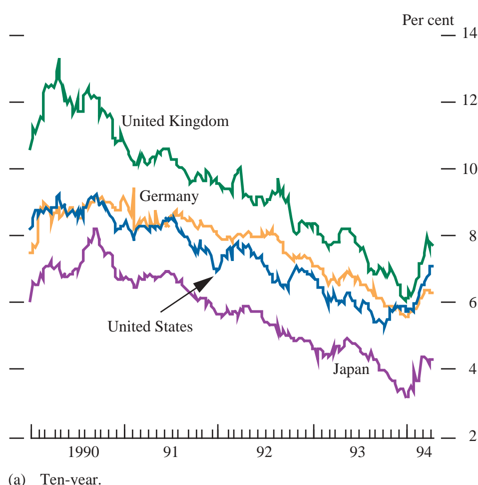
The international environment

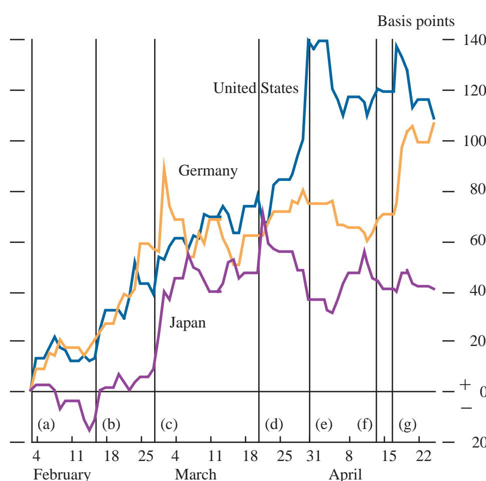
Financial conditions in the major economies have changed markedly in recent months. Bond yields have risen and in most countries the expected profiles for short-term rates over the course of this year have been revised upwards. This article examines these developments and assesses their significance and implications for economic activity and inflation.

Chart 1
Nominal bond yields(a)



(a) Ten-year.

Chart 2
Changes in ten-year bond yields since 3 February



(a), (d) and (g) Federal Reserve increases in federal funds rate.
(b) and (f) Bundesbank official rate cuts.
(c) Revised US GDP figures.
(e) US March employment figures.

Long-term interest rates have risen

The downward trend in bond yields, which began in late 1990, persisted until the autumn of last year in the United States and until early in 1994 in the other major economies (see Chart 1). Between the end of 1990 and the end of last year, ten-year yields fell by over two percentage points in the United States (though they had already turned upwards by the end of 1994) and by between three and four percentage points in Japan and the continental European countries.

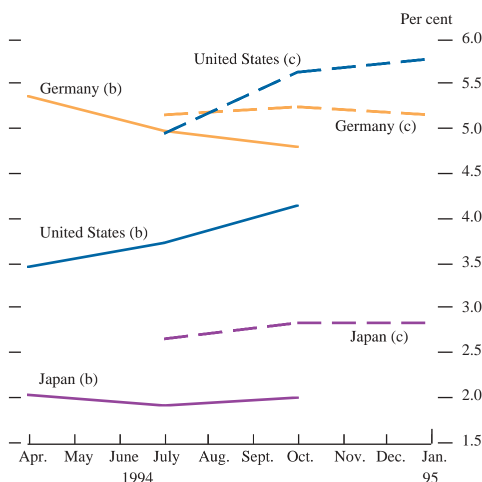
Bond yields moved sharply higher in February in all the major economies. In several countries (though not Japan), the initial rise followed the increase in the US federal funds rate in February. Further rises followed the publication of figures showing rapid M3 growth in January in Germany and revised fourth-quarter GDP figures for the United States released at the end of February. The firming of yields continued in March, though the size of the increases differed across countries. Over the two and a half months to mid-April, ten-year yields rose by well over 100 basis points in North America and the United Kingdom, while the rise in Germany was smaller and that in Japan was less than 50 basis points.

The rise in bond yields in February was partly associated with sales, particularly of US securities, by institutional investors including leveraged funds (see the article on the operation of monetary policy on pages 103–13). But although such activity is likely to have had some impact on short-run price developments, it cannot explain the longer-lasting shift in yields that has taken place. The explanation for this is more likely to lie in a re-assessment of the outlook for inflation—albeit from a starting-point in which yields may have 'overshot' during 1993. The rise in yields in Japan (where the prospect of a rise in inflation is particularly remote) was attributed partly to the expected consequences of fiscal stimulus there for the budget deficit.

By late April, monetary conditions in the United States had been tightened with three successive rises of 25 basis points in the federal funds rate. Although a tightening in US policy had been expected, markets revised their view of the future trend of short-term interest rates in the United States so that these were expected to be above $5\frac{1}{2}$% by the end of 1994. The expected profile for short-term rates through the year was around 150 basis points higher than three months earlier (see Chart 2). Markets were therefore discounting larger future rises in US rates than previously.

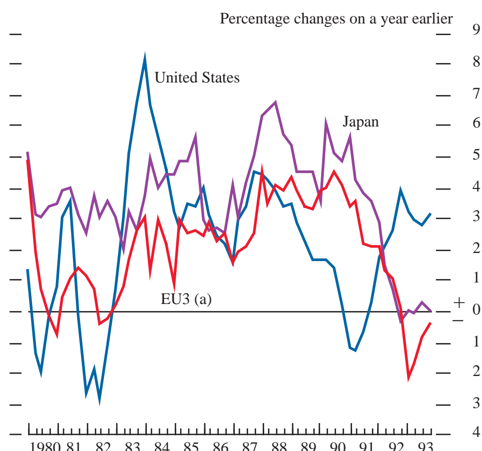
In the other industrial countries, short-term interest rates continued to move downwards in the first four months of the year. In

Chart 3
Implied three-month forward rates(a)



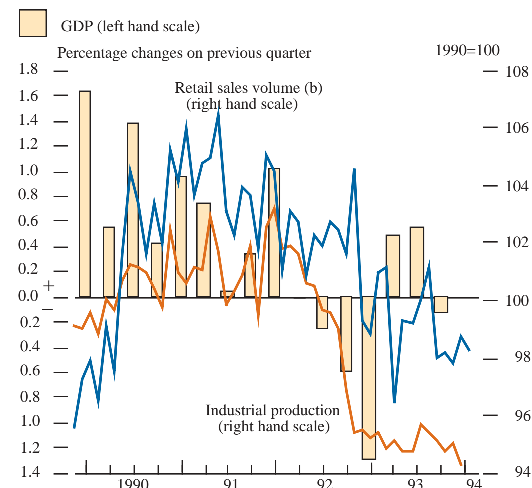
(a) Implied path of three-month eurocurrency rates from Libors.
(b) As at 28 January.
(c) As at 26 April.

Chart 4
GDP growth



(a) GDP-weighted average of France, Germany and Italy.

Chart 5
EU3: indicators of activity(a)



(a) GDP-weighted average of France, Germany and Italy (Italian Q4 1993 figure Bank estimate).
(b) Excludes Italy.

Germany, the discount rate was reduced by 75 basis points between February and mid-April, and the repo rate fell by over 40 basis points between early December and mid-April. Short-term interest rates also fell gradually in France. Markets nevertheless revised upwards their expectations for the profile of European interest rates through the rest of the year. Interest rates were expected to fall more slowly throughout this year and by less overall than was the case in December. The revision was largely a reflection of the disappointing figures for monetary growth in Germany in the first few months of the year and concerns that this, together with the tightening in the United States, might constrain the pace at which easing could occur—despite the fact that inflationary pressures continue to recede. Short-term interest rates were expected to fall in Germany to just over 5% by the end of the year, but this was a slower easing than had previously been expected. In Japan too, the profile for interest rates was revised up and by late April some rise was expected over the year.

Higher long-term interest rates will affect the outlook for growth

Although long-term interest rates have risen generally, short-term rates have moved in opposite directions in the United States and Europe. Possible reasons for the general (though differentiated) rises in long-term rates are considered later. One immediate consequence, however, is that higher long-term rates may dampen activity in all of the major economies, which are still in very different cyclical positions.

Activity is gradually picking up in the industrialised world as a whole; GDP growth this year in the Group of Seven (G7) countries is likely to exceed last year's $1\frac{1}{4}$%. Inflationary pressures are generally still mild. In most of the major countries, substantial and widening gaps still exist between actual and potential output.

In the fourth quarter of last year, growth in the major six overseas economies was 0.7%—much the same as in the preceding quarter. As previously, the average figure concealed markedly different performances in individual countries. Revised figures for the United States showed that growth was 7% (at an annual rate) in the fourth quarter and 3% in 1993 as a whole. The indicators suggest that growth in the first quarter was lower, but still robust; industrial production has been rising since early in 1991 and its three-month growth rate rose to above 2% in January and February. Capacity utilisation—at over 80%—is at its highest since 1989, and non-farm employment rose by 1.2 million in the six months to April. For 1994 as a whole, growth in the United States may exceed $3\frac{1}{2}$%, with consumer spending and business investment likely to account for most of the growth in domestic demand. As export growth picks up, the contribution of net trade to growth may be around zero—in contrast with the past year when it was strongly negative.

Activity in continental Europe has now passed its trough but remains weak. GDP in Germany fell by 0.7% in the fourth quarter, with domestic demand showing little sign of recovery. Consumption and business investment in Germany are likely to remain subdued this year as real disposable incomes shrink to an extent that will offset a fall in the saving ratio, and industrial confidence remains subdued. Some stimulus is likely from the government sector and from net exports as the recent loss of competitiveness is partly reversed; nevertheless, growth may not

Table A
Contributions to Japanese GDP growth

Percentage points

	1992 Year	1993 Year	Q2	Q3	Q4
Consumption	1.0	0.6	-0.4	0.3	0.4
Investment	-1.2	-1.6	-0.5	—	-0.6
Government expenditure	1.1	1.4	0.4	0.1	0.2
Stockbuilding	-0.5	-0.1	0.3	-0.2	—
Domestic demand	0.4	0.3	-0.1	0.2	—
Net trade	0.8	-0.3	-0.5	0.1	-0.6
GDP	**1.2**	**0.1**	**-0.5**	**0.3**	**-0.6**

Note: quarterly contributions are relative to the previous quarter.

Chart 6
Nominal effective exchange rates

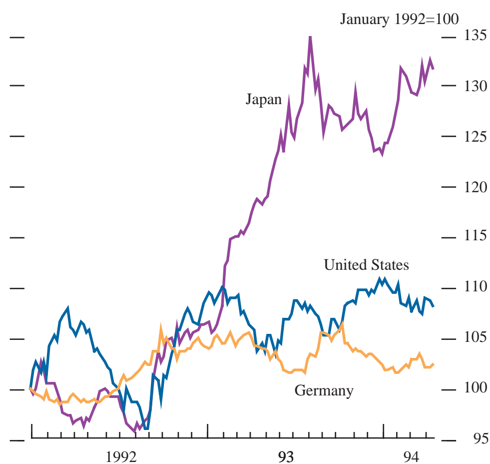
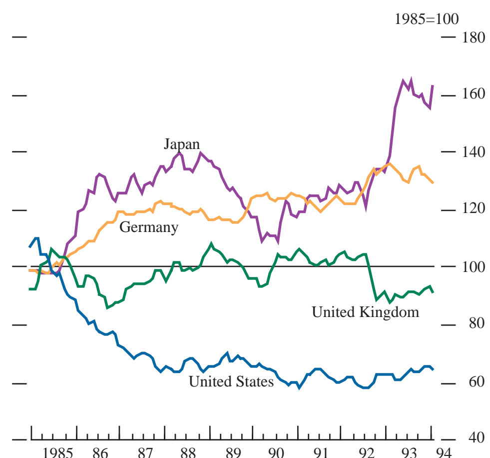


Chart 7
Real effective exchange rates(a)



Source: IMF.

(a) Calculated using relative unit labour costs.

exceed 1%. Output rose by 0.2% in France in the fourth quarter—somewhat above expectations—and by 0.8% in Italy. Domestic demand is likely to prove stronger in France than in Germany over the coming year, but a deteriorating trade position may depress activity, restraining GDP growth overall to around 1½%. In aggregate, growth in the three major continental economies is likely to be around 1% (compared with a fall of almost 1½% last year). The outlook for growth would have been higher but for the recent increases in long-term interest rates; long-term rates are generally thought to be of particular significance to spending decisions in continental Europe.

Japan also seems poised for a gradual, and perhaps fragile, recovery. GDP fell by 0.6% in the fourth quarter. This was wholly accounted for by a fall in net exports: Japan's trade surplus shrank to around 2¾% of GDP by the end of last year, compared with 3¾% in the first quarter. Domestic demand was flat although, as in the previous quarter, personal sector spending contributed positively to GDP growth. The response of consumers to February's fiscal package—which included cuts in income tax amounting to ¥5.2 trillion in 1994—will have an important influence on the timing and extent of recovery. The continued weakness of the business sector and the loss of competitiveness mean that other components of GDP will remain weak and growth in 1994 may be around 1%. Among the most important ramifications of the recent political changes in Japan will be their effect on trade relations with the United States. This has been the most significant determinant of the exchange rate, and thence competitiveness.

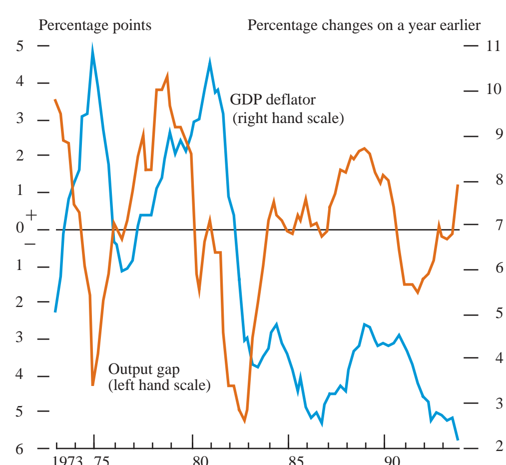
The outlook for consumer spending—which accounts for around 60% of GDP in the major economies—will have an important bearing on the speed of recovery, particularly in Germany and Japan. Recent personal sector behaviour in the major economies is examined in the box on pages 118–19.

The extent to which the recent developments in financial markets affect future activity depends in part on the behaviour of exchange rates and hence competitiveness. The increase in US short-term interest rates might have been expected to strengthen the dollar. This did not occur, however, partly because continuing trade tensions with Japan boosted the yen against the dollar and partly because interest rate expectations in Europe firmed. Chart 7 gives a longer-run perspective on this issue. US competitiveness has improved slightly since 1989, largely as a consequence of the depreciation of the dollar (relative labour costs have been fairly stable). In Japan and Germany though, significant losses of competitiveness have occurred, largely as a result of rises in nominal exchange rates. These may be reversed as monetary policy in the United States is progressively tightened, but there is little sign of this as yet.

Inflation outside the United States is still falling

The still-diverse pattern of activity in the major economies will continue to govern short-run inflation trends. Inflation is of most immediate concern in the United States and this has prompted the successive rises in the federal funds rate. Consumer price inflation was at an annual rate of 2.5% in the first two months of the year—lower than at the end of last year. 'Core' inflation (which excludes energy and food prices) was slightly higher but had also fallen.

Chart 8
United States: GDP deflator and output gap(a)



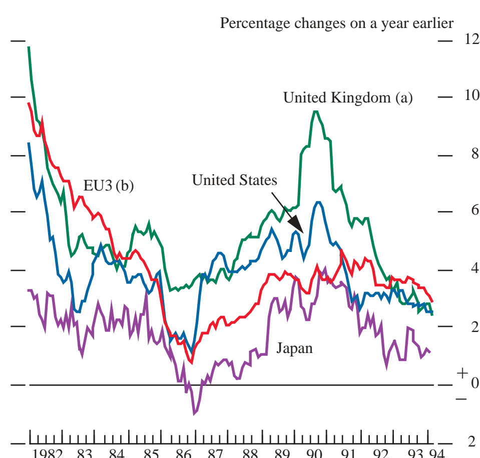
(a) Gap between actual and Bank estimate of potential output.

But the prices of some materials are rising and annual increases in manufacturing earnings have risen from $2^1/_2$% in 1992 and 1993 to over 3% so far this year. So far, these price pressures have been offset by rising productivity—so that unit wage costs are still falling—and by weak oil prices; producer output prices are still barely rising.

The outlook, though, is less reassuring. Although the rate seen in Q4 was exceptional, growth in recent quarters—and in prospect—is almost certainly in excess of growth in productive potential. The point at which this may translate into rising inflation depends on the size of any residual output gap (about which there is no certainty) and the effect of policy tightening on activity and expectations. Chart 8 shows one estimate of the US output gap and annual changes in the GDP deflator, and suggests some correlation between changes in output growth relative to potential and subsequent changes in inflation. Although it remains far from certain when inflation will rise, or the extent of the policy tightening required to forestall this, it is perhaps not surprising that financial markets have become more sensitive both to the significance of policy tightening and to any sign that inflationary pressures are building up.

According to survey evidence, expectations of US inflation turned sharply upwards in the early part of the year. The National Association of Purchasing Managers' index of commodity price expectations increased from 51 to 67 between December and February, the largest rise since the Iraqi invasion of Kuwait in 1990. Other major surveys saw similar increases. It is not clear, however, whether these survey results add significantly new forward-looking information about price expectations, or merely reflect past changes—such as rises in commodity prices.

Chart 9
Consumer price inflation



(a) RPI excluding mortgage interest payments.
(b) GDP-weighted average of Germany, France and Italy.

In Japan, consumer prices rose by 1.1% in the year to February, but widespread and largely unrecorded discounting means that a wide range of prices are falling and the official figure probably overstates actual inflation. Price pressures in continental Europe are also weak; real earnings are likely to fall this year in Germany and Italy, and to be flat in France. There are output gaps in France and Italy, perhaps of the order of 4%–5%. Inflation in Germany is likely to fall throughout the year, as price rises in the relatively sheltered services and rent sectors continue to moderate. Consumer price inflation there may fall to $2^3/_4$% by the end of the year.

There is little to suggest a sharp rise in inflation in the longer term

Although the likely effect of higher long-term interest rates on activity is clear (if hard to quantify), interpretation of what bond-market developments imply for market expectations in the longer term is less straightforward.

Table B
Unit labour costs in manufacturing

Percentage change on previous year

	1991	1992	1993
Canada	-2.6	-2.2	-2.9
France	2.1	0.5	1.5
Germany	4.3	4.8	1.4
Italy	13.4	5.5	4.2
Japan	4.4	8.7	4.5
United States	1.3	-1.0	-1.9

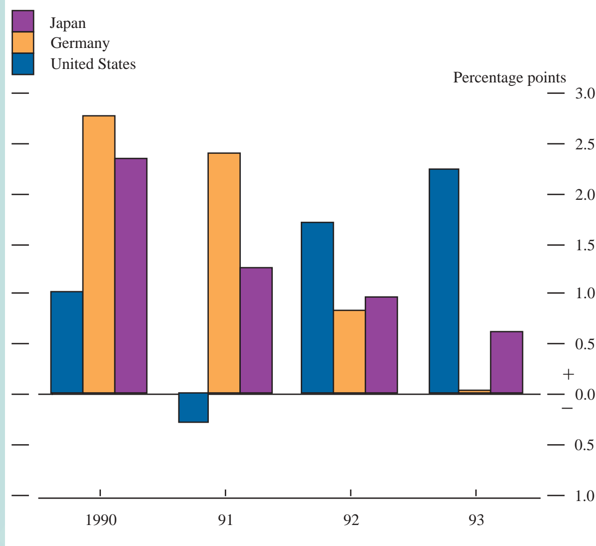
Source: Bank estimates.

The rises in bond yields were initially prompted by the long-awaited tightening of policy in the United States in response to concerns about potential inflation. It is not immediately obvious why this tightening should have been transmitted to other countries—particularly in the absence of immediate inflation concerns elsewhere. Foreign exchange markets have for the most part been relatively stable, so that the rise in short and long-term interest rates in countries outside the United States is, in large measure, to be explained by developments in each country. By late April, the dollar had depreciated since the start of the year—it weakened sharply against the yen when trade talks broke down between the

Recent developments in the household sector

The US economy has grown by almost 11% since the trough of its recession in 1991 Q1. The recovery has been largely driven by consumer activity (see Chart A): consumption contributed seven percentage points to growth over the period; only

Chart A
Contribution of consumption to GDP growth in the G3



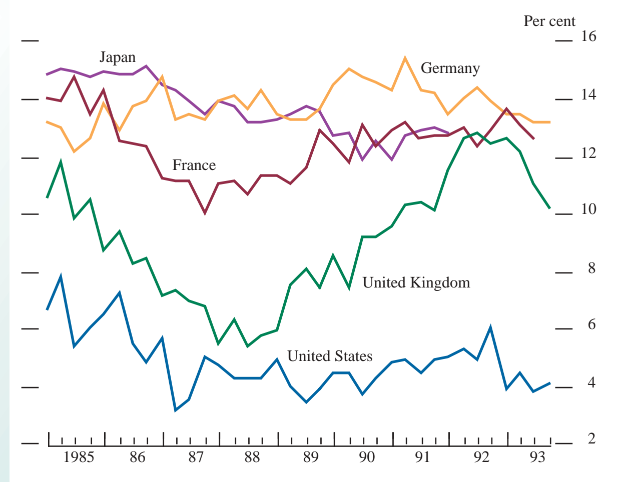
more recently has strong business investment growth helped the expansion. In continental Europe and Japan, consumption growth was much weaker in 1993. This box examines the role of the household sector in the US recovery, and considers whether recoveries in continental Europe and Japan are likely also to be consumer-led.

In the United States, consumption fell in 1991, as a result of a half percentage point rise in the saving ratio (see Chart B) and flat real personal disposable income. The saving ratio rose a further half point in 1992 but, with a recovery in personal incomes, this only moderated the rise in consumption. Consumption was then boosted last year as the saving ratio returned to its pre-recession level. Two main factors influenced the changes in the saving ratio: consumer confidence, and movements in household wealth and gearing.

On both the most widely quoted measures, US consumer confidence declined markedly in 1990, to well below its average levels for the mid-1980s (see Chart C). The initial decline coincided with the Gulf conflict, although the economy had by that time slowed markedly without a significant fall in consumer confidence. Confidence appeared to recover several times in 1991 and 1992, only to fall again; these movements coincided with the so-called ‘triple-dip’ in US GDP. After a final dip in the middle of 1993, consumer confidence now appears to have recovered to its pre-recession levels.

Changes in consumption relative to income (changes in the saving ratio) appear to have been correlated with changes in consumer confidence over recent years. And measures of consumer confidence seem to contain information not contained in other determinants of consumption—such as employment, earnings and interest rates. The fall in confidence may, for example, capture uncertainty about future employment, as well as the actual weakness of employment. The recovery seems to have been under way for three years before this uncertainty was allayed and confidence returned to its pre-recession level.

Chart B
G5 saving ratios



The other main influence on saving decisions was financial restructuring by the household sector. It is difficult to gauge how important this was in determining the depth of the US recession. By the end of the 1980s, levels of household debt—on a number of measures of capital and income gearing[1]—were at or near historical peaks; capital gearing, for example, reached almost 20% in 1990. Low inflation since then has meant there has only been a small fall in the real value of debt. But the increase in saving allowed a slight fall in the capital-gearing ratio: the ratio fell by half a

(1) Capital gearing is defined as household sector financial liabilities as a percentage of net wealth (including tangible assets). Income gearing is defined as gross interest payments as a percentage of personal disposable income.

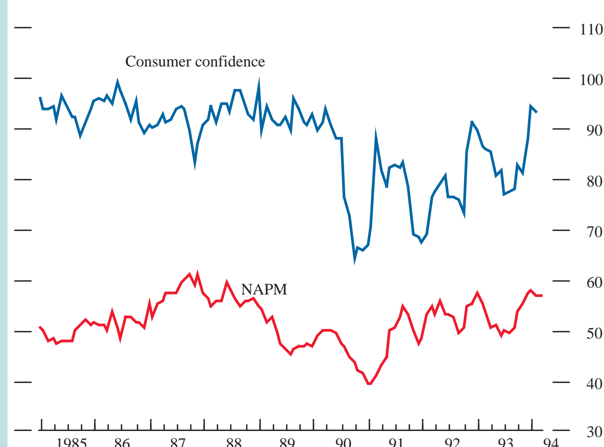
percentage point between 1990 and 1991. And falls in interest rates helped to reduce income gearing; some refinancing of fixed-rate debt at lower interest rates also contributed to this reduction.

More recently, the fall in the saving ratio in 1993 has been associated with an increase in capital gearing to over 19%; it is now approaching the level of its 1990 peak. And although many households have locked into low interest rates, the recent rise in both short and long rates makes it likely that income gearing will start to rise again. It is unclear, however, to what extent this will hold back consumption.

Levels of residential investment provide further evidence of the strength of the personal sector recovery in the United States. Residential investment, at 1987 prices, grew by 16% in 1992 and a further 9% in 1993; this was sufficient to restore investment to its 1989 level. Despite anecdotal evidence that house prices are not very buoyant, the residential investment deflator has been rising by over 4% a year—its fastest rate since 1988.

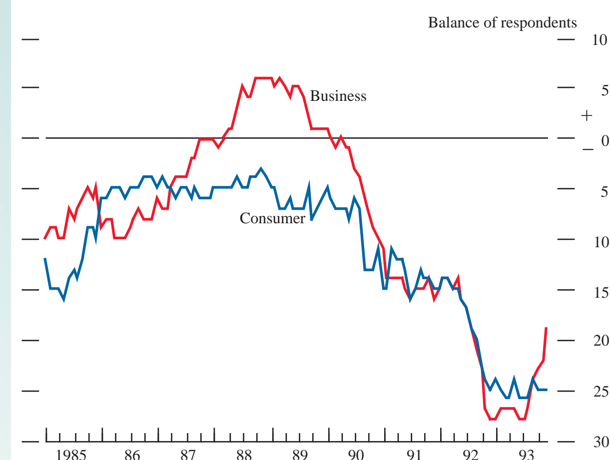
In continental Europe, the pattern is not so clear—though this may partly reflect different cyclical positions. To date, there has been no significant rise in French or German saving ratios since the start of the decade. Indeed, as Chart B shows, the German saving ratio has fallen and so tended to support consumption growth. But at the same time, there has been a sharp fall in consumer confidence in Europe (see Chart D) which has not yet been reversed. As the recovery proceeds, there may be an improvement in consumer confidence, but this may not be reflected in a fall in the saving ratio.

Chart C
US consumer confidence(a) and the NAPM(b)



(a) University of Michigan index of consumer sentiment; 1966=100.
(b) National Association of Purchasing Management index; per cent.

Chart D
European consumer and business confidence



Source: European Economy.

Compared with the United States, the household sector has had less of a role, and the corporate sector more, in explaining the depth of the recession in continental Europe. Business confidence has been more volatile than consumer confidence—it fell to a lower level from a higher starting-point, but has recovered recently. But this increase may prove short-lived, if the present round of industrial restructuring results in lower employment which acts to keep consumer confidence down.

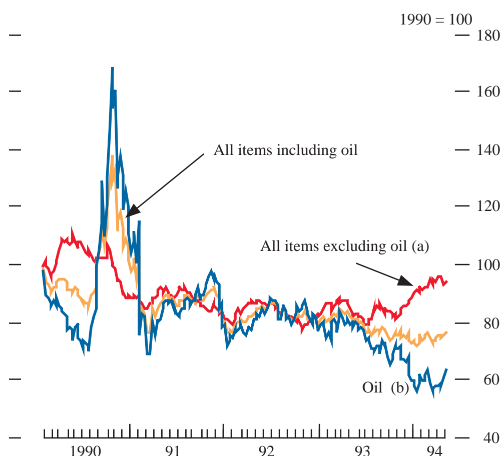
There is little to suggest that levels of household debt have significantly impeded growth in the major continental European economies; so with saving ratios generally well above US levels, a spontaneous rise in consumption cannot be ruled out. Given all the evidence, however, recovery seems less likely to be led by the household sector than by the corporate sector, which suggests that a strong recovery in 1994 is unlikely.

In Japan as in continental Europe, the recession has been heavily influenced by developments in the corporate sector and, as Chart A shows, consumption provided a small contribution to GDP growth in 1993. From the limited data available on households' income and expenditure, the saving ratio appears to have risen in 1993. The tax cuts due to take effect in June and December may give a boost to consumption, but with low confidence and depleted real wealth it is likely that a significant proportion of the proceeds will be saved rather than spent.

United States and Japan. It had also fallen against the Deutsche Mark. This ran counter to short-term interest rate trends, but partly reflected a growing market judgment that German interest rates would now be cut more slowly than previously thought. Within Europe, the major currencies were broadly stable, as countries sought to maintain stable, intra-European parities by cutting short rates gradually.

Although it is hard to see any immediate domestic impulse to inflation in any of the major economies outside the United States, the recent developments in financial markets may reflect a re-assessment either of the outlook for influences on inflation that are common to all countries, or of trends in individual countries in the longer term. This may represent a correction of earlier views (reflected in the prolonged bond market rally) that were too sanguine about future inflation. There is little direct evidence on the extent to which the rise in bond yields reflects higher inflation expectations in the longer term; the United Kingdom is unusual in having both conventional and index-linked government bonds at a range of maturities, which allow inferences to be drawn about inflation expectations (for more detail see the May *Inflation Report*); but comparable data exist only, and to a limited extent, for Canada. They suggest that there has been some increase in medium-term inflation expectations and some rise in real long-term rates.

Chart 10
SDR commodity indices

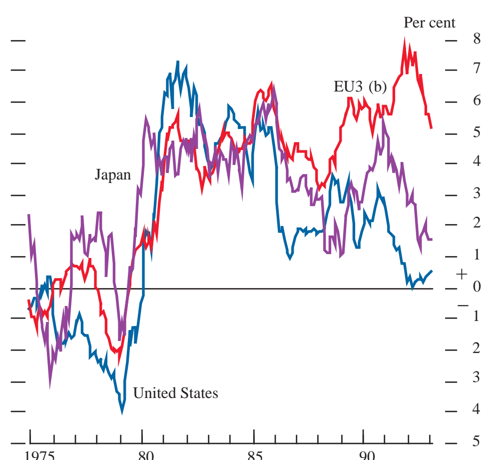


(a) Source: Economist.
(b) As measured by close-dated Brent crude.

One possible source of future inflationary pressure common to all major countries is a rise in non-oil commodity prices, which are sensitive to global demand. These prices have increased in recent months (though the effect on input prices has been largely offset by weak oil prices). Non-oil commodity prices rose by around 7% (in SDR terms) in the year to mid-April, with marked increases in the food and agricultural non-food sectors. Prices have generally responded to supply concerns—either poor crops (in the case of cocoa and cotton) or announced production cuts (coffee). Timber prices have also risen, though this has been in response to increased US housing demand. Oil prices, by contrast, have been on a downward trend since mid-1992 (despite some pick-up around mid-April); they fell by around 16% over the year, and are at their lowest level in real terms since 1988. This is largely a consequence of oversupply in oil-producing countries and is likely to be having a depressing effect on current inflation. In 1980, a fall in oil prices of 50% was associated with a fall in inflation in the G7 of around one and a half percentage points. The recent oil-price fall has been smaller, but though its impact may be less it is still likely to be significant. Oil and non-oil commodity prices may begin to rise gradually as recovery in the major economies is consolidated, but there is no reason at present to expect sharp rises even in the medium term. The trend in real commodity prices has been downward for several years.

It is therefore difficult to find 'news' in recent developments which could have prompted a common rise in inflation expectations, other than the tightening of policy in the United States itself. To the extent that there have been persisting increases in longer-term inflation expectations, it is plausible that the extent of the revisions may reflect a re-assessment of the monetary authorities' anti-inflationary credibility, set against the high level of optimism at the turn of the year. This may account for the different sizes of increase in long rates in different currencies seen in recent months:

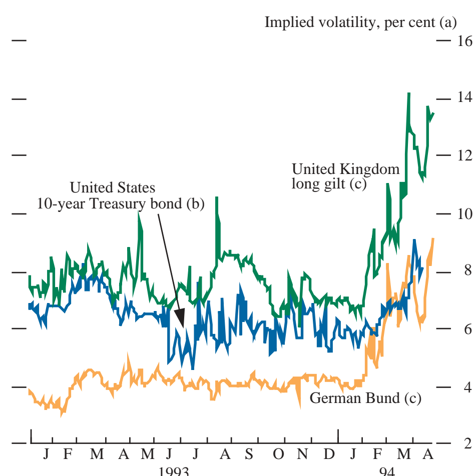
Chart 11
Real short-term interest rates(a)



(a) Three-month interest rates, compounded and deflated by CPI inflation in the year ahead.
(b) GDP-weighted average of France, Germany and Italy.

Chart 12
United States: three-month Treasury bill rates and CPI inflation

Chart 13
Implied bond market volatility



(a) Annualised daily standard deviation of continuously compounded returns.
(b) Source: CBOT.
(c) Source: LIFFE.

the countries that appear most recently to have gained credibility have been among those to have experienced the sharpest rises in yields since February.

There is still uncertainty about the future course of monetary policy in several countries

Even where markets are confident that the anti-inflationary objectives of policy will be met in the longer term, however, there may be some uncertainty about the future course of policy that will be needed in order to achieve this. The absence in some countries of simple and unambiguous intermediate goals may make interpretation and prediction of policy measures difficult—particularly around turning-points. This may have contributed to recent uncertainty in financial markets, though it is hard to see it as the cause of a sustained rise in long-term rates.

A turning-point for US monetary policy has clearly been reached; implied forward rates and plausible inflation forecasts suggest that real rates may be between 2% and 3% by the end of the year—a level in line with past experience (Chart 12). The recent tightening followed a period in which the stance of US monetary policy had been particularly accommodating. In the previous three episodes in which the Federal Reserve has tightened policy, it has done so by at least one percentage point within nine months of the low-point in interest rates being reached. This time, the federal funds rate was at its 3% low for more than two years. US real interest rates are still unusually low for this point in the cycle and it is not yet clear what the full effects of this long period of accommodation will be.

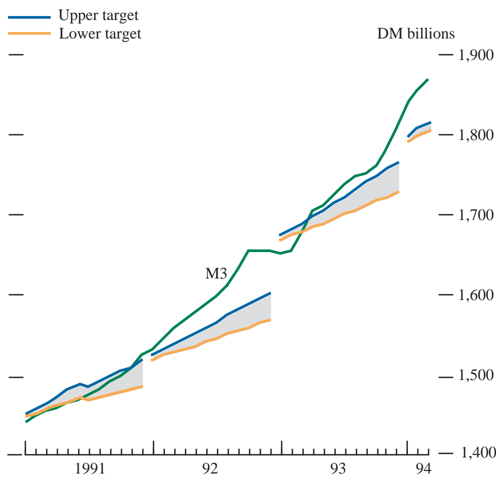
Despite the circumstances of the recent tightening, uncertainty in US bond markets—as measured by the implied volatility of bond prices—increased relatively little over the three months to mid-April (Chart 13). In the past, long rates have initially risen in line with short rates when the stance of policy has been tightened; but over the full period of tightening, long rates have risen less and the yield curve has flattened.

There have been, however, much sharper increases in the implied volatilities of bond prices in other currencies (as Chart 13 shows for the United Kingdom and Germany)—particularly those for which the turning-point in policy may not have been reached. This may reflect some market uncertainty about the framework for monetary policy—the nature and extent of the authorities' response to any future rise in inflation—as well as about the future inflationary environment itself.

For German interest rates, the turning-point still seems some way off, as activity remains weak and there is little prospect of a rise in inflation. In formulating monetary policy, the Bundesbank is having to weigh recent rapid monetary growth against the evidence of receding inflationary pressure. M3 has been distorted by a variety of end-year and taxation effects. These are largely temporary, but it remains unclear how reliable M3 is as a guide to future interest rate decisions. The successive cuts in discount rate since February illustrate that M3's usefulness in this role has diminished—at least for the time being.

Similar problems are affecting the interpretation of monetary aggregates in other countries. As a result of distortions at around the turn of the year, the stock of broad money in France was below

Chart 14
Germany: M3 outturns and target ranges(a)



(a) Bank of England estimates.

the level of a year earlier. Even allowing for these distortions, growth in broad money was very modest. The recent cautious easing of policy, though, indicates that monetary policy in France continues to reflect developments in Germany closely.

In Japan, where monetary growth is not regarded as a reliable guide to inflationary pressure, the turning-point in policy is also a considerable way off, and it remains difficult to gauge the timing and extent of any eventual tightening. In Canada where—as in the United Kingdom—formal targets have been set for inflation, markets may have difficulty in judging the future course of interest rates—particularly around turning-points. This is quite independent of the credibility or otherwise of the ultimate objective of policy.