

## IV. Monetary policy and asset prices in the industrial countries

### Highlights

The monetary policy environment in the industrial countries last year was characterised by continuing low inflation and sharp increases in the prices of financial assets. Headline inflation in many countries remained below 2%, but approached 3% in the United Kingdom and temporarily exceeded that level in the United States, where economic activity was strong. The buoyancy of the US economy and concerns that price pressures were building up led to a 25 basis point increase in the federal funds rate in late March 1997. In Japan, where a moderate recovery is under way, the general level of prices rose for the first time since early 1995. Considerable progress towards price stability was made in Italy and Spain, where inflation fell below announced objectives in 1996.

Low inflation and, in most countries, subdued economic growth throughout the year provided the foundation for a resumption of the global bond market rally that was briefly interrupted during the first quarter of 1996. At the same time spreads between historically high-yielding bonds and US and German bonds fell dramatically. With the major exception of Japan, equity markets also recorded very substantial gains, although the turn to a more restrictive monetary policy stance in the United States towards the end of March this year was associated with stock price declines in many countries.

While fundamentals in the spring of this year were favourable, price advances in some equity markets could contain an unsustainable element, giving rise to the concern that a fall in asset values may influence economic conditions negatively. More generally, movements in asset prices raise the issue of how monetary policy should react to such changes. This is a complex question, particularly in the current case, where price increases have been limited to financial assets with property prices on the whole little affected.

### Monetary policy in the three major economies

The macroeconomic environment facing central banks in the three major economies last year was diverse. With increasing signs of strong economic activity and inflationary pressures, policy was tightened modestly in the United States in March this year. In Japan, where a substantial output gap still exists, the stance of policy was unchanged and remained very accommodative although the recent period of falling prices came to an end. In contrast to the United States, monetary policy was relaxed slightly in Germany, where output continued to grow by less than potential and the rate of inflation fell further below the 2% level.

Diverse conditions  
in the major  
economies

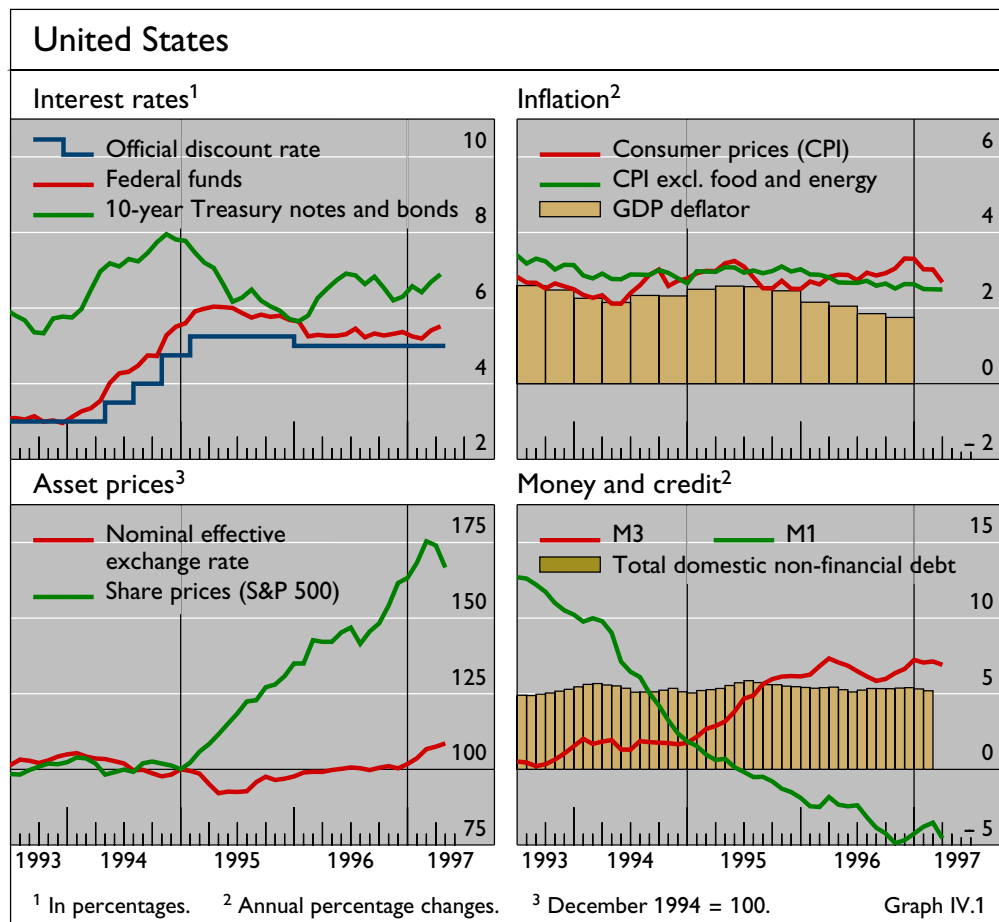
## United States

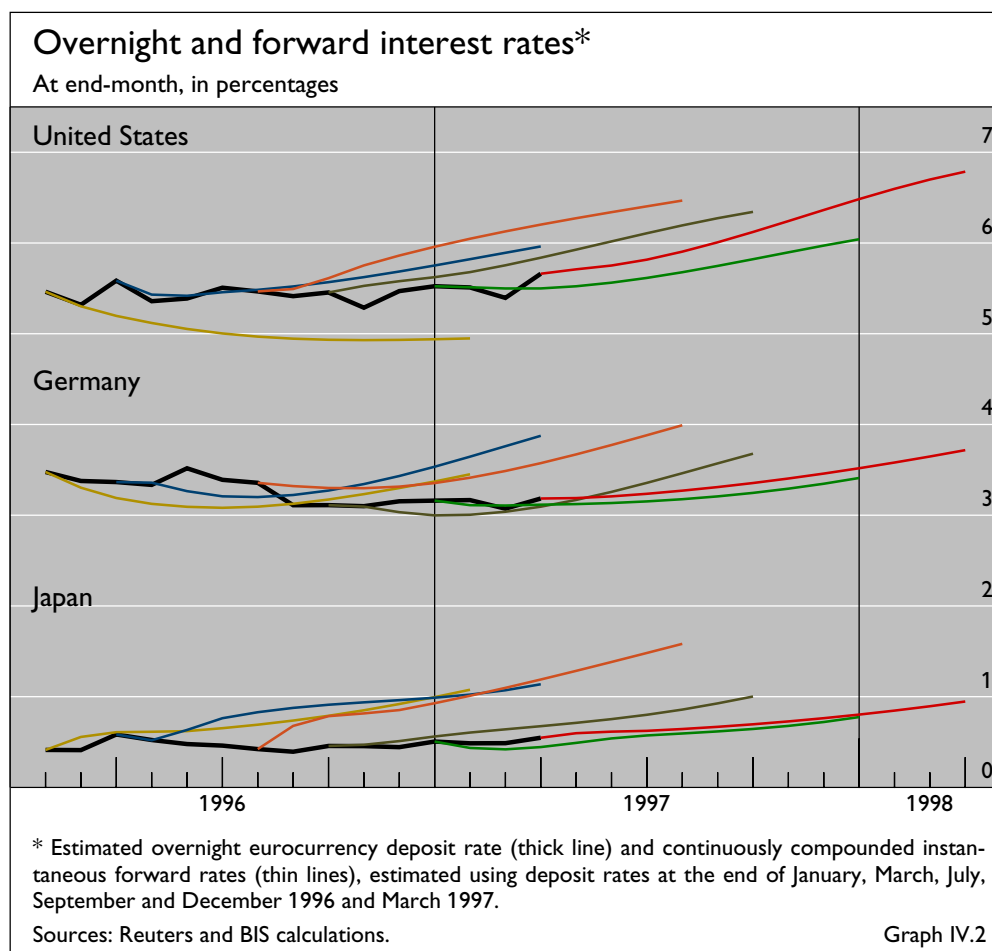
Uncertainty about the future course of inflation

The primary policy question faced by the Federal Reserve last year was whether to tighten monetary policy to pre-empt a rise in inflation. The year was characterised by considerable uncertainty about the future course of inflation, with evidence at times pointing to growing pressures in goods and labour markets, and by sharp increases in stock prices.

While financial markets expected the monetary easing in December 1995 to continue in early 1996, economic conditions during the spring, in particular the rebound of activity and some strengthening of headline inflation, increasingly suggested that inflation could be on the point of an upswing. As a result, market participants came to view a tightening of policy as more and more likely, as reflected in the rise in ten-year bond yields from 5.6% to 6.9% between the end of January and May, and in rising forward interest rates. This shift in expectations was also associated with an appreciation of the dollar in effective terms.

In the summer, however, incoming data suggested that economic activity was moderating to more sustainable levels, and headline inflation seemed to abate. In the light of these developments and the fact that the Federal Reserve declined to tighten policy, market participants revised their expectations of the future path of short-term interest rates downwards. This process was reinforced during the autumn as evidence accumulated that growth was slowing in the third quarter. Moreover, while headline inflation continued to rise, underlying inflation, as measured by the consumer price index excluding food and energy, fell further,





reaching 2.5% in October. Towards the end of the year, however, it became clear that economic activity was expanding rapidly, and expectations of a tightening of policy re-emerged.

In view of the persistent strength of activity, in March 1997 the Federal Reserve tightened the stance of policy slightly by raising the federal funds rate by 0.25 percentage points to 5.5%. This interest rate adjustment is indicative of the greater emphasis placed by many central banks on the tightening of policy in advance of increases in inflation, and illustrates a growing recognition that it is easier to prevent inflation from rising above the range considered desirable by the authorities than to reduce it once it has moved beyond that range.

Policy tightened in March to pre-empt increasing inflation

In setting policy, many central banks use estimates of the non-accelerating inflation rate of unemployment (NAIRU) or the output gap as a broad guide to underlying inflationary pressures. Although unemployment in the United States fell below many previous estimates of the NAIRU and some evidence pointed to output above potential, inflation increased only very moderately. While this may be an indication that the NAIRU has fallen to a lower level, the usefulness of the output gap and the NAIRU as a practical guide to policy is limited by the fact that these concepts are difficult to estimate precisely.

#### Japan

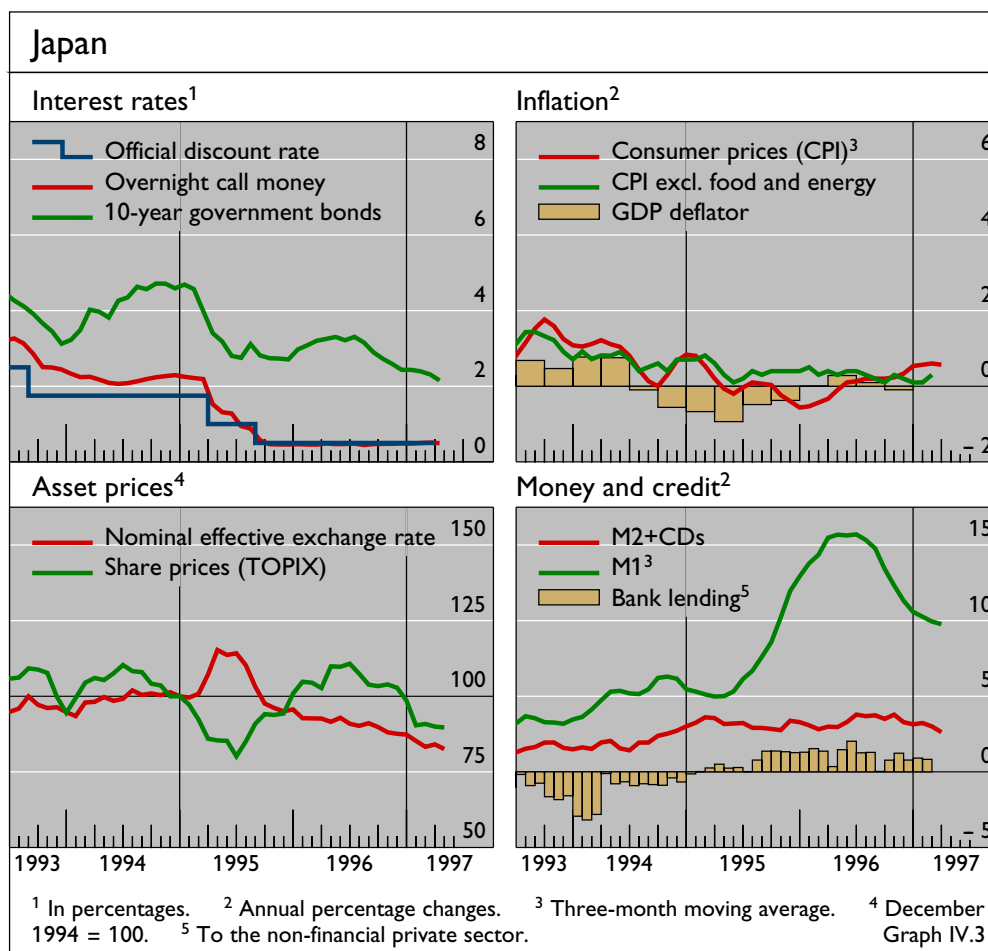
In Japan, the authorities adopted a wait-and-see attitude to assess whether the cut in the discount rate to 0.5% in September 1995 would be successful in

Policy unchanged  
but monetary  
conditions loosened

promoting recovery. While policy instruments were left unchanged, monetary conditions – as reflected in the real effective exchange rate and real interest rates – continued to loosen last year. With interest rates very low by international standards, the yen continued the depreciation that had started in the summer of 1995, and which has led to a gradual increase in import prices. In turn, this brought an end to the tendency for prices, as captured by the consumer price index and the GDP deflator, to fall. Both of these measures of prices rose marginally in the second quarter of 1996 for the first time since early 1995. With no change in nominal short-term interest rates, real short-term interest rates fell further, which stimulated the recovery.

In contrast to official interest rates, market interest rates did change during the year. The sharp increase in GDP growth in late 1995 and early 1996 led to a rise in the yield on ten-year government bonds of 0.3 percentage points in the first half of the year to 3.2% at the end of June. Similarly, forward interest rates in late May indicated that market participants expected policy to be tightened and the overnight rate to reach about 1.3% by year-end (Graph IV.2).

While markets continued to anticipate a tightening of policy, the Bank of Japan maintained the expansionary stance of policy during the autumn as the recovery failed to strengthen and balance-sheet problems remained. In response, yields on ten-year bonds declined gradually to reach 2.6% by the end of 1996 and fell somewhat below this level in the early months of 1997.



During 1996, progress was made with regard to the revision of the Bank of Japan Law, which dates from 1942 and is increasingly seen as being outmoded. The thrust of the proposals submitted by the Central Bank Study Group to the Prime Minister in November last year was that the law should be revised to clarify that price stability is the most important objective of policy, to strengthen the Bank's independence and to secure transparency and accountability in the conduct of policy. Deliberation of the draft bill started in Parliament in March this year with the intention of passing the bill into law by June. The bill has been welcomed by the Bank of Japan, which since 1995 has taken a range of measures to increase the transparency of policy, in particular by providing more complete information on its view of the outlook for the economy and the considerations underlying policy changes.

Changes to the Bank of Japan Law proposed ...

... to strengthen independence, transparency and accountability

### *Germany*

Monetary policy in Germany last year had to contend with a pause in the recovery which exacerbated the uncertainty regarding the outlook for fiscal policy. Determining the appropriate speed and extent of policy adjustment is difficult under these circumstances, in that an excessive easing can generate inflationary pressures if the recovery is stronger than expected or if announced measures to consolidate public finances are not implemented. On the other hand, maintaining the policy stance can delay recovery, worsen the outlook for fiscal restraint and thereby complicate the environment for monetary policy in the future. In the end, the stance of policy was relaxed slightly in August, when the repurchase rate was reduced by 0.3 percentage points to 3.0% in the light of a tendency for M3 growth to decelerate, after having exceeded the 4–7% target range since the beginning of the year, and continued inflation close to 1.5%.

Uncertain outlook for fiscal policy

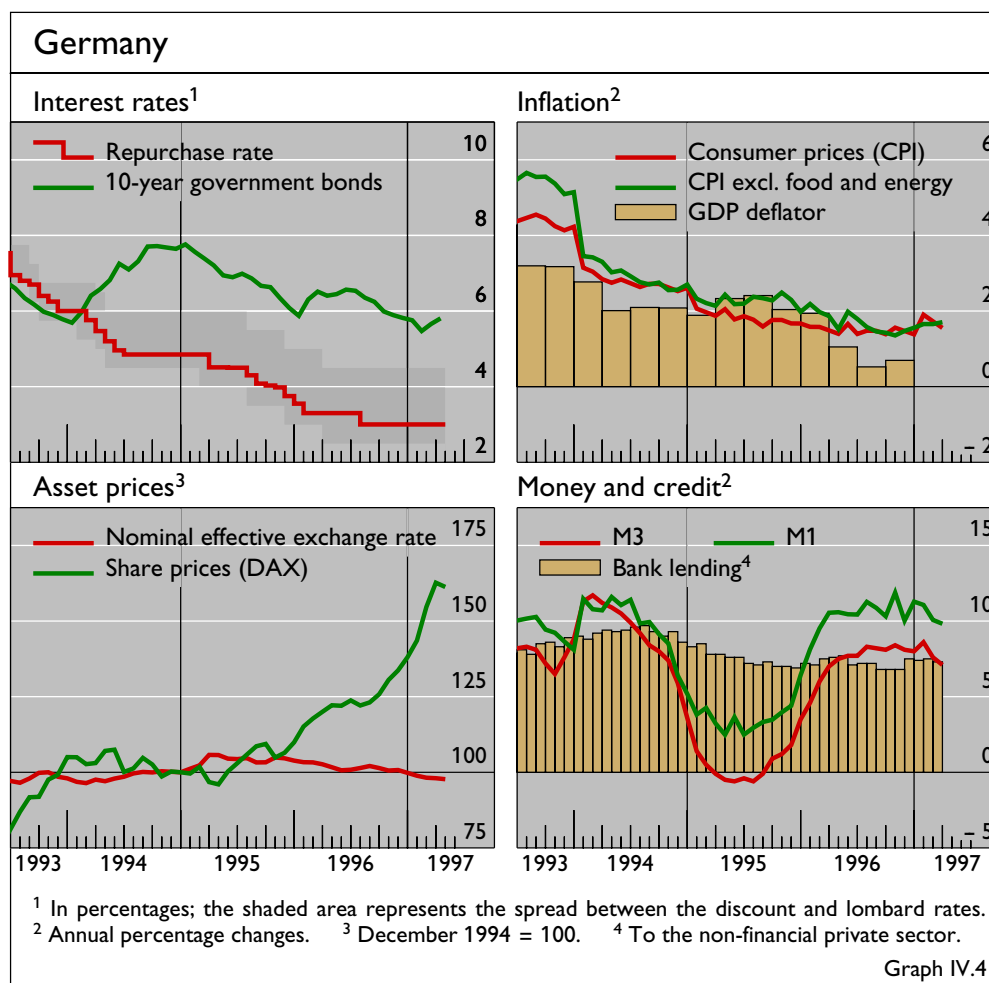
The behaviour of long-term interest rates in Germany last year illustrates the relative usefulness of long interest rates and forward interest rates as indicators of policy changes expected in the immediate future. Thus, ten-year interest rates rose from 5.9% at the end of January to 6.6% at the end of June, suggesting that it was expected that monetary policy would be tightened (Graph IV.4). In contrast, forward interest rates (Graph IV.2) indicated that a loosening of policy was anticipated during the spring, and that rises in short-term rates were expected only from early 1997 onwards. Graph IV.2 also indicates that the relaxation of policy in August led to a shift in market sentiment, and that by March 1997 financial markets viewed changes in the stance of monetary policy as unlikely before the end of the year.

Interest rates and policy expectations

While M3 growth, at 8.1%, slightly exceeded the target range adopted for 1996, it largely reflected special savings schemes and was therefore not thought likely to be a harbinger of excessive increases in spending. The Bundesbank has adopted a new monetary target for 1997, but in a break with past practice the time horizon for the target has been extended to two years. This is intended to clarify the stance of monetary policy in the run-up to economic and monetary union (EMU). Moreover, the Bundesbank has noted that the target can serve as a reference variable for any monetary policy coordination that is necessary in the period leading up to the introduction of a single currency. The two-year

M3 growth slightly above target

Two-year target adopted



target specifies average growth of M3 of 5% per year, with a target corridor of 3.5–6.5% for 1997. The exact arrangements that will apply for 1998 will be announced at the end of 1997.

## Other European Union countries

Monetary  
convergence ...

Monetary policy and financial market developments in the EU countries are increasingly shaped by the scheduled start of stage three of EMU on 1st January 1999. Two groups of EU countries can be distinguished on the basis of the degree of financial convergence. As discussed in Chapter V, markets expect the French franc, Dutch guilder, Belgian franc and Austrian schilling exchange rates against the Deutsche mark to remain at current levels. In these countries, as well as more recently in Finland, exchange rates have remained close to their central parities during the past year and short rates have converged to German levels.

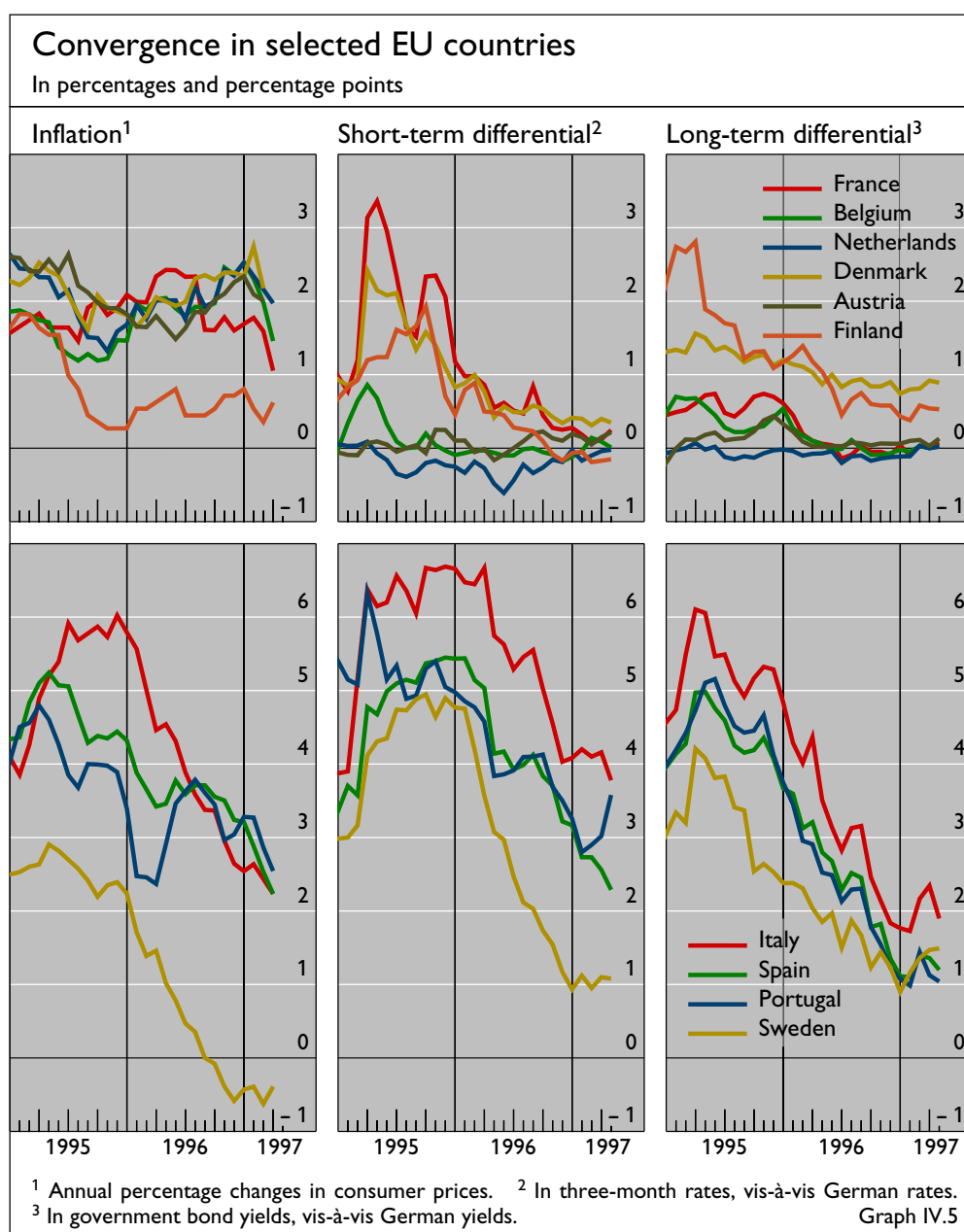
For other ERM currencies, including the Italian lira and the Spanish peseta, a risk premium is still being demanded, although the spread of both short and long-term interest rates over German rates came down sharply in 1996. A similar convergence took place for the Swedish krona, but not for the pound sterling; these two currencies, together with the Greek drachma, do not currently belong to the ERM.

## France and smaller ERM countries

In France, the objective that the increase in consumer prices should not exceed 2% in 1996 was met, once the effects of the 1995 VAT increase had disappeared in August. The credibility of the long-standing exchange rate commitment allowed the Bank of France to lower its repurchase tender rate from around 4.5% in January 1996 to 3.1% in early 1997. As a result, the positive three-month interest rate differential vis-à-vis Germany almost disappeared. Long-term interest rates also fell by more than 100 basis points in 1996 and have remained somewhat below German ones during the past year.

... very strong in Germany, France and smaller ERM countries ...

Short and long-term interest rates also converged in the smaller ERM countries. In Austria, Belgium and the Netherlands policy rates were relaxed in line with interest rates in Germany, and three-month rates fell temporarily below German rates on several occasions. Also in Finland, which entered the ERM in



October 1996, and in Denmark, the short-term interest rate differential almost disappeared towards the end of 1996. With the exception of Finland, headline inflation in these countries was close to 2% in 1996, but edged up slightly in some cases.

#### *Italy, Spain, Sweden and Portugal*

... but also impressive in Italy, Spain, Sweden and Portugal

In 1996 an impressive convergence of inflation and interest rates also occurred in Italy, Spain, Sweden and Portugal (Graph IV.5). In the light of a rise in inflation in the first half of 1995, the central banks in these countries had kept policy rates high for the rest of that year. In contrast, monetary policy was gradually relaxed in the course of 1996, mostly in response to the fall in inflation which followed a substantial appreciation of their currencies, accelerated fiscal consolidation and rapidly declining long-term bond yields.

In Italy, inflation fell from a peak of around 6% in the second half of 1995 to 2.6% in December 1996, significantly below the target of 4%. Towards the end of last year, the Italian monetary authorities set a new objective for inflation of less than 3% in 1997. Although official rates were cut by 75 basis points in July and October and again in January 1997, and the repurchase rate was reduced by almost 300 basis points, real short rates remained very high. As the exchange rate strengthened, the spread on government bond yields vis-à-vis Germany narrowed from a maximum of about 6 percentage points in 1995 to less than 2 at the end of 1996. These developments permitted the lira to rejoin the ERM at the end of November.

In Spain, the annual inflation rate fell gradually from more than 5% in June 1995 to less than 2.5% in the first quarter of 1997, bringing inflation within the Bank of Spain's medium-term inflation target; accordingly, the repurchase rate was lowered to about 6% at the end of 1996. The largest reduction in policy rates took place in Sweden, where underlying inflation fell below the target band of 1–3%. Headline inflation actually turned negative towards the end of 1996 because of a sharp drop in prices of imported goods and mortgage interest costs.

#### Countries with explicit inflation targets

Underlying inflation remained within or close to the band in those countries with publicly announced targets for inflation (Graph IV.6). In many of these countries a first test of the targets which arose from the acceleration in inflation in early 1995 appears to have been passed quite successfully.

Divergent inflation developments in Canada ...

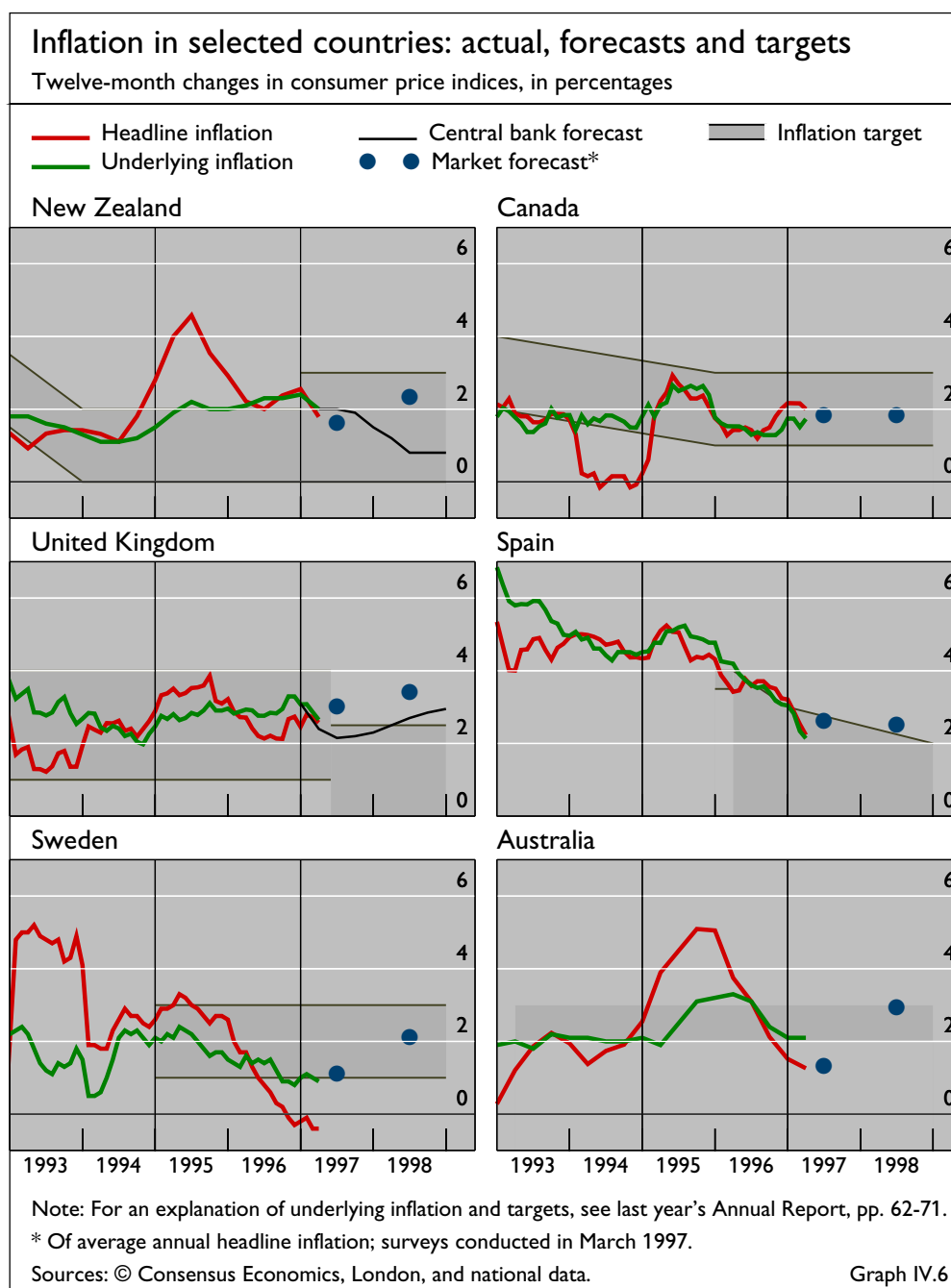
During 1996 inflation developments and the policy responses were quite different in the two largest economies with inflation targets. In Canada, inflation returned to the lower half of the target band in 1996 after the effects of exchange rate depreciation and commodity price rises in 1994 and early 1995 had faded. Although growth is expected to increase in 1997, underlying inflation is likely to remain subdued; a large output gap, in part the result of continued fiscal consolidation, should continue to put downward pressure on prices and wages. As financial markets increasingly focused on the good inflation record, along with improved public sector finances and a strengthening current account, the long-term interest rate differential vis-à-vis the United States disappeared towards the

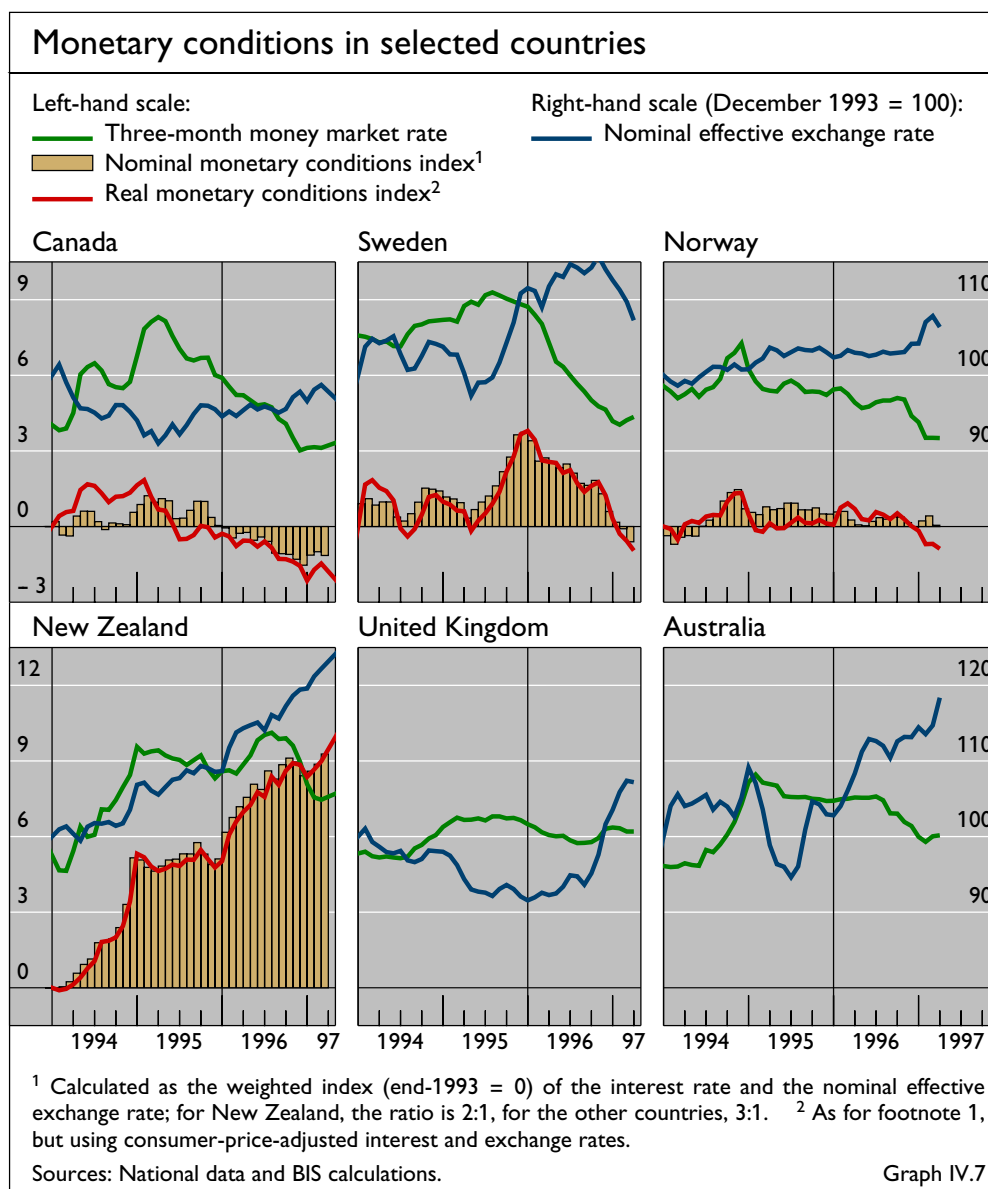


end of 1996 and the Canadian dollar appreciated. In the light of these developments, the operating band for the overnight interest rate was reduced by more than 200 basis points in 1996, implying a substantial easing of monetary conditions (Graph IV.7).

In contrast, the annual rise in retail prices excluding mortgage interest payments in the United Kingdom was 3.1% in December 1996, and thus above the Government's 1997 target of 2.5% or less. Nevertheless, official short-term interest rates remained quite stable during 1996 as the 25 basis point cut in June was reversed in October. In the course of the year the balance of the expansion shifted from net exports to strong growth in domestic demand, increasing the likelihood of inflation continuing to be above the band in the future. This led the Bank of England to recommend a further rise in policy rates, which may have

... and the United Kingdom





contributed to the large appreciation of sterling from August 1996 onwards (Graph IV.7).

During the year a few modifications were made to announced inflation targets. In New Zealand, a new Policy Targets Agreement, amending the upper limit of the target from 2% to 3%, was signed in December 1996 following the appointment of a new Government. The main motivation for the widening of the band was to lessen problems of excessive policy activism arising from having a relatively narrow band. In Spain, a reduced inflation target of 2.5% towards the end of 1997 and 2% from 1998 onwards was announced at the end of 1996 in order to underline the intention to comply with the Maastricht inflation convergence criterion.

#### *Exchange rates and the monetary policy response*

The policy response depends on ...

One policy issue that re-emerged in 1996 was how to respond to exchange rate movements which may be quite pronounced, as observed last year in Australia, New Zealand, Norway and the United Kingdom. Under a floating exchange rate

regime, monetary authorities need to determine whether such changes are best disregarded, offset, or even reinforced by policy.

As with policy responses to other asset price movements, the answer depends on the sources of the shocks affecting the exchange rate and their effects on the inflation outlook. For example, the appreciation of the Australian dollar in early 1996 may have been driven primarily by rising commodity prices. If so, the appreciation offsets the inflationary effects that otherwise arise from such terms-of-trade improvements, and the monetary authorities may find the exchange-rate-induced tightening of monetary conditions helpful. Another illustration is the appreciation of the pound sterling from August 1996 onwards, which, as indicated by a widening of forward interest rate differentials, can in part be explained by the anticipation of a tightening of domestic monetary policy in response to strong domestic demand growth relative to continental Europe. To the extent that such market anticipations are consistent with the central bank’s desired future path of policy rates, there again appears to be no need to offset the exchange rate movements.

... the source of the shock: ...

terms-of-trade movements ...

... changing relative demand growth ...

However, exchange rates may overshoot in reacting to economic developments and may also be affected by monetary and financial factors such as changes in credibility and risk premia. For example, the strengthening of exchange rates in Canada and Sweden in 1996 was partly the result of the improved credibility of the announced inflation targets. Because such exchange rate movements are likely to affect import prices and aggregate demand without necessarily changing the central bank’s view of underlying inflationary pressures, central banks may wish to offset them to maintain the stance of policy.

... or monetary and financial factors

A number of central banks have adopted a monetary conditions index (MCI) in order to incorporate the exchange rate formally into the design of policy. While the MCI is defined in all countries as a weighted average of a short-term interest rate and an exchange rate, with the weights determined by the respective elasticities of aggregate demand, its exact use in the conduct of policy differs between countries. In Canada and New Zealand, it is used as an operating target: that is, in the context of the periodic assessment of the inflation forecast, the central bank forms a view of a desirable interim range for the MCI and uses its policy instruments to achieve it. In contrast, in Sweden, Norway, Finland and Iceland it is used as an ex post indicator of the stance of policy.

The use of an MCI as an operating target ...

Setting an operating target for the MCI does not obviate the need to determine whether a given exchange rate change reflects real or financial factors. In the former case, the desired MCI changes and policy action may be unnecessary. In the latter case, the desired MCI remains unchanged and policy rates can be moved to offset the effect of the exchange rate change on aggregate demand. One possible explanation for the fact that some central banks use an MCI and others do not relates to differences of view as to the “normal” source of exchange rate changes. Central banks that use the MCI as an operating target implicitly assume that their source is financial. Thus it is optimal to offset exchange rate movements unless the central bank has additional information indicating that the stance of monetary policy should change. This view may reflect the fact that historically monetary and financial factors have been the most important source of exchange rate variability in such countries. In contrast, other

... does not obviate the need to interpret exchange rates

central banks, including the Bank of England and the Reserve Bank of Australia, may adhere to the view that, beyond the very short term, most movements in the exchange rate are driven by real factors, in which case setting an operating target for the MCI does not seem helpful.

## Fiscal consolidation and the monetary policy response

The policy response depends on ...

Another and more general policy issue that arose in many countries last year concerns the appropriate monetary policy response to fiscal tightening. According to OECD estimates, the structural deficit in the EU countries was reduced by almost 1% of GDP in 1996 and is expected to improve by even more in 1997. In Japan, public expenditure is expected to fall this year and the general consumption tax was raised from 3% to 5% in April 1997. Such large fiscal corrections potentially have significant demand effects on output and inflation. Several factors may be important in deciding how monetary policy should respond.

... the size, composition and credibility of the package ...

The size, composition and credibility of the consolidation package are of significance for both the extent and the timing of the monetary policy response. The extent of the policy response depends on whether the short-run negative demand effects of fiscal tightening are offset by positive expectational effects on private consumption and investment. Previous episodes of substantial fiscal consolidation have shown that there is no clear negative correlation between the size of fiscal consolidation and growth performance. On the contrary, large and persistent improvements that focus on cuts in government consumption and transfers, rather than tax increases, have in some circumstances had favourable growth effects, suggesting that positive expectational effects can appear if the programmes are thought to be comprehensive and durable. Secondly, a high credibility of the proposed consolidation package reduces the obvious risk in a pre-emptive easing that the proposed consolidation programmes may not be carried out, resulting in a too expansionary policy mix.

... the initial conditions ...

The appropriate monetary policy response also depends on initial conditions. Many European countries, Canada and Japan are currently experiencing low inflation and high unemployment. Fiscal consolidation in such an environment is less likely to produce large, positive expectational effects and could bring some economies into the deflation zone with its related risks. In such circumstances "taking out some monetary policy insurance" may be a good idea. In contrast, in Ireland, the Netherlands and Norway, the effects of fiscal tightening can help to stave off inflationary pressures, while in Italy, Spain and Portugal the need for further disinflation and a less favourable inflation record warrant a more cautious response.

It must also be borne in mind that fiscal consolidation is taking place in many countries at the same time. This implies that it is harder to use the exchange rate to stimulate demand through net exports. If the interest rate transmission channel works more slowly than the exchange rate channel, a more rapid monetary policy response might be appropriate. Of course, the need to maintain stable exchange rates in the run-up to EMU effectively precludes the independent use of the exchange rate and indeed interest rates in many European countries.

Finally, monetary policy-makers may rely on asset market signals to condition their response to fiscal tightening. Some information as to the markets' assessment of the impact of a consolidation package may be obtained from a combined analysis of the reaction in bond and foreign exchange markets. If markets expect short-term rates to fall in response to the slack in the economy following fiscal tightening, then one would expect bond yields to decline and the currency to depreciate. Some signs of this happening in 1996 were evident in the effects of anticipated budget proposals on financial markets in Germany. In such a case the fall in bond yields and the depreciation of the exchange rate may crowd in demand, although this may be only temporary if not followed up by declines in short rates. In contrast, the exchange rate may strengthen while bond yields are falling if a credible fiscal package also reduces expected inflation or risk premia, as happened in Canada, Italy and Sweden in 1996 (see Graph V.8 in Chapter V). Such a response may increase the room for manoeuvre for a relaxation of the policy stance.

... and asset market signals

However, in deciding whether to react to asset price movements, it must be recognised that the central bank's assessment of the impact of fiscal consolidation may differ from the markets' and that asset prices may overshoot in response to anticipated economic developments. As discussed below, the global nature of the strong convergence of bond yields in 1996 suggests that speculative factors may also be at play, in which case the convergence may be partly reversed and the policy response may have to be more cautious.

## Asset price developments

Against a backdrop of generally subdued economic growth and low inflation, bond and equity markets recorded large gains last year. Yet even though fundamentals currently seem favourable, there is concern that price advances in some markets could contain an unsustainable element. Although most of the discussion concerning potential overvaluation has focused on equity markets, especially in the United States, recent bond market increases also warrant attention. The strong convergence of bond yields in Europe, and the sharp declines in rates in the historically high-yielding markets, suggest that part of the explanation for the recent gains in asset values may be an increased appetite for risk which might easily be reversed.

Large gains in bond and equity markets ...

Major exceptions to the trend towards higher financial asset prices during the period under review are the Japanese stock market and the US bond market. While the other major equity markets posted strong gains, the value of Japanese equities fell by 16%. And while most major bond markets have rallied, long-term interest rates in the United States moved higher, partly in response to signs of continuing economic strength. The tightening of monetary policy in March this year put additional upward pressure on US long rates and triggered a fall in the US stock market.

... with few exceptions

### *Decoupling of bond yields*

One notable development in bond markets last year was a fall in German yields to levels substantially below those in the United States. More recently, the spread

Correlation of long and short-term interest rates*								
	United States versus Germany				United States versus Japan			
	1975–79	1980–84	1985–89	1990–96	1975–79	1980–84	1985–89	1990–96
Long-term	0.52	0.65	0.81	0.61	0.19	0.40	0.67	0.52
Short-term	0.80	0.74	0.60	-0.57	0.73	0.33	0.30	0.11

\* Between detrended interest rates calculated as the difference between the actual interest rates and the uncentred moving averages over the past two years.  
Sources: National data and BIS calculations.

Table IV.1

Divergence of short rates ...

between long rates in the United States and Germany has widened further, seemingly reflecting a divergence of real economic conditions in the two countries. Although this recent decoupling of bond yields has been the subject of much discussion, what is perhaps more surprising is that it did not occur earlier. From the start of 1993 to the end of 1996, the spread between short rates in the United States and Germany swung from almost -400 basis points to over 200 basis points, while the difference in long rates between the two countries increased by around 100 basis points. Although detrended short-term interest rates in these countries over the 1990–96 period were negatively correlated, and indeed strongly so, the correlation of long-term interest rates remained high.

... was not reflected in long rates

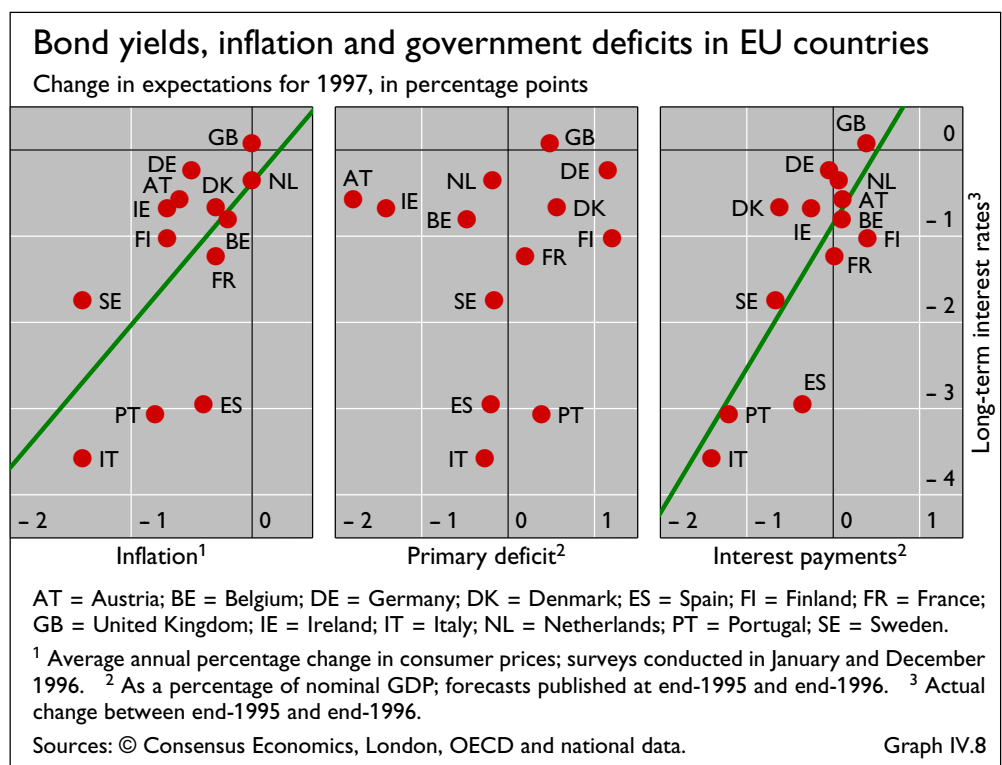
The generally high degree of comovement of long-term interest rates in the three largest economies over the 1990–96 period, despite substantial divergences in cyclical positions, has led to concern that, even under floating exchange rates, international factors might overshadow domestic considerations in the determination of long rates. An implication of this view is that the link between policy rates and longer-term rates might be weakened. This would complicate the conduct of monetary policy in countries where long rates play an important role in the transmission mechanism. However, an alternative explanation for the divergence of short and long-term rates in Germany has also been suggested which relies on more local considerations: the rise in German long rates during a period of economic weakness reflected a concern that the euro might be a weaker currency than the Deutsche mark. The recent decoupling of rates in the United States and Germany perhaps indicates a revision of views in this regard, or a downward revision of expected future short rates in Germany for other reasons.

#### *Strong bond yield convergence in Europe*

Bond yields converged, owing to increased likelihood of EMU ...

As German yields fell below US rates, spreads over German yields within Europe fell impressively. The prospect of EMU is obviously a special factor in Europe. As short-term interest rates will be unified in a future single currency area, changes in the perceived likelihood of participation in EMU have important effects on yield differentials. This likelihood is itself a function of political factors; more importantly, it also depends on whether countries are expected to fulfil the convergence criteria as laid down in the Maastricht Treaty.

This conditionality on the Maastricht criteria, which relate among other things to the convergence of inflation, bond yields and government debt and



deficits in 1997, has strengthened the response of long-term interest rates to changes in short-run expectations of inflation and fiscal positions. As the convergence of long-term interest rates is itself one of the Maastricht criteria, and lower yields facilitate the achievement of the fiscal criteria by both reducing the debt burden and offsetting some of the negative demand effects of fiscal consolidation, firm policies geared towards achieving the criteria may lead to a mutually reinforcing process of low inflation, improved fiscal positions and falling bond yields. However, by the same token this conditionality also increases the vulnerability to adversely shifting market expectations if uncertainty remains regarding the fulfilment of the inflation and fiscal conditions.

As already discussed above, the convergence of bond yields has gone hand in hand with a convergence of inflation rates and widespread fiscal consolidation. As shown in the left-hand panel of Graph IV.8, the countries in which long-term interest rates fell most in 1996 are those in which average inflation expected in 1997 fell most during the same period. A similar relationship can also be detected between the fall in bond yields and the OECD's downward revision of deficit expectations for 1997. However, this correlation seems to be due more to the positive effect of lower interest rates on the government debt burden than to an unexpected strengthening of the fiscal restraint measures themselves. This illustrates the dangers of any major reversal of the yield convergence.

While fundamental factors have been at play, the possibility remains that in the current environment of low interest rates a search for high yields has led to an excessive convergence of bond yields. During the 1990s there has been a strong positive correlation between the average level of short-term interest rates in the three largest countries and spreads of high-yielding European bonds over German bonds. Another indication that such global factors may be at play is that

... and converging fundamentals ...

... but risk of partial reversal remains

the convergence of bond yields has not been limited to the European economies (see Chapter VII). Finally, the ERM experience shows that in the short run the strengthening of exchange rates and the resulting convergence of interest rates has at times been linked to a strengthening of the US dollar against the Deutsche mark, as was also the case in 1996 (see Chapter V).

### Equity markets

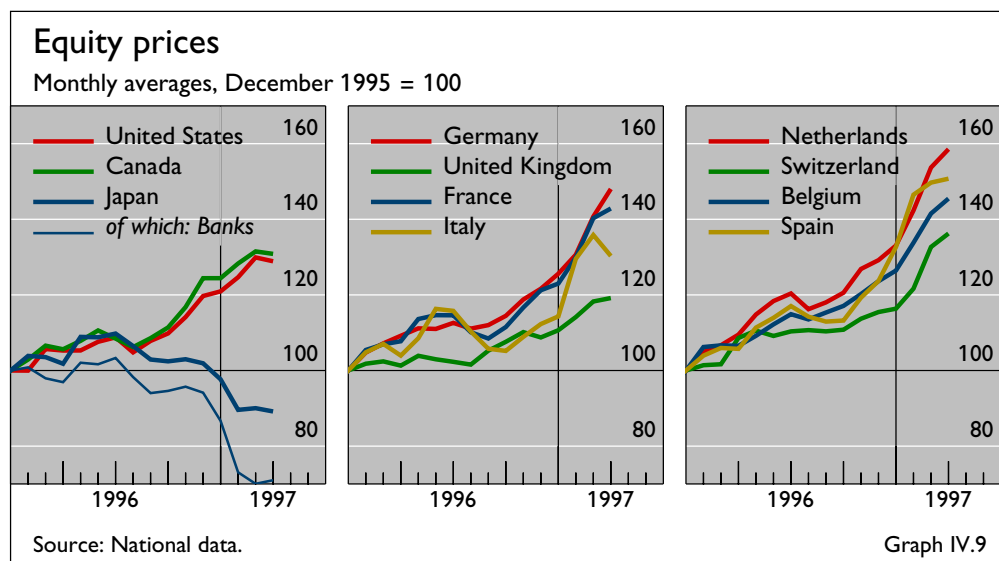
Record levels of equity indices ...

Stock prices set new records last year, with equities in the Netherlands, Spain and Sweden recording the largest gains during the period under review. In most instances these sharp gains also came after large, cumulative increases in the previous four or five years. The major exception to the trend towards higher share values is Japan, where concerns about the impact of fiscal tightening on growth prospects and uncertainty over the impact of prospective financial deregulation have put downward pressure on equity prices. Japanese bank shares have been especially hard hit. One important factor contributing to the recent decline has been the unwinding of cross-shareholdings following the decision of the authorities not to rescue the shareholders of the failed Hanwa Bank.

... are partly supported by earnings ...

In some cases, recent advances in equity prices have been supported by strong growth of corporate earnings. In Sweden, for example, earnings per share grew by 41% per year between the end of 1993 and the end of 1996. The United States also enjoyed very strong earnings growth over the same period. An appreciating US dollar has contributed to profit growth in some markets. Multinational firms with substantial direct investment in the United States or a large share of their earnings denominated in US dollars account for a large proportion of the equities traded on, for instance, the German, Dutch and Swiss stock exchanges. Another factor supporting corporate profits has been greater attention to strengthening efficiency and labour productivity as well as reduced financing costs arising from lower nominal interest rates.

However, there is more to the generalised run-up in share prices than strong corporate profits. As of March 1997, price/earnings ratios for most markets, including the United States, were above their 1986–95 averages, and were at





Price/earnings ratios <sup>1</sup>									
Countries	Sept. 1987 <sup>2</sup>	Peak 1986–95		Average 1986–95	Dec. 1995	Dec. 1996	March 1997	Memo item: Output gap	
		level	date					1987 Q3	1996 Q4
United States	22	26	May 92	18	18	21	21	0.3	0.2
Japan	70	74	June 87	53	67	57	51	-2.9	-2.3
Germany	15	25	Dec. 93	15	16	17	20	-1.7	-1.1
France	14	19	Jan. 94	12	13	17	18	-2.2	-3.0
Italy	15	29	May 94	17	14	17	19	-0.5	-1.5
United Kingdom	17	21	Feb. 94	15	16	16	16	3.5	-1.8
Canada	18	33	Feb. 94	17	15	20	21	2.1	-3.1
Netherlands	15	18	Feb. 94	12	13	18	20	-0.7	-0.2
Switzerland	14	19	Feb. 94	13	17	20	23	-1.2	-4.2
Belgium	15	20	Feb. 94	14	14	16	18	-2.6	-3.0
Sweden	23	30	Feb. 94	18	17	15	17	3.8	-1.5

<sup>1</sup> Ratio of price to reported earnings per share. <sup>2</sup> Month preceding the global stock market crash.  
Sources: Datastream, OECD, national data and BIS estimates. Table IV.2

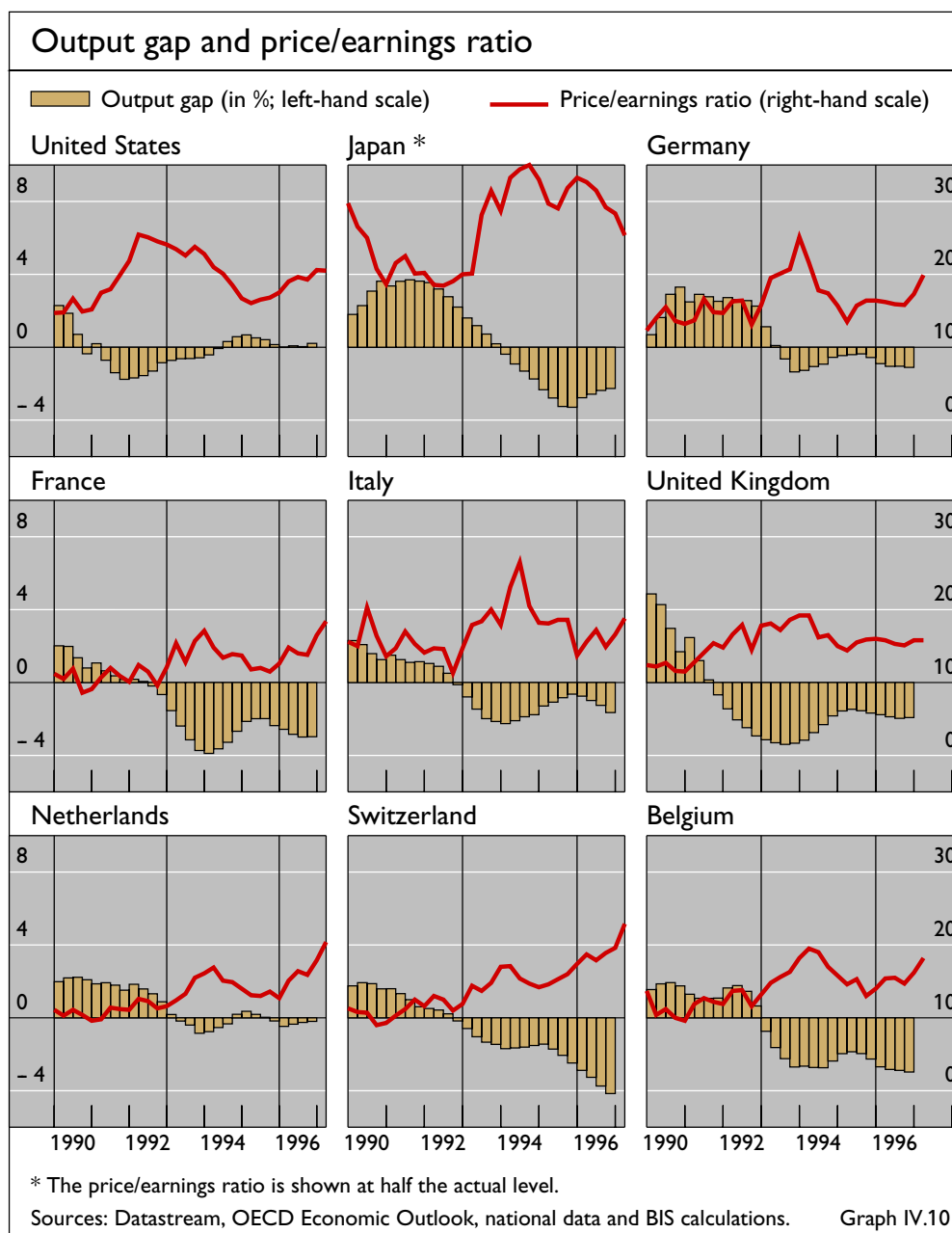
record levels in the Netherlands and Switzerland. Several factors have been suggested as potentially underlying the global trend towards higher price/earnings multiples. First, it has been suggested that this trend might reflect the impact of lower inflation rates in the industrial countries on equity risk premia. Secondly, insofar as the recent declines in nominal bond yields reflect lower real interest rates, this is an additional element supporting higher multiples which has undoubtedly played a role in the historically high-yielding countries Italy and Spain. Thirdly, in the United States in particular, higher multiples might reflect to some extent the increased tendency for corporations to buy back their own shares.

Recent price/earnings multiples seem more pronounced once business cycle positions are taken into consideration. Multiples typically peak during the early stages of a cyclical recovery, when there is the potential for above-average profit growth over the medium term. By this standard, the price/earnings multiples for the Dutch and US markets during March 1997 seem relatively high by historical standards, given that both economies were operating approximately at potential.

It may also be useful to compare the recent situation with that which prevailed in September 1987. The price/earnings ratio for the US market at that time was not exceptionally high; yet US equities lost about 30% of their value in the subsequent global market correction. In March 1997, price/earnings multiples in Germany, France, Belgium and the Netherlands exceeded those of September 1987, a time when each of these countries was at a point in the business cycle broadly similar to that reached recently.

Whether the recent gains in equity prices will prove to be sustainable will depend in part on the future course of corporate profits. Analysts are forecasting earnings growth in the United States of 13% per year on average over the next three to five years. It is argued that there are many factors, in addition to the cyclical position of an economy, which help determine the growth of corporate profits, and there are indications that such factors are currently playing

... but raise issues of appropriate values



a greater role than previously. In particular, since the closing of the output gap in 1994, the United States has experienced earnings growth far in excess of that which followed previous such closures (Table IV.3). Aggressive corporate cost-cutting, an increased rate of technological advance reflected in reduced costs of capital goods, and the opening-up of new markets are several possibilities which are often cited to explain recent earnings growth and to justify its expected continuation.

The sustainability of the recent gains in equity prices will also depend on how far other supporting factors, such as the appreciation of the US dollar in 1995–96, prove to be temporary. Further increases in long-term interest rates outside the United States or a reduced willingness of market participants to take on risk would also put downward pressure on share prices. Any significant tightening of US monetary policy would be likely to work in this direction.

Real earnings per share in the United States <sup>1</sup>					
	Period <sup>2</sup>				
	1965 Q4	1972 Q2	1977 Q1	1985 Q2	1994 Q3
Growth over three years <sup>3</sup>	0.2	4.7	3.3	0.6	15.4 <sup>4</sup>
Growth over six years <sup>3</sup>	-3.7	3.2	-4.0	0.1	-

<sup>1</sup> Earnings per share deflated by the consumer price index. <sup>2</sup> Quarter of estimated closure of the output gap. <sup>3</sup> From the respective reference period, at an annual rate, in percentages. <sup>4</sup> Growth between the third quarter of 1994 and the first quarter of 1997.

Sources: OECD, national data and BIS estimates. Table IV.3

## Asset prices and monetary policy

There are several reasons why central banks might wish to respond to movements in asset prices. A first reason, which is also discussed in Chapters VI and VIII, is that asset price misalignments may endanger the health of the financial system. In the late 1980s many countries experienced sharp increases in prices of real and financial assets, which were associated with financial deregulation and rapid credit expansion. When these increases later proved unsustainable, large-scale losses were incurred in the banking sector, which deepened recessions and delayed recovery. While this episode illustrates the risks involved in disregarding asset prices in the formulation of policy, it should be recognised that the recent upswing is limited to financial assets and has not been accompanied by rapid credit growth, suggesting that balance sheets would be less exposed if asset prices reversed course. Furthermore, to the extent that policy-makers' concerns focus on the impact on the financial system of a sudden asset price fall, a tightening of prudential supervision and regulation would appear to be a more appropriate measure than adjustment of policy-determined interest rates.

A second reason why central banks might wish to respond to asset prices is that they potentially play an important role in the transmission mechanism. Rising asset prices may have direct effects on the demand for goods and services and may therefore be associated with growing inflationary pressures. Thus, asset prices, in particular for real estate, which is the main component of household net worth, can affect household wealth and consumption expenditure, and influence the ability of enterprises to raise funds and thereby their investment spending. They also influence collateral values and banks' willingness to lend. The importance of asset prices became evident last year in the United Kingdom and the Netherlands, where increases in household wealth were an important force behind consumer spending.

In practice, however, policy-makers may hesitate to let policy react too vigorously to asset price changes. One particular problem is that it is difficult to determine why these changes have occurred and whether or not there are likely to be effects on spending. Indeed, in many countries the stock market decline in 1987 seems to have had little impact on consumer spending. Moreover, since asset prices depend strongly on expectations of future economic conditions, it is difficult to judge how they will respond to policy action. For example, an

Asset prices and the health of the financial system ...

... and the transmission of monetary policy ...

unexpected shift in policy could elicit a much sharper response than a change that was anticipated. This underlines the desirability of signalling policy intentions to financial markets, particularly when the direction of policy is altered. Furthermore, since asset prices are determined by expectations far into the future, the possibility of perverse reactions to policy also needs to be taken into account. For instance, a tightening of monetary policy could lead market participants to revise upwards their assessment of the prospects for sustainable non-inflationary growth, and thus actually lead to increases in current asset prices.

... and as indicators  
of expectations

A third reason why asset prices might be useful for the design of policy is that they contain information about financial market expectations of future policy and macroeconomic conditions. For example, there is much evidence that the slope of the yield curve contains information about expectations regarding monetary policy, economic growth and inflation. Since financial market responses to anticipated policy changes are normally limited, policy may be altered more quickly in situations where asset prices, such as bond yields and exchange rates, indicate that policy changes have already been discounted in the markets.

However, while asset prices may be useful as indicators, gearing policy directly to them could give rise to self-validating asset price movements. For instance, if central banks interpreted an increase in long-term interest rates as evidence of rising inflationary expectations and thus as warranting a tightening of policy, the policy action would validate the initial rise in long yields. It could therefore trigger further increases in long rates, which in turn could lead to additional increases in short interest rates which would not be justified by underlying economic conditions. While it thus seems inappropriate to react automatically to asset prices, the information that may be contained in them can be incorporated in the central bank's forecast of future economic conditions, and in this way play some role in the formulation of policy.