resulted in oil supplies being restricted. As demand is largely unaffected, basic economics tells us that prices will rise. So, in this case of what is known as **cost-push inflation**, prices are forced upwards. Higher oil prices quickly lead to a rise in domestic inflation across all oil-importing countries. Relatively, developing economies are more seriously affected than their developed counterparts and have to suffer:

- higher raw material costs (metals as well as oil)
- higher prices for imported consumer goods
- escalating food prices due to inceasing demand and supplies being used for bio-fuels
- increased demands for higher wages to cover the increased cost of living

so triggering a cost-induced inflation. Cost-push causes were clearly an important cause of the rates of inflation shown in Table 6.1. Another cause of cost-push inflation, again of particular relevance for developing economies, is where there is a substantial fall in the foreign exchange rate of their currency. The Brazilian cruzeiro and the Thai baht are two recent examples of currencies which have been affected in this way. The fall means that the price of imports into their domestic economies increases rapidly, although export prices, in terms of other foreign currencies, are lower. A worrying consequence of a substantial fall over a short period is that people lose confidence in that currency, both at home and in the international market. In turn, this further fuels inflation.

The third main cause of inflation is **demand-pull inflation** which occurs when there is an increase in the total demand for goods and services in an economy. It is so called because this increase in demand 'pulls' prices upwards if the economy does not have spare capacity to meet these increased needs. This cause of inflation has been used to explain inflation in many more developed economies at various periods over the past 40 years, mainly when an increase in consumer spending (often government induced) at a time of low unemployment has pulled up the price level.

Finally, though, an important word of warning. Inflation in practice is a complex phenonomen. Its causes are often complex, not necessarily just one of the simple reasons stated above – so much so in fact that economists invariably disagree about the actual line of causation.

Consequences of inflation

The effects of inflation depend on:

- the rate at which it is rising
- whether the rate is accelerating or stable
- whether the rate is the one which had been expected
- how the rate compares with that in other countries.

The inflation rate

An inflation rate of 20% is likely to cause more problems than an inflation rate of, say, 2% because

money will be losing its purchasing power at a rapid rate. A very high rate of inflation is known as **hyperinflation** and when this occurs, people will lose confidence in money and may even go back to barter for their day-to-day needs.

In Germany, between 1913 and 1923, the price level rose 755 700 million times and people switched from using cash to using cigarettes to buy goods. More recently in Georgia in 1994 when inflation reached 15 000%, a wheelbarrow was needed to carry enough money to purchase a loaf of bread. The more recent case of Zimbabwe where inflation was around 11 million% from 2007 to 2008 was an all too clear illustration as to how an economy can just disintegrate when monetary controls are completely and utterly discarded.

Hyperinflation can also cause political instability. People become dissatisfied with the government's failure to control the high rise in prices and may look to parties offering radical solutions to the problem. Again, in Zimbabwe, this has been the case. Even less dramatic inflation rates of, say, 10% can cause problems. People who are on a fixed income or on an income which does not rise as fast as inflation will experience a fall in their purchasing power.

High rates of inflation also mean that people and companies may lose considerable purchasing power if they keep money lying idle and not earning interest. Economists refer to this as **shoe leather costs**. These are the costs involved in moving money from one financial asset to another in search of the highest rate of interest. The term can also be applied to firms and consumers spending more time searching out the lowest prices.

Inflation makes it more difficult to assess what is happening to the price of goods and services. A rise in the price of a good may now not mean that it has become more expensive relative to other goods – indeed it may have risen by less than inflation and so have become relatively cheaper. This tendency for inflation to confuse price signals is referred to as inflationary noise. It can result in consumers and producers making the wrong decisions. For example, producers seeing the price of their good rising may increase output when this higher price is the result of inflation rather than increased demand. This will result in a misallocation of resources.

Firms will also suffer from **menu costs**. These are the costs involved in changing prices. For example, catalogues, price tags, bar codes and advertisements have to be changed. This involves staff time and is unpopular with customers.

Whilst there are clear disadvantages of a high rate of inflation there can be advantages of a low, stable rate of inflation of, say, 2%. If the rise in the general price level is caused by increasing aggregate demand, firms can feel optimistic about the future. They will also benefit if prices rise by more than costs since this will mean that profits will increase.

Inflation may also stimulate consumption. This is because real interest rates may be low or even negative as the nominal rate of interest does not tend to rise in line with inflation. So debt burdens may fall and people may be able and encouraged to spend more. For example, those who have borrowed money to buy a house may experience a fall in their mortgage interest payments in real terms. At the same time the price of their house is likely to rise by more than inflation, which may make them feel better off, and so they may spend more.

The existence of inflation may also help firms which need to reduce costs to survive. For most firms the major cost is wages. With zero inflation, firms may have to cut their labour force. However, inflation would enable them to reduce the real costs of labour by either keeping nominal (money) wages constant or not raising them in line with inflation. During inflation workers with strong bargaining power are more likely to be able to resist cuts in their real wages than workers who lack bargaining power. At a time of recession and low inflation, job losses are inevitable.

Accelerating versus stable inflation

An accelerating inflation rate is likely to have more serious consequences than a stable rate. If, for example, inflation three years ago was 5%, two years ago it was 8% and last year it was 15%, people and firms will be likely to expect a further rise in inflation. The way they react is likely to bring about what they fear. For example, workers may press for higher wages, firms may raise prices to cover expected higher costs and consumers may seek to purchase goods now before their prices rise further. Accelerating, or indeed fluctuating, inflation will also

cause uncertainty and may discourage firms from undertaking investment. The need to devote more staff and effort to estimating future inflation will also increase administration costs. If, on the other hand, inflation is stable it will be easier to predict future inflation and hence easier to plan and protect people from the harmful effects.

SELF-ASSESSMENT TASK 6.3

The rate of inflation in Pakistan was reported to have been 20.3% in 2008. Explain what this figure means and how it might have been calculated.

Anticipated versus unanticipated inflation

Anticipated inflation is when the rise in the general price level is the one, or close to the one, expected. If firms, workers, consumers and the government have correctly predicted the inflation rate then, as mentioned above, they can take measures to avoid the harmful effects. For example, firms can adjust their prices, nominal interest rates can be changed to maintain real interest rates, consumers may be able to distinguish between changes in the general price level and relative prices, and the government can adjust tax thresholds and index-linked pensions, benefits and civil servants' pay in line with anticipated inflation.

In contrast, **unanticipated inflation** occurs when inflation either was not expected or is higher than had been expected.

Unanticipated inflation can bring with it a number of problems. As people and firms have been caught unawares they are likely to be uncertain about future inflation. This can result in a fall in consumption and investment.

There can also be an arbitrary redistribution of income. Borrowers tend to gain and lenders to lose. This is because nominal interest rates usually rise more slowly than the inflation rate. So real interest rates often fall with inflation. This is very much the case in many countries where interest rates have fallen to zero per cent or thereabouts.

Income may also be transferred from the old to the young as the former tend to be net savers whilst the latter tend to be net borrowers. This transfer also happens because as state pensions are raised in line with inflation, they fall behind wages which usually rise at a faster rate than inflation.

International price competitiveness

Inflation may make a country's goods less price competitive. This may result in balance of payments problems. Consumers at home and abroad may turn away from buying the country's goods and services, which may cause a deficit in the trade in goods and the trade in services sections to increase. The uncertainty that arises from inflation may also discourage financial and capital investment in the country.

In a **floating exchange rate** system (see below), a fall in demand for a country's goods and services and a reduction in the inflow of investment from abroad will reduce the exchange rate. This in turn will lower export prices and, at least initially, restore price competitiveness. However, there is a danger that a vicious cycle will develop with inflation causing a lower exchange rate which in turn results in higher import prices, cost-push inflation and then a fall in the exchange rate. Also, if the root cause of the inflation is not tackled, it will continue.

However, inflation will not necessarily have adverse effects on the country's international trade position. If the country's inflation rate is below that of its main competitors, its goods and services will become more price competitive. In addition, if a country's goods and services were originally cheaper than their rivals, even with a higher inflation rate they may still be at a lower price.

Balance of payments problems

Introduction

The structure of the balance of payments was outlined in Chapter 4. In principle, the overall deficits and surpluses for any economy should balance – this is a function of the way in which the accounts are drawn up and how the inclusion of a balancing item (net errors and omissions) produces an outcome which is seemingly in equilibrium. The same is true on a global scale. A surplus on the balance of payments for one country for example, is offset by a deficit or deficits elsewhere. So, if this

is the case, why are economists concerned about balance of payments problems?

In order to answer this question it is necessary to distinguish between equilibrium and disequilibrium in the balance of payments. In this context, equilibrium has a rather different meaning to the way the term was introduced in Chapter 2. In a balance of payments context, equilibrium refers to a situation where manageable deficits are cancelled out by modest surpluses over a period of time. Under such circumstances there is no particular tendency for the exchange rate to change (see below). So, on a short-term basis it does not necessarily mean that a deficit is bad and a surplus is good.

Two situations of equilibrium are described below:

- **Where the imports of goods and services exceeds exports but where this is offset by an inflow of foreign direct investment**. In other words, a current account deficit is counterbalanced by a financial account surplus. The UK economy is a good example of this.
- **Where the exports of goods and services exceed imports but where there is substantial investment abroad by companies and residents**. Here, a current account surplus is recorded, but matched by a deficit on the financial account.

It is difficult to put a time period on these short-term positions – the crucial thing is not to look at the balance of payments of an economy on a one-year only basis.

Disequilibrium occurs when, over a particular period, a country is recording persistent deficits or surpluses in its balance of payments. It has to be recognised that the exchange rate is either overvalued or undervalued on the foreign exchange market. In such situations, particularly in the case of a deficit, corrective action is required in order to prevent the economy draining its foreign currency reserves or ending hopelessly in debt.

Figure 6.3 shows the rather extreme case of the US economy which historically has moved from a position of persistent annual trade surpluses to one

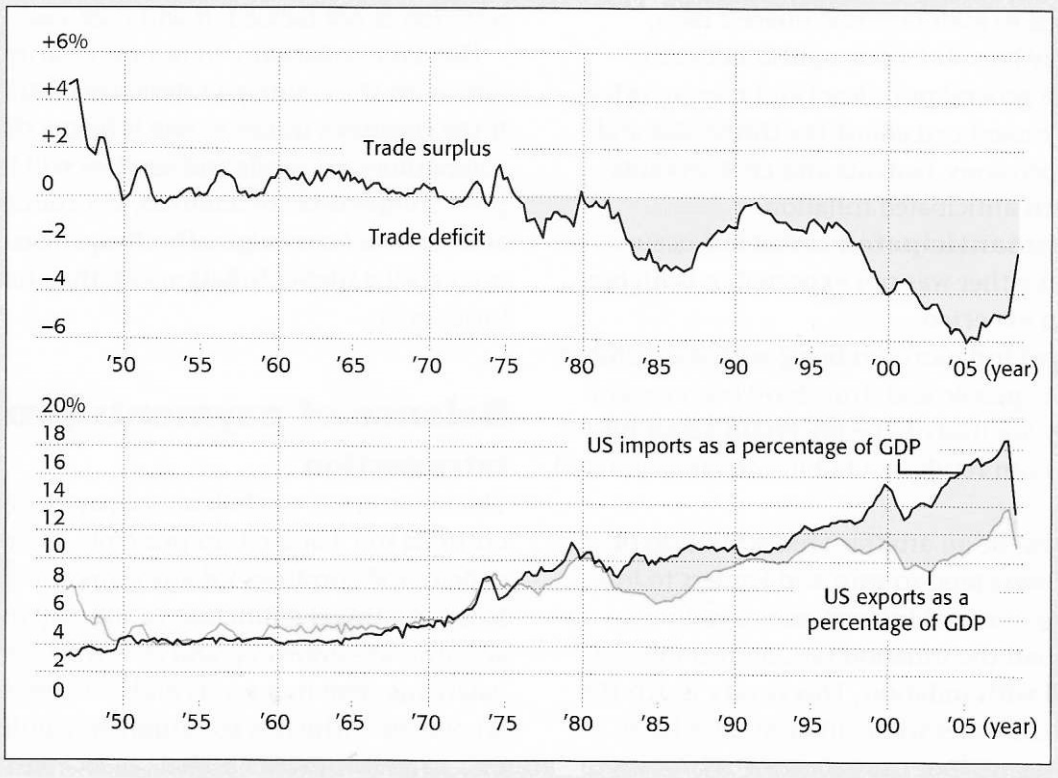


Figure 6.3 *US trade surplus or deficit as a percentage of gross domestic product*

Source: Bureau of Economic Analysis, *via Haver Analytics, reproduced in* New York Times, *2–3 May 2009*

of persistent annual trade deficits since the mid-1970s. The main reason for the US deficits is the way in which American consumers have increased their demand for imported manufactured goods, anything from clothing and electronics goods to motor vehicles. Since the onset of recession in early 2008, the deficit has virtually halved. The pain from the decline in American consumption has been felt in those countries that supply exports to the US market, notably China but also other South East Asian economies and Germany. Declining trade deficits in the US have been matched by declining trade surpluses in these and other countries that have been net exporters of manufactured goods. This is one reason why China has embarked on a massive government-funded stimulus programme and why the previously strong German economy has faltered with recession. There is therefore clear evidence that 'when the US sneezes, the rest of the world feels the effects'. This evidence is further supported by a fall in US exports, albeit at a lower rate than the fall in imports. This too is shown in Figure 6.3.

The problem of debt will be analysed in the Supplement section. The significance for the balance of payments of many developing economies is that large sums of capital were borrowed from commercial banks in the 1970s and early 1980s to fund development projects from which it was expected future income streams would be generated. Many such projects have turned out to be very poor investments. In other cases the money has been spent on other things or has been used corruptly by recipients. The legacy is one of chronic balance of payments deficits. The problem for many developing countries is that a very substantial part of their export earnings has to be paid annually in order to service this debt.

With this in mind, disequilibrium in the balance of payments can arise where:

- the imports of goods and services exceed exports and the financial account is in deficit
- exports of goods and services may just exceed imports but there is a persistent deficit on the financial account
- exceptionally, there is a large surplus on the current account, generating an overall balance of payments surplus. A pertinent example of an economy in this situation for many years has been the case of Japan.

Current account contrasts in emerging and developing economies

Some of the largest South East Asian economies are still running large trade surpluses despite recession in the global economy. This is clearly shown in Table 6.3, notably in the case of China, but also for Indonesia, Malaysia, Singapore and Thailand. All are exporters of a wide range of consumer goods to markets in the US, the EU and Australia. Singapore is also a major provider of financial and other business services.

	Trade balance (US$ bn)	Current account balance (US$ bn)
China	+250.6	+364.4
Hong Kong	−22.2	+31.4
India	−82.6	−26.6
Indonesia	+14.8	+4.4
Malaysia	+34.9	+36.7
Pakistan	−14.4	−8.9
Singapore	+18.6	+21.4
Thailand	+13.9	+13.2
Argentina	+16.4	+10.4
Brazil	+26.4	−17.6
Mexico	−14.6	−14.0
Egypt	−25.2	−4.4
Saudi Arabia	+212.0	+134.0
South Africa	−3.7	−15.8

Table 6.3 *Estimated current account contrasts for emerging economies, October 2008–October 2009*

Source: The Economist, *17 October 2009*

SELF-ASSESSMENT TASK 6.4

1 What is the difference between the trade balance and the current account balance of a country?
2 Use the information in Table 6.3 to compare the current account positions of Hong Kong and Brazil. What reasons might explain the differences?

In contrast, virtually all developing economies in Africa have deficits on merchandise trade and on current account balances. This is due to their need to import expensive oil, raw materials, manufactured goods and in some cases, food. Table 6.4 shows the position in 2007 prior to the onset of global recession. For some countries, in 2007, the price received for most primary agricultural products was relatively high and this boosted export revenue. The benefits though are likely to be short-lived as in 2009 many commodity prices had fallen back to the 2005 level. Many African countries are facing the added problem of substantial external debt as shown in the final column of Table 6.4.

	Trade balance (US$m)	Current account balance (US$m)	External debt (% GNI)
Central African Republic	−35	n/a	53
Congo, Dem. Rep.	−350	n/a	119
Ghana	−3660	−1040	21
Kenya	−5070	−526	26
Liberia	−333	−138	1128
Nigeria	+39000	+24202	9
Sierra Leone	−160	−101	10
Zambia	+862	−505	9
Zimbabwe	−370	n/a	110

Table 6.4 *Current account positions and external debt for selected African economies in 2007*

Source: World Development Report, *2009*

SELF-ASSESSMENT TASK 6.5

Give some possible reasons for the wide variation in the current account positions and external debt of the countries shown in Table 6.4.

Causes of balance of payments disequilibrium

Let us assume that disequilibrium is due to the first two of the situations identified earlier. This type of problem can be experienced by all economies. Three main causes of the disequilibrium can be identified:

1 The economy has a high propensity to import goods. Consequently, substantial deficits are recorded annually on the trading account. The UK is typical – the balance of trade in goods for all recent years except for 1997 has been in deficit, particularly with respect to trade with the rest of the EU. UK citizens like to purchase imported cars, clothing, footwear, food, drink, electronic goods and so on, even though all of these items can be produced in the UK. The perception of many people is that 'British is not best'. There are similar problems in developing economies. The cause though is different – such countries have very limited domestic production and have to rely on imported goods for much of their consumer demand. As far as exports are concerned, developing economies often rely heavily for their export revenue on sales of primary products on world markets. As shown in Chapter 4, the terms of trade are often unfavourable, meaning that they have to continually export a greater volume of goods for the same export revenue. It is therefore easy to see why many have trading deficits on their trading accounts.

2 There may be lack of confidence in a particular economy, resulting in few capital inflows. There may even be an exodus of capital from the economy. The determinants of the level of confidence is a complex phenomenon related to the macroeconomic variables referred to in Chapter 5, often set within a political context. Confidence may also be severely affected by one particular event, often of a political rather than of an economic origin, and this may well deter foreign investors.

3 From a shorter-term standpoint, a period of expansion in the macroeconomy, leading to increased consumer spending power, could produce a situation where much of this is spent on imported rather than locally produced goods. Imports are therefore 'sucked in' to the economy, with potentially serious problems for the overall balance of payments.

SELF-ASSESSMENT TASK 6.6

Using data you have collected, decide whether the balance of payments of your country is in equilibrium or disequilibrium. Can you explain why this is so?

Consequences of balance of payments disequilibrium

There are consequences of disequilibrium in the balance of payments for

- the domestic economy
- the external economy.

For the domestic economy, the consequence is that there will be a pressing need for corrective action (see Chapter 7). This need will be evidenced through a domestic economy which is characterised as having a very narrow type of economic structure and still heavily dependent on agriculture in the case of developing countries. For most developed economies, vast sectors of industry have suffered de-industrialisation, so increasing the demand for imported goods. Long-term unemployment therefore is an obvious consequence.

A second domestic consequence is that because of low business confidence, foreign investors are increasingly reluctant to invest in an economy with a balance of payments disequilibrium because of the risks that are involved. Economic prospects will be uncertain and there is a likely possibility that the currency may be devalued (see below). A situation like this hardly encourages new foreign investors to invest in an economy.

A third consequence is that for consumers there are likely to be fewer stocks of certain exotic imported consumer goods (e.g. perfume, designer clothes and specialist food items) and the general range will be restricted, often to products not produced domestically. Imports are also likely to have a much higher rate of tax imposed on them in order to restrict consumption.

For the external economy, it is often the case that disequilibrium in the balance of payments will put pressure on the government to introduce or upgrade some of the methods of protection described earlier in Chapter 4.

A second consequence is shown in Figure 6.4. Suppose the economy starts from the disequilibrium position shown in Figure 6.4a where at r_1 the total demand for foreign currency exceeds the supply of foreign currency by $Q_1 - Q_2$. This is a consequence of imports of goods and services exceeding exports, but

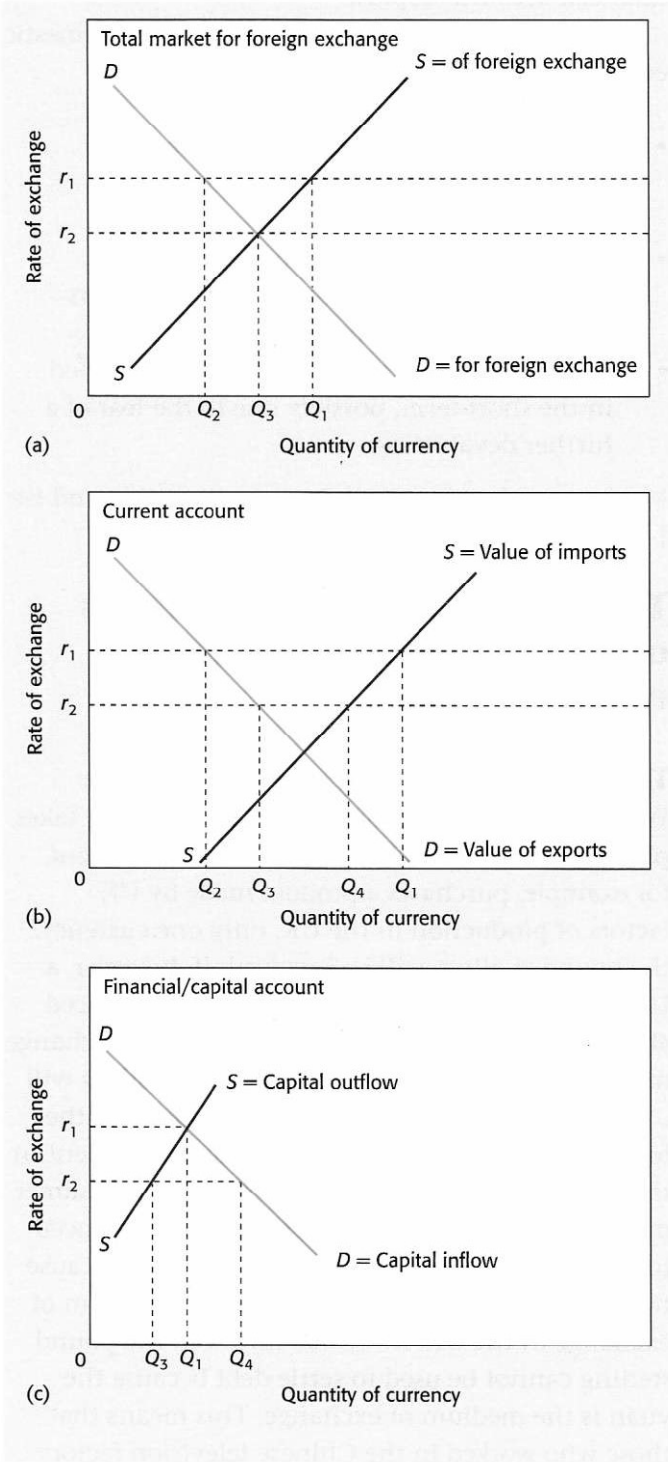


Figure 6.4 *Disequilibrium and equilibrium in the balance of payments*

with a balanced capital inflow and outflow – see Figures 6.4b and 6.4c respectively. As will be elaborated in Chapter 7, the corrective action that is needed is for the exchange rate to be devalued. This results in overall equilibrium (at r_2, Q_3) in diagram (a), with a reduced current account deficit and a financial account surplus.

In turn, though, the consequences for the domestic economy should be recognised. For example:

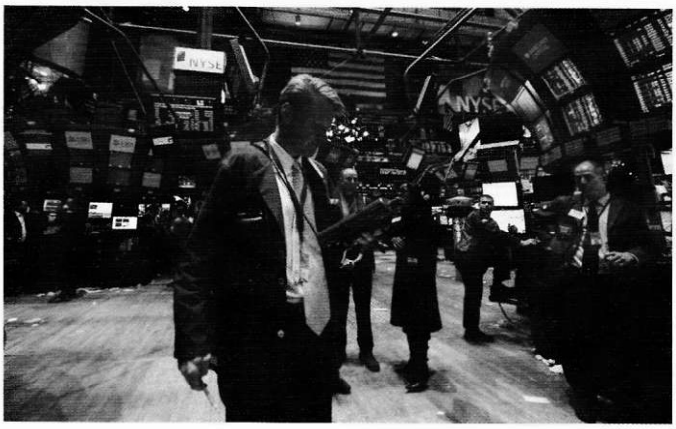
- import prices will rise, in turn increasing the cost of living and fuelling cost-push inflation
- export prices will fall – depending on the products involved, revenue may increase, as indeed will employment
- confidence in the economy might be affected in the short term, possibly due to the fear of a further devaluation.

Material on the **Marshall-Lerner** condition and the **J-curve** is on page 263.

The causes and consequences of fluctuations in foreign exchange rates

The measurement of exchange rates

When international rather than domestic trade takes place, there is a crucial difference. If a UK resident, for example, purchases a product made by UK factors of production in the UK, only one currency, the pound sterling, will be involved. If, however, a UK resident buys a good which has been produced abroad and imported into the UK, currency exchange must take place. This is because the UK resident will use sterling to buy the product in the shop but the foreign factors of production will require payment in their own currencies. If, for example, a UK consumer purchases a television set which has been produced in China he or she will use pounds sterling, because this is the currency which is used as the medium of exchange in the UK. In China, however, the pound sterling cannot be used to settle debt because the yuan is the medium of exchange. This means that those who worked in the Chinese television factory will not accept the pound in payment of their wages. They will insist that their wages are paid in yuan.



Foreign exchange market in New York

At some stage in the transaction, currency exchange must take place and pounds must be exchanged for yuan. The exchange of one currency for another takes place in the foreign exchange market.

Nominal exchange rates

The nominal value of the exchange rate is simply the price of one currency in terms of another, so that for example we might quote the price of the pound sterling in terms of the yuan, or the price of the US dollar in terms of the yen. The prices of foreign currencies are usually quoted daily in the national newspapers. Table 6.5 gives a few examples of the exchange rate of the yuan against other selected currencies. Changes in the nominal exchange rate

Currency	Exchange rate in yuan
US dollar	6.82653
euro	10.2200
UK pound	11.2098
Hong Kong dollar	0.880845
Japanese yen	0.0754076
Mauritius rupee	0.224941
Pakistan rupee	0.0820484
Saudi riyal	1.82041
Thai baht	0.204327
Trinidad/Tobago dollar	1.08444

Table 6.5 *Currency exchange rates against the yuan, 20 October 2009*

Source: x-rates.com

of one country's currency with that of another will affect the transaction price of goods and services bought and sold between these two countries. Because one country's currency is expressed in terms of that of one other country, nominal exchange rates are bilateral rates.

Trade weighted exchange rates

As explained, changes in the nominal exchange rate of one country's currency with that of another will alter the price of goods and services traded between these two countries. In the global economy, however, most countries trade with lots of other countries. A country's nominal exchange rate may be falling against the currency of some of its trading partners and rising against those of others. In 2009, for example, the UK pound depreciated against all other major currencies such as the euro, the yen and the Swiss franc compared to the same period in 2008. It was much more volatile in relation to the US dollar, ending the year at almost the same rate as the previous year.

A far more useful measure of exchange rate changes is arrived at through the **trade weighted exchange rate**. This is a measurement in index form of changes in the value of a country's currency against a basket of other currencies. These are weighted according to the relative importance in trading terms for the country in question of each of the currencies in the basket. If, for example, the UK undertakes three times as much trade with the US as with Japan, the US dollar will be given three times as much weight in the calculation of the index as the Japanese yen. Since the currencies of more than two countries are involved in the calculation of a trade weighted index, this is known as a multilateral exchange rate.

The real effective exchange rate

As stated earlier, changes in a country's exchange rate will affect the transaction prices of goods and services which that country imports and exports. These transaction prices are not only affected by changes in the exchange rate; they are also affected by differences in inflation rates between trading countries. As a result, changes in the real value or real effective exchange rate are calculated. This adjusts changes in exchange rates to take into account relative rates of inflation. For example, if a country's exchange rate is depreciating, as was the case for the UK in 2009, this means that exported goods from this country have now become cheaper in foreign markets. This is because a given amount of that country's currency can now be purchased using less of the importing country's currency. Effectively the impact of the declining exchange rate is that the price of the good has fallen in the foreign market. It may be, however, that the exporting country has been suffering from inflation at a higher rate than the inflation rate in the overseas market. As a result, in real terms its export prices could actually be increasing. Whether the exported goods are actually cheaper in the importing country depends upon the exchange rate change, together with the effects of any price changes in both of the trading countries. The real effective exchange rate takes price changes as well as exchange rate changes into account. It is the most accurate way of measuring changes in the competitiveness of an economy's goods and services in global markets.

The determination of exchange rates

The buying and selling of foreign exchange takes place on the foreign exchange market. Importers of goods into the UK will use pounds sterling to buy the currency of the country from which they are purchasing the goods. This act provides a supply of pounds on to the foreign exchange market. Similarly, those who have bought products from the UK will be using their own currencies to purchase pounds – this action creates a demand for pounds.

The foreign exchange market does not exist in a single location but is made up of banks and other financial intermediaries that buy and sell foreign currency on behalf of their private and business customers. There is a continuous flow of currency through the market on a particular day. The price of the currency or exchange rate is determined by the relative strength of the supply and demand for the currency.

So far we have considered the supply and demand for pounds which arises from the export and import of goods into the UK. There are, however, other sources of the demand for and supply of pounds on the foreign exchange market.

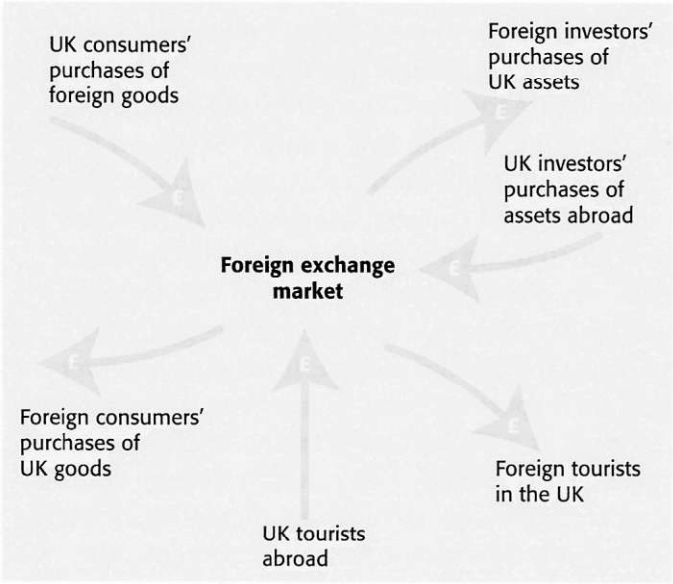


Figure 6.5 *Currency flows on to the UK foreign exchange market*

Figure 6.5 shows the flows of currency on to the market. These are indicative of the structure of the balance of payments (see Chapter 4) and are generated through trade in both goods and services and in addition, short- and long-term capital flows that move between economies in search of the highest returns.

The determination of the equilibrium exchange rate in a free market

In a free market, the value of the exchange rate is determined solely by the forces of supply and demand. Figure 6.6 shows the supply and demand for pounds on the foreign exchange market. For simplicity we will illustrate this only with reference to the relationship between the pound and the US dollar.

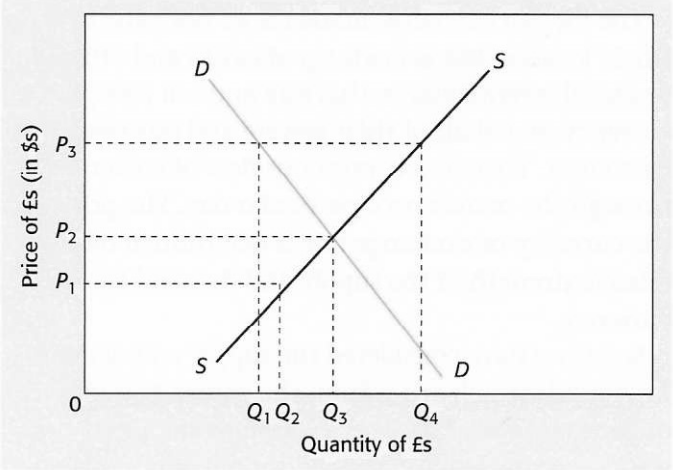


Figure 6.6 *Exchange rate determination in a free market*

In this diagram we see that the demand for pounds slopes down from left to right. This is because when the price of the pound in terms of dollars is high at P_3, then British goods and services are expensive to US consumers – they have to pay lots of dollars to gain pounds. As a result, the demand for British goods and services will be very low in the US and this means that few pounds are demanded on the foreign exchange market. As the value of the pound falls against the dollar, however, US consumers can gain more pounds for their dollars and so more pounds are demanded on the foreign exchange market. The supply curve of pounds is shown to be upward sloping from left to right. This is because when the pound is very low against the dollar, for example, P_1, then US goods are very expensive in the UK. Few UK consumers will buy US goods and, as a result, few pounds will be supplied to the foreign exchange market. As the value of the pound against the dollar rises, US goods become more affordable to the UK consumers and more pounds are supplied to the market.

Now imagine that the price of the pound on the foreign exchange market is at P_3. Here the pound is overvalued because UK exporters have difficulty selling in the US market. Their goods are too expensive. The demand for pounds is very low but, because US goods are so cheap in the UK, British consumers are buying lots of US goods and services and supplying lots of pounds to the market. As we can see, at this exchange rate there is an excess of pounds on the market. Whenever there is an excess supply in a free market, market forces will result in a fall in price. The exchange rate of the pound will fall to an equilibrium rate at P_2 where supply equates to demand.

SELF-ASSESSMENT TASK 6.7

With reference to Figure 6.6, explain what would happen to the value of the pound if the rate was at P_1.

Causes of changes in the equilibrium exchange rate

Any change in supply or demand for a currency will cause a depreciation or appreciation in the exchange rate.

For illustration we will now consider the market for US dollars in terms of all other currencies.

A depreciation in the exchange rate

A **depreciation** in an exchange rate can occur, as shown in Figure 6.7. Here there has been a fall in the demand for the dollar. This is represented by a shift of the demand curve to the left and could be caused, for example, by the following:

- **A reduction in the number of US goods and services sold abroad**. Importers of US goods and services are demanding fewer dollars to settle accounts with US firms. This could be caused, for example, by an increase in the price of US goods and services due to inflation or a longer-term decline in the quality of US goods and services.
- **A reduction in the number of international investors who wish to place their funds in the US economy**. This might be because interest rates in the US are lower than in other economies and, as a result, give a poorer return to investors.

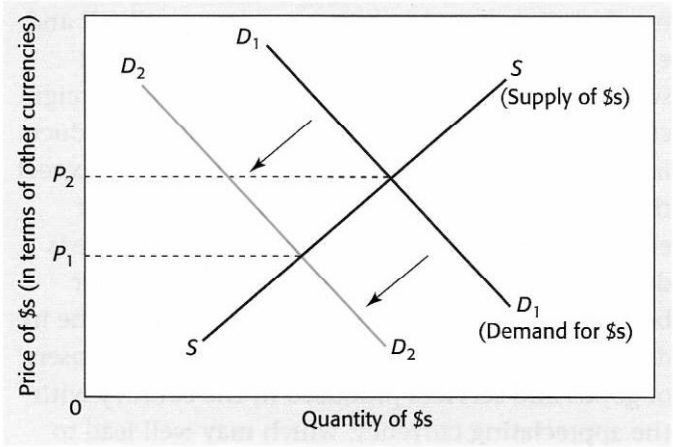


Figure 6.7 *A depreciation in the dollar exchange rate*

An appreciation in the exchange rate

An **appreciation** in the exchange rate can occur as shown in Figure 6.8. Here there has been a decrease in the supply of the dollar. This is represented by a shift in the supply curve to the left and could be caused, for example, by the following:

- **A decrease in the number of foreign goods and services imported into the US**. US importers are using dollars to purchase foreign currency on the foreign exchange market. They provide a supply of dollars on to the market. The fall in the number of foreign goods purchased in the US could be caused by a rise in the price of foreign goods and services relative to those produced in the US, or perhaps there has been a decline in the quality of foreign goods and services.
- **A decrease in the number of US investors who want to place their funds in foreign economies**. Again, if interest rates fall abroad, then US investors will want to place their funds in US banks rather than abroad. They will now choose not to exchange their dollars for foreign currencies and the supply of dollars on the foreign exchange market will decrease.

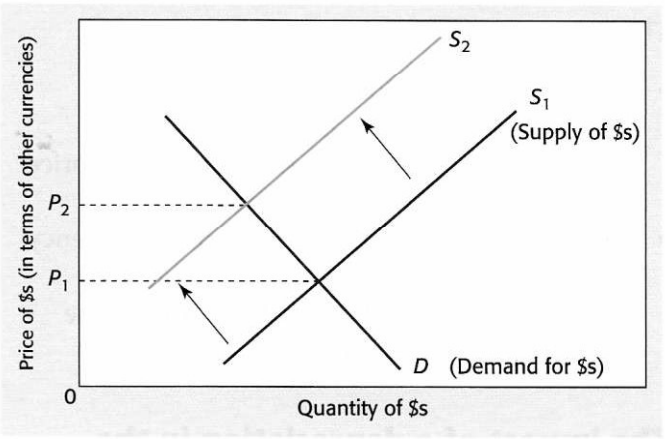


Figure 6.8 *An appreciation in the dollar exchange rate*

SELF-ASSESSMENT TASK 6.8

Consider the impact of the following changes upon the value of the dollar. Provide a sketch for each change.

a A rise in interest rates in the US.
b A substantial current account deficit on the US balance of payments.

Effects of changing exchange rates on the economy

As stated earlier, if there is a change in the value of a country's currency against that of others it will change the transaction price of any goods and services which that country buys or sells in international markets.

The effects will be as follows:

- A fall or depreciation in the value of the exchange rate will mean that the price of imports into the country will rise and the price of the country's exports will fall.
- A rise or appreciation in the country's currency will mean the opposite, that is the price of imported goods will fall and the price of the country's exports will rise.

The impact of a depreciation in the exchange rate

As we have seen above, a balance of payments deficit will cause a depreciation in a country's currency, which will mean that import prices will rise. This will have a number of consequences. Domestic manufacturers who sell in the home market will find that their goods are now more competitive compared to imported manufactures that have now become relatively more expensive. They may find that there is an increase in demand for their products and they will try to expand production to meet this demand. There will be an increase in the demand for the factors of production, including labour. The impact of this will depend upon the level of employment in the economy. If there is a lot of spare capacity in the economy with lots of labour unemployed we would expect unemployment to fall. As full employment is approached, however, labour becomes increasingly scarce and, as a result, we would expect labour to ask for higher wages. Because they are facing increased demand, manufacturers will be prepared to pay the higher wages and pass this on to the consumer in the form of higher prices.

The extent to which cost increases can be passed on to consumers depends upon the price elasticity of demand for domestic manufactured goods. The higher this is for domestically produced manufactured goods, the less domestic manufacturers will be able to raise prices. Nevertheless, we would expect some inflationary pressure because of increases in the demand for domestically produced goods when an economy's currency depreciates. Inflationary pressure will also arise from the supply side of production when a currency depreciates. This is because any imported raw materials will become more expensive when the exchange rate falls. If there are no domestic supplies of the raw material, then manufacturers have no alternative but to pay the increased price if they wish to respond to the increase in domestic sales. Again they will try to pass the increase in cost on to the consumer, so prices will tend to rise.

A depreciation of a country's exchange rate will also mean that its export prices will fall. This will mean that there will be an increase in the demand for that country's products in foreign markets. This, in turn, could be inflationary because exporting firms will be competing with other firms who are producing in a buoyant domestic market.

Despite the inflationary pressure we would expect the depreciation of the exchange rate to lead to a fall in imports and a rise in exports which could mean that the balance of payments deficit is replaced by a balance of payments surplus.

The impact of an appreciation in the exchange rate

When a country experiences a balance of payments surplus we have seen that this will cause a rise in that country's exchange rate. This will have a number of consequences. Import prices will fall and export prices will rise. Domestic consumers will switch to imported goods and services while foreign consumers will turn to their own country's products in preference to imports. As a result we would expect the volume of imports to rise and the volume of exports to fall. The extent of the volume change is determined by the price elasticity of demand for both imports and exports. There will be a decline in demand from both domestic and foreign purchasers of goods and services produced in the country with the appreciating currency, which may well lead to unemployment as producers face declining sales both at home and abroad.

The appreciation of the currency should have sufficient impact upon import and export spending that the balance of payments surplus is replaced by a balance of payments deficit.

Figure 6.9 shows how the UK pound's exchange rates against the euro (€) and the US dollar have fluctuated from October 2008 to October 2009. The greater volatility has been against the dollar. The UK's principal trading partners though are fellow EU member states which to some extent reduces the impact on the UK economy.

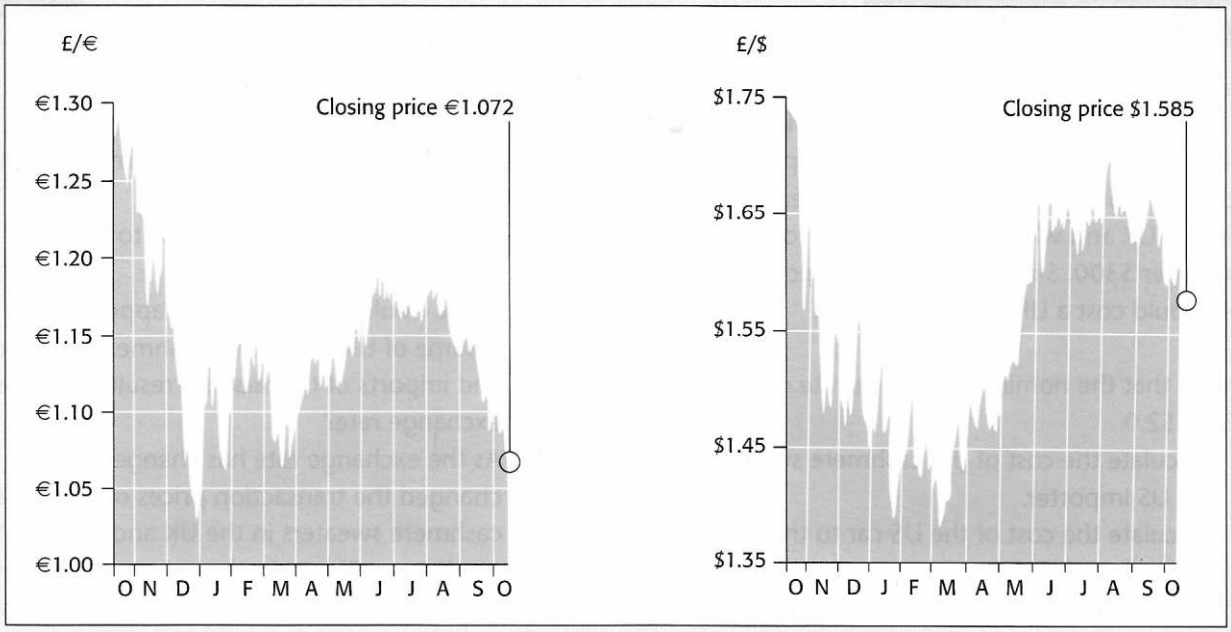


Figure 6.9 *Sterling exchange rates, October 2008–October 2009*

Source: Bloomberg

SELF-ASSESSMENT TASK 6.9

Study the information in Figure 6.9 and then answer the following questions.

1 Has the pound depreciated or appreciated against the euro and the US dollar over the period shown? Justify your answers with evidence from Figure 6.9.
2 Explain the likely effects of the exchange rate changes shown on **(a)** exporters **(b)** importers.

Exchange rate systems

In deciding upon their exchange rate policy, governments can choose between a variety of approaches. They can decide to have a floating exchange rate system. This means that the rate of exchange of a currency is decided purely by the flows of demand and supply of that currency on to the foreign exchange market. An alternative approach is for the government to intervene in the foreign exchange market either directly or indirectly to influence the value of the currency in some way. Managed exchange rate systems come in a variety of forms. The degree of intervention can vary quite considerably. A government may choose to have a **managed float**. This describes an exchange rate policy in which the value of the currency is broadly decided by market forces but the government takes action to influence the rate of change of the currency's value. If the exchange rate is depreciating for example, the government might take action to slow down the rate of fall.

Fixed and **pegged exchange rate systems** involve far more intervention. The term describes a system in which the government declares a central value for its currency and then intervenes in the foreign exchange market to maintain this value. There are several ways in which this system might work. Sometimes, for example, the value of the currency is held at a constant rate. In other systems the rate is allowed to vary within a narrow band with upper and lower limits. Sometimes the currency is pegged against one other major currency, such as the US dollar; sometimes it is pegged against a 'basket of currencies'. We need to consider in more detail how each of these systems operates, and then consider the advantages and disadvantages of each.

SELF-ASSESSMENT TASK 6.10

Calculate the impact of the exchange rate changes below upon transaction prices in the following cases. Assume that the nominal exchange rate of pound sterling to US dollars is £1 = $1.5. A cashmere sweater made in the UK and which sold for £200 would cost a US importer $300. Similarly, a US car which sold for $12 000 would cost a UK importer £8000.

1 Assume that the nominal exchange rate changes to £1 = $2.0.
- **a** Calculate the cost of the cashmere sweater to the US importer.
- **b** Calculate the cost of the US car to the UK importer.
- **c** What would you expect to happen to the volume of UK exports of cashmere sweaters and imports of US cars as a result of the new exchange rate?

2 Assume that the nominal exchange rate now changes to £1 = $1.0.
- **a** Recalculate the cost of the cashmere sweater to the US importer.
- **b** Recalculate the cost of the car to the UK importer.
- **c** What would you expect to happen to the volume of UK exports of cashmere sweaters and imports of US cars as a result of the new exchange rate?
- **d** As the exchange rate has changed it has changed the transaction prices of the trade in cashmere sweaters in the UK and the US. As a result, we will expect the volumes of imports and exports to change. Explain what further information would be required to assess the impact of these changes in sales upon total spending on exports and imports.

Floating exchange rate systems

When the value of a currency depreciates or appreciates purely as a result of market forces, that is changes in demand and/or the supply of a currency, then the exchange rate is said to be freely floating. Under this system the exchange rate is determined purely by market forces. The major advantage of this is that since the government has no exchange rate target it is free to pursue other policy objectives, such as full employment. This means that where freely floating exchange rates are adopted there is considerable independence in economic policy making.

This can be explained as follows. If a country suffers inflation at a higher rate than its competitors in world trade, then the likely outcome is that this country's goods and services become uncompetitive in world markets. Domestic consumers will turn to lower-priced imports, and consumers in overseas markets will purchase their goods and services from low inflation countries. This is likely to lead to a deficit on the current account of the country's balance of payments. As we have seen, this leads to a fall in the exchange rate of that country's currency as an excess supply of the currency occurs in the foreign exchange market. A fall in the exchange rate will restore competitiveness of the economy's goods and services, because domestic consumers will now find that they have to pay more to obtain imports. Foreign consumers will also now find that they have to give up less of their own currency to buy the exports of the country with the depreciating currency. The subsequent fall in imports and rise in exports should correct the balance of payments deficit.

This adjustment process does depend upon certain assumptions. These include the responsiveness of consumers to the price changes that result from the depreciating currency. In addition we have seen that one of the consequences of a declining currency is that inflationary pressures are created in the economy. This means that, as the currency depreciates to offset the inflation which has made the country's goods and services uncompetitive, it may well create further inflationary pressures within the economy. This will mean that the goods and services remain uncompetitive and the cycle goes on. The inflationary pressure can become so bad that there is a complete loss of confidence in the currency in both the domestic and in foreign exchange markets. Nevertheless, as explained, it is usually expected that given sufficient time it is likely that demand for exports and imports is sufficiently price elastic to ensure that the deficit is removed, despite the inflationary pressures that are created. This tendency for deficits (and surpluses) in the balance of payments

to be removed through changes in the exchange rate with no need for government action is known as an automatic adjustment mechanism.

Despite the advantages of the self-regulating nature of floating exchange rates, most governments tend to favour some degree of intervention in foreign exchange markets. This is because of a number of serious disadvantages which freely floating regimes bring. These can be summarised as follows:

- Exchange rate fluctuations discourage trade. When contracts are signed to finance international trade in goods and services entrepreneurs will assess the usual risks when considering whether a venture will result in profits being earned. They will consider their costs and revenue and this will allow them to estimate profit. In a floating exchange rate regime an extra risk is added to the transaction. A sudden fluctuation in the exchange rate might upset their calculations and wipe out estimated profit. It could, of course, result in severe losses if revenue falls below costs. There are several ways in which the risk of losses through currency fluctuation can be minimised, but the uncertainty which surrounds trade in floating exchange rate regimes remains a serious disadvantage of such a system.
- It is suggested that the fact that a floating exchange rate system has a self-regulating mechanism to deal with balance of payments deficits means that governments do not face any pressure to exercise financial discipline in their policies. As we have seen, any inflation which results from lax economic policy making is offset by a decline in the exchange rate. It is clear from the above analysis, however, that the decline in the exchange rate can itself cause prices to rise. As a result, it is claimed that floating exchange rates can be inflationary.

The disadvantages of floating exchange rates have encouraged governments to seek ways of intervening in the foreign exchange market to manage exchange rate change in order to provide stability and a favourable environment for growth in trade.

Managed exchange rate systems

If governments are to manage their exchange rates, they need to intervene in the foreign exchange market. They can intervene directly by buying and selling currencies in order to offset upward or downward pressure on the exchange rate. This means that governments must have access to a large quantity of reserves of foreign exchange sufficient to influence the price in the market. They can also intervene indirectly through variations in the rate of interest. If, for example, there is downward pressure on the exchange rate because there is an excess supply of the currency on the foreign exchange market, a rise in domestic interest rates will attract inflows of capital in search of good returns. This will create an increase in the demand for the currency and offset the downward pressure. This means that the rate of interest is used as a tool to maintain the exchange rate.

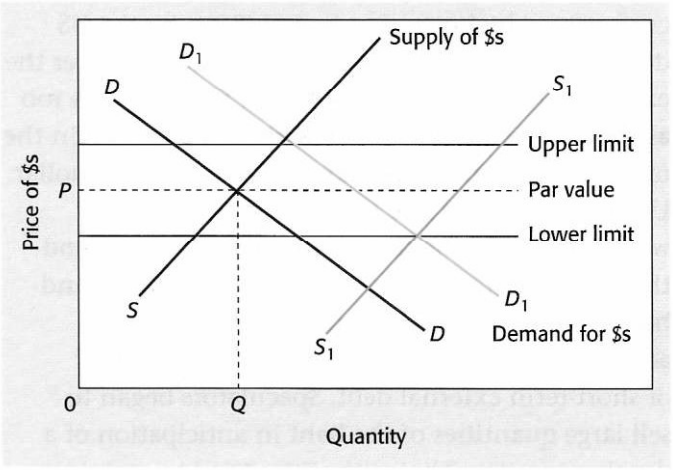


Figure 6.10 *A managed exchange rate system*

Figure 6.10 shows the principles of a managed exchange rate system, whereby the currency has a par value of 0*P*, with an upper and a lower limit. If there is an increase in the supply of dollars, for example due to an increase in imports, then the supply curve shifts to S_1. This will reduce the value of the dollar in a free market to below its agreed lower limit. To maintain the currency at its lower limit, the demand for dollars has to shift to the right, an action requiring the use of foreign exchange reserves by the government. If it wishes to return the dollar to its par value, then even greater reserves are needed to bring it back to 0*P*. This is fine in theory but in practice

can involve a massive drain on the foreign exchange reserves held by a country.

The South East Asia currency crisis of the mid-1990s

In 1996 South East Asia was hit by a currency crisis which provides a vivid example of the difficulties associated with a managed exchange rate regime. At this time most of the countries had exchange rates pegged to the value of the US dollar – the USA provided the main market for the goods and services produced and exported from here. These countries, which included Thailand, Indonesia, South Korea and Malaysia, found that pegging their rate against the US dollar would ensure that their goods and services would not lose competitiveness in the US market because of an exchange rate appreciation. This was seen as the key to export-led growth.

The crisis started in Thailand. The Thai currency unit, the baht, was rigidly fixed to a basket of currencies which was dominated (85%) by the US dollar. In 1995 the dollar began to rise and, under the exchange rate regime in operation, the baht rose too as the Thai economic policy makers intervened in the market to maintain the managed rate with the dollar. Unfortunately, the rate of inflation in Thailand was higher than the rate of inflation in the US and this resulted in a decline in Thai exports. Thailand had for some years accumulated large current account deficits and, as a result, large quantities of short-term external debt. Speculators began to sell large quantities of the baht in anticipation of a devaluation. The Thai authorities tried to maintain the value of the baht but as their reserves became exhausted they bowed to the inevitable and allowed the baht to float down. Between December 1996 and January 1998 the baht declined in value by 52.02%.

The exchange rate speculation then spread to other economies in South East Asia. The Malaysian ringgit fell by 45.98% over the same period and Indonesia's rupiah by 74.48%. South Korea was one of the most successful of the 'tiger economies'. In fact, in 1997 it was the eleventh largest economy in world. Nevertheless, its currency (the won) fell by 54.2% and this resulted in the IMF lending the South Korean government a total of $57 billion, its largest ever rescue package. The fallout even spread to Japan with the yen falling to an eight-year low against the US dollar.

The currency speculation then spread to other regions. In August 1998 and at the beginning of 1999 crises occurred in Russia and then Brazil. The Russian government had maintained a managed exchange rate between the rouble and the dollar, but, as the speculators turned their attention to the rouble, the Russian authorities were forced to abandon their support for the rouble and it declined in value by 50% in ten days. Brazil's currency, the real, depreciated by 22% in two days.

The world economy was on the point of collapse, but complete disaster was averted because the central banks of the US and Europe took action to restore confidence in world financial markets. In addition, the health of the US economy ensured that the threatened economies of South East Asia could restore their economies through sales of exports to US consumers.

SPECIMEN EXAM QUESTIONS

The following questions have been set in a recent CIE examination paper.

1 a Explain the difference between cost-push and demand-pull inflation. [8]

b Discuss whether a country experiencing inflation will always have a balance of payments problem. [12]

[20 marks]

(October/November 2006)

SUMMARY

In this core section it has been shown that:

- All types of economy are concerned about problems of inflation, balance of payments disequilibrium and fluctuations in their exchange rates.
- These problems have particular relevance and significance for developing economies.
- Inflation is caused by monetary, cost and demand factors.
- If unchecked, inflation affects the domestic and external well-being of a country.
- Disequilibrium in the balance of payments of an economy is caused by a high propensity to import, a lack of confidence in an economy and an expansion in the domestic economy of a country.
- This disequilibrium can have an adverse effect on the domestic economy and lead to a fall in the foreign exchange rate compared with major currencies.
- There are three main types of exchange rate – nominal, real and trade weighted.
- Exchange rates are crudely determined by the demand and supply of a foreign currency in international markets – under certain circumstances, the change in exchange rates may not occur or is managed between certain specified limits.
- Exchange rates can depreciate or appreciate as a consequence of changes in demand or supply for a currency.
- Changing exchange rates affect import and export spending and the balance of payments of a country.

6 Macroeconomic problems *Supplement*

On completion of this supplement section you should know:

- the difference between economic growth and economic development
- how economies can be classified in terms of indicators of their comparative development
- how economists measure the many characteristics of developing economies
- the difference between actual and potential growth
- what factors cause economies to grow
- why economic growth can have certain costs as well as benefits
- how to define unemployment and the problems of its measurement
- the main causes and consequences of unemployment
- the relationship between the internal and external value of money
- the relationship between the balance of payments and inflation
- the relationship and trade-offs between inflation, unemployment and the balance of payments.

Economic growth and development

Economic growth

Economic growth occurs when an economy achieves an increase in its national income, measured by Gross National Product (GNP), in excess of its rate of population growth. This will lead to an increase in GNP per capita. For many years it was assumed that the existence of poverty in many of the world's poorer economies could be eradicated if these countries managed to sustain economic growth over a period of time. As a result economic growth was seen as synonymous with economic development. If economies grew they would also experience development. It was assumed that increased availability of goods and services in an economy would lead to a 'trickle down' effect which would have an impact upon all, including the poorer members of society, in terms of jobs and other economic benefits. In reality, however, despite the fact that in recent years many developing countries have achieved quite high growth rates, it has been observed that, although economic growth has resulted in benefits for poorer members of society in some countries, in others the levels of living for the mass of the population have remained unchanged. In some cases this level may even have deteriorated. As a result, a wider perception of economic development is now accepted which is related to, but distinct from, economic growth. In other words, economic development is the process of improving people's economic well-being and quality of life. Economic growth is the actual annual percentage change in output.

Economic development

In its *World Development Report* of 1991 the World Bank offered the following view of development:

> 'The challenge of development ... is to improve the quality of life. Especially in the world's poor countries, a better quality of life generally calls for higher incomes – but it involves much more. It encompasses as ends in themselves better education, higher standards of health and nutrition, less poverty, a cleaner environment, more equality of opportunity, greater individual freedom, and a richer cultural life.'

This statement remains true. Although it acknowledges that economic growth is important, it makes it clear that higher income in itself is not sufficient to ensure that there is a rise in the

Read the feature below and then answer the questions that follow.

Asia's emerging economies are leading the way out of recession

The emerging economies of Asia, notably China, Indonesia, South Korea and Singapore, are important exporters of goods and services to developed economies. At a time of global recession there was a strongly held view that they could not themselves revive until customers in the rich world revived.

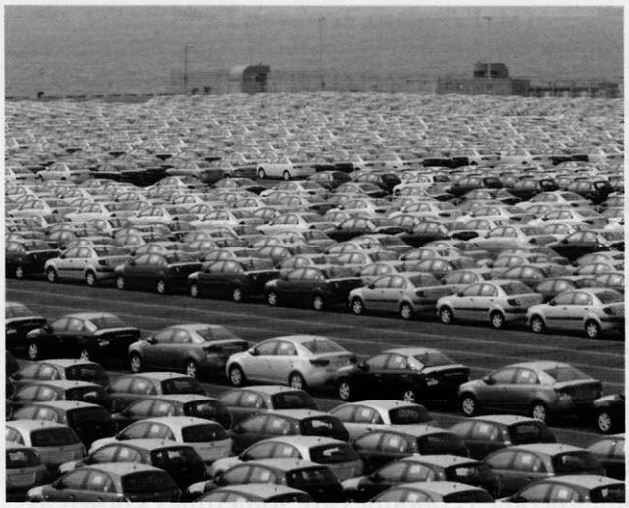
According to the IMF's Word Economic Outlook (April 2009), the euro area and the UK will continue to experience negative growth in 2009 whilst in 2010, the projected growth rate will be less than 0.5%. Growth in the US is forecast to be a little more at 0.8%.

In contrast, for the second quarter of 2009, four emerging Asian economies have reported annualised growth rates that average more than 10%. Even Japan seems to be recovering at a faster rate than its Western peers. Overall in 2009, emerging Asia is forecast to grow by around 5%, at a time when the G7 economies could contract by 3.5% (see Figure 6.11).

So what have been the causes of this recovery from recession at a time when developed economies are struggling? Various reasons can be given. These include:

- Manufacturing is very important in Asian economies, particularly cars and electronics. Output will spurt ahead at the first signs of recovery.
- The region's decline in 2008 was exacerbated by the freezing of global trade finance. This is now flowing again.
- Significantly, domestic spending has bounced back because the fiscal boost given to their economies was bigger and worked faster than in the West. Excluding India, this was due to healthier government finances. Asia's emerging consumer spending power has more than offset the drop in spending in the US and the euro area.

Figure 6.11 *Asia's emerging economies, 2008–2009*
Source: JPMorgan



Car manufacturing is very important to Asian economies

There is though a warning that this growth may not be sustained unless exchange rates rise. At present they are clearly undervalued. A rise in the Asian exchange rates against the dollar and the euro will reduce export growth but will stimulate domestic demand and real spending power. This is the real key to future sustained economic growth.

Source: The Economist, *15 August 2009 (adapted)*

1 Use economic analysis to explain how:
- **a** Asian economies benefit from a 'fiscal boost'
- **b** European and US economies benefit from a switch in consumer spending from imports to domestically produced goods.

2 Discuss why forecasts of economic growth may be unreliable.

quality of life for the citizens of a country. This is a much broader view of development than one confined purely to increases in GNP. It is one that provides a different focus for those responsible for development policy planning, and moves away from measures designed purely to increase and maintain an economic growth target. Todaro states that development must be seen as a multidimensional process:

> 'Development ... must represent the whole gamut of change by which an entire social system, tuned to the diverse basic needs and desires of individuals and social groups within that system, moves away from a condition of life widely perceived as unsatisfactory toward a situation or condition of life regarded as materially and spiritually better'.
>
> (M. P. Todaro, *Economic Development*, 1995)

Indicators of comparative development

Classification according to levels of income

The simplest way in which economies can be classified is according to the value of their Gross Domestic Product (GDP) per capita. This is used by the World Bank which classifies every economy as low income, middle income (subdivided into lower and upper middle), or high income. Low-income and middle-income economies are sometimes known as **developing economies**. Classifying economies in this way is convenient, but as we have seen, the level of development of a country goes beyond relative levels of income. It can also be misleading if it is assumed that all countries classed as 'developing' are at the same stage of development. In fact, economies grouped together in terms of income may well be at completely different stages of development. Nevertheless, categorising economies according to their levels of income provides a simple and measurable way of grouping economies. It is also a convenient way of identifying those economies in need of help and assistance from aid providers.

Low income	US$ 905 or less
Middle income	US$ 906 to US$ 3595 (lower middle)
	US$ 3 596 to US$ 11 115 (upper middle)
High income	US$ 11 116 or above

Table 6.6 *Classification of economies, GDP per head, 2009*

The thresholds between the categories are updated each year to account for international rates of inflation. As a result the thresholds are constant in real terms over time.

Classification according to levels of indebtedness

Sometimes it is useful to classify developing economies according to the degree of their indebtedness. These categories are: severely (or highly) indebted, moderately indebted and less indebted. The categorisation depends upon a number of measures of international indebtedness, the most important of which is the

proportion of GNP which is devoted to servicing the debt. The fact that such a categorisation is used is a reflection of the extent to which international indebtedness is an obstacle to economic development.

Characteristics of developing economies

The term 'developing economy' is used to describe a great variety of different countries and there are many differences between them, so in some ways it is wrong to think of them as a distinct group with the same characteristics. Very often the differences which exist between them are related to the geographical area in which the countries are located. This also means that developing countries located in the same region are usually affected by the same types of problem. The problems of developing countries in sub-Saharan Africa may, for example, be quite distinct from those of developing countries in Asia. In this sense there is no such thing as a 'typical developing economy', and policies to foster economic development may need to be country-specific. The policies that are appropriate for one may not be appropriate for all.

Nevertheless, for some purposes it is necessary to treat developing countries as a group and it is useful to identify their shared characteristics. Very often the characteristics that they share generate similar problems that they all have to face. The following is a brief description of the shared characteristics of developing economies. Recognising the differences between developing countries while identifying the characteristics that they have in common can be characterised as 'unity in diversity'.

Economic structure

Economic activity can be placed in the following sectors:

1. **Primary sector** This includes agriculture and the extractive industries, such as oil extraction and coal mining.
2. **Secondary sector** This is all manufacturing industries and the construction sector.
3. **Tertiary sector** This is also known as the service sector.

Developing countries typically have a high dependency upon the primary sector. In those economies classified as low-income economies, agriculture invariably contributed between 30% and 60% of output in the 1990s. This high dependency on agricultural output makes developing countries vulnerable to the forces of nature. In those economies in which agricultural output is mainly for subsistence a drought can swiftly lead to famine. In those developing economies that are dependent upon agricultural products for their exports the drought can wipe out their foreign currency earnings. In contrast to this, in high-income economies the average figure for agricultural production was only 5% or less of GDP.

Table 6.7 gives a few selected indicators of development for the World Bank's broad classification of economies. Excluding debt, there is a clear relationship between GDP per head and the other variables that are shown in this table.

	Low income	Lower middle income	Upper middle income	Higher income
GDP per head US$	578	1887	6987	37566
Life expectancy:				
Male	56	67	67	76
Female	58	71	74	82
Adult literacy rate %	61	89	93	99
Births attended by skilled health staff	41	69	94	99
Extended debt as % GDP	30	102	55	196

Table 6.7 *Indicators of development for groups of countries in 2007*

Source: World Bank Development Report, *2009*

Population growth and population structure

In 2008, around 85% of the world's population lived in developing economies. The poorest of these

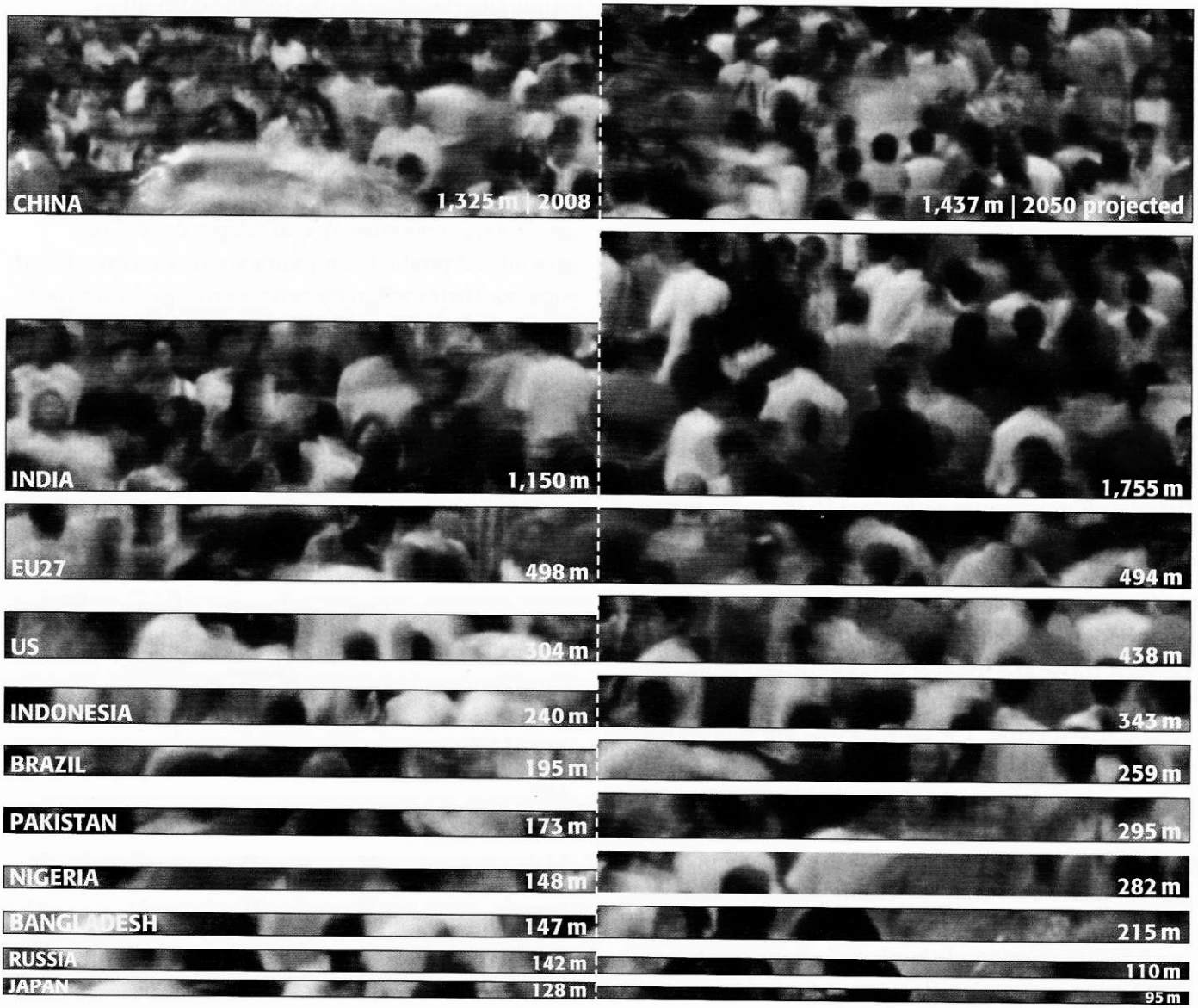


Figure 6.12 *Forecast populations in 2050 for selected countries*

Source: Daily Telegraph, *14 September 2009*

countries such as Bangladesh, India and Pakistan had the highest rates of population growth. Moreover these high rates seem likely to persist. Figure 6.12 shows the projected populations of selected developed and developing economies in 2050.

Many observers suggest that the theories of Malthus can be applied to the current population problems of the developing countries. Writing as long ago as 1798 the Reverend Thomas Malthus offered a quite pessimistic view of population growth. The essence of his view was that a country's population had a tendency to grow in geometric progression over time. However, food supplies had a tendency to increase only in arithmetic progression:

- population grows in geometric progression 1, 2, 4, 8, 16, 32, 64 ...
- food supplies grow in arithmetic progression 1, 2, 3, 4, 5, 6, 7 ...

This was because the quantity of land was in relatively fixed supply (the fixed factor), and, as

increasing quantities of ever-more readily available labour (the variable factor) were added in production, diminishing returns would set in. The tendency over time therefore was that population increases would outstrip increases in food supplies. This would cause a number of 'checks' to population growth so that the population would fall to a level sustainable by the available food supplies. These checks included famines brought on by the overpopulation, diseases and epidemics caused by malnourishment, and wars as countries, increasingly desperate to feed their growing populations, fight over dwindling resources.

This Malthusian view of population growth can be challenged on a number of grounds. The main weakness is that it fails to recognise the impact of changes in technology upon food production and distribution. Malthus could not have been aware of the huge changes that have occurred in agricultural production, such as mechanisation, the application of more effective fertilisers and insecticides and the introduction of new high yield seeds such as the 'miracle' strains of rice introduced in Japan, Taiwan and South Korea. These changes mean that food supplies have increased to a level capable of supporting a much higher level of world population.

Nevertheless, malnourishment and famine remain depressing features of many developing countries. However, these problems are more likely to be caused by a wider range of factors than an overall Malthusian analysis would suggest. These include factors such as the uneven distribution of resources in the world, poor management of agricultural sectors, vulnerability to sudden shocks, such as floods and drought, and an inability to respond to these. As we shall see, the crippling impact of international debt in developing countries also creates conditions in which human miseries, including hunger and famines, can flourish.

Figure 6.13 shows average fertility rates for broad geographical groups of countries from 2005 to 2010 (projected). In Europe especially, the populations of some countries are falling due to low fertility rates. A typical example is Italy. In contrast, in the UK, the population is increasing due to continuing immigration and relatively high fertility rates amongst immigrant women. Elsewhere, notably in Africa, fertility rates are generally high and around twice the level of those in America and the Caribbean.

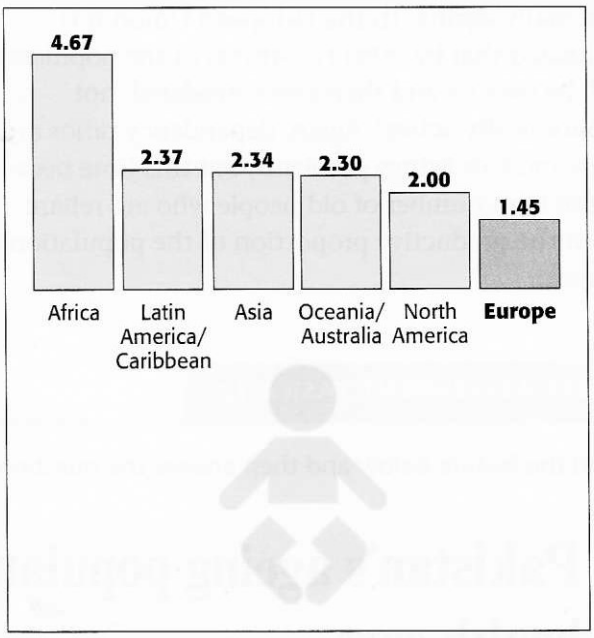


Figure 6.13 *Fertility rates (children per woman 2005–2010)*
Source: Daily Telegraph, *14 September 2009*

The fact that developing countries have much higher fertility rates than the developed economies not only leads to greater increases in their total populations but all the attendant problems which this brings. It also has an impact upon the population structure of these countries. It means that when the age composition of developing countries is considered it is seen that they tend to have a large number of very young people. This creates a high proportion of dependent, non-productive members of the population. They are said to have very high dependency ratios. This means that a proportionally small working population has to produce enough goods and services to sustain not only themselves but also a large number of young people who are economically dependent upon them. This will give rise to conditions of poverty and in addition creates pressure to force the young into the workforce. There is also the problem of child labour. It is estimated that over 100 million children now live or work on the streets.

Developed countries also tend to have problems with the age structure of their populations. Here the problem is different because the birth rate is so low and below the rate required to replace the present population. The result is that the population

is actually ageing. In the European Union it is estimated that by 2050 two-thirds of the population will be over 65 and therefore considered 'not economically active'. Again, dependency ratios are high and this brings problems, but this time because of the high number of old people who are reliant upon the productive proportion of the population for support.

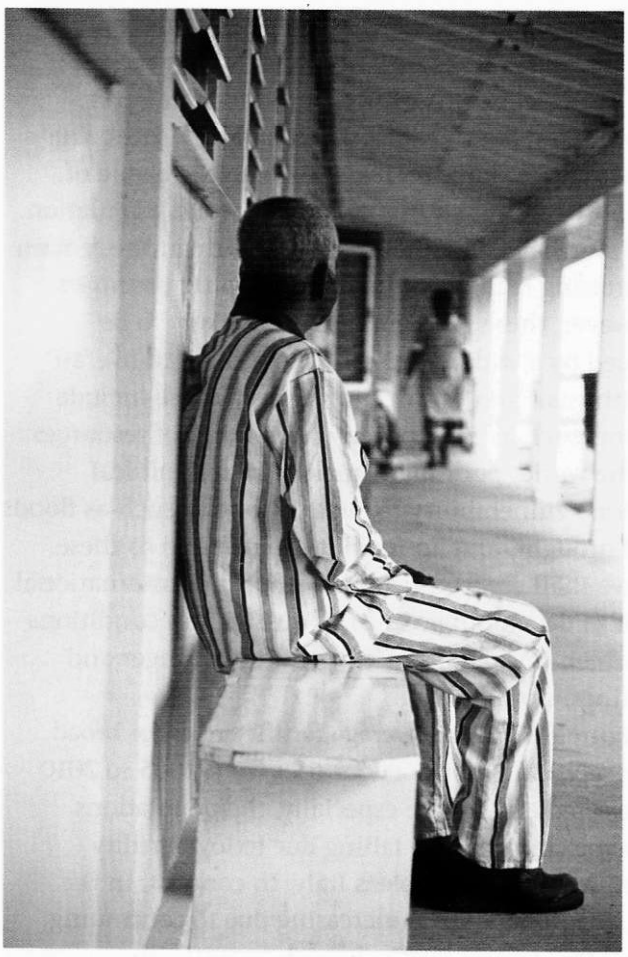
Developing economies also have problems of ageing populations. The cause tends to be more one that people are living longer rather than birth rates falling. In India, for example, it is estimated that one-fifth of the population will be 60 years and over by 2050. This compares with around 8.5% in 2009. Pakistan is also confronted with an ageing population as indicated in Self-assessment task 6.12.

SELF-ASSESSMENT TASK 6.12

Read the feature below and then answer the questions that follow.

Pakistan's ageing population – the challenge for health care

Pakistan's population was estimated to be 173 million in 2008; by 2050 it is forecast to grow by a further 70%. This is not the only problem Pakistan has to face up to – the proportion of the population aged 65 years and over is increasing because life expectancy is increasing. This is currently 62 years and much lower than in developed countries. At present, the elderly population is just 4% of Pakistan's total, a figure that is expected to rise to around 15% by 2050.



The rising geriatric population presents a huge challenge for health care in Pakistan. Prof. Qidwai of the Aga Khan University in Karachi has spelled out some of these challenges. His research has identified a growing need for post-retirement support for people aged 65 and over and a more preventive approach to health problems that ultimately affect the elderly.

The lack of government support for the elderly has traditionally been compensated for by strong support from within the family. Prof. Qidwai believes that this is breaking down at a fast rate much to the detriment of the elderly's health. He further maintains that what is required is for the government to take measures to ensure continued family support or to look at alternative methods if this is not possible. All of these problems place a heavy burden on the government and health care

providers; there are also very clear social issues that affect the fabric of Pakistani society.

To meet these needs and challenges, massive resources are required. Existing resources and provision are inadequate which exaggerates the problem. Prof. Qidwai believes that what is needed are innovative, cost-effecive methods to address the medical and non-medical problems of an increasingly ageing population.

1 What economic methods could be used to reduce some of Pakistan's health care problems of its ageing population?

2 As well as health care, what other problems might Pakistan face as a consequence of an ageing population?

The concept of optimum population

The concept of the optimum is useful when considering the idea of overpopulation and underpopulation. The **optimum population** is said to exist when output per head is the greatest, given existing quantities of the other factors of production and the current state of technical knowledge (see Figure 6.14). As the population grows it can make better use of the stock of the other factors of production such as land and capital. This is because increasing returns are enjoyed as the population grows. If as the population increases the output per head continues to grow we could consider the country to be underpopulated. As the population continues to grow we would expect the output per head to eventually peak and then decline as decreasing returns are experienced. At this stage the population has gone beyond the optimum and the country is considered to be overpopulated. In the real world, the situation is more dynamic and the state of technical knowledge is constantly improving. The quantity of the other factors also continuously changes so that the optimum population for a country is not a fixed entity. In addition, the criteria for assessing under- or overpopulation are purely economic and may be disputed by conservationists.

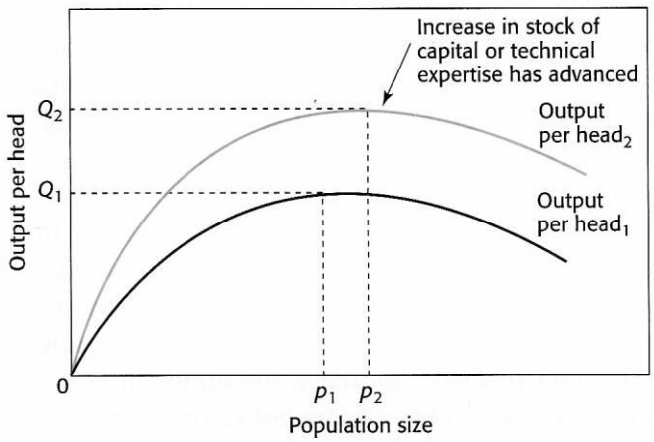


Figure 6.14 *Optimum population*

Income distribution

It is a characteristic of developing countries that income is unevenly distributed. This is partly because income-generating assets, especially land, are owned by the few. As a result, there are great extremes of rich and poor. The 2009 World Development Report gave data on the share of the poorest 20% of the population in national income. The most extreme cases were in South America. In Bolivia, the figure was just 1.5%, in Argentina 3.1% and in Brazil, 2.9%. In Africa, the lowest figure was 3.5% in South Africa. More typical figures were in the range 5–7%. The transition of Eastern European countries from centrally planned to market economies has increased inequality as a small number of people have benefited enormously from the new opportunities that have been forthcoming. One exception is the Czech Republic which has the least uneven distribution of national income in Europe, with 10.3% accruing to the poorest 20% of the population in 2006.

Unemployment

Developing countries tend to suffer from higher levels of unemployment and underemployment than developed countries. Unemployment tends to be high because in countries with surplus populations the supply of labour tends to exceed the supply of the other factors of production. Typically, developing economies suffer from shortages in capital and entrepreneurial skills but there is also pressure on the supply of land suitable for the production process.

External trade

The foreign trade of many developing countries tends to show a great reliance upon the export of primary produce. When we consider manufactured goods as a proportion of an economy's exports, we find that, generally, most poorer developing countries depend upon primary products and developed economies depend much more upon manufactured goods and services. The significance is that those developing countries that participate in international trade become reliant upon primary exports for foreign currency earnings. This makes them vulnerable in their trading relationships because of the demand and supply conditions in the markets for primary products. The demand for primary products tends to be price inelastic. Similarly, the supply of primary products tends to be price inelastic. The supply of some products is also subject to frequent shifts depending, for example, on the size of the harvest. This means that the market for primary products is subject to frequent and severe fluctuations in price.

These fluctuations in price can destabilise the economies of developing countries. In addition, the demand for many primary products, especially foodstuffs, is income inelastic. This means that as world incomes rise there is little impact upon the demand for primary products because most of the countries with higher incomes spend on manufactured goods. Over time there is a tendency for the terms of trade of primary goods to decline compared to manufactured goods (see Chapter 4). Therefore those developing countries that are dependent upon primary products receive relatively low prices for their exports of primary products and pay relatively high prices for imports of manufactured goods. There has been a decline in the number of developing countries that are heavily reliant upon primary products as manufacturing sectors have been established.

China provides the best example. In 2006, 92% of exports were manufactured goods. Elsewhere in Asia there are heavy exporters of manufactured goods, particularly clothing and electronics. In India, the figure was 70%, 74% in Malaysia and 81% in Pakistan. In contrast, sub-Saharan African countries export very few manufactured goods and where they do, many are processed food products. In 2006, for example, manufactured exports made up only 18% of Tanzania's exports of goods, A notable exception was South Africa where manufactured goods made up 53% of merchandise exports.

Urbanisation

There are still high proportions of the populations in developing economies who live in rural areas. On average over half of the population of developing countries is classified as rural. Nevertheless developing economies show very rapid rates of rural–urban migration. High-income countries already have the majority of their populations living in urban areas. As a result, there is relatively little growth in the urban population of developed countries. The rural–urban migration in developing countries can cause extra pressure on resources in already overcrowded urban areas. There is pressure on the infrastructure, with housing, roads and schools incapable of coping with the extra demand.

Technology

The gap between developed and developing countries in terms of the application of new technology is deep and widening. This covers a wide range of applications including new production techniques, new more efficient means of communication and the electronic storage and retrieval of information. Only 5% of the world's computers are located in developing countries. Although the application of the internet to commerce will increase efficiency, especially in distribution, it will widen the technology gap for those developing countries that lack the technical skills and the infrastructure to participate effectively.

Off to the city

Government eases the rules

It was one of Mao Zedong's many big ideas, and thus far one of his most enduring. In the late 1950s, at the time of the 'great leap forward', China established its hukou, or household registration system, which required people to live and work only where they were officially permitted to. For a government intent on running its economy according to a strict central plan, it was well to have people stay where they were told. For China's hundreds of millions of rural dwellers it made leaving their village nearly as difficult as leaving the country.

Over the past 20 years China has moved steadily further from central planning, and workers have moved in huge numbers away from the nation's economically backward countryside to its far more vibrant cities. According to official estimates, China's migrant labour force now numbers somewhere around 100 million. The government expects another 46 million to come looking for jobs in the cities in the next five years as the number of surplus rural workers swells to 150 million.

In light of such numbers, China's announcement on 16 August 2001 that it plans to revamp the registration system seems a bit like closing the barn door after the horse has escaped. But if the government carries through with its plan to abolish restrictions on labour mobility, it will in fact make a huge difference to the lives of those migrants. While that is clearly true, it has also helped avert an outcome that many of China's urban dwellers dread: an unrestrained influx into the cities of people from the countryside. While city people are glad to have enough migrants to handle the jobs they themselves do not want, they fear that too many will put unbearable strain on housing, communications and other resources. Some municipal governments have already tinkered with existing rules to admit only 'desirable' outsiders. The cities of Shenzhen and Zhuhai offer residency to those who can buy property, and Beijing grants documentation to technical workers with senior qualifications.

Apartment blocks in Shenzhen, China

Source: The Economist, *1 September 2001*

Multinational corporations and foreign direct investment

A multinational corporation (MNC) or transnational corporation is defined as a firm that operates in more than one country. In other words, it is a business with a parent company based in one country but with production or service operations in at least one other country. The largest MNCs such as the Coca-Cola Corporation, Ford, Nestlé, McDonald's, Toyota, Hilton Hotels and so on are worldwide operations, with manufacturing and retail outlets in many countries of the world.

Through their activities, MNCs provide **foreign direct investment** (FDI) to the economies in which they operate. This is investment that is necessary to produce or sell a good or service in a foreign country. FDI therefore involves capital flows between countries. It should not be confused with portfolio

investment which is the purchase of shares by foreign investors in businesses that are located in another country.

The activities of MNCs and the effects of foreign direct investment on the economies of recipient countries have been the subject of much debate and discussion by economists and politicians. In the Caribbean area, for example, the impact of FDI from MNCs has been substantial. It has been particularly significant in the bauxite, alumina, petroleum and natural gas industries. There has also been considerable FDI in sugar, tourism and utilities. US MNCs especially have been heavy investors in these businesses. At the same time, not all MNCs are well liked in the countries where they invest mainly because profits earned invariably go back to the home country of the MNC and in many cases, foreign rather than home labour is employed.

Table 6.8 shows the estimated FDI for the three Caribbean economies that have received the largest flows since 2003. The flows have been far from smooth. Most of the flows have come from US corporations although in the case of Jamaica, Spanish companies have expanded their investments in tourism and tourist properties.

	Jamaica	Trinidad & Tobago	Bahamas
2003	250.0	0	550
2004	0	1000	0
2005	259.7	1200	0
2006	260.0	1500	n.a.

Table 6.8 *Estimated FDI in three Caribbean economies 2003–2006 ($USm)*

Source: LOCO monitor, *2006*

External debt

A final characteristic of most developing economies is their indebtedness. Some are categorised as heavily indebted poor countries (HIPC). This means that one of two key debt ratios is exceeded. The first ratio is the relationship between the debt service ratio and the GNP. The second is the relationship between the present value of debt service to exports. If either the proportion of debt service exceeds 80% of GNP or the present value of debt service is 220% of exports, then the country is considered to be heavily indebted. If either of the two ratios exceeds 60% of the critical level, then the country is said to be moderately indebted. The presence of debt on such a scale diverts resources to debt repayment and away from spending on health and education, on infrastructure and poverty relief. Such debt provides a very real obstacle to development.

Table 6.9 shows the extent of external debt for selected developing economies in 2006. As this shows, the position is diverse. Some countries have high absolute debt yet are not classed as heavily indebted. Others, including many in central and eastern Europe, are heavily indebted and struggling to make their annual repayments. Debt remains a major obstacle to the future economic development and growth of many developing economies.

	Total debt US$m	Present value as % GNP
Argentina	122 190	68
Brazil	194 150	28
Central African Republic	1 020	53
Congo, Dem Rep	11 201	119
Croatia	37 480	93
India	153 075	15
Indonesia	130 956	45
Kazakhstan	74 148	132
Kenya	6 534	26
Pakistan	35 909	26
Russia	251 067	34
Tanzania	4 240	16
Zimbabwe	4 677	110

Table 6.9 *External debt of selected developing economies in 2006*

Source: World Development Report, *2009*

Conclusions

A well-known development economist has summarised the problems that stem from these common characteristics as follows:

> 'Widespread and chronic absolute poverty, high and rising levels of unemployment and underemployment, wide and growing disparities in the distribution of income, low and stagnating levels of agricultural productivity, sizeable and growing imbalances between urban and rural levels of living and economic opportunities, serious and worsening environmental decay, antiquated and inappropriate educational and health systems, severe balance of payments and international debt problems, and substantial and increasing dependence on foreign and often inappropriate technologies, institutions and value systems.'

International comparisons of living standards – a word of warning

There are many problems when interpreting data on comparative living standards between countries. This equally applies to all comparisons, even where most countries are at a similar stage of development, as well as to comparisons between countries that differ more significantly in their relative levels of development. Problems include:

- fluctuations in the exchange rate against the US dollar – large movements can affect the GNP/GDP per head measure
- measuring purchasing power, particularly in economies where prices are not well known
- no allowance is made for the size of the subsistence sector – this can be large in emerging and less developed economies
- the shadow or informal economy is not included and can often be at least 25% of GNP
- no allowance is made in GNP per head for the distribution of income
- countries with a high GNP per head may have achieved this through the serious denigration of their physical environments or through excessive expenditure on defence
- traditional measures do not take into account variables such as social justice and political freedom.

Actual and potential growth

The production possibility curve described in Chapter 1 can be used to explain the important distinction between changes in the actual output of goods and services and changes in the potential output of goods and services.

A change in the actual output of goods and services can be achieved by the better utilisation of existing factors of production. In Figure 6.15 assume the economy is currently producing at point X. This is a point well within the production frontier shown by the production possibility curve. Production at this point might be caused by a lack of aggregate demand in the economy. The movement from point X to point Y on the curve could, for example, be achieved by increasing demand through fiscal and/or monetary policy (see Chapter 7). This would lead to an increase in the output of both goods and services. In turn, it would certainly lead to an increase in Gross Domestic Product and be considered as actual economic growth. In the long run, however, further increases in output could only be achieved if the potential output of the economy was to grow. This is represented by a shift in the production possibility curve itself. In Figure 6.15 the shift of the curve from PPC_1 to PPC_2 represents a growth in the potential output or productive potential of this economy. In the long run, therefore, explanations of economic growth need to focus upon those factors which increase the potential output of an economy.

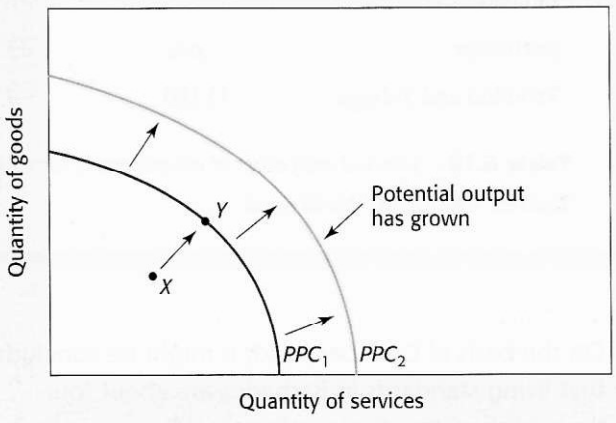


Figure 6.15 *An increase in the potential output of an economy*

Factors contributing to economic growth

The position of the production possibility curve is determined by an economy's production function (see Chapter 2). This shows the maximum output that can be produced by an economy taking into account the current factors of production and the current state of technical expertise.

In order to achieve economic growth which can be sustained it is necessary to:

- **Increase the quantity of resources at the disposal of the economy.** All of the factors of production could potentially be increased. Clearly, given the growth in population in

SELF-ASSESSMENT TASK 6.13

Study the data below and then answer the questions that follow.

Country	GNP per head PPP US$	Employed labour force (%) 2001			Life expectancy (years)	Adult literacy %
		Agric	Ind	Services		
Antigua & Barbuda	10 360	4.0	5.6	90.4	71.9	89
Bahamas	16 140	3.8	5.4	90.8	65.5	96
Barbados	15 060	4.2	7.1	88.7	72.6	99
Belize	6 510	20.2	9.6	70.2	68.4	77
Dominica	5 250	21.0	10.1	68.1	74.6	94
Grenada	7 000	13.8	7.6	78.6	64.5	96
Guyana	4 110	23.1	18.8	58.1	65.5	99
Jamaica	3 630	19.9	8.1	71.7	73.3	89
St Kitts/Nevis	11 190	14.7	7.9	77.4	72.2	98
St Lucia	5 560	20.8	9.8	69.4	73.6	90
St Vincent & the Grenadines	6 250	24.9	8.7	66.4	73.6	96
Suriname	n/a	13.0	11.7	75.4	68.9	88
Trinidad and Tobago	11 180	7.8	13.5	78.7	66.7	99

Table 6.10 *Selected indicators of development for CARICOM member states, 2004*
Sources: CARICOM, World Bank

1 On the basis of GNP per head, it might be concluded that living standards in Barbados are about four times higher than those in Jamaica. Do you agree?

2 Explain the variations in the employment structure of CARICOM economies and discuss any implications these variations might have for the economic development of the region.

developing countries it would seem that the supply of labour would grow through the natural increase in population. If there is a positive net migration the population will also grow as the number of immigrants exceeds the number of emigrants. An increase in the labour force will not create a great impact upon production possibilities, however, without an increase in the other factors. Capital goods can only be increased if investment takes place. Enterprise can be increased through training and government policies that encourage risk-taking in the economy. Land can only really be increased through new discoveries of valuable resources or in extreme cases, armed conflict. Any land gained through reclamation schemes should really be considered as a type of capital because it needs investment before it becomes available.

- **Increase the quality of resources at the disposal of the economy.** Improvements in the quality of resources will increase the productivity of the factor inputs. The quality of labour can be improved through education and training. This is known as investment in human capital. This term can also be applied to any development of the factor enterprise. The quality of capital goods is improved as technology improves. The quality of capital goods used in developing countries improves as these countries participate in international trade. The quality of land for agricultural use can be improved through the application of fertiliser and through irrigation and drainage schemes.

The main obstacle to increases in the quantity and quality of resources in developing countries is the opportunity cost of diverting resources away from their current use. Although the labour supply may be abundant it is invariably difficult to improve its quality. Many young people are deprived of education because of a shortage of schools, teachers and textbooks. Devoting more resources to education means such resources have to be diverted from some other use. In addition, many children are required to work to support family incomes. Capital goods are created through the process of investment. Because many developing countries are barely above the subsistence level it is impossible for them to divert resources away from current consumption without creating a decline in living standards below that required for survival. The opportunity cost is too high. Very often the only way in which capital goods can be acquired in such circumstances is for the necessary resources to be provided from abroad in the form of loans or aid. As we have seen, many developing countries have acquired a large debt problem which has necessitated the transfer of funds in the form of debt repayments from themselves to the richer countries. This again diverts much needed resources away from development projects and poverty alleviation in developing countries. The provision of development aid might be the answer to the difficulties of providing sufficient funds for development.

One important factor necessary for growth is to improve the state of technical expertise utilised in the economy. The high rates of growth experienced by the developed countries in the industrial era have been sustained by the application of technological innovations to mass production. This could only be achieved through extensive research and development into new techniques of production.

Again, the concept of opportunity cost can be used to explain the problems faced by the developing countries. Research and development is expensive and has a high opportunity cost in the developing countries who can ill afford to divert scarce resources into this use. The benefits to the economy will only be experienced in the medium to long term. Today over 90% of the world's research and development expenditure takes place in developed economies. This allows them to maintain their dominance of world markets in manufactured goods even though the manufacturing is taking place in low cost economies far away from where the technological knowledge originates. In addition, the new technology developed in the richer countries has been developed to be applied to rich countries' problems. For example, rich countries tend to use capital-intensive production methods. They try to economise on the use of highly skilled and expensive labour which is in short supply in the rich countries. They also produce for the mass market, so the scale of production is large. The developing countries have large supplies of unskilled labour and often produce

for much smaller markets. As we have seen, they cannot afford to divert resources to the production of capital goods which are capable of utilising the new technologies. As a result, the new technologies cannot be easily transferred from the developed countries to developing countries. The technology transfer which might be considered necessary to allow the developing countries to progress is seen as inappropriate.

Improving the quantity and quality of the components of an economy's production function, together with the level of technical expertise in an economy, will certainly result in an increase in the potential output of an economy. Changes that lead to such improvements can be considered as the sources of growth. An example might be an increase in the savings ratio in an economy. This might lead to the diversion of resources from consumption to investment in the economy and an increase in capital accumulation.

Benefits and costs of economic growth

Benefits

The main benefit of economic growth is the increase in goods and services which become available for the country's citizens to enjoy. This raises their material living standards. For developing economies, this means that more people can eat better quality food, have improved living accommodation and, maybe, own their own car. Economic growth also makes it easier to help the poor. Without any increase in output and income, the only way in which the living standards of the poor can be raised is by taking income and hence goods and services from higher income groups. Whereas if economic growth occurs at least some of the extra income can be given to the poor in the form of higher benefits, thereby enabling them to enjoy more goods and services.

A stable level of economic growth increases business' and consumers' confidence. This makes planning easier and encourages investment. Economic growth may also increase a country's international prestige and power. For example, China's rapid growth in the early 1990s increased its status not only as a major manufacturer in the global economy but also in world politics.

Costs

Economic growth may bring with it a number of costs. If the economy is operating at the full employment level there will be an opportunity cost involved in achieving economic growth. To produce more capital goods, in order to increase the country's productive capacity, some resources will have to be moved from producing consumer goods to producing capital goods. So current consumption of goods and services will have to be reduced. However, this will only be a short run cost since in the long run the increased investment will increase the output of consumer goods and services.

Economic growth may, though, bring increased stress and anxiety. A growing economy is a dynamic economy that also undergoes structural changes. Workers may have to learn new skills and may have to change their occupation and/or where they live. Some workers may find this difficult to cope with. Economic growth may also be accompanied by increased working hours and pressure to come up with new ideas and improvements. When Japan was growing rapidly in the 1980s some workers put in very long hours and students felt under considerable pressure to pass examinations. This is now the case in China, India and Pakistan.

Economic growth may also be accompanied by the depletion of natural resources and damage to the environment. Higher output may, for example, involve firms using more oil, building on greenfield sites and creating more pollution. However, this does not have to be the case. Output can be increased in ways which do not damage the environment or which at least limit the damage.

Sustainable development

Very rapid growth may be achieved but this may be at the expense of the living standards of future generations if it results from the reckless use of resources. Countries, developed and developing, are now becoming more concerned to achieve sustainable development. This occurs when output increases in a way which does not compromise the needs of future generations. Materials such as aluminium, paper and glass can be recycled. More use could be made of renewable energy resources in preference to non-renewable resources, and improvements in technology may both increase output and reduce pollution.

Cutting back on CO_2 emissions, reducing landfill and dumping less waste into rivers and the sea are all central to realising improved sustainability.

Pursuing **sustainable development** ensures that economic growth improves living standards and the quality of life not only in the present but for the future. To achieve this requires a deliberate and concerted effort to balance economic, social and environmental objectives. More specifically:

- **Economic objectives require a better use of scarce resources.** To be sustainable, growth should ensure that sufficient resources are available to invest in human capital as well as physical capital. Education and training programmes are central to this requirement (see Chapter 7).
- **Social objectives focus on the distribution of the benefits of growth.** Food, housing, health care and secondary education are essential if people's lives are to be productive. A sustainable approach involves an educational system that gives girls the same opportunities as boys, is serious about reducing fertility rates, controlling the spread of HIV/AIDS and providing for the elderly.
- **Environmental objectives require the responsible use of natural resources.** This means that mineral extraction and forest depletion especially should be done in such a way that the benefits are not just short-term. Many people in developing countries lack clean water and proper sanitation, a reason why UNICEF invests heavily in these areas.

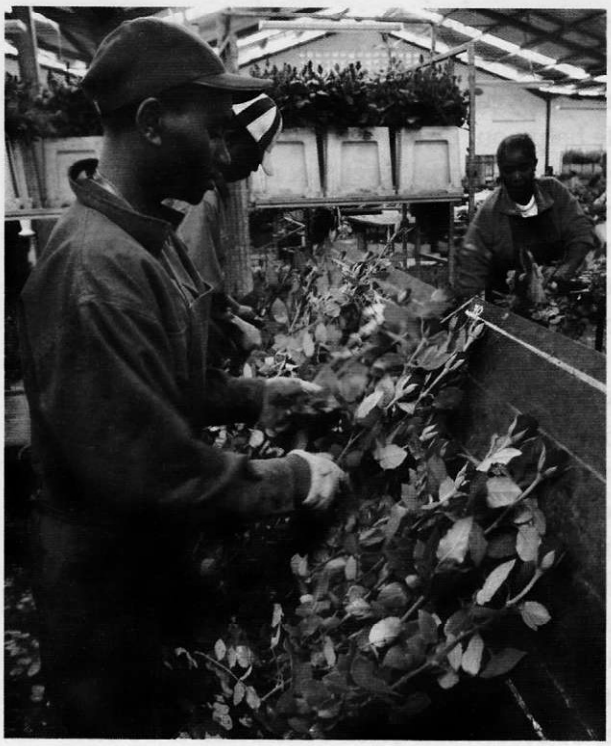
SELF-ASSESSMENT TASK 6.14

Read the feature below and then answer the questions that follow.

Food miles – care needed for developing economies

Consumers in many European countries are becoming increasingly aware of the environmental impact of the food they buy. Food miles, the distance food travels from field to plate, is a simple way of measuring this impact. The most contentious examples are those where fruit and vegetables are freighted by air from Africa, South East Asia and parts of South America. The carbon footprint, total CO_2 emissions generated, is around 200 times greater than if that food had been transported by ship.

Kenya is a particularly good example of an economy where exports of vegetables, fruit and flowers to the European market have provided a major boost to this poor country's economy. In 2009, these horticultural products are expected to generate US$1300 million in export earnings, considerably more than tourism and telecommunications. Small farmers can earn a lot more money from export crops of green beans, sweet potato, and baby corn than they can if they grow



Kenyan horticultural producer

maize, the country's staple food crop. In turn, this income provides a reasonable level of living for extended families.

Such exports though are controversial in countries like Kenya for two reasons:

1 **Food security.** There is a view that it harms Africa as a whole if food is exported out of the continent. It is argued that the food should remain in Africa for internal consumption.

2 **The CO_2 emissions generated through air freighting products to Europe and the US.** There has been a very strong recommendation from the UK's Soil Association that there should be a ban on air-freighted organic produce in the UK market. This proposal has been vehemently opposed by Kenyan growers.

1 Describe the benefits of exports of Kenyan horticultural products to:
   a consumers in the UK
   b producers in Kenya.

2 Discuss whether a carbon tax should be placed on all imports of air-freighted food from developing countries such as Kenya.

Achieving sustainable development is by no means easy nor is it necessarily the simplest way to achieve economic growth. The cost of NOT following a sustainable strategy should never be a consideration.

Unemployment

People are unemployed when they are able and willing to work but cannot find a job. Unemployment can bring with it serious problems both for those who are unemployed and for the economy. With some people being out of work, the country's output will be below its potential level, tax revenue will be lower and more state benefits will have to be paid out. The unemployed, in addition to having lower incomes, may experience higher rates of divorce and mental and physical illness and will miss out on training and work experience. There is also increasing evidence of a link between levels of unemployment and crime.

Economists measure not only the level of unemployment but also the rate of unemployment. The level refers to the number of people who are unemployed, whereas the rate of unemployment is the number of people unemployed as a percentage of the number of people in the labour force (that is, the employed and the unemployed).

Just what constitutes **full employment** is a matter of debate. It is often considered to be achieved when unemployment falls below 4%, although this varies a lot between different economies. This may appear to be somewhat surprising as you might have expected it to be 0% unemployed. However, in practice, at any particular time some people may be experiencing a period of unemployment as they move from one job to another job.

The **natural rate of unemployment**, which can also be referred to as the non-accelerating inflation rate of unemployment (Nairu), is largely a monetarist concept. It is the level of unemployment which exists when the aggregate demand for labour equals the aggregate supply of labour at the current wage rate and so there is no upward pressure on the wage rate and the price level. The inflation rate is constant, with the actual inflation rate equalling the expected one.

Whilst monetarists argue that the natural rate of unemployment cannot be reduced, in the long run, by expansionary monetary or fiscal policy, it can change over time. The factors which do determine the natural rate of unemployment are supply-side factors. Over time the natural rate of unemployment may fall as a result of:

- an increase in the mobility of labour
- an improvement in the education and training levels of workers
- a reduction in trade union restrictive practices
- a reduction in state unemployment benefits
- a cut in income tax.

Difficulties of measuring unemployment

Most governments use two main methods to measure unemployment. One is to measure the number of people in receipt of unemployment-related benefits – this is called the claimant count. It has the advantage that it is relatively cheap and quick to calculate as it is based on information which the government collects as it pays out benefits. However, the figure obtained may not be entirely accurate. This is because it may include some people who are not really unemployed and may omit some people who are genuinely unemployed. Some of those receiving unemployment benefit may not be actively seeking employment (**voluntary unemployment**) and some may be working and so claiming benefit illegally. On the other hand, there may be a number of groups who are actively seeking employment but who do not appear in the official figures. These groups may include the elderly, those below a certain minimum age, those on government training schemes, married women looking to return to work and those who choose not to claim benefits. As this measure is based on those receiving benefits, it changes every time there is a change in the criteria for qualifying for benefit.

The other main measure involves a labour force survey using the International Labour Organisation definition of unemployment. This includes as unemployed all people of working age who, in a specified period, are without work, but who are available for work in the next two weeks and who are seeking paid employment. This measure picks up some of the groups not included in the first measure. It also has the advantage that as it is based on internationally agreed concepts and definitions, it makes international comparisons easier. However, the data are more expensive and time-consuming to collect than the unemployment benefit measure. Also as the data are based on a sample survey they are subject to sampling error and to a multitude of practical problems of data collection.

The causes of unemployment

Monetarists believe that even at the natural rate of unemployment, when the labour market is in equilibrium, some people will still be unemployed. These are the people who are not able or willing to work at the current wage rate. This equilibrium unemployment can be divided into two main categories, frictional and structural. **Frictional unemployment** is unemployment which arises when workers are between jobs. One form of frictional unemployment is search unemployment which arises when workers do not accept the first job or jobs on offer but spend some time looking for a better-paid job. Casual and **seasonal unemployment** are two other forms of frictional unemployment. Casual unemployment refers to workers who are out of work between periods of employment including, for example, actors, supply teachers and construction workers. In the case of seasonal unemployment, demand for workers fluctuates according to the time of the year. During periods of the year, people working in, for example, the tourist, hospitality, building and farming industries may be out of work.

Unemployment can also arise due to changes in the structure of the economy. Over time the pattern of demand and supply will change. Some industries will be expanding and some will be contracting. Because of the immobility of labour, workers may not move smoothly between industries, so structural unemployment may arise. Structural unemployment can take a number of forms. One is **technological unemployment**. In this case people are out of work due to the introduction of labour-saving techniques. For instance, in many EU countries a high number of banking staff have lost their jobs in recent years with the introduction of telephone and internet banking.

When the declining industries are concentrated in particular areas of the country, the unemployment is sometimes referred to as regional unemployment. Another form of **structural unemployment** is international unemployment. This is when workers lose their jobs because demand switches from their industries to more competitive foreign industries. This occurs in many developed economies when manufacturing industries move to developing countries where costs are lower.

Keynesians, however, think that, in addition to these causes of unemployment, people can be without work because of a lack of aggregate demand. This will affect the whole economy and is referred to as **cyclical unemployment** or **demand-deficient unemployment**. Figure 6.16 shows the labour market initially in equilibrium at a wage rate of *W*. Then, as a result of a fall

in aggregate demand, firms reduce their output and aggregate demand for labour shifts to ADL_1. If workers resist wage cuts, demand-deficient unemployment of XQ will exist.

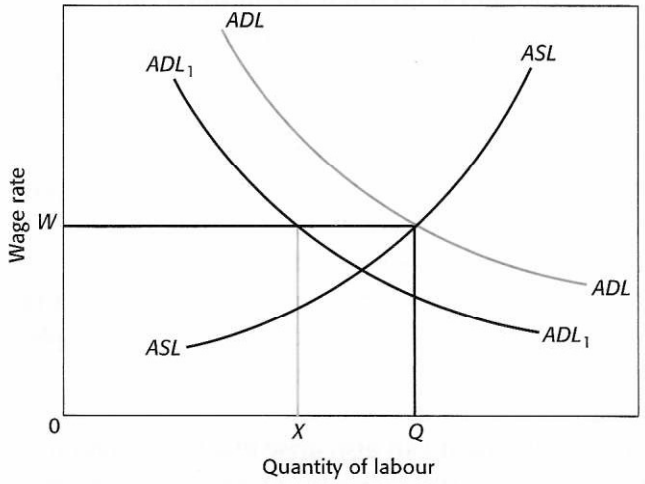


Figure 6.16 *Demand-deficient unemployment*

Even if wage rates fall, this type of unemployment may persist. This is because a cut in wages would reduce demand for goods and services, which would cause firms to cut back their output further and make more workers redundant.

Figure 6.17 shows the trend in unemployment in the UK from 1993 to 2010 when the economy was moving out of recession. In mid-2009, 2.38 million people were unemployed, an unemployment rate of 7.6%. Moreover, economists forecast that the number unemployed would rise to a peak of over 3 million in mid-2010. Of all major EU countries, the UK economy has experienced most problems of moving out of recession.

All economies have been affected by the global downturn since 2008. The ILO estimated that by the end of 2009 global unemployment would be about 220 million, a rate of around 7%. In the US, the unemployment rate in mid-2009 was higher at 8.1%, whilst in Japan it was at its highest ever since 1960 of 4.4%. At the same time, the pain of unemployment was being felt much more widely. In India, the unemployment rate was 8.2% of those employed in the organised sector – this covers just one in ten of the workforce. In China, the official rate of unemployment was 4.2%, but economists believed that the actual rate was more than double, even allowing for the

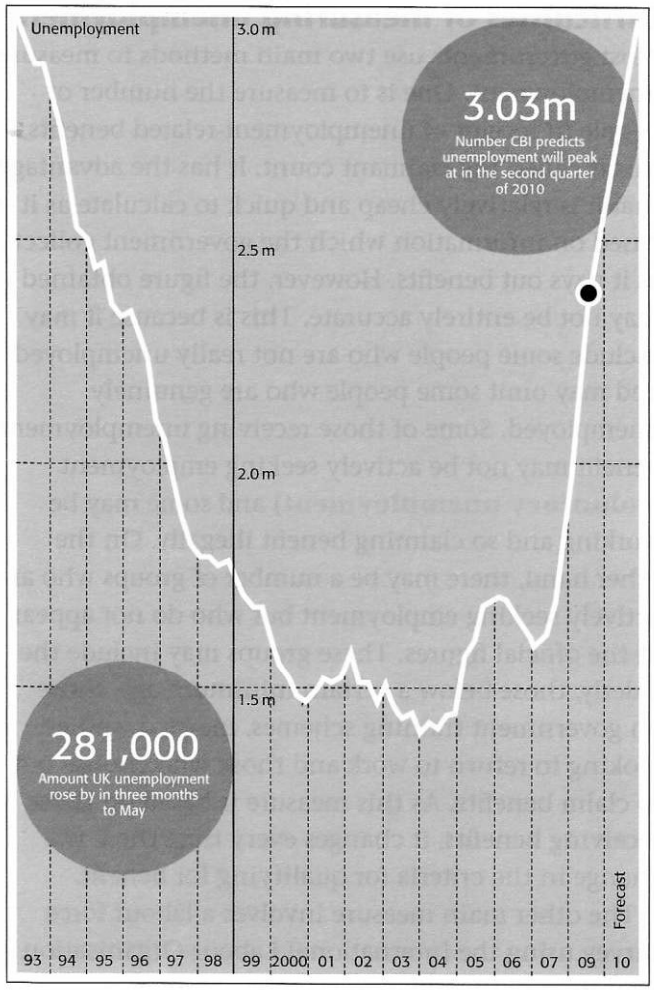


Figure 6.17 *UK unemployment, 1993–2010*

Source: Daily Telegraph, *16 July 2009*

exclusion of rural areas. Finally, in South Africa, the unemployment rate was a massive 21.9%.

The relationship between the internal and external value of money

The internal value of a country's currency and its external value are closely connected. If the value of a country's money falls as a result of a rise in its inflation rate above that of its competitors, demand for its products will fall. As a result, demand for the currency will fall as foreigners buy fewer of the country's exports, whilst the supply of the currency on the foreign exchange market will rise as more imports are purchased. The outcome will be a depreciation of

the currency, depending on the strength of these effects (see Figure 6.18).

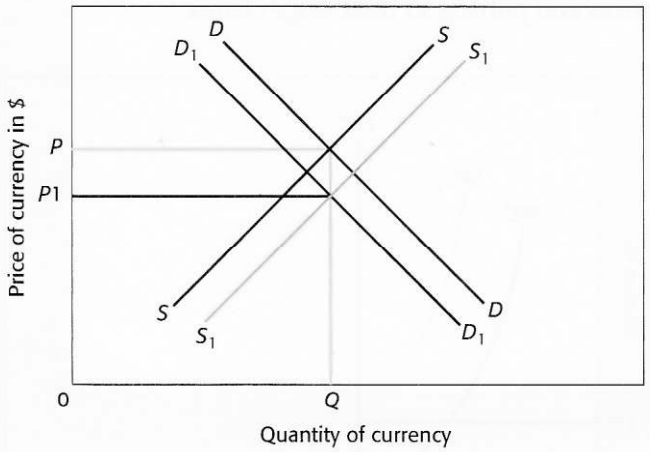


Figure 6.18 *Relationship between the demand for foreign currency and the rate of inflation in an economy*

A change in the exchange rate will, in turn, affect the internal purchasing power of a country's money. A fall in the exchange rate will raise the price of a country's imports in terms of the home currency. This will directly and indirectly reduce the value of the country's money. Each unit of currency will now buy fewer of the now more expensive finished imported products. Purchasing power may also be reduced as a result of the increase in the price of imported raw materials and the reduction in competitive pressure, driving up the prices of domestically produced products. So the internal and external value of the money tend to be directly related.

Relationship between the balance of payments and inflation

If demand for exports and imports is price elastic, a fall in the exchange rate will result in a rise in export revenue and reduced import expenditure. This will improve a country's balance of payments position. This is sometimes referred to as the Marshall–Lerner condition: namely, a fall or devaluation of the exchange rate will improve a balance of payments deficit when the combined price elasticities of demand for exports and imports are greater than one. However, if inflation rises due to the extra demand generated and the rise in the price of imported finished products and raw materials, the balance of payments position will worsen in the longer run.

The J-curve effect is related to the Marshall–Lerner condition. In some countries, a fall in the exchange rate will actually worsen the balance of payments deficit before it starts to improve it. The reason for this is that many economies (the UK, some transitional and developing ones, for example) need to import raw materials, other supplies and components in order to produce their exports. With the fall in the exchange rate, they must pay more for such items in the short term. Hence, demand for imports is relatively inelastic, although the demand for exports is more elastic. Figure 6.19 shows a diagrammatic representation of this concept.

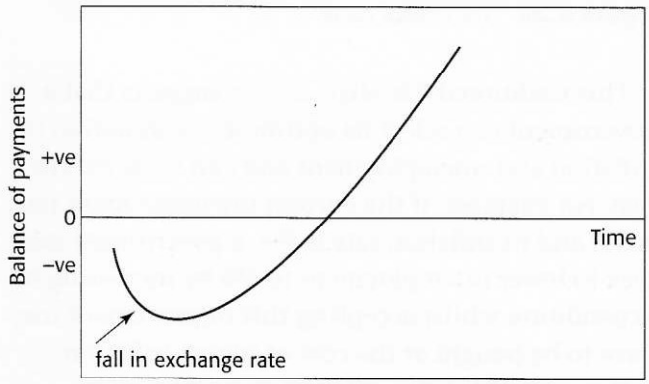


Figure 6.19 *The J-curve effect*

If a country's inflation rate rises above that of its main competitors, its price competitiveness will fall. Export revenue will decline whilst import expenditure rises and the current account balance will deteriorate.

Relationship between inflation and unemployment

Economists have devoted considerable attention to the relationship between inflation and unemployment. The most famous study on the relationship was carried out by Phillips, a New Zealand economist based at the London School of Economics. He analysed the relationship between changes in money wages (taken as an indicator of inflation) and unemployment in the UK over the period 1861–1957. He found an inverse relationship, as shown in Figure 6.20 (page 264). A fall in unemployment may cause

higher inflation due to the extra aggregate demand generated and the possible upward pressure on wages.

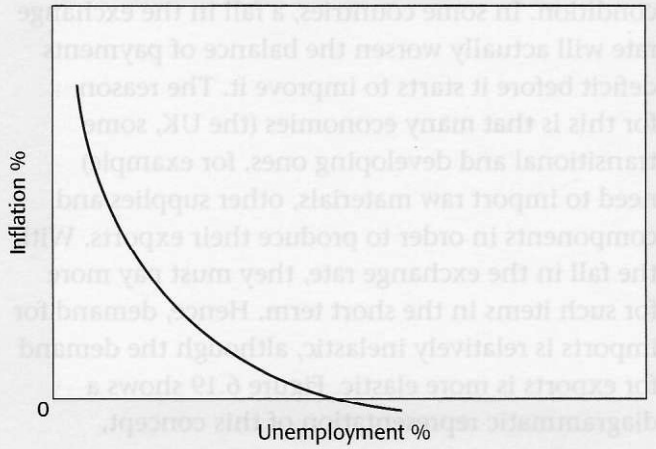


Figure 6.20 *The Phillips curve*

This traditional **Phillips curve** suggests that a government can select its optimum combination of inflation and unemployment and can trade off the two. For example, if the current unemployment rate is 8% and its inflation rate is 4%, a government may seek to lower unemployment to 5% by increasing its expenditure whilst accepting this improvement may have to be bought at the cost of higher inflation.

However, this interpretation is questioned by monetarists. They argue that whilst there may be a short run trade-off, in the long run expansionary fiscal or monetary policies will have no impact on unemployment, but will only succeed in raising the inflation rate. To support this view Milton Friedman developed the expectations-augmented Phillips curve (also known as the long run Phillips curve), as shown by the vertical line in Figure 6.21. The position of this line is determined by the natural rate of unemployment.

Figure 6.21 shows that an increase in aggregate demand does succeed in reducing unemployment from the previous 8% to 4% but creates inflation of 5% and moves the economy on to a higher short run Phillips curve. Firms expand their output and more people are attracted into the labour force as a result of the higher wages. However, when firms realise that their costs have risen and their real profits are unchanged, they will cut back on their output and some workers, recognising that real wages have not risen, will leave the labour force. Unemployment returns to 8% in the long run but inflation of 5% has now been built into the system. Firms and workers will presume that inflation will continue at 5% when deciding on their prices and putting in their wage claims.

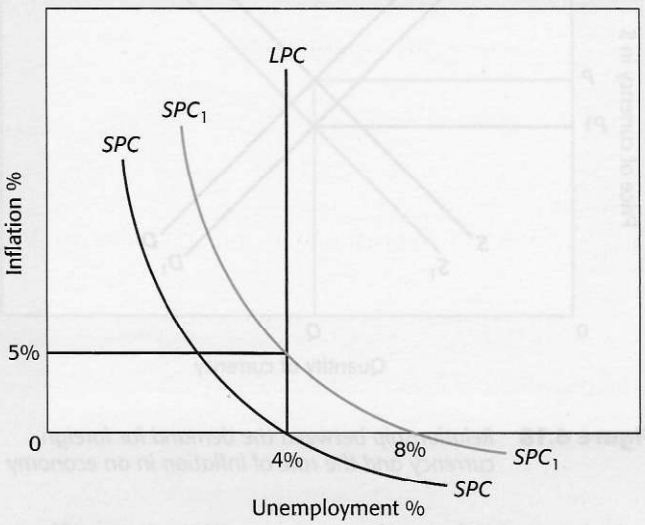


Figure 6.21 *The expectations-augmented Phillips curve*

SELF-ASSESSMENT TASK 6.15

Study the table below and then answer the questions that follow.

	USA	
	Unemployment %	**Inflation %**
1995	5.6	2.3
1996	5.4	2.2
1997	4.9	1.9
1998	4.5	1.1
1999	4.2	1.8
2000	4.0	2.4

Table 6.11 *US unemployment and inflation, 1995–2000*

Source: Tables, 5, 14 and 15, National Institute Economic Review, *No.175, January 2001, National Institute of Economic and Social Research*

1. Explain the expected relationship between changes in unemployment and inflation.
2. Analyse whether the data above support this expected relationship.

SPECIMEN EXAM QUESTIONS

The following questions have been set in recent CIE examination papers.

1 The Chairman of a national bank stated 'It is important to rely on a range of qualitative and quantitative data to assess the economic health of a nation.' Explain what data might be employed in this assessment and discuss how useful it is likely to be. [25]

[25 marks]

(October/November 2007)

2 The solution to unsatisfactory economic development and growth is to focus on economic theory, scientific advances, new technology and market forces.

a Explain what is meant by economic development. [10]

b Discuss whether you agree with this statement. [15]

[25 marks]

(May/June 2008)

SUMMARY

In this supplement section it has been shown that:

- There is a difference between economic growth and economic development.
- GDP/GNP per head is a simple but relevant way of classifying economies.
- Developing economies have certain common characteristics; geographical variations in the characteristics should also be recognised.
- Developing economies in general are facing many problems of population pressure.
- In general, the economic growth experienced by an economy depends on the quantity and quality of factors of production that are available.
- There are two main definitions of unemployment and ways of measuring it.
- Economists recognise various causes of unemployment.
- There is a relationship between the internal and external value of a currency and the balance of payments; the J-curve effect is often recognised.
- The Phillips Curve suggests that unemployment and inflation are inversely related.