

■ PART SIX

Applications

17

Performance and Policy in Europe, the USA, and Japan

An important motivation for writing this book is to present an integrated model of short- and medium-run macroeconomics that would be useful for analysing economic policy and performance. The purpose of this chapter is to show how this can be done. In particular, this chapter:

- (1) shows that the graphical presentation of macro models developed in this book is useful for analysing a wide range of performance and policy episodes in contemporary economies.
- (2) provides an account of some key features of what has happened in the advanced economies in recent decades.
- (3) identifies major policy changes and their economic effects.

During this period a broad consensus has emerged amongst many policy makers and observers in the OECD countries as to the appropriate framework for the conduct of monetary and fiscal policy. Whilst disagreements remain, it is nevertheless the case that common ground is firmer than in many earlier epochs. The consensus rests on the view that in the long run, monetary policy does not affect the real economy. The consequence is that monetary policy makers should aim to ensure the stability of inflation at a low rate, guarding against the dangers posed both by inflation and deflation. Moreover, by actively changing the interest rate, the central bank should help steer the economy toward the stable inflation equilibrium in the face of short-run disturbances.

In terms of fiscal policy, the consensus centres on the requirement for government to design its fiscal management system to ensure long-run fiscal sustainability whilst allowing for short-run stabilization and the achievement of the government's structural objectives. Chapters 5 and 6 set out these features in detail. Although there is broad consensus in the theoretical literature about monetary and fiscal policy, one debate relevant to the analysis of recent economic performance concerns the extent to which 'excessively tight' macroeconomic policy may have been responsible for European sluggishness. This argument rests on the existence of so-called hysteresis mechanisms through which aggregate demand policies are thought to affect the supply side of the economy (as described in Chapter 4 and modelled in more detail in Chapter 15). We return to this issue in the next chapter where we address the question of supply-side policy, institutions, and economic reform in the context of the debate about the determinants of medium-run unemployment performance.

In this chapter we take four episodes as our focus. We begin at the outset of the 1990s with the shock to Germany, Europe's largest economy, of unification. In the period before unification, Germany played a pivotal role in monetary policy across Western Europe as the key currency country in the European Exchange Rate mechanism (ERM). As a consequence German unification had macroeconomic ramifications well beyond its borders. The ERM collapsed and the EU spent the rest of the decade with macro policy dominated by the requirements for the creation of the European Monetary Union (EMU). We look at how one prominent country—the UK—that dropped out of the ERM and did not enter EMU fared in that decade.

In section 2, we address the macroeconomics of monetary union. The ECB is beginning to establish a track record as a monetary policy maker and its behaviour can be analysed. Since the ECB has responsibility for responding to *common* shocks hitting the EU, we also need to analyse the responses of members to country-specific disturbances. This in turn leads to the question of whether Union level rules for fiscal behaviour are justified.

In section 3, the performance of the US economy since 1990 is examined. The 1990s were a benign decade for the US monetary authority, the Federal Reserve Board. Unlike Europe, which was confronted by a major macroeconomic shock and then the upheavals associated with large-scale institutional reform, the Fed had a single leader and the absence of any external shocks. During the Clinton presidency, fiscal consolidation was undertaken, leaving the economy in a stable macroeconomic condition. The return in the mid-1990s of reasonable rates of productivity growth to the US economy after an absence of some twenty years provided the economy with a positive supply shock and a lengthy boom followed. We look at the character of the boom and of the subsequent 'bust' at the turn of the new century.

Section 4 addresses the malaise of the Japanese economy in the last fifteen years. After decades of impressive performance, the Japanese economy entered a prolonged slump in 1992, from which it had not emerged by 2004. From 1992, growth averaged only 1% p.a.: one-quarter its rate from the mid-1970s. Inflation fell during the first half of the 1990s and was followed by deflation in the second half. We use the tools developed in this book to illuminate the role of macroeconomic policy in the stagnation.

1 German unification, the collapse of ERM, and its aftermath

1.1 Background: the ERM and Germany's role in it

As we shall see later in the chapter, the 1990s was a benign decade for macroeconomic policy makers in the United States. This was far from the case in Europe. The most dramatic event was the unification between West and East Germany in 1989. This event was important for two main reasons: West Germany was Europe's largest economy and it played a key role during the 1980s in Europe's monetary policy making. West Germany's role in European monetary policy was due to the operation of the Exchange Rate Mechanism (ERM) of the European Monetary System: most West European countries had effectively

given up domestic monetary policy autonomy by joining the ERM, which was to lead by the end of the 1990s to the formation of a single currency zone. To explain the impact of unification on ERM member countries other than Germany, it is therefore necessary to explain briefly how ERM worked and why countries joined it. This background is also essential for the analysis of EMU in section 2. We shall see that the 3-equation model provides a helpful framework for distinguishing between the so-called credibility and discipline explanations for the role of ERM membership in European disinflation. We then move to the open economy model to pin down the way in which a decision to fix the exchange rate can enable disinflation.

The primary motivation for the establishment of the ERM in 1979 by a number of West European countries was to create exchange rate stability because fluctuating exchange rates were believed to be damaging to the creation of a more integrated and competitive European market. Although the European Exchange Rate Mechanism was formally established as a so-called symmetric system with no country playing the dominant role in monetary policy, it evolved into a de facto asymmetric system in which Germany (West Germany at the time) was the key currency country.¹ The German Bundesbank emerged as the dominant monetary policy maker. This was the result of a set of interlocking characteristics:

- (1) the German central bank's long-standing reputation for keeping inflation low, which promised gains for other countries in terms of anti-inflation credibility.
- (2) the benefits to other countries from 'tying their hands' in terms of monetary policy by 'handing over' responsibility for it to the Bundesbank.
- (3) the common interest of the non-German ERM countries in disinflation as their primary policy objective.

Thus although the main motivation for establishing more orderly exchange rate arrangements stemmed from concerns about the detrimental effect of exchange rate fluctuations on trade and investment decisions, the eventual shape of the ERM with the Bundesbank's de facto central role, was the outcome of macroeconomic imperatives in the member countries. Specifically, these countries sought to achieve low and stable inflation and were sceptical about achieving this under a regime of autonomous monetary policy (i.e. with floating exchange rates).

The German central bank, the Bundesbank, had a long-standing reputation for maintaining low inflation. Many of the other countries had spent the 1970s struggling to reduce inflation and believed that by tying their exchange rate to the Deutschmark they would promote falling inflation. Two routes through which this could happen were identified. The first is often referred to as the 'credibility' hypothesis. By fixing the exchange rate to the Deutschmark (DM), it was hoped to directly affect the inflation expectations of domestic wage and price setters. In theory, this would allow a painless reduction in inflation as the short-run Phillips curve shifts down to reflect a lower expected rate of inflation.

¹ For an accessible account, see various editions of Paul de Grauwe's book *Economics of Monetary Integration*; later called *Economics of Monetary Union* (de Grauwe 2003).

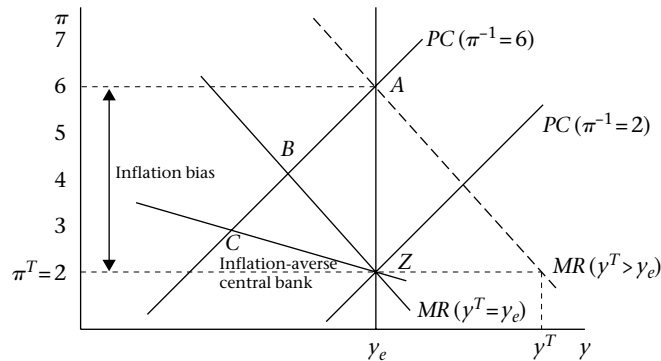


Figure 17.1 Credibility vs. discipline effects with a monetary rule

Before looking at why ERM membership may have been attractive to a country with an inflation problem, let us use the 3-equation analysis from Chapter 5 to consider how disinflation could be achieved in a single closed economy. In Fig. 17.1, we can think of the high inflation economy as initially at point A, with an inflation bias of 4%, i.e. inflation is constant at 6%, which is 4% above the target rate of 2%. The reason for the inflation bias is clear: the output target is above the equilibrium, which means that the constant inflation equilibrium with the lowest rate of inflation is where the government's indifference curve is tangential to a short-run Phillips curve with output at y_e (inflation bias is discussed in detail in Chapter 5). We can see in the diagram how, in theory, a costless reduction in inflation could occur:

- If the objectives of the central bank could be changed such that $y^T = y_e$, then the monetary rule line shifts to the left and intersects $\pi = \pi^T$ and $y = y_e$ at Z as shown.
- If the change in monetary arrangements has an immediate effect on wage and price setters and there is no inertia in wage or price setting, then the Phillips curve jumps down to go through point Z.

This would leave unemployment unchanged (since output remains at y_e) and inflation would drop immediately to the target rate of 2%. This is the case of a 'costless disinflation', which *in theory* could be brought about by a change in institutional arrangements, such as making the central bank independent of the government.

However, if there is inflation inertia, then although the monetary rule shifts to left, the economy is initially stuck with being on the Phillips curve, $PC(\pi_{-1} = 6)$. Disinflation is therefore costly: unemployment must rise in order for inflation to fall. Disinflation takes place along the MR line from point B to point Z. If the change in monetary policy arrangements such as making the central bank independent of the government has the effect of changing the *preferences* of the monetary policy maker by increasing the loss associated with inflation being above target, then the new MR is not only shifted to the left but becomes flatter as shown. Disinflation is faster but 'more painful' because output falls further (initially to point C) and unemployment rises by more on the adjustment path to the inflation target.

If a change in institutional arrangements produces a costless disinflation or a reduction in the cost of disinflation, the term ‘credibility’ is often applied: the institutional change is credible and this credibility is reflected in the adjustment of the behaviour of private sector agents. The ‘credibility’ hypothesis is contrasted with the ‘discipline’ hypothesis: in the latter case, a change in institutional arrangements is viewed as necessary in order for disinflation to be possible. However, there is no presumption that the behaviour of private sector agents changes so there is no claim that the costs of disinflation are affected.

Although the shift to a fixed exchange rate regime such as the entry of countries to the ERM is often discussed in much the same terms as for a closed economy, the analysis needs to be modified in some respects. As we shall see, the ERM was not a system of completely fixed exchange rates, but it is useful to assume fixed rates so as to highlight the new elements introduced in the open economy. In particular, there is obviously no *MR* curve for the country once it has adopted a fixed exchange rate: it does not have an independent monetary policy any longer. So how does disinflation take place? In the absence of inflation inertia, a completely credible switch to a fixed exchange rate would result in a drop in the inflation rate to equal that of the country setting monetary policy—in the ERM case, West Germany. By adopting a fixed exchange rate, the country is adopting the German inflation rate as its target. As usual, eliminating frictions in the economy makes the analysis quite simple: there is a costless drop in inflation to the German inflation rate.

To see how disinflation occurs within a fixed exchange rate arrangement in the presence of inflation inertia, we take the case where the nominal exchange rate is credibly fixed but where the behaviour of wage and price setters does not immediately adjust to an inflation rate equal to that in the key currency country. A plausible initial scenario is of a country operating with flexible exchange rates with constant inflation above π^* ; it is in a medium-run equilibrium with a constant real exchange rate so the nominal exchange rate is depreciating at a constant rate: $\Delta e/e = \pi - \pi^*$. If the nominal exchange rate is now fixed against important trading partners, then higher domestic inflation will weaken competitiveness (with $\pi > \pi^*$ and a fixed nominal exchange rate, e , $\Delta\theta < 0$). The economy will move south-west down the *AD* curve and output and employment will fall as shown in Fig. 17.2. This will drive inflation down for two reasons: unemployment is rising, which weakens wage setters in the labour market and real wages are rising because of the real appreciation, which reduces the money wage increase workers can secure at any given unemployment rate. Once inflation is below π^* , competitiveness will begin to improve and the economy will move back toward the *ERU* curve. Eventually, the economy will be back at point *A*, but with inflation equal to π^* . Disinflation has been achieved but at the cost of a period of high unemployment.

Let us now compare the options facing a high inflation open economy: it could attempt to achieve disinflation by retaining monetary control itself through adopting a flexible exchange rate and implementing an inflation-targeting regime. By analogy with the closed economy, the adoption of an effective inflation-targeting regime may entail institutional change such as central bank independence. Alternatively the high inflation country could decide to tie its exchange rate to a country with the desired inflation rate. The latter option may be attractive if the government has doubts about its ability—even with the use of institutional change—to successfully alter the objectives of monetary

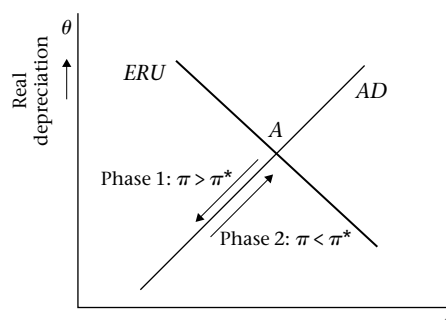


Figure 17.2 'Competitive disinflation' following the shift to ERM

policy. In terms of the model, this means to shift and possibly also alter the slope of the *MR* line. It may also believe that there is more chance of affecting private sector inflation expectations by ceding monetary policy to a body outside the country. On the other hand, even if the fixed exchange rate did not prove to be a magic bullet in terms of shifting inertial inflation, high inflation countries may see merit in 'tying their hands' by handing over monetary policy. Blame for the costs could be shifted to those external arrangements and this could lessen the political pressure on the government to weaken its anti-inflation resolve.

With this background, we return to the ERM. It is important to note that monetary policy was not literally 'handed over' to the Bundesbank: this would only have been the case if the high inflation countries had moved into a currency union with Germany and adopted the DM as their currency. In this context it is useful to recall the assumptions that need to be made for the adoption of a fixed exchange rate to remove all domestic control of monetary policy (see Chapter 9): the economy must be small, there must be perfect capital mobility, and home and foreign government bonds must be perfect substitutes. As the uncovered interest parity condition makes clear, when international capital mobility is perfect, it is impossible to run a different monetary policy whilst retaining a credible peg: if $e_t = e_{t+1}^E$ then assuming the bonds from each country are of equal risk, $i = i^*$. In the context of the Single European Market programme, capital market controls were lifted in Europe and capital mobility increased: the assumption of perfect international capital mobility becomes more applicable in the late 1980s. Applying the *UIP* condition to the context of the ERM, any attempt to hold the interest rate below that of Germany would lead either to a loss of reserves by the central bank (since the money supply is endogenous under fixed exchange rates) or to a devaluation. Although the ERM operated with exchange rate bands, for most countries these were quite narrow and allowed a fluctuation around the 'central bilateral rate' of only $\pm 2.5\%$. Hence, members had to

- fall into line with German monetary policy, or
- seek an exchange rate realignment within the system, or
- leave it.

The lack of credibility of the new exchange rate arrangements in the financial markets meant that central banks in ERM countries frequently had to raise the domestic interest rate so as to prevent the exchange rate from moving outside the agreed exchange rate

Table 17.1 Exchange rate realignments and inflation differentials:
France in the ERM

	1979–1983	1984–1987
Number of realignments: Franc v. DM	4	2
Average size (A)	7.1	4.5
Average cumulated price differential cf. Germany (B)	6.7	8.3
Degree of offsetting ($A/B \times 100$)	105.4	54.5

Source: Emerson (1992), table 2.4, p. 42.

band. As we shall see, the ERM was a much looser arrangement than the textbook ‘fixed exchange rate’ case and in its early years, many realignments of exchange rates took place.

In fact there were three phases of operation of the ERM, with the disciplining effect attaining greater importance over time. To see how to use Fig. 17.2, we take the French economy as an example. As Table 17.1 shows, from 1979 to 1983 the average change in the nominal exchange rate was as great as the accumulated price differential vis-à-vis Germany. As such, there was no clear real appreciation in France in the first period, which means that disinflation pressure was largely absent. However, between 1984 and 1987, nominal exchange rate changes were clearly less than would compensate for the inflation differential: θ fell (a real appreciation) thereby imposing falling output and rising unemployment, which triggered disinflation (the French economy moved south-west along the AD curve in Fig. 17.2). In the final phase up to 1992, no changes in the nominal exchange rate occurred and by 1991, France had lower inflation than Germany. Disinflation had been achieved.²

To explore the question of whether ERM membership reduced the cost of disinflation, one approach is to calculate the sacrifice ratios (the cost in terms of unemployment of reducing inflation, see Chapter 3).³ We can do this for the periods of disinflation in the mid-1970s and in the first half of the 1980s. The results suggest that ERM membership did not cut the unemployment cost of reducing inflation—either as compared with the earlier period or as compared with countries outside the ERM. This is shown in Table 17.2, where sacrifice ratios are presented for a number of European countries inside and outside the ERM. A comparison of France and the UK is striking: sacrifice ratios are similar in France and the UK in each period and in both cases, they *increase* in the 1980s. ERM membership may have helped France to achieve disinflation but it did not reduce the cost. Discipline, rather than credibility, seems to be the explanation for the role of the ERM in European

² For an analysis of the French disinflation strategy, see Blanchard and Muet (1993).

³ In Table 17.2, the sacrifice ratio (SR) is defined as the cumulative amount of unemployment in percentage points in excess of the estimated ERU divided by the fall in inflation in percentage points over the period. For example, an SR of 2 would arise if unemployment is 1% point above the ERU for two years and inflation is 1% lower after two years; or if unemployment is 2% above the ERU for one year to achieve a reduction of inflation by 1%.

Table 17.2 Sacrifice ratios for ERM and non-ERM countries in the 1970s and 1980s

	Inflation change 1974–8	Inflation change 1980–6	Sacrifice ratio 1970s	Sacrifice ratio 1980s
<i>ERM group</i>				
Germany	–4.3	–5.6	2.0	2.0
France	–4.4	–11.0	0.6	2.2
Netherlands	–5.5	–6.5	0.6	2.3
Denmark	–5.1	–8.6	2.0	1.1
<i>Non-ERM group</i>				
UK	–9.4	–13.2	0.7	2.1
Finland	–9.1	–8.7	0.6	0.9
Austria	–5.9	–4.6	0.1	0.5

Source: Calculated from IMF data and from OECD estimates of ERUs.

disinflation. It is interesting to note that Germany—the monetary policy maker in the ERM—has the same sacrifice ratio in each period.⁴

To summarize, it is because the member countries of the ERM had the common goal of reducing inflation during the 1980s (refer back to Fig. 1.3 in Chapter 1 to see what had happened to inflation in the 1970s) that the ERM operated as an asymmetric exchange rate system with the Bundesbank as the monetary policy maker. The Bundesbank set monetary policy for the members by consent.⁵

1.2 German unification

During the so-called ‘hard’ phase of the ERM, when countries committed themselves to *not* realigning their exchange rates, the unanticipated shock of German reunification occurred. The background to the existence of two German economies in the 1980s can be sketched very briefly. At the end of the Second World War, the defeated German economy was divided into four zones of military occupation. The three western zones became the Federal Republic of Germany in 1949 and the Russian zone became the German Democratic Republic. The East German economy shifted from a war economy footing to a centrally planned economy. In West Germany the ownership of productive assets reverted to private owners and the economy was reintegrated into the western world trading system. Between 1949 when the two economies were separated and 1961, 2.7 million

⁴ Egebo and Englander survey the evidence and conclude that there are no clear credibility effects associated with ERM membership: Egebo and Englander (1992). Similar conclusions about the limited response of the labour market to announced changes in monetary policy are found for the switch to base money targeting under Volcker at the Federal Reserve in the USA and the Thatcher government’s medium-term financial strategy, both of which were introduced in 1979. For the former, see Blanchard (1984) and for the latter, see Buiter and Miller (1981).

⁵ For an influential early article about the discipline and credibility effects of ERM membership, see Giavazzi and Pagano (1988).

people left East for West Germany. The magnitude of the migration led the East German government to create a physical separation of the two countries by building the Berlin Wall in 1961.⁶

Before the Second World War, living standards in the two parts of Germany were very similar. In 1989 when the Wall came down, it emerged that the average East German real wage was one-third that of West Germany and average labour productivity in exporting industries was one-sixth that in the west. German Economic and Monetary Union in 1990 amounted to the absorption of the smaller poor region of East Germany (16 million inhabitants) into the larger rich one of the West (62 million). East Germany's GDP was only 7% that of the west. Monetary union meant that East Germany abandoned its currency, the Ostmark, in favour of the DM. This took place at an exchange rate of 1 DM=1 OM—we shall return to the implications of the design of the monetary union below.

The full 'Economic and Monetary Union' entailed the transfer to East Germany of all West German economic and legal institutions. This has had far-reaching implications for the transition from a planned to a market economy in East Germany as compared with its eastern neighbours. It was assumed by the politicians and other policy makers in West Germany that generous fiscal transfers from the west combined with the immediate effectiveness of legal and institutional infrastructure transferred from West Germany would drive a very rapid process of catch-up for East Germany. Using the Solow–Swan model, rapid catch-up is predicted if, by virtue of unification, East Germany acquires the same steady-state characteristics as West Germany and the speed of convergence is fast: i.e. there are sharply diminishing returns to the accumulation of human and physical capital. As we shall see, the smooth transition to a higher balanced growth path as predicted by the Solow–Swan model on these assumptions, did not take place.

West German government support took the form of:

- direct subsidies to firms for restructuring and breaking up the giant enterprises of the planned economy,
- subsidies for investment in East Germany,
- investment in public infrastructure projects to modernize the communications, transport, power, and water supply systems and raise the rate of return to private investment,
- subsidies to the social security system to provide pensions in line with West German pension provisions and to pay unemployment benefits.

Meanwhile in East Germany, the economy collapsed. By 1991, GDP in East Germany was at two-thirds of its 1989 level, industrial output was at one-third of the 1989 level, and unemployment had gone from roughly zero to a rate of 30%. This was a worse depression than ever previously observed in an industrialized economy. By comparison, in the Great Depression between 1928 and 1933 industrial output in Germany fell by 40% and in the USA by 35%. The peculiarity of the East German case is that in spite of the catastrophic

⁶ For excellent background material and analysis of German unification, see Sinn and Sinn (1994). This is a source for data reported; see also Carlin and Soskice (1997).

collapse of its economy, living standards were sustained by transfers from the west. To put this into national accounting terms, domestic absorption in East Germany was far higher than its output. There was a huge trade deficit amounting to some 75% of East German GDP and transfers from West to East Germany amounted to 50% of East German GDP in 1991.

Why did the economy collapse? The main reasons are:

- productivity, especially in the tradeables sector, was revealed to be extremely poor (in extreme cases output was unsaleable at a price close to zero),
- wage costs had to be paid in DM at the exchange rate of 1 : 1 at unification, and
- wages in DM went *up* after unification, compounding the massive loss of competitiveness of East German producers.

In summary, real wages in terms of the price of export goods quadrupled—a real exchange rate appreciation of 400%. Although the 1 : 1 exchange rate at unification has often been blamed for East Germany's loss of competitiveness, the force of this argument is weakened by the fact that wages went *up* after unification: given that the initial exchange rate created a disequilibrium that required a fall in wages, it is clear that something other than the initial parity must have been at work to push wages in the opposite direction. The unification optimists believed that productivity convergence would happen very fast; the political opportunists found this prediction convenient and promised East Germans that they would only gain from unification. The powerful West German unions sought to eliminate competition from cheap eastern production by agreeing to the rapid convergence of East to West German wages and the West German employers' associations did not oppose this.⁷ The persistence of the loss of competitiveness for East Germany can therefore be traced to political and institutional reasons rather than the 'technical' decision about the exchange rate parity.

1.3 West German policy response

We turn from the story of what happened in East Germany to the consequences for the West German economy and indirectly for the rest of Western Europe. We can use Fig. 17.3 to present a stylized picture of the starting position of West Germany in 1989: West Germany was characterized by a current account surplus and stable and low inflation at a position such as *A* in Fig. 17.3. As we have seen above, the Bundesbank was pivotal in changing interest rates for the ERM member countries: to analyse West Germany, we need to use the 'large economy' model in which the *AD* curve is a function of the German interest rate. The unification shock to West Germany takes the form of a positive aggregate demand shock so the *AD* curve shifts to the right as shown—initially the interest rate remained unchanged. Much of the massive increase in spending in East Germany by consumers, firms, and government spills back to West Germany. For West Germany, the new medium-run equilibrium is at point *B*, at higher output and employment, a current account deficit, and at lower competitiveness. A real appreciation is required to permit constant inflation at lower unemployment. Two adjustment paths are shown in

⁷ Sinn and Sinn (1994), chapter 5.

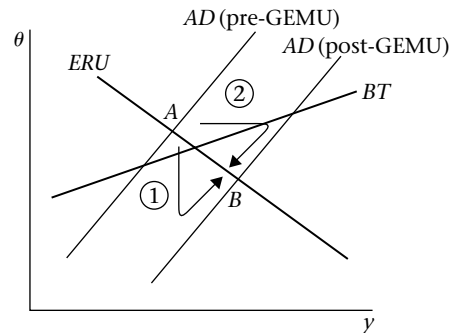


Figure 17.3 West Germany: adjusting to German unification

the diagram: the one labelled path 1 entails a nominal appreciation and as a result the new equilibrium is approached from below the *ERU* curve. The nominal appreciation raises real wages and removes the inflationary pressure associated with the tighter labour market. The second path, labelled 2, shows the fixed exchange rate adjustment, where the real appreciation occurs via a period of higher inflation than in West Germany's trading partners.

West Germany was situated in a fixed exchange rate arrangement with its largest trading partners and, as noted above, the ERM had entered its 'hard' phase with members determined not to realign. As a consequence path 1 was not taken: if it had been, the macroeconomic development of Western Europe in the 1990s might have been very different. To see why, consider the consequences of path 2: higher aggregate demand in West Germany drives output and employment up and brings with it inflationary pressure (the economy is above the *ERU* curve). There is also some evidence that the *ERU* curve shifted to the left at this time because West German workers were unwilling to accept the higher taxes imposed on them as the 'reunification surcharge'.⁸ As we have seen in Chapter 4, a rise in taxation shifts the *ERU* to the left and exacerbates the inflationary pressure. A rise in inflation occurred and led the Bundesbank to intervene according to its monetary policy rule and raise the interest rate. This dampened the boom in West Germany (*AD* shifts left, because West Germany sets the 'world' interest rate for the ERM countries as well as other European countries that targeted the DM). This had important consequences for the rest of the ERM, to which we return in the next subsection.

If exchange rate realignment had been permitted, then West Germany could have adjusted to the shock via a nominal appreciation of the DM: this would have dampened inflationary pressure as adjustment to the new medium-run equilibrium would have taken place from below the *ERU* curve (path 1). Why was exchange rate realignment ruled out? It seems that the other ERM member countries were unwilling to countenance a revaluation of the DM within the ERM: this would have implied a devaluation of their currencies against the DM. Having incurred heavy unemployment costs in acquiring a reputation for 'anti-inflation credibility' via a fixed exchange rate, the view in a number of European central banks and governments was that hard-won reputations would be at stake if a realignment occurred.

⁸ Carlin and Soskice 1997.

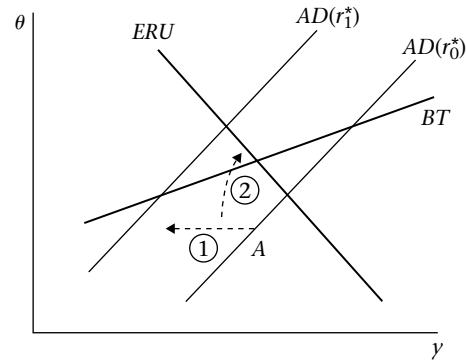


Figure 17.4 'Rest'-ERM countries and the Bundesbank after GEMU

1.4 The collapse of the ERM

For a typical non-German ERM country, the initial position in 1989 can be shown in Fig. 17.4. The country is in the phase of disinflation (see point A in Fig. 17.4) with falling inflation and with unemployment above the medium-run equilibrium. When the Bundesbank raised the interest rate, the other ERM countries had to follow suit in order to keep their exchange rates within the narrow bands. The rise in the interest rate is shown in Fig. 17.4 as a leftward shift of the AD curve since each non-German ERM country takes the German interest rate as given. This drove output down and raised unemployment further (path 1), which was politically unpopular.

The position in which the countries in the ERM (apart from Germany) found themselves lies behind one explanation for the collapse of the ERM in 1992. It is obvious from the diagram that an exchange rate depreciation (path 2) for a so-called rest-ERM country would improve its performance relative to path 1. A depreciation would effect a swift improvement in competitiveness, which would stem the rise in unemployment. Given that the initial position for these economies was below the ERU curve (the outcome of the painful period of disinflation), there was scope for this to be non-inflationary. Since a depreciation—even if not approved of *ex ante* by a rest-ERM government—appears beneficial *ex post*, this is viewed as one source of speculation in the foreign exchange market in 1992 against some of the ERM member currencies. If sentiment in the market takes the view that a government would not be unhappy *ex post* with a depreciation, a speculative attack can be successful. This is a case of speculation driven by self-fulfilling expectations.⁹

An explanation along these lines has been used to account for the successful attacks on the pound sterling, the Italian lire, and the Spanish peseta in 1992. One country that successfully defended its parity in the face of attack was France—confirming the depth of the French resolve not to take refuge in devaluation.

This analysis suggests that the fixed exchange rate arrangement of the ERM was successful whilst the members shared a common policy goal: the achievement of low inflation. However, the asymmetric shock of German unification meant that the interests of the members diverged and failure to agree on how the costs of adjustment should be shared undermined the exchange rate system. As noted earlier, the speculative attacks on the

⁹ For an interesting discussion of this issue see: Eichengreen and Wyplosz (1993); also, Artis and Lewis (1993).

rest-ERM currencies were facilitated by the abolition of controls on capital flows. This took place in the context of the change in policy and institutional arrangements associated with the implementation of the Single European Market Programme (the so-called 1992 programme launched in 1986).

A puzzling feature surrounding the collapse of the ERM is the timing of the speculative attacks. One hypothesis is that the piece of news that sparked off the self-fulfilling attacks was the Danish vote against the Maastricht referendum endorsing Danish membership of the proposed common currency area. The idea is that this vote meant that the political costs associated with an exchange rate change in one of the countries was now lower because the No vote signalled increased uncertainty about the euro-project. Hence governments would be somewhat less concerned about an exchange rate change. It can be argued that this opened the way for a speculative attack.

1.5 The UK economy after the ERM

The exit of the pound sterling from the ERM was one of the most spectacular episodes in the wave of speculation surrounding the ERM in the autumn of 1992. Before turning to the ERM period, it is useful to sketch briefly the UK's experience with a variety of monetary policy regimes. Fig. 17.5 shows the different monetary regimes in operation in the UK since the early 1970s.

In the 1970s, monetary policy was largely accommodating and 'incomes policy' rather than monetary policy was viewed as the instrument to deal with the high inflation following the first oil shock in 1973. In 1979 Margaret Thatcher became Prime Minister and her government introduced an anti-inflationary monetary policy referred to as the Medium-Term Financial Strategy, which focused on targeting the growth of the money supply.

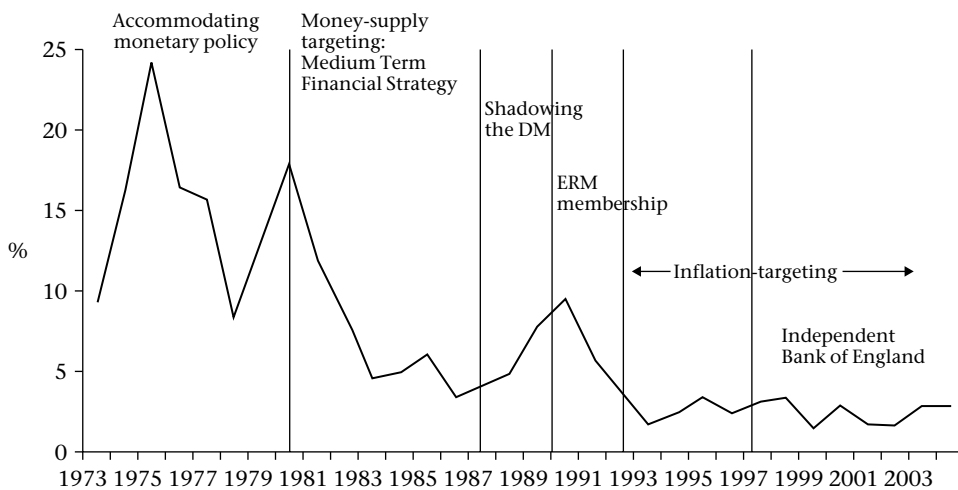


Figure 17.5 Retail Price Inflation under different monetary regimes in the UK

Source: ONS; Bank of England.

710 APPLICATIONS

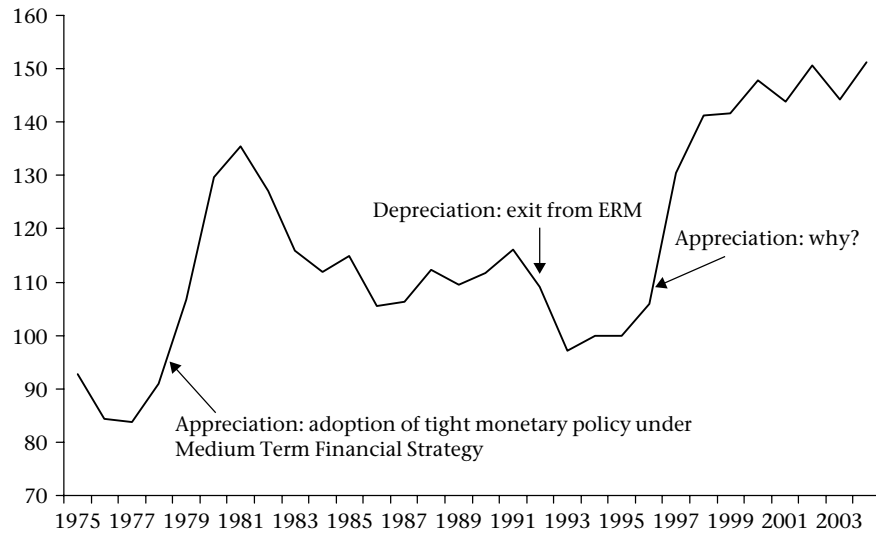


Figure 17.6 The real exchange rate in the UK, 1975–2003 (relative unit labour costs in manufacturing: rise is a real appreciation)
 Source: ONS, IMF, OECD.

The decline in inflation was triggered by a sharp appreciation of the pound sterling in 1980. Many economists viewed the exchange rate appreciation as a case of exchange rate overshooting (see Chapter 9 for an explanation of the mechanics of overshooting): the combination of rapid reaction in the foreign exchange market to the tightening of monetary policy combined with sluggish adjustment of wages, prices, and output on the real side resulted in a nominal and real appreciation much larger than expected (see Fig. 17.6).

As a consequence, unemployment shot up as shown in Fig. 17.7. As discussed in Chapter 8, money supply targeting was regarded as a failure in the UK because of the unpredictable behaviour of money aggregates especially at a time of financial sector innovation and deregulation. This led to the adoption of an exchange rate target in a period in which the Deutschmark was shadowed, and then to official ERM membership in 1990.

The exit of the pound sterling from the ERM was very costly for the Conservative government in political terms but provided a well-timed boost to the British economy. The UK had laboured under a very uncompetitive exchange rate since it entered the ERM in 1990. The exit from the ERM amounted to a sharp depreciation of the effective nominal exchange rate. As can be seen in Fig. 17.6, the improvement in competitiveness was maintained in real terms, which means that the impact of the depreciation was not rapidly eroded by inflationary wage claims. There are a number of reasons for the muted response of inflation at this time, which are consistent with the macro model:

- (1) Unemployment continued to rise for two years (1992 and 1993) after the bottom of the early 1990s recession.
- (2) The major changes to the supply side in the UK set in motion in the 1980s gradually fed through and began to exert an anti-inflationary effect. The supply-side reforms comprised measures to reduce union bargaining power (union membership fell



Figure 17.7 UK: inflation and unemployment, 1973–2003

Source: ONS.

from 51% in 1980 to 39% in 1990; the coverage of union wage agreements fell from 70% to 40% in the same period; days lost in strikes per 1,000 employees in all industries tumbled from 523 in 1980 to 80 in 1989); and the generosity of unemployment benefits was reduced (the replacement ratio fell from 56% to 42%).¹⁰ Given that the organization of wage setting in the UK in the pre-reform period was generally acknowledged to be very uncooperative and to produce a high union mark-up, the effect of both labour market and benefit reforms was likely to have shifted the wage-setting curve downwards.

- (3) World prices of commodities were falling, which helped offset the effect of the depreciation on the domestic currency price level in the UK.

As we have seen in the model, a depreciation shifts the economy rapidly along an *AD* curve to the north-east and if at the same time the *ERU* curve drifts to the right as a consequence of the feeding through of supply-side reforms,¹¹ the economy benefits from a period of non-inflationary growth. For the UK, it can be said that the timing of the collapse of the ERM was fortuitous.

The second half of the 1990s through to the early years of the new century saw the most successful period of macroeconomic performance for the UK in the post-war era. The most striking feature was the decline in unemployment in the face of low inflation (see Fig. 17.7). The argument that supply-side reform in the context of a sensible framework for macroeconomic policy accounts for the sustained fall in unemployment without

¹⁰ OECD *Employment Outlook* (2004), table 3.3; Strike data from *Employment Gazette*, March 1983; December 1991.

¹¹ For a useful description of the supply-side reforms and an evaluation of their impact, see Card and Freeman (2004).

712 APPLICATIONS

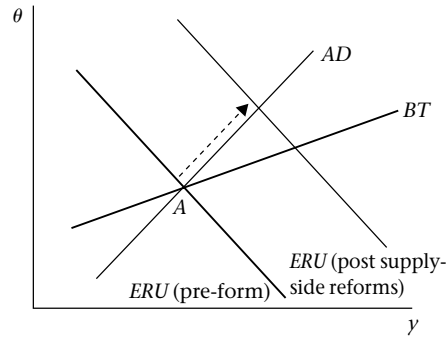


Figure 17.8 UK from 1997: supply-side reforms hypothesis
Source: ONS.

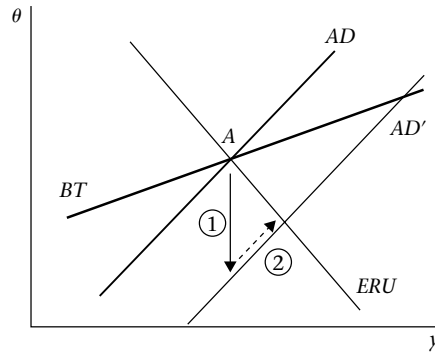


Figure 17.9 UK from 1997: aggregate demand shift hypothesis

rising inflation from 1997 can be illustrated in Fig. 17.8. The economy begins in 1996–7 at a point like *A* with trade balance and inflation at about the level of its trading partners. Assuming that the *ERU* shifts to the right due to the supply-side reforms, the economy will experience falling unemployment and inflation below its competitors as shown. Note that according to this hypothesis, the channel for the supply-side reforms to drive up output is through their impact on the real exchange rate and net exports. The current account improves steadily.

However, it is obvious from the data in Fig. 17.6 that there is a problem with this as the sole explanation because of the behaviour of the real exchange rate. From 1997, there was a large real appreciation, driven by an appreciation of the *nominal* exchange rate. Yet according to the pure supply-side reform story, the real exchange rate should be depreciating. To illustrate this point, let us consider a completely different hypothesis to account for falling unemployment and modest inflation. For the sake of this example, suppose that the supply side remains unchanged but there is a boom in aggregate demand (e.g. a consumption boom). In a floating exchange rate regime, this would lead to a nominal appreciation (path 1) in Fig. 17.9 followed by adjustment along the new *AD* curve with low inflation (path 2). The economy ends up with lower unemployment, a real exchange rate appreciation, and a weaker external balance.

As the diagrams show, both scenarios are consistent with the combination of falling unemployment and low inflation. Yet they imply very different outcomes for real wages, the real exchange rate, and for the trade balance. In the first scenario, real wages decline, the real exchange rate depreciates, and the trade balance improves. In the second one, real wages rise, the real exchange rate appreciates, and the trade balance deteriorates.

Do either of these stylized pictures fit the UK's experience? As we have seen, the first corresponds poorly with the behaviour of the nominal and real exchange rate. The second entails a real appreciation but ignores the supply-side reforms and rests on the effect of an exogenous aggregate demand boom producing a nominal appreciation via a rise in the domestic interest rate (as in the small open economy Mundell–Fleming model). In addition, as we have already noted in relation to the first hypothesis, the idea that output growth was driven by rising competitiveness (path 2 in Fig. 17.9) is at odds with the facts. For most of the period, UK inflation was slightly above that of its trading partners—where the inflation rate was also on a declining trend. But there is some truth in the notion that consumer behaviour was an important part of the post-1997 growth phase. One trigger for a consumption boom was windfall gains to consumers due to changes in the financial sector (e.g. demutualization of building societies); as the stock market and real estate boom took hold this probably led consumers to view their wealth as higher and to reduce savings. As the consumption boom slackened, public expenditure took over in maintaining the growth of demand. The Labour government was able to consolidate the public finances during a period of robust private sector growth in its first term, which gave it the scope, within its fiscal rules (see Chapter 6) to introduce major public expenditure programmes in its second term from 2001.

Lying behind Fig. 17.9 is the small open economy model in which an appreciation following a positive 'IS shock' such as a consumption boom is caused by a rise in the domestic interest rate relative to the world interest rate. However from 1997, the UK had an inflation-targeting regime, with the Bank of England using a Taylor-type Rule to adjust the interest rate. It raised the interest rate in 1997 but it is unlikely that this can account fully for the appreciation of the nominal exchange rate. As we have stressed throughout our discussion of the open economy, economic explanations of exchange rate movements are poor. One further change to the UK economy that is relevant to nominal exchange rate behaviour in the period from the mid-1990s is the emergence of export strength in knowledge-based services such as banking, finance, consulting, and other business services.¹² This helps to explain the limited deterioration of the current account balance in the face of the large real appreciation. Such a shift in export capability (a rise in net exports at a given real exchange rate) is represented in the model by a rightward shift of the *BT* curve and may help to account for the nominal appreciation. If we combine the aggregate demand, supply-side, and *BT* shifts as in Fig. 17.10, we have the elements for a systematic consideration of the driving forces behind the evolution of the British economy since the mid-1990s.

¹² For an interesting analysis of the changing structure of the UK balance of payments (in an international perspective), see Rowthorn and Coutts (2004).

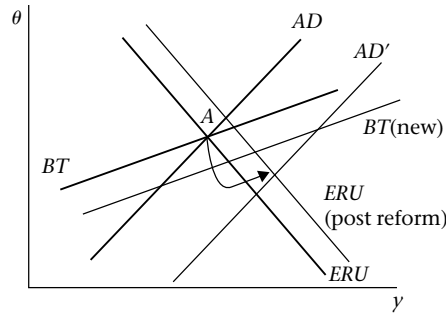


Figure 17.10 UK from 1997: synthetic hypothesis

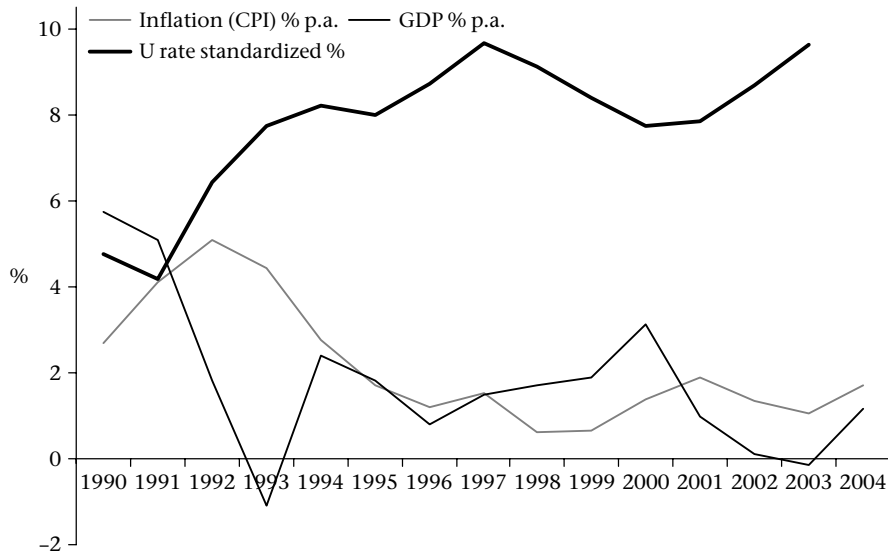


Figure 17.11 Germany: growth, unemployment, and inflation 1990–2004
Source: OECD.

1.6 Longer-term effects on Germany

The drama of German unification was analysed for West and East Germany separately. But how did the German economy as an entity look as the 1990s proceeded? For Germany, the unification boom was rapidly replaced by a sharp recession in 1993. In the decade from 1994, the economy grew slowly at around 1.4% p.a. The eurozone as a whole grew at 2.1% p.a. The recession was partly the outcome of the natural unwinding of the extraordinary boost to demand in 1990 and partly the result of the tightening of monetary policy discussed earlier. Unemployment remained stubbornly high throughout the decade and inflation after peaking in 1992 at 5% fell to close to zero by 1998 (Fig. 17.11). The nominal exchange rate appreciated by about 20% from 1991 to 1995 (as other trading partners previously in the ERM experienced depreciations); there was little movement in the second half of the decade.

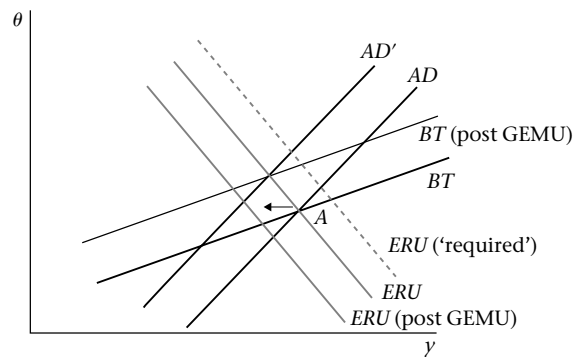


Figure 17.12 Unified Germany, 1990s

For the German economy as a whole, unification represented a negative external trade shock: the export capability of the eastern part was extremely low given the real wage that emerged as part of the political settlement. Hence the economy had a new region with a huge external deficit. In Fig. 17.12, this is shown by the leftward shift in both the AD and BT curves. Moreover, the low capital stock per East German worker implies a negative productivity shock for the German economy as a whole. To the extent that wage claims were not moderated in the light of this, the ERU curve shifts left. This was exacerbated by the additional taxes associated with unification—which at least in the short term were resisted by West German workers. The widening federal government deficit associated with unification is likely also to have produced a downward revision by consumers of their wealth: as the decade proceeded, the vision of East Germany as a profitable ‘investment project’ receded. This is probably part of the explanation for depressed consumption expenditure in Germany. When considered together, these consequences of unification amount to a negative external supply-side shock for Germany—and provide a marked contrast with the fortunes of the UK over the same period.

In contrast to some early predictions, a rapid productivity catch-up to bring the supply side of East Germany up to a level comparable with the west has not taken place. In the face of a negative external supply-side shock, in order for unemployment to decline in a sustainable way, the ERU curve must be shifted to the right (as shown by the ‘required’ ERU curve in Fig. 17.12). In other words, supply-side improvements are required to enable Germany to overcome the legacy of unification. Germany needs a real depreciation vis-à-vis its main trading partners, many of whom are inside the eurozone. Real wages must be cut relative to productivity to bring about a real depreciation. It may be more difficult to achieve a real depreciation when a nominal depreciation is not available to use in conjunction with any supply-side reform. An additional difficulty is that although lower inflation in Germany is required to achieve a real depreciation, lower German inflation inside the eurozone implies a *higher* real interest rate in Germany than in the other members. A higher real interest rate will dampen investment and other interest-sensitive spending, depressing the overall level of activity. We shall return to the problems of achieving the required wage restraint within a monetary union in the next section.

However, a balanced diagnosis of the current weakness of the German economy requires attention also to be drawn to the persistently depressed state of *domestic* aggregate demand. Relative to other eurozone economies net exports have performed well in

Table 17.3 Contributions of domestic demand and the external balance to GDP growth, eurozone 1995–2005

% p.a.	Real GDP	Domestic demand	External balance
Eurozone	2.0	1.8	0.2
Germany	1.3	0.6	0.7
France	2.2	2.4	−0.2
Italy	1.5	1.9	−0.4
Spain	3.2	3.7	−0.6

Source: Oxford Economic Forecasting.

Germany, suggesting that there has been some turnaround in the impact of unification on exporting capacity. As Table 17.3 illustrates, Germany's low growth as compared with other eurozone economies is associated with a strong contribution of net exports and an extremely weak contribution of domestic demand. With its specialization in capital goods and vehicles, Germany has benefited from the strong growth in demand for machinery and equipment from China. It has also utilized the opportunities to enhance export competitiveness that have come from outsourcing activities to the low cost transition economies in central Europe. This is discussed further in Chapter 18. Consumption, investment, and the public sector have made a very limited contribution to demand. The weakness of investment is a worrying indicator that even the relative strength of the export sector may be vulnerable. In terms of Fig. 17.12 some reversal of the leftward shifts of the *BT* and *ERU* curves appear to have taken place; meanwhile the *AD* curve has shifted further left, leaving the economy with a substantial external surplus. Weak growth is reflected in the deterioration in the public sector financial balance and the rise in the private sector financial balance as well as the external surplus (see Fig. 17.13). As set out in Chapter 2, the relationship between the financial balances can be seen by rearranging the goods market equilibrium condition.

$$(s_y \gamma^{\text{disp}} - I(r) - c_0) + (t_y \gamma - g) = x - m_y \gamma \quad (\text{goods market equilibrium condition})$$

The series for the private sector financial balance in Fig. 17.13 is constructed using the accounting identity equivalent of this equation.¹³ The pattern of the financial balances in the 2000s in Germany is reminiscent of the pattern in Japan at the outset of its long period of stagnation (see Fig. 17.24).

1.7 Summing up

We used the macro model to examine the nature of the German unification shock and to explore its consequences for Germany—East, West, and unified—and for other countries in the ERM system. Although the initial impact of the shock was a positive aggregate

¹³ The private sector financial balance includes the statistical discrepancy. Note also that the current account is shown rather than the trade balance.

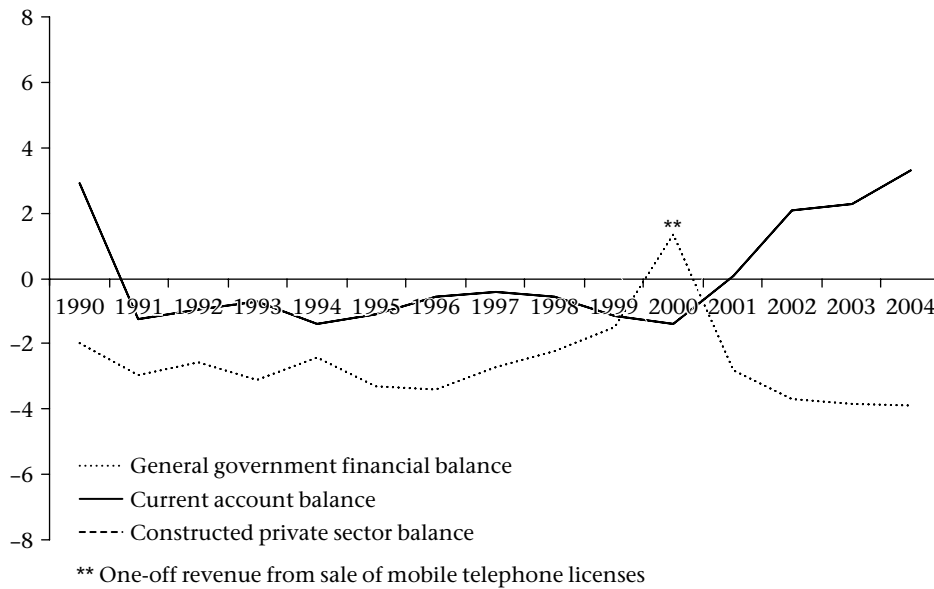


Figure 17.13 Germany financial balances, 1990–2004, % GDP

Source: OECD.

demand shock for West Germany, the deeper negative supply-side consequences only became apparent in later years and were exacerbated by the conditions agreed at unification between unions, employers associations, and government for the rapid convergence of East to West German wage levels irrespective of productivity developments. We emphasized the importance of the ERM in providing an external anchor for members seeking to reduce inflation. This helps to explain their reluctance to participate in an orderly realignment of exchange rates in the aftermath of unification. Such a realignment may have prevented the sharp tightening of monetary policy by the Bundesbank and the subsequent collapse of the ERM. As we have seen, some countries benefited from the monetary easing that accompanied their exit from the ERM. The UK economy recovered and in this context, a new macroeconomic policy framework was developed, which culminated in the independence of the Bank of England in 1997.

Over the past decade the performance of the German and British economies contrast sharply.

The British economy:

- reaped the benefits of earlier supply-side reforms
- benefited from the depreciation associated with ERM exit
- introduced a stable macroeconomic policy framework
- experienced strong consumption demand and timely fiscal consolidation
- benefited from a favourable improvement in the terms of trade, which helped contain inflationary pressures.

The German economy:

- suffered from the unfavourable supply-side shock associated with German unification
- lost the ability to use monetary policy by joining EMU
- experienced weak consumption demand.

2 Macroeconomic policy within EMU

Formally, Economic and Monetary Union began in 1999 when the exchange rates were irrevocably fixed between the members. However, it came into full effect with twelve members when the euro was introduced and national currencies removed on 1 January 2002. This represents a unique and untested structure for the conduct of macroeconomic policy in modern times: there is one independent central bank, twelve politically independent fiscal authorities, and twelve labour markets. In this section, we use the macro model to look at the part played by the single central bank, the national fiscal policy makers, and national labour markets in the operation of the monetary union and the performance of its members.

2.1 What kind of monetary policy maker is the European Central Bank?

The ECB was established as a monetary policy maker independent of governments: it was to set its own target (target independence) and choose its policy instrument(s) (instrument independence). The two key influences over its constitution were, on the one hand, the legacy of its predecessor as monetary policy maker for Europe, the German Bundesbank, and on the other, the prevailing mainstream consensus amongst economists as to how monetary policy should be conducted. The Bundesbank was constitutionally required to maintain a stable price level and had always placed weight on developments in the monetary aggregates (measures of the money supply) as a guide to how monetary policy should be adjusted. The consensus view amongst economists is captured in the idea of the central bank using a Taylor-type Rule to actively adjust the interest rate so as to steer the economy toward an inflation target (refer back to Chapter 3 and Chapter 5 for details of the Taylor Rule and to Chapter 8 for monetary targeting).

The ECB set itself an inflation target *zone* of 0 to 2% and defined its monetary policy strategy as having ‘two pillars’, where the pillars are the inflation rate and the growth rate of monetary aggregates. By contrast, the newly independent Bank of England was given its *symmetric* inflation target by the government (initially 2.5%; lowered to 2% at the end of 2003) and describes its strategy as that of ‘inflation targeting’. The contrasting experience of West Germany and the UK with earlier episodes of targeting monetary aggregates is reflected in these differences (see Chapter 8 for further discussion). Under the ECB’s initial set-up, there was no presumption that it would act if inflation fell below 2% and, given the dangers of deflation (discussed in Chapter 5 and below in relation to Japan), this is a worrying aspect of the policy design. In 2003, the ECB clarified its

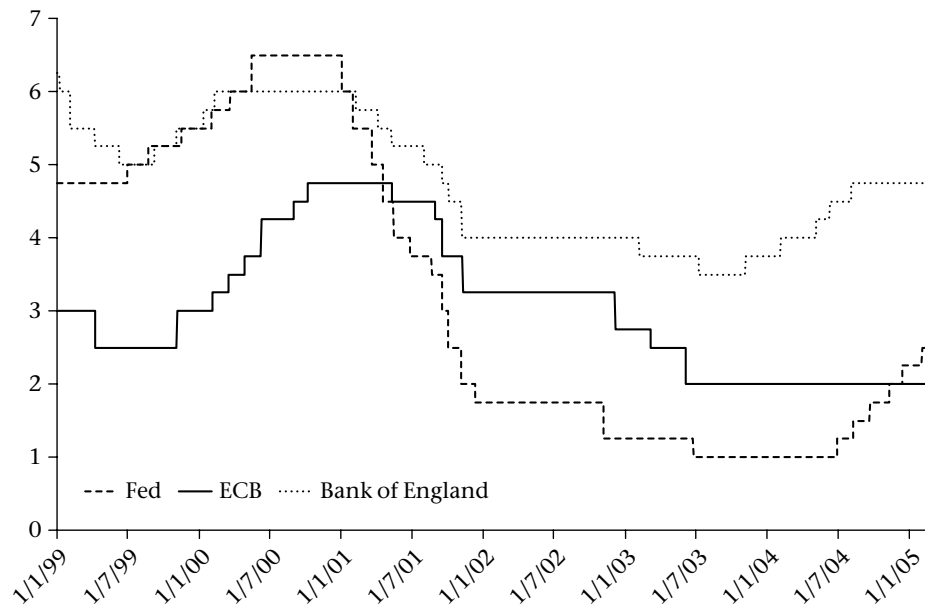


Figure 17.14 Official interest rates: US Federal Reserve, ECB, and Bank of England

Source: Bank of England, ECB, US Federal Reserve Board

definition of price stability to state that it ‘aims to maintain inflation rates below but close to 2% over the medium term’.¹⁴ Although this reduces the asymmetry, it does not remove it. The experience of the Bank of England also suggests that it may have been wiser for the ECB to have had a somewhat higher inflation target initially and then to lower it.

From the analysis by economists over its early years of operation, it appears that the ECB is indeed operating a Taylor-type monetary policy rule. One empirical study suggests that on the basis of the analysis of data up to the end of 2002, the ECB’s decisions on the interest rate are well predicted using a Taylor Rule in which the weights on inflation and the output gap are the same as the ones that characterize the decisions of the US Federal Reserve.¹⁵ These weights predict better than do those that were characteristic of the Bundesbank.¹⁶ Yet the ECB has been widely criticized as reacting sluggishly to the slowdown in the European economy in 2001. Fig. 17.14 displays the official interest rates set by the US Federal Reserve, the ECB, and the Bank of England.

There are several ways of reconciling the fact that the ECB’s decisions seem to match those that the Fed would have taken faced with the same data and the perception that the ECB’s decisions have been ‘too little, too late’. If the ECB uses the same Monetary

¹⁴ European Central Bank (2004: 51).

¹⁵ For example, Giavazzi and Favero (2003).

¹⁶ The weights estimated for the Fed by Giavazzi and Favero are 1.10 on the inflation term and 0.79 on the output gap; for the Bundesbank, 1.95 on the inflation term and 0.30 on the output gap. The rule is expressed in terms of the nominal interest rate and therefore the comparison is with weights of 1.5 and 0.5 respectively in Taylor’s original estimates for the Fed.

720 APPLICATIONS

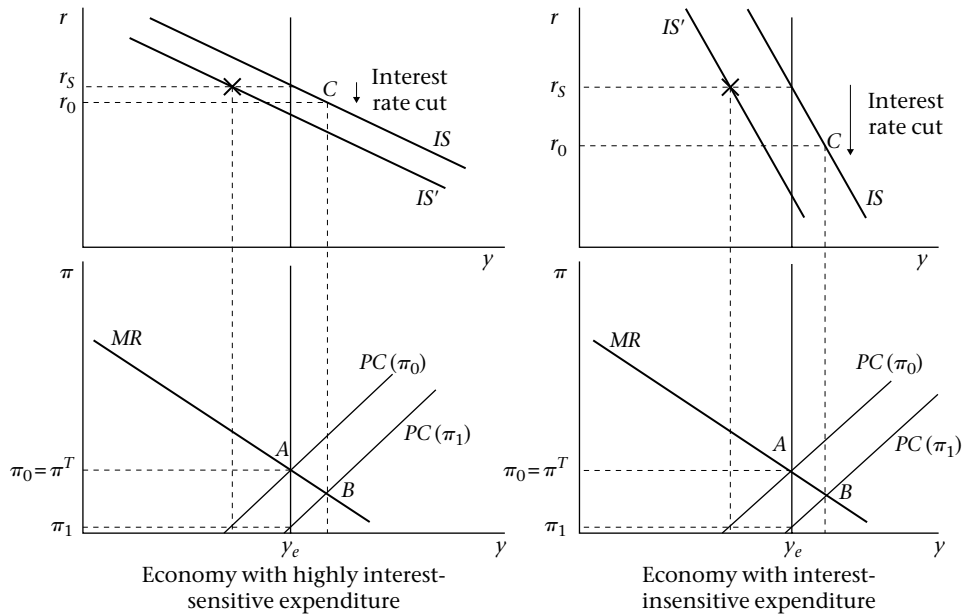


Figure 17.15 Interest rate decisions following an *IS* shock

Policy Rule as the Federal Reserve, it will produce the appropriate stabilizing effect for the EMU economy only if the EMU economy responds to it in the same way as does the US economy to the Fed’s decisions. As we have seen in Chapter 5, the coefficients in the ‘optimal’ Taylor-type rule for an economy depend on

- the slope of the Phillips curve,
- the slope of the *IS* curve, and
- the weight on inflation in the central bank’s preference function.

Even if the weights on inflation and output in the loss function of two central banks are identical, if one economy has a flatter Phillips curve (greater real wage rigidity) and a steeper *IS* curve (less sensitivity of aggregate demand to the real interest rate) then its Taylor Rule should place less weight on output deviations relative to inflation deviations and a higher weight on both than in the economy with steeper Phillips curves and more interest-sensitive expenditure.

As an illustration, we compare two economies identical in all respects except in the interest sensitivity of expenditure (Fig. 17.15). Both economies are subjected to the same negative temporary *IS* shock—e.g. as the result of a loss of confidence due to a terrorist attack (*IS* shifts to *IS'*). Each central bank observes a fall in output as shown by the large \times and works out the optimal interest rate response. This is the cut in the interest rate that will raise output to the level associated with point *B* in the lower panel. As the diagram makes clear, the supply side of the two economies is identical and so is the utility function of the two central banks. Hence the lower panel for each economy is identical. But in response

to the same ‘signal’ of lower output, the central bank in the economy (on the right) with the less interest-sensitive expenditure should implement a larger cut in the interest rate. If it implements the same interest rate cut as the other economy, it will delay the return of the economy to equilibrium output. The situation is worse if private sector agents are more affected by the pessimism associated with the shock than by the action and rhetoric of the central bank and/or if they doubt the effectiveness with which the central bank will respond to shocks. This may turn a temporary *IS* shock into a longer-lasting one and therefore require larger interest rate cuts since the stabilizing interest rate (r_s) will also have fallen.

In addition to substantive concerns about the ECB’s reaction function, the analysis of monetary policy in Chapter 5 suggests that the ECB should:

- have a clearly stated symmetric inflation target or target range. This may help to stabilize private sector expectations and put in place a firmer bulwark against the possibility of deflation.
- operate with greater transparency. A clearer understanding by the public of how decisions are made would come with the publication of minutes of the Governing Council meetings and of the ECB’s forward-looking forecasts for inflation and other variables. As we have seen in Chapter 7, the interaction between forward-looking private sector agents and a forward-looking central bank can be stabilizing but this useful feedback mechanism is neutralized if the behaviour of the central bank is poorly explained and poorly understood.

2.2 Member country adjustments within EMU

In Chapter 11, we showed how to analyse whether a country would suffer from giving up the nominal exchange rate as a policy instrument. The same tools help us to examine what happens at the individual country level when it becomes a member of a common currency area like the eurozone. The issue is how the absence of the exchange rate instrument (or equivalently, of domestic monetary policy autonomy) affects the adjustment of the economy to a country-specific shock or to an underlying structural change that is not common across the member countries of the currency union.

2.2.1 Country-specific aggregate demand shocks

We recall from Chapter 11 that the effect on output of a temporary negative aggregate demand shock would be fully offset under a flexible exchange rate regime via a depreciation. However, an inflation-targeting central bank is unlikely to allow full offsetting because of the consequences for future inflation (by cutting real wages, the depreciation takes the economy above the *ERU* line and therefore entails a rise—albeit temporary—in inflation). Nevertheless, to the extent that some depreciation takes place in response to the shock, the impact on output will be less harsh than in an economy in a currency union.

Clearly depreciation is not an option in the face of a country-specific shock inside the eurozone. Irrespective of the exchange rate/monetary policy regime, the automatic fiscal stabilizers will operate to cushion the impact on the economy of the aggregate

demand shock—unless they are prevented from working by a fiscal rule. In addition, the government may use discretionary fiscal policy to offset the shock. We have seen in Chapter 6 that to ensure fiscal prudence over the longer run, a government using fiscal policy for stabilization must ensure that the measures are reversed when cyclical conditions improve. This may cause greater political difficulties than does the use of monetary/exchange rate responses to temporary fluctuations.

2.2.2 Real exchange rate adjustment

A major issue that arises within a common currency area is how required changes in the real exchange rate between members can be brought about. Italy's performance provides a useful example. The weakness of Italy's export performance over the past decade is reflected in the data in Table 17.3. Moreover since 2000, there has been a 20% deterioration in Italy's competitiveness as measured by relative unit labour costs, which would be expected to produce a further weakening of net exports. In the past, Italy traditionally relied on periodic depreciations of the nominal exchange rate to restore its competitive position. Within EMU, this is not possible.

We have already encountered the case of Germany, which as a consequence of unification experienced a negative external trade shock. Italy's problems may reflect a more gradual erosion of its competitive strength generated by the emergence of new sources of supply of manufactures in Europe (as the transition economies have restructured their production sectors and upgraded the quality of their exports) and Asia. To restore output and employment, it is necessary for there to be a real depreciation of the exchange rate. For this to be sustainable, the *ERU* curve has to shift to the right, i.e. supply-side changes must be implemented. As discussed in Chapter 4, there are a range of policy measures that can shift the *ERU* curve: e.g. labour and product market reforms, social security reforms, a wage accord. The shift in the *ERU* is required irrespective of the exchange rate regime: however, when a change in the nominal exchange rate is not available, all the adjustment must take place through domestic wage and price inflation lower than elsewhere in the union. When currency union inflation rates are already low, this is likely to be both difficult and potentially hazardous as deflation may set in.

The opposite situation can also arise within the eurozone. Suppose that a country in the eurozone experiences a positive external trade shock. Ireland would be a good candidate. In this case, the economy needs to move to a new medium-run equilibrium at lower unemployment and with a real appreciation: higher real wages are consistent with trade balance. To achieve this adjustment without a nominal appreciation, there needs to be a period with Irish inflation above that of the rest of the union. As shown in Fig. 17.16, path 1 involving a nominal appreciation is not available to Ireland within EMU. Path 2 entails a period with higher inflation than the eurozone average. Countries that require such a real appreciation should not be subject to criticism within the union because of the rise in inflation: this is the only way that real exchange rate adjustment can occur. Once again, the situation is likely to be complicated by the fact that a rise in Irish inflation will reduce the real interest rate and may well fuel a domestic aggregate demand boom; a tightening of domestic fiscal policy would be appropriate to help stabilize this.

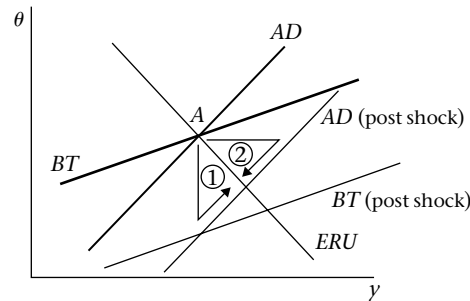


Figure 17.16 Adjustment to a positive trade shock inside (2) and outside (1) EMU

2.3 Does EMU need fiscal rules?

Since the flexible national use of fiscal policy for stabilization takes on greater importance for countries that belong to a currency union, why are there fiscal rules for EMU members? In Chapter 6, we set out the arguments for countries at the *national* level managing their fiscal policy according to the principles of the prudent fiscal policy rule. To make the case for fiscal rules at the *supranational* level of EMU, it is necessary to argue

- that membership of a common currency area reduces the constraints on the use of national fiscal policy to achieve lower medium-run unemployment and
- reduces the incentives for countries to adopt fiscal rules that ensure the solvency of the government, and
- that there are spillovers from national fiscal profligacy to the union as a whole.

The fiscal policy prisoners' dilemma in a currency union. As we have seen, for a small open economy, a fiscal expansion allows the economy to move to a medium-run equilibrium at lower unemployment with stable inflation (at the target rate) because the terms of trade can be shifted in its favour. External constraints from the reaction of the money market and the foreign exchange market provide a check on this behaviour for an economy operating under either fixed or flexible exchange rates. However, with such external discipline absent for individual member countries in the eurozone, the temptation to seek to reduce unemployment by a fiscal expansion is a potential problem. If all members reason the same way, the result is a higher interest rate for the monetary union and a phase of higher inflation that is costly to eliminate since for the currency union as a whole (thinking of it as a closed economy), equilibrium unemployment is unique. The roots of the logic of the Stability and Growth Pact of the eurozone may lie in this prisoners' dilemma in fiscal policy. A more detailed analysis of the prisoners' dilemma in this context is provided in section 4 of Chapter 12.

'Bail out' for a government in a currency union. If a country is unable to finance its expenditure (i.e. pay for its current expenditure and service its existing outstanding debt) either by raising taxation or by selling more bonds, it is said to face a debt crisis. What are the consequences? It must either default on its debts, receive transfers from other countries, or reduce the value of the debt by monetizing it through inflation. The use of a rise in inflation to generate seignorage revenue is explained in Chapter 6. Applying these arguments to EMU countries, a member facing a debt crisis could default, be 'bailed out' by other

members, or secure the help of the ECB to relax monetary policy and allow inflation to rise. Since each of these alternatives potentially entails spillovers to other eurozone members, there is a prima-facie argument for the existence of fiscal rules.

Spillovers from national fiscal profligacy. Externalities include the contagion effect that might flow to other financial markets in the eurozone if one country defaulted or was in danger of defaulting. Although the markets may price in the additional risk solely to the country concerned, there is a danger that this would spill over to other members, raising the risk premium and therefore the cost of borrowing for all eurozone countries. Such a spillover would be more likely if it was thought that there would be a bail-out of the fiscally irresponsible government. A 'bail-out' via transfers from other members would impose a direct cost on them; a rise in union inflation if ECB behaviour was affected would impose an indirect cost via the increase in inflation. As noted in Chapter 6, there is a vigorous debate as to the plausibility and likely size of such effects. In addition to the question of whether externalities exist is the issue of whether the incentives for fiscal prudence are affected by membership of a currency union. As noted above, for a country outside a currency union, fiscal profligacy can prompt speculation in the foreign exchange market against the currency. This potential punishment may be an effective external control on government behaviour that is removed on entry to a common currency area.

The benchmark of the prudent fiscal policy rule allows fiscal policy to play a role in stabilization (the full effects of the automatic stabilizers are allowed to work plus discretionary fiscal policy is available for use in the event of a country-specific demand shock). Moreover, it provides a framework for evaluating whether structural government expenditure problems can be safely addressed by allowing borrowing to increase or whether taxation has to rise. As noted in Chapter 6, the fiscal rules in the EU's SGP are not necessarily consistent with the PFR. By limiting government deficits to 3%, the SGP may limit the role of the automatic stabilizers. The consequence is that fiscal policy can become procyclical. The failure of the large eurozone economies to meet the 3% limit in the early years of EMU highlights the dangers of a poorly designed policy. By failing to penalize these countries, the credibility of the policy framework is undermined; on the other hand, had penalties been imposed, an even stronger procyclical impulse may have occurred.

The second component of the SGP, that the cyclically adjusted deficit to GDP ratio be less than or equal to zero, imposes an arbitrary constraint on the appropriate method of dealing with structural problems, such as situations in which a cumulative shortfall in expenditure on public infrastructure needs to be made good. Equally, the rule is unnecessary for solvency in the case of economies with low debt to GDP ratios and in which the growth rate exceeds the real interest rate (refer back to Chapter 6 for the details on debt dynamics). Such a rule may therefore prevent some of the accession economies which are catching up and therefore have growth rates in excess of the real interest rate from setting an optimal fiscal policy.

2.4 Summing up

Europe has introduced a highly experimental framework for macroeconomic policy making. One success of the framework has been revealed by the episode of the depreciation of

the dollar in 2004–5. In previous decades a depreciation of the dollar led to upward pressure on the Deutschmark and to exchange rate tensions between European economies. The single currency prevents this. However, evaluating the framework through the lens of the macro model has revealed many pitfalls in its design and implementation. The ECB's goals and choice of instruments lack the clarity of the inflation-targeting framework established around the same time for the Bank of England. The ECB has failed to convey its intention of robustly stabilizing the European economy. As we shall see, this contrasts with the behaviour of the US Federal Reserve. The attempt to mitigate the legitimate problem of a prisoners' dilemma in fiscal policy in member states by imposing fiscal rules has backfired as the rules were poorly designed and have proved impossible to implement in the context of a weak European economy. Finally, too little attention appears to have been given to the problems that arise from the need for real exchange rates to change between member countries.

3 USA: the new economy boom and its aftermath

The decade of the 1990s was a good one for the US economy. The economy displayed both increased dynamism and less instability than was true of earlier post-war decades. Table 17.4 shows the key economic indicators for each post-war decade. The improvement in performance in the 1990s as compared with the 1970s and 1980s is clear in terms of inflation and unemployment. Looking at GDP growth, the variability of growth as measured by the standard deviation is lower than in any of the previous post-war decades. This led some observers to claim at the end of the 1990s that successful management of US macroeconomic policy had resulted in the end of business cycles. The second major phenomenon from the mid-1990s was the revival in the growth of productivity driven by information and communications technology (ICT). The two combined—the 'end of cycles' and 'new technology boom'—were referred to as the 'New Economy'. The recession in 2001 and the sharp rise in unemployment thereafter suggest that the claim that cycles have been eliminated was too hasty.

3.1 The benign 1990s

As compared with the dramatic developments in Europe with the fall of communism, the reunification of Germany, and the creation of an experimental macroeconomic policy framework in the European Monetary Union, the 1990s was a decade free of major external or domestic shocks for the US economy. Unlike the 1970s and 1980s in which there were major swings in world commodity and energy prices, these prices were rather stable and on average price shocks were downwards rather than upwards.

Macroeconomic policy was also characterized by the absence of major policy mistakes. Monetary policy was in the hands of the activist Federal Reserve under the Chairmanship of Alan Greenspan. Continuity was the hallmark of the period: the Fed seemed to be following an implicit inflation-targeting policy with the objective of stabilizing growth

Table 17.4 US economic performance by decade: 1950s–1990s

	1950s	1960s	1970s	1980s	1990s
GDP growth, ave.	4.2	4.4	3.3	3.0	3.0
<i>Standard deviation</i>	3.9	2.1	2.8	2.7	1.6
Productivity growth, ave.	2.8	2.8	2.1	1.5	2.1
<i>Standard deviation</i>	4.3	4.2	4.3	2.9	2.6
Unemployment, ave.	4.5	4.8	6.2	7.3	5.8
<i>Standard deviation</i>	1.3	1.1	1.2	1.5	1.0
Inflation, ave.	2.1	2.3	7.1	5.7	3.0
<i>Standard deviation</i>	2.4	1.5	2.7	3.5	1.1

Note: Productivity growth is for the non-farm business sector.
Source: Mankiw (2002).

expectations as well as keeping inflation low and stable. In an overview of monetary policy in the 1990s, Greg Mankiw (2002) concluded by noting that:

- the period was a benign one for the Fed in the sense that shocks, especially bad ones, were largely absent;
- such a period makes the policy maker look good;
- the strength of the dollar made the Fed's job easier by dampening inflationary pressure.

Fiscal policy was relieved of active stabilization duties during this decade. The Clinton administration took advantage of the favourable circumstances of buoyant private sector demand to undertake a serious fiscal consolidation. The cyclically adjusted (i.e. structural) government balance went from a deficit of 4.5% in 1990 to a surplus of 0.9% in 2000 and the ratio of gross government debt to GDP peaked at 76% in 1993 and had fallen to 59% by 2000.¹⁷ Clinton advisors argued that a determined fiscal consolidation would not be contractionary and could even be expansionary (see Chapter 6 for the details of the logic of so-called expansionary fiscal consolidations). Clinton's Secretary of the Treasury Robert Rubin argued that the fiscal consolidation was a crucial condition for the boom in the second half of the 1990s:¹⁸

I have no doubt that the 1993 [deficit reduction] program and the eight years of a policy of fiscal discipline were key and indispensable in a virtuous cycle of deficit reduction promoting growth which further reduced the deficit, which then in turn further increased growth and so on back and forth, and that this policy was thus key and indispensable in generating the economic and fiscal developments of the Clinton years. . . . I think a lasting legacy of this administration will be

¹⁷ OECD *Economic Outlook* (December 2003), Annex table 29.

¹⁸ Rubin (2002:132–3). In his comment on the same paper (p. 124), Ronald Reagan's chief economic adviser, Martin Feldstein, has a more cynical interpretation: 'Although it is tempting to think of these budget surpluses as a deliberate policy of national debt reduction, I think the reality is simply that Republicans in Congress blocked spending increases . . . while President Clinton blocked Republican initiatives to cut taxes'.

the successful experiment of promoting economic recovery and sustained growth through fiscal discipline rather than through fiscal expansion . . .

3.2 New technology boom

The US economy experienced a positive supply-side shock associated with the introduction and diffusion of new technology from the mid-1990s. The evidence suggests that the USA was unique amongst the advanced economies in relation to the new technology shock in two important respects:

- (1) the bulk of the key innovations in the ICT sector took place in the USA, and
- (2) diffusion of the innovations across the economy occurred more rapidly there than elsewhere. Table 17.5 shows how the contribution of ICT to the acceleration of productivity growth from 1995 can be quantified.¹⁹

From the growth-accounting calculations in Table 17.5, we can see that ICT makes a contribution to productivity growth via capital deepening—i.e. in the form of higher levels of computer hardware, software, and other communications equipment per worker. This contribution more than doubles to account for nearly 1% per annum growth of productivity after 1995. Note that the contribution of ‘other types of capital’ and of ‘labour quality’ is unchanged in the post-1995 period. The row ‘total factor productivity growth’ shows the contribution to labour productivity growth that cannot be attributed to either

Table 17.5 Estimates of the role of new technology in the post-1995 US productivity revival: annual percentage rates of change

	1973–95	1995–2002
Labour productivity	1.4	2.6
Contributions from:		
A. Capital deepening, of which	0.7	1.2
ICT capital	0.4	0.9
other types of capital	0.3	0.3
B. Labour quality	0.3	0.3
C. Total factor productivity, of which	0.4	1.1
ICT producing industries	0.3	0.7
other industries	0.1	0.4

Source: Gordon (2004) (from table 3). Gordon updates the estimates by Oliner and Sichel (2000).

¹⁹ This table uses the growth-accounting methodology explained in Chapter 13. Note that the estimated effect of ICT capital assumes the investment was productive. The collapse of the boom revealed that this was not always the case with the resulting excess capacity of ICT capital.

capital deepening or to changes in labour quality. This increased sharply because of technological progress by ICT producers and elsewhere in the economy, which reflects the diffusion of the new technologies.

In Chapters 13 and 14, we examined the way the economy adjusts to a faster rate of technical progress in the Solow-swan growth model. In this section, we focus on the implications of a faster rate of technical progress for macroeconomic policy, from a short-to medium-run perspective. In Chapter 4 and again in Chapter 15 in the section on wage and price setting, we raised the question of what a rise in productivity means for equilibrium employment. It was argued there that eventually changes in productivity (or in productivity growth) will be incorporated into wage-setting behaviour with the result that in the long-run equilibrium unemployment is unaffected. However, it may take some years for a change in trend productivity growth to be distinguishable from a purely cyclical effect or from a transitory productivity shock, and incorporated into wage-setting behaviour. During this time, equilibrium employment rises because the *PS* curve shifts up relative to the *WS* curve.

Fig. 17.17 illustrates how an inflation-targeting central bank responds to a supply-side shock, where we show the supply shock by the rise in equilibrium output from y_e to y'_e . The first indication of the productivity shock is a fall in inflation: faster productivity growth means a lower growth of unit costs and hence of prices (A to B). The central

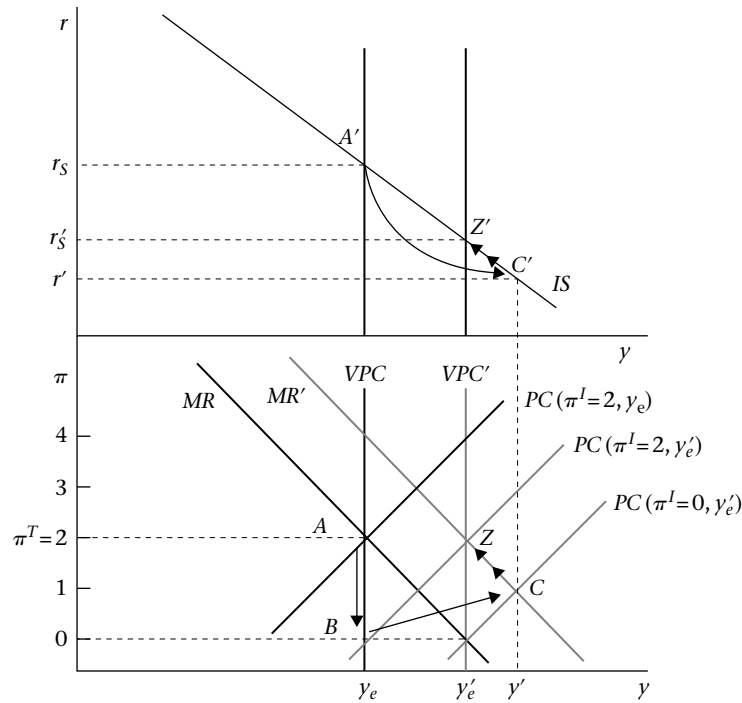


Figure 17.17 Positive supply shock: the US technology boom

bank can deduce from this signal that a possible cause is a positive supply-side shock. Its optimal response is a cut in the interest rate to r' as shown (points C and C'). Each period, the central bank must examine the data to check that it is consistent with a permanent supply-side improvement and to see whether wage behaviour has begun to incorporate the productivity growth improvement. If inflation behaves in line with this hypothesis, the central bank will use its monetary rule to guide the economy along the new *MR* curve (MR') back to target inflation at the lower equilibrium unemployment rate (point Z). It is unlikely that the reduction in equilibrium unemployment will last indefinitely, however, since we would expect real wage growth expectations eventually to adjust to the new faster growth rate of productivity. In terms of the simple model, this means that eventually, the *WS* curve shifts up in line with the initial shift in the *PS*, returning equilibrium employment to its original level.

In the *Economic Report of the President 2000* (written by the Chairman of the Council of Economic Advisers), it is noted that²⁰

the new higher trend growth rate of productivity since 1995 could have temporarily lowered the NAIRU, because it can take many years for firms and workers to recognize this favorable development and incorporate it into their wage-setting process. In the meantime, the productivity surprise can stabilize inflation of unit labor costs and prices even at unemployment rates below the previous NAIRU.

The Report suggests that a one-percentage-point positive surprise in productivity growth has the effect of lowering the equilibrium rate of unemployment by one and a quarter percentage points.

3.3 Imbalances, twin deficits, and the decline of the dollar

The counterpart of the fiscal consolidation undertaken by the Clinton administration during the 1990s was a dramatic swing in the private sector's financial balance from a surplus of 5% of GDP in 1991–2 to a deficit of 6% in the year 2000 (Fig. 17.18). A major driver of the deterioration in the private sector balance over the 1990s was a change in household savings behaviour, which was about 7% of disposable income in the early 1990s but only 1.7% in 2001 (comparing the two recession years). As the discussion of savings behaviour in Chapter 7 makes clear, the influence of the technology boom on the evaluation by households of their lifetime wealth may have played a role. The return to financial balance of the private sector by 2003 is mainly due to an unusually large increase in retained profits (i.e. business sector savings) and a decline in business sector investment in this period: the household savings ratio has remained unchanged at about 2% of disposable income.

The analysis of US performance in the 1990s to this point has largely ignored the openness of the economy. But in the early 2000s, the US economy saw the emergence of a very large current account deficit as shown in Fig.17.18. Indeed the US economy has been characterized by the so-called twin deficits with the private sector in financial balance and a large government deficit financed by borrowing from abroad. During the

²⁰ US Government (2000).

730 APPLICATIONS

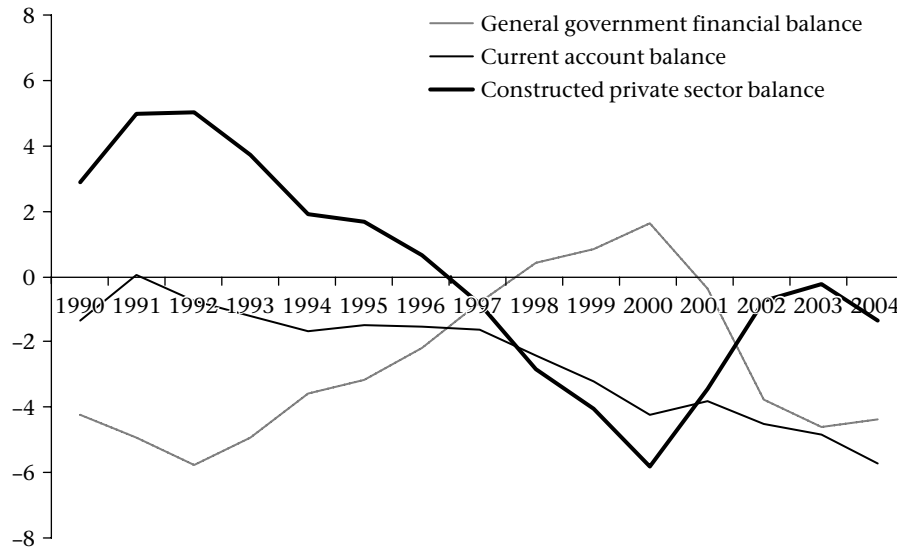


Figure 17.18 US financial balances, 1990–2004, % GDP
Source: OECD.

1990s, the deterioration in the current account partly reflected strong private investment in the USA and partly the collapse of household savings—i.e. it was financing private investment and consumption in the USA. Since 2000, it is mainly financing government borrowing. In the short run, the implementation of a very expansionary fiscal policy in 2002 and 2003 provided a strongly countercyclical boost, which reinforced the aggressive loosening of monetary policy begun in 2001 (see Fig. 17.14). This helped the economy to return to strong growth as shown in Fig. 17.19. This contrasts with the much tighter fiscal policy stance in the eurozone. Table 17.6 shows that the discretionary fiscal boost provided by the US government in the four years from 2000 was 5.6% of GDP as compared with a boost of 0.3% of GDP provided by eurozone governments. Many economists believe that US fiscal policy has been irresponsibly expansionary in this period. Eurozone governments have been criticized for breaking the rules of the Stability and Growth Pact, but as we can see, the fiscal impulse was actually very small.

Taking account of the open economy aspects, the trajectory of the US economy over the 1990s can be shown in Fig. 17.20. The economy began in approximate current account balance in 1990 and with stable inflation. By 2000, equilibrium unemployment was lower (shown in the diagram in terms of higher output); there was little change in the real exchange rate over the period and there was a substantial current account deficit at the end. The shift in the *AD* curve was driven in this period by strong private sector consumption and investment expenditure; the *ERU* shifted to the right as a consequence of the positive supply shock associated with the technology boom. The weakening of private sector demand in 2000–1 was offset to a large extent by countercyclical monetary and fiscal policy as discussed above.

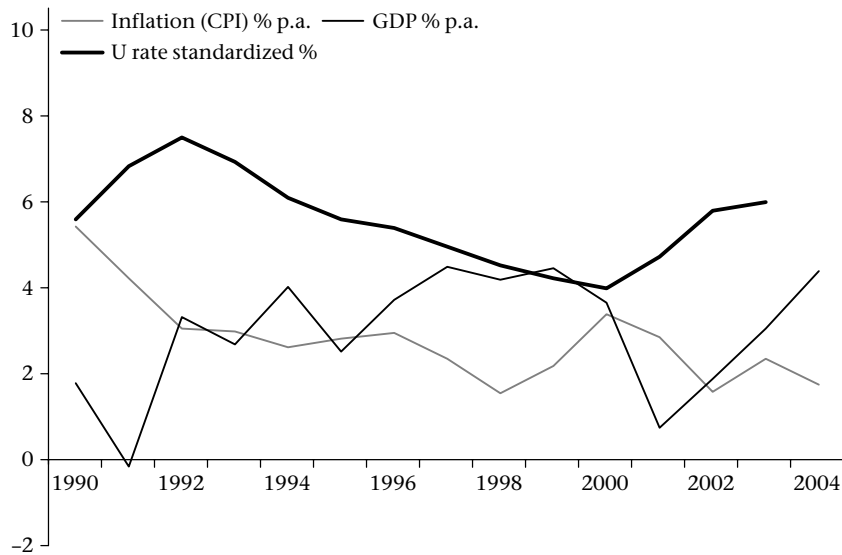


Figure 17.19 USA: growth, unemployment, and inflation, 1990–2004
Source: OECD.

Table 17.6 Discretionary fiscal policy in the USA and the eurozone, 2000–2003: change in the cyclically adjusted (structural) deficit (% GDP)

	US	Eurozone
2000–01	1.4	0.5
2001–02	3.2	0.1
2002–03	0.9	–0.4
2003–04	0.1	0.1

Note: +ve means an increase in the structural deficit, i.e. a positive fiscal impulse.
Source: OECD *Economic Outlook* (December 2004), tables.

It has been widely argued that the US current account deficit is not sustainable.²¹ A particularly clear way of characterizing the problem for the USA is that the trade deficit (i.e. goods and services) is about the same size as the current account deficit. For example, in 2003, the current account deficit was 4.8% of GDP and the trade deficit including transfers such as the remittances of immigrant workers was 5.1%. To see why this is important, it is useful to draw a parallel with the debt dynamics of the public sector as explained in Chapter 6. We saw there that *if* the real interest rate exceeds the growth

²¹ For a short, clear summary, see Quiggin (2004). For a more extensive analysis, see Obstfeld and Rogoff (2004). For an early discussion of imbalances in the USA, see Godley and Izurieta (2001).

732 APPLICATIONS

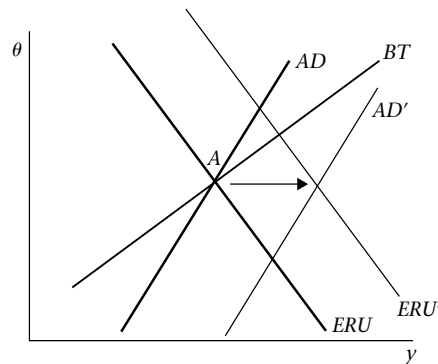


Figure 17.20 The 1990s in the USA

rate, the debt ratio will only be constant if there is a primary budget surplus. The actual budget balance can be in deficit reflecting the interest payments on the debt but the primary balance must be in surplus. Transferring this analysis to external borrowing, the analogue of the primary balance is the trade balance including transfers and of the actual budget balance is the current account balance, which includes net interest flows. Just as a primary budget deficit is inconsistent with stabilizing the government debt ratio and the actual deficit, a trade deficit is inconsistent with stabilizing the ratio of external debt to GDP and holding the current account deficit constant. The logic of debt dynamics means that the US trade deficit must be radically reduced in order to stabilize the current account deficit and the external debt ratio.²²

From Fig. 17.20 it is clear that a reduction in the trade deficit requires some combination of the following:

- a reduction in aggregate demand that shifts the AD curve to the left (from AD') through increases in private savings and a return of the public sector to surplus;
- a real depreciation of the dollar, which would produce a shift to the north-east along the AD' curve;
- a positive external trade shock that would shift the BT curve to the right.

As the diagram makes clear, for a sustainable reduction of the deficit, a depreciation would have to be accompanied by a tightening of aggregate demand to take the economy to a position on the ERU' curve closer to the intersection with the BT curve. Because of the size of the US economy, a deficit of 5–6% of its GDP entails a rapid build-up of foreign ownership of US assets. A consequence of the small size of the tradeable sector in relation to the US economy as a whole is that a large real depreciation is required to bring about the required deficit reduction. Obstfeld and Rogoff provide an illustrative scenario

²² The external position of the USA is complicated because it has huge overseas assets, which earn a higher return than its even larger overseas liabilities. This means that it was actually receiving 0.3% of GDP in net property income in 2003 despite having net overseas liabilities of some 25% of GDP. This makes the relationship between the trade deficit, the growth rate, and the real interest rate more complex than the analysis for the public sector in Chapter 6. Nevertheless the conclusion that the US trade deficit must be radically reduced to ensure overseas debt converges to a sustainable ratio to GDP still holds good.

to suggest that a rapid reduction of the current account by 4% of GDP could entail a real depreciation of as much as 40%.

Although the dollar depreciated in 2003–4 by over 30% against the euro, the corresponding trade-weighted depreciation was much less—around 13%. The explanation lies in the behaviour of governments and central banks in Asia. Japan intervened heavily to prevent the appreciation of the yen and the Chinese currency has remained fixed against the dollar, with the Chinese also building up large official reserves of dollars. This example highlights the difficulties with achieving orderly changes in real exchange rates. We saw in the discussion of EMU the difficulties that arise when real exchange rate changes are required within a currency union; this example brings out the difficulties that exist when nominal exchange rate changes are possible. It is unclear how appropriate changes in the nominal exchange rate can be brought about and whether international cooperation between governments can play a role. The difficulties of international policy coordination are discussed in Chapter 12. If an orderly adjustment of the US economy is not achieved through a combination of increased saving (private and public), depreciation of the dollar and serious policies to reduce imports, for example through policies to reduce the consumption of imported oil, adjustment may take place in a more chaotic manner via a currency crisis (e.g. as a consequence of a speculative attack on the dollar similar to that on ERM currencies in 1992).

4 Japan: more than a decade of stagnation

The post-1990 Japanese economy provides a dramatic contrast to that of the United States. Growth in Japan has been half as fast as that of the USA and unemployment has been rising steadily since 1990, reaching rates above those in the USA for the first time since the war. As Table 17.7 makes clear, Japan grew very fast in the pre-1973 period; like the other big blocs, growth slowed sharply following the first oil crisis in 1973; but unlike the USA and the EU, the 1980s was a decade of fairly rapid growth for Japan. The 1990s therefore provides a contrast with Japan's previous dynamism as well as with the revival

Table 17.7 Comparative growth rates: Japan, USA, European Union, 1960–2002

	Real GDP growth (% p.a. growth rates)			Labour productivity growth Business sector (% p.a. growth rates)		
	Japan	USA	EU	Japan	USA	EU
1960–1973	9.7	4.0	4.7	8.4	2.6	5.4
1973–1979	3.5	2.9	2.6	2.8	0.3	2.5
1979–1989	3.8	3.0	2.2	2.8	1.3	2.0
1989–2002	1.4	2.8	2.1	1.3	1.9	1.6

Source: Calculated from OECD, *Economic Outlook*.

734 APPLICATIONS

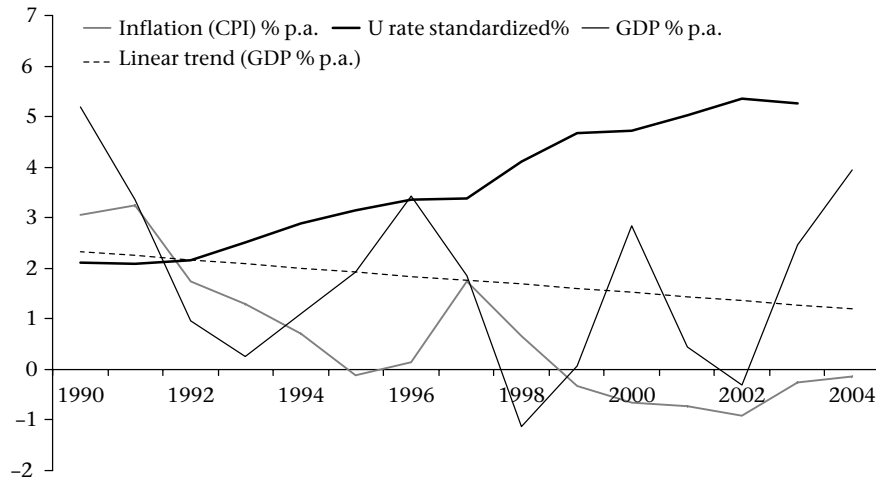


Figure 17.21 Japan: growth, unemployment, and inflation 1990–2004
Source: OECD.

of productivity growth in the USA. Europe’s dynamism has drifted gently downwards period by period.

The strong growth at the end of the 1980s in Japan is generally viewed as representing a ‘bubble’ phenomenon in which asset prices—both stock market and property—increased well beyond levels consistent with the underlying fundamentals. This resulted in a wave of investment in projects with very poor returns. As a consequence, there was a substantial ‘correction’ in asset prices followed by a period of low investment. Whilst asset price bubbles have been observed in a number of the advanced economies (e.g. Sweden and the UK in the late 1980s, the USA in the late 1990s), they do not necessarily produce prolonged recession. The Japanese bubble and its aftermath have raised questions about the soundness of the Japanese financial system and the interconnections between the large corporate groups and the banks.²³ It has also raised questions about the soundness of macroeconomic policy making, which we focus on here.

The decline in growth over the post-1990 period is shown in Fig. 17.21 (the dashed line shows the trend). The steady rise in unemployment from the very low rates (of less than 3%) characteristic of the Japanese economy before 1990 is apparent; as is the emergence for the first time in an advanced economy in the post-war period of deflation, i.e. inflation rates below zero. Deflation was observed in 1995 and then from 1999 through to 2004.

The key macroeconomic features of the 1990s were weak aggregate demand on the part of the domestic private sector as investment and consumption spending were reduced by firms and households that suffered capital losses in the asset price crash. This was compounded by a negative trade shock in 1998 as a consequence of the Asian crisis. There was also a weakening of the supply side reflected in poor productivity growth, the opposite of the situation in the USA. The other notable macroeconomic development

²³ For an overview of the advantages and disadvantages of the Japanese financial system and its link with other specific characteristics of Japanese capitalism, see Boltho and Corbett (2000).

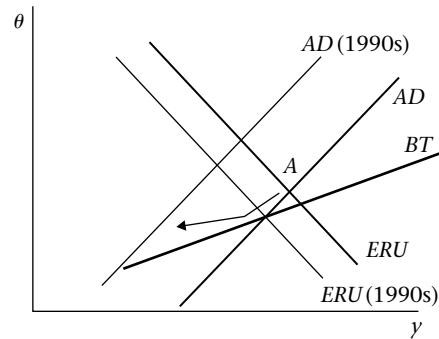


Figure 17.22 The 1990s in Japan

was the substantial nominal (50%) and real appreciation (40%) of the exchange rate between 1990 and 1995. Thereafter the exchange rate fluctuated but with little trend. The trajectory of the Japanese economy in the 1990s can be represented in Fig. 17.22. The economy began the period with a current account surplus (to the left of the BT curve) and with inflation and the real exchange rate stable so we can think of the economy as being on the ERU at point A . The weakness of aggregate demand is shown in the leftward shift of the AD curve, and the deterioration on the supply side by the leftward shift of the ERU curve, indicating that at any real exchange rate, equilibrium unemployment is higher. The strong appreciation of the yen drove the economy south-west as shown. Although the ERU shifted left, the combination of the appreciation and the extreme weakness of domestic demand meant that inflation was falling continuously through this period, taking it, as noted, into deflation.

What role has economic policy played in the Japanese slump?²⁴ We first consider monetary policy. In Chapters 2 and 5 we discussed how the presence of a liquidity trap or the attainment of the zero nominal interest rate bound inhibits the normal operation of monetary policy and we stressed the importance for the monetary authorities of setting their policy environment in a way that prevents deflation from emerging.²⁵ Once deflation sets in, monetary policy becomes much harder to use effectively. The Bank of Japan did not adopt an inflation-targeting regime; had it done so with a symmetric inflation target of, say 2%, it is possible that deflation may have been avoided.

However, as Fig. 17.23 illustrates, once deflation prevails, even an inflation target of 2% does not by itself provide a means for the economy to escape from the trap. The reason is that with weak aggregate demand, the IS curve is low (shown by ' IS 1990s') and with deflation, the $\min r$ line showing the zero *nominal* interest rate is high (with deflation of 1%, the $\min r$ line is at a real interest rate of 1%). Thus unless the inflation target of 2% is incorporated in private sector expectations so that the $\min r$ line shifts down, the region of the IS curve that is shown as dashed is unattainable using the monetary policy rule because of the zero nominal interest rate bound. The most the central bank can do is to implement a zero interest rate policy, ZIRP, and attain point B . Since unemployment in the economy is above the equilibrium, deflation will worsen, which will push up the real

²⁴ For trenchant arguments as to the role of economic policy mistakes—especially in monetary policy—in the genesis of Japan's deflation, see Posen (2003) and Posen and Ito (2004).

²⁵ For an early analysis of Japan as a liquidity trap see Krugman (1998).

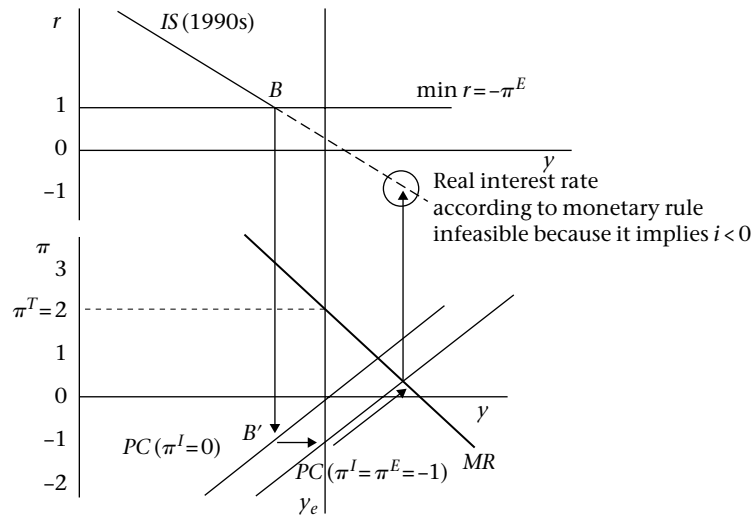


Figure 17.23 Japan: zero nominal interest rate bound

interest rate (i.e. the $\min r$ line will shift upwards), reducing activity further. As discussed in Chapter 5, deflation is likely to depress aggregate demand further because of its effect on balance sheets (deflation increases the real value of debts) and the consequent failure of businesses. This would shift the IS curve further to the left.

As argued in Chapter 5, it may not be easy to generate the positive inflation expectations to release the economy from a deflation trap. Notwithstanding these inherent difficulties, there has been much criticism of the Bank of Japan both for its failure to seriously attempt to prevent deflation from becoming established and then for failing to undertake the measures that would enhance the prospects for a return to positive inflation.²⁶ There appear to have been failures by the Bank of Japan:

- to consistently present the view that its inflation target is a rate of say 2% and in over-emphasizing the likelihood of ‘runaway inflation’ if it takes more determined steps to overcome deflation. In fact since its independence in 1998, the Bank of Japan has emphasized its mandate is price stability. The Governor of the Bank of Japan stated in 2000 that ‘inflation is most likely uncontrollable once triggered’.²⁷
- in stressing too much its ‘independence’ to the detriment of cooperation with the government in addressing Japan’s problems. For example as noted in Chapter 5, a combined fiscal and monetary policy may be useful when there is a liquidity trap. For example, the central bank could directly fund tax cuts by monetizing the government debt: the government sells bonds to the central bank and sends out cheques to all citizens.
- More specifically it is argued that the Bank of Japan throttled the nascent recovery from the mid-1990s by raising the interest rate too soon. A second mistake was made in 2000 when the Bank of Japan having introduced a zero interest rate policy, ZIRP, in early

²⁶ For example, see Bernanke (2000). See also Posen and Ito (2004).

²⁷ Posen and Ito (2004: 22).

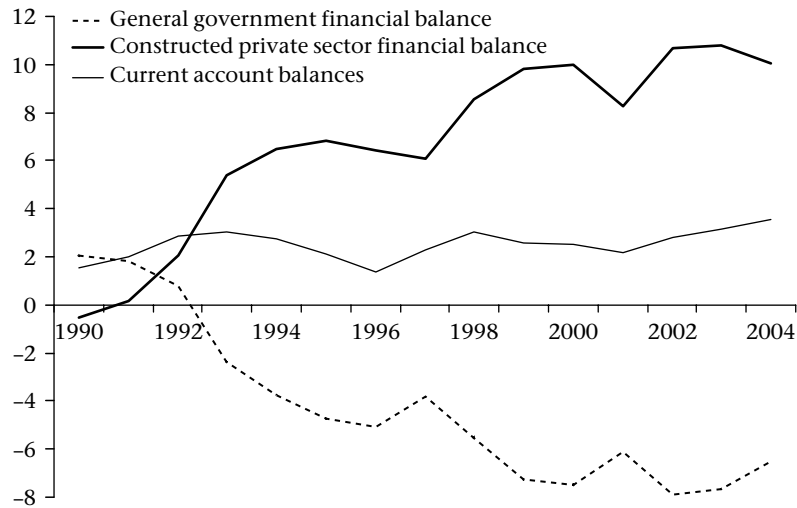


Figure 17.24 Japan financial balances, 1990–2004, % GDP

Source: OECD.

1999 lifted it in 2000, tightening policy in the face of deflation. The economy contracted and ZIRP was reintroduced.

Fiscal policy also appears to have been poorly judged in Japan. It was tightened in 1997, helping to prevent recovery from taking hold. Meanwhile the lengthy period of depressed growth has had the effect of producing large fiscal deficits and a rapid build-up in the share of government debt (from 68% in 1990 to 155% in 2003). Note that just as with private sector debt, the real value of government debt increases in a situation of deflation.

The striking character of Japan's evolution since 1990 is reflected in a different way in Fig. 17.24. In an economy with a chronic lack of demand, there is an *ex ante* excess of domestic savings over investment. This drives output down. Looking at the financial balances, there is a rising trend of the private sector financial surplus, which is mirrored by the absorption of those surpluses in the growth of the government deficit and a substantial, though stable, current account surplus. A revival of private investment is clearly needed as part of the solution to Japan's problems: this would raise the level of activity, reduce the private sector financial surplus, and by raising tax revenue reverse the trend of the public sector balance.

As noted above, the real appreciation in the early 1990s weakened activity in Japan by dampening net exports. From Fig. 17.22, it is clear that a real depreciation taking the economy to the north-east would help boost demand and many commentators have argued that one way to think about how monetary policy could contribute to Japan's recovery is in terms of creating inflation expectations as a way of weakening the currency. Fig. 17.22 also makes it clear that stronger domestic demand would need to accompany a depreciation if the current account surplus is not to widen further—a development likely to undermine attempts to achieve a sustained depreciation.

In the light of the analysis in section 4 on the US economy, where it was argued that a substantial depreciation of the dollar is required, we can see that a substantial depreciation of the Yen against the dollar is unlikely: the Bank of Japan had to intervene very heavily to prevent the Yen from appreciating in 2004. One source of the revival of growth in Japan from 2002 was the growth of exports to China. This is a new source of export demand and will generate faster growth in Japan as long as it is not extinguished by a large real appreciation (recall the analysis of a positive external trade shock: *AD* and *BT* shift right). The Chinese currency is fixed to the dollar but the substantially higher inflation in China than in Japan is helping to offset the effect of the nominal depreciation of the Chinese currency against the yen.

Signs of an end to Japanese stagnation and deflation are apparent in 2004–5. The strength of net exports has broadened beyond China and has been accompanied by the recovery of investment as is characteristic of ‘normal’ business cycle upswings. Fiscal and monetary policy mistakes have not been repeated and both the government and the Bank of Japan have made public commitments not to tighten policy prematurely. As supply-side reforms implemented over the past decade feed through, a sustainable recovery is possible.²⁸

5 Conclusions

We have shown how the macro model can be used to interpret the role that has been played by

- external shocks,
- government policy, and
- institutional changes
- in a number of key episodes across Europe, the USA, and Japan in recent decades.

We have made use of

- the 3-equation model to characterize monetary policy making,
- the open economy model to examine how economies adjusted to different shocks,
- the financial balances identity to track the relationship between private sector, public sector, and the external account,
- the analysis of fiscal sustainability, and
- growth accounting.

Descriptive data has been presented and linked with the key concepts in the models. We have seen how the data can be used to check whether the predictions of the model are broadly consistent with the facts. In the case of recent UK performance, we used the data to help refine our hypotheses.

²⁸ See Posen (2004).

In this book, we have sought to construct an integrated way of understanding how the macroeconomy works (i.e. a positive analysis) as well as identifying the policy implications (a normative analysis) and have emphasized the consensus that has emerged amongst economists on both of these dimensions. However by looking at the practice of macro policy in this chapter, we have noted some gaps between what would seem to be optimal policies and those that have been implemented. What might account for this?

- Political economy factors are evidently present in some cases. For example, there were common interests (in the short term) of the unions, employers' associations, and government in West Germany in pushing for wage convergence in East Germany. However, in other cases, the coalition of interests is harder to uncover such as in the refusal of the Bank of Japan to act in response to the danger of deflation or the unwillingness of the ERM members to realign their exchange rates following German unification. In both these cases, excessive weight seems to have been placed on the need to hold policy invariant.

- As is often the case, it is easier to diagnose the nature of shocks with the benefit of hindsight. This was true of the external supply shocks of the 1970s (as discussed in Chapter 11) and is also true of the German unification shock. Few economists recognized how very weak the productive base of the East German economy was. However, we have also seen an interesting case where a sensible policy framework seems to have allowed the policy maker to learn about the nature of the shock. In the late 1990s, the Federal Reserve was willing to experiment by allowing unemployment to keep falling below what was thought to be the equilibrium rate whilst inflationary pressures remained absent.

■ QUESTIONS FOR DISCUSSION

QUESTION A. 'Euro-zone growth is being throttled by monetary policy that is too tight and fiscal policy that is too loose.' Evaluate this claim, which was made in 2005.

QUESTION B. Under the pressure of political objectives and of the potential for migration of 'cheap labour' from East to West Germany, German unification took the form of extending to East Germany welfare benefits and collective bargaining wage rates from West Germany. The result was high and persistent unemployment in East Germany and a long-term burden on the German economy. In the light of this experience discuss the possible consequences of the removal of controls on the migration of workers from the EU accession countries to the rest of the EU. Note that average labour costs in the accession countries are about one-seventh those in West Germany. Evaluate alternative policies the non-accession EU member countries could implement. [Relevant reading: Sinn (2004).]

QUESTION C. Adapt the analysis of debt dynamics in Chapter 6 to show why a country cannot run a trade (i.e. goods and services) deficit indefinitely. What is the analogue in this case to the primary deficit in the case of the government's indebtedness? You may assume that the real rate of interest on foreign-owned assets is greater than the growth rate. Apply your analysis to developments in the US goods and services deficit and current account deficit.

740 APPLICATIONS

QUESTION D. A report in the *Financial Times* in January 2005 said ‘While Japan has enjoyed a period of decent growth, prices, bank lending and land values have continued to fall. Growth petered out in the second half of last year. Longer term, mounting public debt and an ageing population threaten fiscal disaster’. Explain the dangers posed by inappropriate macroeconomic policy to the sustained recovery of the Japanese economy.

QUESTION E. Choose an OECD country to analyse. Use the appendix tables for the OECD *Economic Outlook*, which are available from the OECD *Economic Outlook* page on the OECD website. Choose a five-year period (do not choose an EMU country after 1999) and analyse the role of the nominal exchange rate and the real exchange rate in the evolution of inflation and unemployment.

QUESTION F. The UK and Sweden have not joined EMU in the first round. Is the case for and against membership the same for each of these countries? [Refer to the resources on the UK Treasury’s Euro website: www.hm-treasury.gov.uk/documents/the_euro/euro_index_index.cfm]

QUESTION G. ‘For a member of the eurozone, its economic performance no longer depends on the real exchange rate’. Comment on this statement first using theoretical arguments and, second, by looking at the data for a eurozone country of your choice since 1999.