Global and European setting

World economic activity

Global recovery in progress

The global forces of growth, having already prevailed in the second quarter, gained momentum after mid-year. By far the strongest stimuli to growth again came from the US economy, which in the third quarter grew at its fastest pace since early 1984. The Japanese economy benefited from strong import demand from its Asian neighbours and the United States as well as from brisk domestic demand. Although the euro area was not able to keep up with the fast pace of economic growth in the USA and the sharp upturn in Japan, many signs in the euro area are now pointing to a gradual cyclical recovery there, too. Overall economic output in the industrial countries, having already picked up perceptibly in the second quarter, grew in the third quarter – according to initial estimates based on preliminary GDP figures for the USA, the euro area, Japan and the United Kingdom – by a seasonally adjusted 1% on the period, and thus by 2¼% on the year. Prices in the industrial countries remained steady in the third quarter. Average third-quarter consumer price inflation was 1.6%. Excluding Japan, which dragged the average down by a wide margin, it was 2.2%.

The East Asian emerging economies grew particularly rapidly. The continuing economic boom in China, rising US demand, exchange rate advantages and domestic recovery following the eradication of the SARS epidemic in the affected countries were all major factors in this development. Latin America, too, is seeing more and more signs of a cyclical recovery. Besides an improvement in the global economic situation, the rise in commodity prices also played a key role. The central and east European countries have remained on a growth path. This is particularly the case for the oil-exporting CIS countries; owing to huge oil revenues, Russian GDP is projected to grow by 6% to 7% this year, accompanied by large current account and general government budget surpluses.

Overall, good conditions for continued revival

The underlying economic conditions for a continuation of the recovery process developed rather favourably. For the most part, share prices on major stock exchanges continued to rise, a development which was partly associated with the mostly favourable quarterly results of US enterprises; in addition, debt financing remained inexpensive. The business climate and consumer confidence in the industrial countries improved perceptibly. Additionally, exchange rate volatility on foreign exchange markets remained moderate. This picture is clouded somewhat by the rather high oil prices and the sharp rises in the prices of non-energy commodities, which in early November amounted, on a US dollar basis, to 15½% on the year.

IMF autumn forecast optimistic ...

According to the latest IMF forecast, the global economy will continue to pick up steam next year. The forecast states that global GDP growth will rise to 4% next year from 3¼% this year. The currently large growth gap between the major industrial regions, especially between the USA and the euro area, is unlikely to narrow in 2004. The growth rate in each economic zone is expected to rise by just under 1½ percentage points to 4% and 2% respectively. This assumes an

IMF forecast for 2003 and 2004 *

Item	2001	2002	2003	2004
Real gross domestic product	Annual percentage change			
Advanced economies 1	+ 1.0	+ 1.8	+ 1.8	+ 2.9
of which				
United States	+ 0.3	+ 2.4	+ 2.6	+ 3.9
Japan	+ 0.4	+ 0.2	+ 2.0	+ 1.4
Euro area	+ 1.5	+ 0.9	+ 0.5	+ 1.9
Consumer prices 2				
Advanced economies 1	+ 2.2	+ 1.5	+ 1.8	+ 1.3
of which				
United States	+ 2.8	+ 1.6	+ 2.1	+ 1.3
Japan	– 0.7	– 0.9	– 0.3	– 0.6
Euro area	+ 2.4	+ 2.3	+ 2.0	+ 1.6
Unemployment	Number of unemployed persons as a percentage of the labour force			
Advanced economies 1	5.9	6.4	6.7	6.6
of which				
United States	4.8	5.8	6.0	5.7
Japan	5.0	5.4	5.5	5.4
Euro area	8.0	8.4	9.1	9.2

* Source: IMF, World Economic Outlook, September 2003. — **1** Including Taiwan, Hong Kong, South Korea and Singapore. — **2** For the euro area, HICP.

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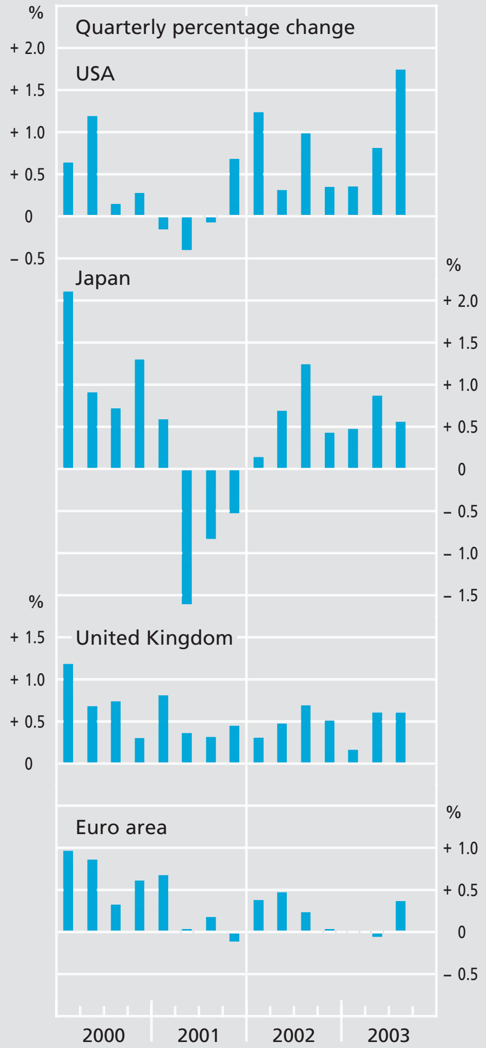
exchange rate of US$1.12 to the euro. The IMF predicts that the volume of world trade will increase by 5½% in 2004 (against only 3% in 2003). From today's perspective, this is more likely to be the lower end.

... despite considerable risks

In its forecast, the IMF still believes that the downside risks outweigh the upside risks. It lists, first and foremost, the global current account imbalances and, associated with these, the global economy's major dependence on the United States. This could trigger abrupt exchange rate movements which would result in the associated adjustment burden being borne disproportionately by certain economic areas. In addition, the IMF thinks that the improvement in financing conditions in the emerging markets in recent months is mainly a cyclical phenomenon which could

Growth trends in selected industrial countries

Seasonally adjusted



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reverse itself if interest rates in the industrial countries were to rise. Against this background, the IMF regards the massive public sector debt in some emerging economies as a serious problem. By contrast, the deflation risk, which had been considered very high in the second quarter, is held by financial markets and analysts at international institutions to be negligible.

Strong growth in USA

Driven by strong fiscal stimuli and all-time low interest rates, the US economy grew in the third quarter of 2003, according to initial estimates, by a seasonally and working-day-adjusted 1¾% on the period and by 3¼% on the year. The greatest contribution to growth was made by private consumption, which grew by 1½% after seasonal adjustment. Durables were especially popular among consumers. The sharp rise in disposable income did not make a dent in saving; the saving ratio, at a seasonally adjusted 3.3%, was barely above its second-quarter level. After adjustment for seasonal variations, commercial investment went up by 2¾% and housing investment by 4¾%. At the same time real exports rose sharply, by 2¼%. The dynamic growth in final demand, however, did not completely impact on output because the rate of inventory depletion was even higher than in the second quarter. Surprisingly, however, imports were not higher than in the second quarter, causing real net exports to improve slightly, to -5.3% of GDP. The personal consumption deflator (excluding food and energy), which is the US Federal Reserve's preferred measure, was 1¼% up on the year in the third quarter, as in the second quarter.

Labour market now also picking up steam

The progressive revival of production in the USA had an impact on the labour market, too, in the September-October period. The number of non-farm jobs rose by a seasonally adjusted ¼% from the preceding two-month period but was still down on the year. In October the seasonally adjusted unemployment rate fell slightly to 6.0% from as high as 6.4% in June. This will probably have allayed the – at times – widely shared concern that jobless growth was on the horizon and that this would cause the upswing to sputter at an early stage.

Time lag in reaction of employment because of structural change

In the recovery stage of the early 1990s, it was initially feared that the US economy would be mired in a jobless recovery. However, these fears receded when, following a lengthy time lag, employment once again moved distinctly upwards. Since the end of the last recession in the USA, which is dated by US business cycle experts as November 2001, it has taken longer than before for signs of a turnaround on the labour markets to accumulate, as now appears to be the case. This means that the employment threshold – the growth rate from which employment rises – is now higher than it used to be. A study by the Federal Reserve Bank of New York describes this as a new type of upswing which is driven more by productivity growth than by increased employment.[1] According to the report, the key factor in the extremely delayed reaction on the labour market was that job losses in the two previous recessions had been due more than in the past to structural change and were therefore longer-lasting and less a factor of cyclical capacity fluctuations. The study went on to state that it had taken more time to create new jobs than to recall workers to old positions in the wake of a rising phase of the business cycle.

Japan

Real GDP in Japan again rose sharply in the third quarter. It was up by just over ½% from the second quarter after seasonal adjustment and by 2½% from the third quarter of 2002. Overall economic growth was fairly broadly based in that the brisk domestic demand went hand in hand with the dynamic rise in exports. The distinct rise (of 2¾% after seasonal adjustment) in commercial investment is mostly attributable to an improved earnings outlook and higher capacity utilisation, given continued low financing costs. Private residential construction likewise grew strongly. Domestic activity was retarded by government investment, which fell by 4% after adjustment for seasonal variations. Third-quarter private consumption stagnated at the previous period's level. The main reason was the distinct decline in labour income. In addition, the cool summer weather reduced the demand for seasonal goods.

Expansion was driven by foreign demand, too, in the third quarter. Real exports as defined in the national accounts rose by a seasonally adjusted 2¾% and were thus 9½% up on the year. Japanese exporters benefited both from the faster pace of economic growth in the USA and from strong economic growth in the East Asian neighbouring countries. Taken together, these countries purchase around 70% of Japan's exports. Individually, the USA is at the top with 25%, followed by China with 12% and South Korea with 7%. Japan's exports of goods to China grew in July-August 2003 by no less than 30% on the year. The Chinese economy is not only a large sales market for Japan but is increasingly becoming a tough competitor on world markets and especially in the region. Japanese exporters could encounter even

1 See E L Groshen and S Potter, Has Structural Change Contributed to a Jobless Recovery?, Federal Reserve Bank of New York, *Current Issues in Economics and Finance,* Vol 9, August 2003, p 2.

more intense competition if the yen continues to appreciate against the US dollar and the East Asian currencies which are effectively pegged to it.

United Kingdom

According to initial calculations, the UK economy grew by just over ½% in the third quarter after adjustment for seasonal and working-day variations, matching its second-quarter level. The year-on-year increase was nearly 2%. At the same time, this is likely to be the annual average growth rate, which will make the United Kingdom once again by far the fastest growing economy among the large EU countries. Of the various sectors, it was services which provided far and away the greatest stimuli in the third quarter; their real gross value added was up by a seasonally adjusted ¾% from the second quarter. Industrial production (excluding construction), by contrast, was down on the period in the third quarter. On the demand side, GDP growth (for which national accounts data are not yet available) is likely to have been given a strong boost by household consumer expenditure. At all events, retail sales, which make up a major portion of private consumption, were up in July-August by 1¼% from the second quarter after seasonal adjustment. Consumption benefited in particular from the favourable labour market situation and the currently calm price climate. Measured in terms of the HICP, UK inflation averaged 1.4% between July and September.

Macroeconomic trends in the euro area

GDP growth in third quarter

Signs of a moderate cyclical revival in the euro area have been mounting since mid-year. According to Eurostat's Flash Estimate based on four preliminary country results, real GDP rose by just under ½% in the third quarter after seasonal adjustment. In the previous three quarters, GDP either stagnated or, as in the second quarter, declined slightly. It was ¼% down on the year.

Industrial output

Industrial output made a major contribution to overall economic growth in the third quarter. In July-August it was a seasonally adjusted ¼% higher than the depressed second-quarter level. This was also the year-on-year growth rate. The production of energy and consumer goods rose particularly sharply on the quarter. The manufacture of intermediate goods and capital goods did not grow quite as strongly. The fact that capacity utilisation in manufacturing rose after mid-year for the first time since the fourth quarter of 2002 is consistent with this picture. Capacity utilisation, however, has not yet returned to its longer-term average. In a country-by-country view, the rise in utilisation was concentrated on Germany and some smaller euro-area countries. In the other major countries, ie France, Italy and Spain, October surveys are still not indicating an expansion in capacity utilisation.

EU survey

In October business confidence increased for the third time in succession. The main reason was a less gloomy assessment of order books. September had already witnessed distinctly more optimism regarding output. The surveyed enterprises' business hopes were based particularly on a revival in foreign demand. By contrast, consumer confidence has held firm at a rather low level since August. This is partly associated with the persistent pessimism among households regarding their income prospects in the following 12 months.

Labour market

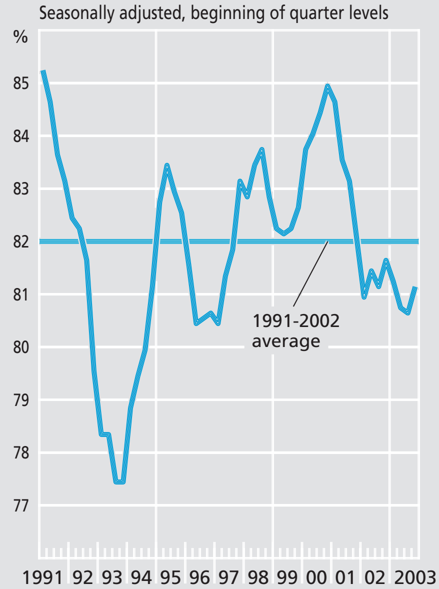
Unemployment hardly rose any further recently. The remarkable thing about this is that GDP growth after mid-year was still quite moderate. It is possible that many enterprises are keeping certain staff reserves in expectation of an economic recovery. Another possible explanation is that, particularly in Germany, the criteria for obtaining unemployment benefits have been tightened, and this has lead to increased numbers of persons leaving the ranks of the registered unemployed for another form of non-employment.[2] The seasonally adjusted number of unemployed persons in the euro area rose by only around 30,000 in the third quarter, as against 240,000 in the first quarter and 120,000 in the second quarter. The (standardised) unemployment rate was unchanged at 8.8%. A year earlier, it had been 8.5%. France, Germany and Spain, among others, reported rates which were well above the average. No relevant third-quarter information is so far available for Italy. It is remarkable, however, that in Italy the standardised unemployment rate in the second quarter was lower than the euro-area average for the first time ever.

Consumer prices

After mid-year consumer prices again rose somewhat faster than in the second quarter. In the third quarter the Harmonised Index of

Capacity utilisation in the manufacturing sector of the euro area

Seasonally adjusted, beginning of quarter levels



Source: European Commission business surveys.

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Consumer Prices (HICP) rose by just over ½% on the period after seasonal adjustment. This represents an increase of 2¼% on the year. The year-on-year rate rose slightly, from 1.9% in the second quarter to 2.0% in the third. It was only the volatile HICP components which played a major role. Unprocessed food prices went up by no less than 1¾% on the period. The extremely hot and dry weather in many parts of Europe was a contributing factor. Energy prices rose by ½% after falling in the second quarter. In the third quarter core inflation, which covers processed food, non-energy industrial goods and ser-

2 This special effect will impact on the standardised method of calculating the unemployment rate in Germany and thus in the euro area as a whole because the results of the Labour Force Survey, conducted once a year in the spring, are updated in the following few months using the official unemployment statistics.

vices, was about as high as in the preceding quarters; it amounted to 1.9% on the year. According to the Eurostat Flash Estimate, consumer prices rose in October – as in August and September – by 2.1%.

Smaller inflation differentials

Inflation differentials in the euro area appear to be slowly receding. At 2.9 percentage points, the difference between the lowest inflation rate, namely 1.0% in Germany, and the highest rate, again recorded by Ireland, was smaller than in the second quarter (3.2 percentage points). This spread had averaged as much as 3.4 percentage points for the whole of 2002. Other measurements of divergence confirm the decline in the inflation differential. Even though relative price changes, which may be reflected in differences in national inflation rates, are essential for a monetary union to function properly, in some cases they seem to have been quite large in the past few years. At all events, greater consistency in euro-area price movements at a stability-oriented level would foster economic growth.

Current account and exchange rates

Foreign trade and current account

In the third quarter (statistical information is available until August) euro-area foreign trade tended downwards. Overall, in the June-August period exports of goods were down by ½% on the previous period (March-May) after seasonal adjustment. During the same period, imports of goods fell even more sharply (by 2½%). The euro area's trade surplus therefore rose to €28½ billion during the period under review, following a surplus of around €24½ billion in the March-May period.

However, the deficit on "invisible" current transactions with non-euro-area partners also increased somewhat from the previous period's levels. Rising net expenditure on current transfers was the main reason. By contrast, the factor income deficit fell slightly. The surplus on services remained virtually unchanged. On the whole, the euro area's seasonally adjusted current account between June and August closed with a surplus of €4½ billion, €2 billion higher than its surplus in the preceding three-month period. If the first eight months of the current year are taken together, the euro-area current account ran only a slight surplus (€2½ billion). This contrasted with a cumulative surplus of over €35 billion in the corresponding period a year earlier. The key factors behind this decline were the poorer trading result (€17½ billion) and increased factor income payments (€15 billion).

Exchange rate movements

After the euro, at the end of May, had reached its highest quotations against key currencies since the start of monetary union, it was subsequently forced to relinquish some of its gains. In recent weeks, however, the euro has tended to resume its rise against the US dollar while fluctuating within a rather tight margin against most other major currencies.

US dollar

After the euro had surged in the second quarter, culminating in a euro exchange rate of just over US$1.19 at the end of May, the rate initially seemed to stabilise at that level. After the US Federal Reserve had cut interest rates in late June, however, the euro posted distinct losses. It had fallen to US$1.09 by the end of August. This move, coupled with the Fed's optimistic assessment of the economy, evidently led to an upward revision in market expectations regarding future developments in the US economy. Optimism regarding the US dollar was fed even further in August by news that second-quarter growth in the USA had distinctly exceeded expectations. In addition, new data on capital goods orders and on consumer confidence made the US economic situation look quite bright. Although the euro area was also the subject of positive economic reports, market players expected euro-area countries' recovery to be comparatively slow. The disparity in the economic outlook temporarily reversed the USA's interest rate disadvantage against euro-area rates at the long end of the market. Finally, profit-taking on foreign exchange markets during this period probably also put a strain on the euro.

The renewed exchange rate turnaround began in early September when reports of unexpectedly weak US labour market data caused the US economic situation to look somewhat bleaker. The term "jobless recovery" began to make the rounds. The IMF's warning that the US dollar might abruptly fall in the light of the large US current account deficit is likely to have put an additional strain on the US dollar. In their closing statement at the G-7 meeting in Dubai in late September, the finance ministers and central bank governors of the leading industrial countries advocated greater exchange rate flexibility. Immediately afterwards, the US dollar sustained distinct losses against all key currencies. Market players evidently interpreted this statement as saying that central banks which had repeatedly intervened on foreign exchange markets to stabilise their currencies would stop doing so in the near future. To make matters worse, this statement generally stepped up the pressure on the US dollar to depreciate (for a more detailed explanation see pages 14-15). As this report went to press, the euro was trading at just under US$1.17, or only around 2% below the all-time high it had reached in May, and thus just under 12% higher than its level at the beginning of the year.

Yen

In Japan, too, the publication of positive economic data made the economic outlook look brighter during the period under review. The more optimistic outlook for a recovery of the Japanese economy caused the yen initially to strengthen distinctly against the euro during the period under review. The yen picked up somewhat against the US dollar, too, in August. However, the upward pressure was halted in early September when the Bank of Japan intervened on the foreign exchange markets. Immediately after the G-7 meeting, however, the yen went back up sharply against the US dollar, a development which – as mentioned earlier – indicates a change in market players' assessment of Japan's exchange rate policy. As of late, the yen appreciated against the euro, too. As this report went to press, the euro was trading at just under ¥127, around 10% below its peak at the end of May and around 2% higher than its level at the beginning of the year.

Changes in market expectations regarding the euro-US dollar exchange rate before and after the G-7 meeting in Dubai

In September, major currencies underwent a renewed turnaround on international foreign exchange markets. The euro, which slid slightly in the summer months after peaking at the end of May, again posted major gains during September – especially against the US dollar. Market players' assessments evidently changed greatly, one of the cited reasons being the statement on exchange rates submitted by finance ministers and central bank governors at the G-7 meeting in Dubai. In the following, the changes in market expectations regarding the euro-US dollar rate are calculated from derivatives prices.

Derivatives are financial products whose current value is "derived" from the potential change in the price of an "underlying" asset. The prices for derivatives negotiated on the market therefore reflect market players' expectations regarding future movements in the asset underlying the transaction (the "underlying asset"). One analytical instrument for filtering out and combining these expectations inherent in the individual prices is the risk-neutral density function. Assuming that market players are risk-neutral, this function can be used to calculate the implied probability that the value of the underlying asset will be within a certain range at the maturity date of the derivative. The advantage of using a risk-neutral density function to present the complex information contained in the derivatives is that overall market sentiment at any specific time can be shown.

The method here uses information contained in the prices quoted for four derivatives to derive the implied density function. These are (a) the forward exchange rate, which in arithmetical terms corresponds to the expected value of the calculated density, (b) a call or put option "at-the-money" from which the "implied volatility", which represents the average dispersion or the second moment of the density, is extracted, (c) the "risk reversal", a combination that involves buying an "out-of-the-money" call option and selling an "out-of-the-money" put option and that captures asymmetrical price sentiment (the third moment or the slope of the density) and (d) the strangle, a combination of simultaneously purchased call and put options which can be interpreted as a measure of extreme price swings at the tails of the density, compared to normal distribution.[1]

As with all indicators based on financial market prices, it must also be remembered when interpreting risk-neutral densities that market quotations may be affected by factors other than changed expectations. There may, for instance, be certain market situations which cause liquidity shortages. These would have a distorting effect on prices and therefore also on densities. Consideration must also be given to the fact that, in the methodology used in this article, the insufficient availability of options with different strike prices makes an interpolation procedure necessary, and this could considerably constrain the informational content, particularly at the wings of the density. Finally, it is important to bear in mind when interpreting the indicator that the densities represent pure probability measures only if risk-neutrality is assumed. If this assumption does not hold, market players' risk assessment is also captured. However, the significance of risk premia on foreign exchange markets tends to be minor and potentially affects only the mean value and not the "form" of the density.

Taking these constraints into account, it becomes apparent that market assessments of the future euro-US dollar rate have changed under the influence of the G-7 meeting on 20 September 2003. The chart on the opposite page shows the three density functions of future one-

1 The methodology used here is described in depth in Deutsche Bundesbank, Instruments used to analyse market expectations: risk-neutral density functions, *Monthly Report*, October 2001, pp 31-47. It is based on an article by A M Malz (1997), Estimating the Probability

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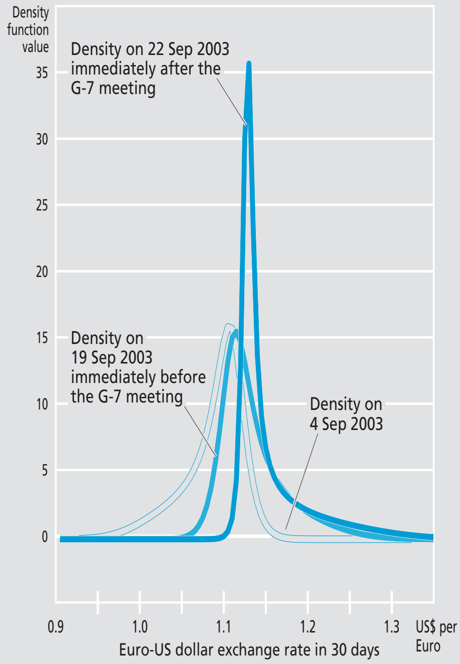
month exchange rate movements (as seen on the day concerned) which can be calculated from market prices of just over two weeks before the meeting (4 September 2003), the preceding Friday (19 September 2003) and the Monday immediately following the meeting (22 September 2003). The density functions display the following characteristics.

– After the summit, market players expected the spot exchange rate in a month's time to be just over 6 cents higher than they had done two weeks prior to the summit (spot rate effect).

– Moreover, the change in market expectations is revealed by the "reversed" skewness of the densities. Fourteen days before the G-7 meeting the markets thought a sharp depreciation of the euro against the US dollar was more likely than an equally sharp appreciation. However, as the summit approached, expectations of asymmetrical exchange rate movements were reversed and peaked immediately after the closing statement was published. The value of the risk reversal, which determines the extent of the symmetry break, changed very distinctly over those two weeks under the influence of events. In the chart, these expectations are represented by the densities which are now steeper on the left-hand side (and thus right-skewed).

– Market players' general risk assessment for relatively strong exchange rate movements (in the sense of implied volatility of the "at-the-money" call option) went up only slightly. In purely nominal terms, the value of the implied volatility after the meeting was just over 10% higher than it had been two weeks prior to the meeting. In the chart, this would *ceteris paribus* be reflected in a slightly flatter and wider density curve. In this case, however, the high skewness value, which compresses the density function from the left side, overcompensates for the volatility effect.

Risk-neutral density functions: Changes in market expectations



– By contrast, the probability of extreme exchange rate swings assessed by market players has largely remained the same. In the chart, this is recognisable because the curvature at the tails is nearly unchanged.

In summary, it can be stated that the G-7 meeting left a distinct mark in market players' expectations. Despite the exchange rate level already achieved, the markets appeared to be generally optimistic about the euro and perceived an increased "unilateral" depreciation of the US dollar against the single currency.

Distribution of the Future Exchange Rate from Option Prices, *The Journal of Derivatives*, Vol 5 (2), pp 18-36.

Exchange rate of the euro *

* End-of-month levels; from 2003 daily data. — 1 According to ECB calculations, against the currencies of 12 countries (before 2001, 13 countries).

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Pound sterling

After surrendering a large portion of its previous gains against the pound sterling in June 2003, the euro subsequently fluctuated between around £0.68 and just under £0.71. Following the publication of new GDP data, according to which the UK economy continued to grow in the third quarter, the euro recently came under some pressure against the pound sterling. In addition, the markets had evidently anticipated the Bank of England's interest rate hike of early November 2003. The euro was trading at just over £0.69 as this report went to press. It is thus around 4% lower than its all-time high, which it reached in May 2003, and just over 6% higher than at the beginning of the year.

Effective exchange rate of the euro

During the third quarter the euro initially fell distinctly on a weighted average against the currencies of the euro area's 12 most important trading partners but subsequently recovered a large percentage of the ground lost. As this report went to press, it was around 3½% lower than its May 2003 all-time high and 6½% higher than at the beginning of the year. Based on long-term averages, the implications of the euro's real effective exchange rate for price competitiveness in the euro area should be largely considered neutral. The exchange rate is therefore unlikely to prevent the generally expected recovery of the global economy and world trade from giving a boost to the euro area as a whole and Germany, in particular.

Monetary policy and financial markets in the euro area

Eurosystem interest rates unchanged ...

The Governing Council of the European Central Bank did not change the Eurosystem's key interest rates during the months under review. The weekly main refinancing operations were all conducted as variable rate tenders with a minimum bid rate of 2% while the interest rates on the marginal refinancing facility and the deposit facility remained at 3% and 1% respectively. The steady interest rate policy course was based on the assessment

Money market management and liquidity needs

Main refinancing operations continued to meet the bulk of credit institutions' liquidity needs during the past three reserve maintenance periods. As expected, longer-term refinancing operations were only of secondary importance. There were no fine-tuning operations during the period under review.

Following a very generous allotment in the 23 July main refinancing operation, which initially brought overnight interest rates closer to the minimum bid rate, the Eonia gradually climbed again in August, reaching 2.07% on 15 August even though the Eurosystem was providing a sufficient level of liquidity given the development of autonomous factors and the minimum reserve requirement. At the end of the July-August reserve maintenance period, the Eonia actually reached 2.45%. The likely cause of this was the recourse to the deposit facility from Friday 22 August to Sunday 24 August, which absorbed €1.2 billion of liquidity.

The allotment volumes of the main refinancing operations during the following two reserve maintenance periods were generous, enabling the ECB to bring the Eonia back down to five basis points above the minimum bid rate by the middle of October. Owing to the ample supply of liquidity at the end of the August-September and September-October reserve maintenance periods, however, the Eonia fell to 1.34% and 1.44% respectively, with the net recourse to the deposit facility for the same periods totalling €7.2 billion and €1.9 billion.

Between July and October the autonomous factors determining bank liquidity withdrew €3.8 billion net from credit institutions (see adjacent table). During the period under review a €12.8 billion increase in the banknotes in circulation put a drain on liquidity but this was partly offset by the liquidity created through the €4.1 billion decrease in general government deposits. If account is taken of the change in both net foreign reserves and other factors, thus cancelling out the impact of the end-of-quarter revaluation on 30 September, an additional €4.9 billion of liquidity stemmed from these two positions. This was primarily attributable to the increase in the Eurosystem's holdings of euro-denominated securities that are listed under "Other factors" and not connected with monetary policy.

The Eurosystem met the remaining liquidity requirements throughout the period under review by boosting the volume of its main refinancing operations by €3.7 billion to an average of €208.4 billion for the September-October reserve maintenance period.

Factors determining bank liquidity [1]

€ billion; calculated on the basis of daily averages of the maintenance periods

Item	2003		
	24 July to 23 Aug	24 Aug to 23 Sep	24 Sep to 23 Oct
I Provision (+) or absorption (–) of central bank balances by			
1 Change in banknotes in circulation (increase: –)	– 8.9	– 0.1	– 3.8
2 Change in general government deposits with the Eurosystem (increase: –)	+ 0.9	– 2.9	+ 6.1
3 Change in net foreign reserves [2]	– 4.6	– 0.8	+ 6.3
4 Other factors [3]	+ 4.5	+ 2.8	– 3.3
Total	– 8.1	– 1.0	+ 5.3
II Monetary policy operations of the Eurosystem			
1 Open market operations			
(a) Main refinancing operations	+ 8.7	+ 0.6	– 5.6
(b) Longer-term refinancing operations	– 0.0	– 0.0	+ 0.0
(c) Other operations	–	–	–
2 Standing facilities			
(a) Marginal lending facility	– 0.2	– 0.1	+ 0.0
(b) Deposit facility (increase: –)	+ 0.2	– 0.5	+ 0.4
Total	+ 8.7	+ 0.0	– 5.2
III Change in credit institutions' current accounts (I + II)	+ 0.6	– 1.0	+ 0.1
IV Change in the minimum reserve requirement (increase: –)	+ 0.6	– 0.8	+ 0.1

1 For longer-term trends and the contribution of the Deutsche Bundesbank, see pages 14* and 15* of the Statistical Section of the *Monthly Report*. — **2** Including end-of-quarter valuation adjustments with no impact on liquidity. — **3** Including monetary policy operations concluded in stage two and still outstanding in stage three (outright transactions and the issuance of debt certificates) as well as financial assets not connected with monetary policy.

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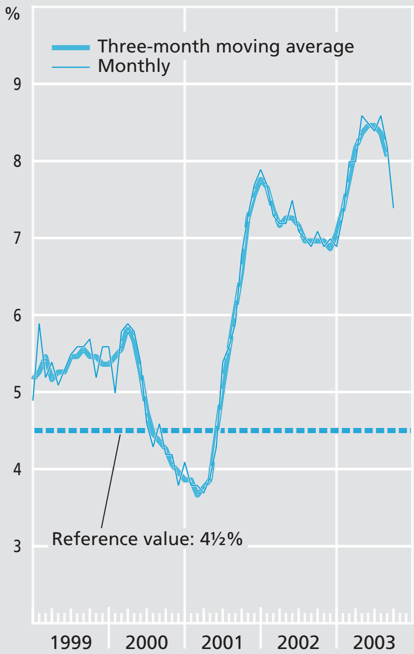
Growth of the money stock M3 in the euro area

Seasonally adjusted, annual percentage change



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that the outlook for price stability in the euro area would remain favourable. The real sector did not appear to pose any danger to price stability. During the period under review there were mounting signs of a tentative second-half recovery, with exporters likely to benefit from the reinvigoration of the world economy and euro-area demand from low interest rates and generally favourable financing conditions. Even so, the continued low capacity utilisation means that price pressures will remain muted for the foreseeable future.

... and stable outlook for prices

There do not seem to be any immediate inflation risks stemming from the monetary side, either. In the third quarter the money stock M3 rose perceptibly more slowly than in the preceding quarters. Liquidity in the euro area, however, continues to be very abundant. This means that, on the whole, economic agents have more money at their disposal than they need to finance overall long-term economic activity. This large surplus of liquidity, however, is largely the result of earlier portfolio shifts, which means it is being held mostly for investment purposes. However, since one cannot rule out the possibility that it will be used for expenditure purposes, the close monitoring of monetary developments is still appropriate.

Money market interest rates

Given that the minimum bid rate on main refinancing operations was stable, the overnight money rate (Eonia) hardly changed in the past few months apart from fluctuations at the end of the reserve maintenance periods and at the end of the month. By contrast, the money market rates in the longer-term maturity segments rose during the period under review. Only temporarily did they fall to the Eonia level; in October they rose once again, and as this report went to press, they had surpassed their early-August level. On the whole, investors are now expecting interest rates to rise, something which is reflected in forward interest rates.

Decline in monetary growth

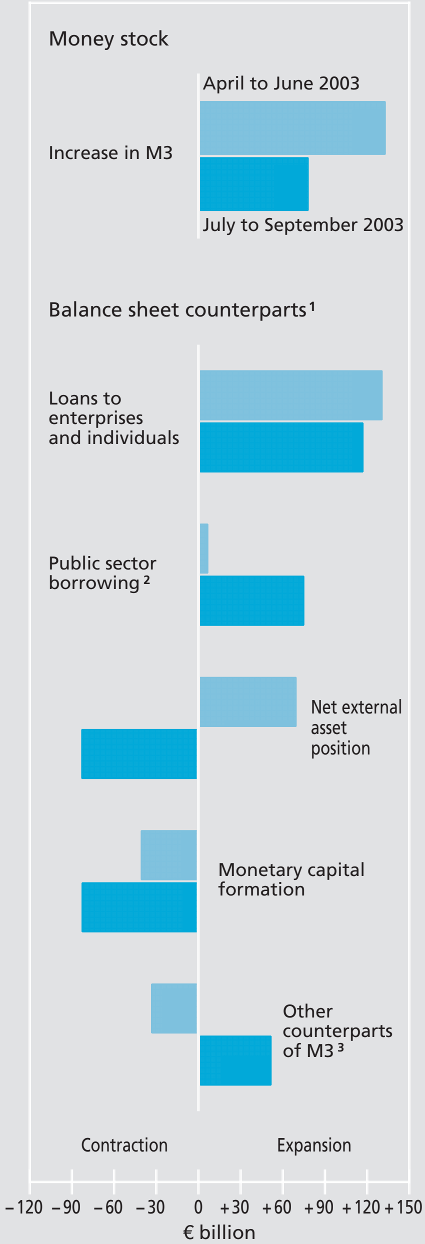
Euro-area M3 grew distinctly more slowly in the third quarter than in the preceding quarters. At the end of September the seasonally adjusted and annualised growth rate was 5½%, against 9½% at the end of June and 7½% at the end of March. The three-month moving average of annual growth rates went down from 8.5% for the April-June period to 8.1% for the July-September period. Investors evidently leaned more towards non-M3 investment vehicles; the situation on the financial markets, which is characterised by revived economic optimism, may have contributed to this development. Share prices went up on the whole in the third quarter, and uncertainty about future price movements, which is reflected in the relevant option prices, tended to decline further. The situation on the bond markets, which in the preceding quarter had encouraged money holding, calmed down in the third quarter following a perceptible upward correction of capital market rates.

Money stock components

Of the individual components of M3, overnight deposits once again rose sharply in the third quarter. Their seasonally adjusted, annualised growth rate rose from 8½% in the second quarter to 9½% in the third quarter. Currency holdings likewise grew more sharply in the July-September period than in the preceding three-month period. The seasonally adjusted and annualised three-month growth rate of currency in circulation was just over 25½% at the end of September, after being 19½% at the end of June. Although currency in circulation accounts for only 6% of M3, it recently contributed around 1 percentage point to the annual growth rate of M3, which was 7.4%. The money stock M1 accordingly grew significantly faster than the M3 aggregate. A contributory factor, however, was that, during the period under review, the growth of other short-term bank deposits (excluding overnight deposits) was relatively subdued. The strong seasonally adjusted rise in deposits redeemable at notice of up to three months was tempered by a decline in deposits with an agreed maturity of up to two years. The configuration of interest on

Euro-area M3 and its balance sheet counterparts

€ billion, seasonally adjusted, change over the period given



1 Changes in balance sheet counterparts are shown in terms of whether they expand (+) or contract (–) the money stock. — **2** Loans to general government less euro-area general government deposits and holdings of securities issued by the MFI sector. — **3** Calculated as errors and omissions from the remaining items of the consolidated balance sheet of the MFI sector.

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bank deposits is once again likely to have had an impact on this prolonged shift in the investment spectrum. Data published by the ECB on interest rates in euro-area banks' retail business indicate that the interest rate spread between short-term savings deposits and short-term time deposits continued to narrow. Between July and September marketable instruments went back down slightly after seasonal adjustment following strong growth in the preceding quarter. Investors resident in the euro area (excluding MFIs) once again had a great demand for money market fund shares/units; at the same time, however, they reduced their repurchase operations and their holdings of money market paper and short-term bank debt securities issued by euro-area MFIs.

Balance sheet counterparts

Of the balance sheet counterparts, monetary growth was particularly tempered during the period under review by voluminous outflows of funds to non-euro-area countries. The net external position of the MFI sector, which reflects non-banks' payment transactions with non-euro-area countries, went down by €60.7 billion in the third quarter after rising by €96.1 billion in the preceding quarter. The reversal of payment flows was due mainly to portfolio transactions with non-residents.

Moreover, between July and September lending to euro-area enterprises and individuals was down somewhat from the April-June period. However, this was only because euro-area MFIs bought fewer securities issued by the resident private sector. The pace of growth in loans to the private sector, by contrast, accelerated compared with the preceding quarters. It grew faster on the quarter than M3 for the first time since early 2002. Not only low interest rates but also the expected cyclical recovery may have contributed to increasing the propensity of private non-banks to borrow. Also, MFIs granted large volumes of credit to the euro-area public sector, which rose by a non-seasonally-adjusted €33.7 billion in the third quarter. In the same period of the previous year, lending had fallen by €3.5 billion. During the period under review, as in the preceding quarters, this growth was due almost exclusively to purchases of securities issued by general government in the euro area.

The propensity to deposit funds with euro-area MFIs over the longer term continued to accelerate during the period under review and, thus, tended to dampen monetary growth. Between July and September MFIs' longer-term financial liabilities grew at a seasonally adjusted annualised rate of 8½% compared with 4% at the end of June. It was probably the rise in capital market rates, in particular, which again enabled banks to place longer-term bank debt securities with non-MFIs. At €42.1 billion (not seasonally adjusted), the rise was yet again somewhat higher than in the preceding quarter (+€40.0 billion) and much higher than in the same period a year before (+€28.6 billion). In addition, deposits with an agreed maturity of over two years rose sharply (+€13.8 billion) whereas deposits redeemable at notice of over three months went down by €4.2 billion, a slower rate of decline than in the preceding quarters.

Financial markets under the influence of brightened economic expectations

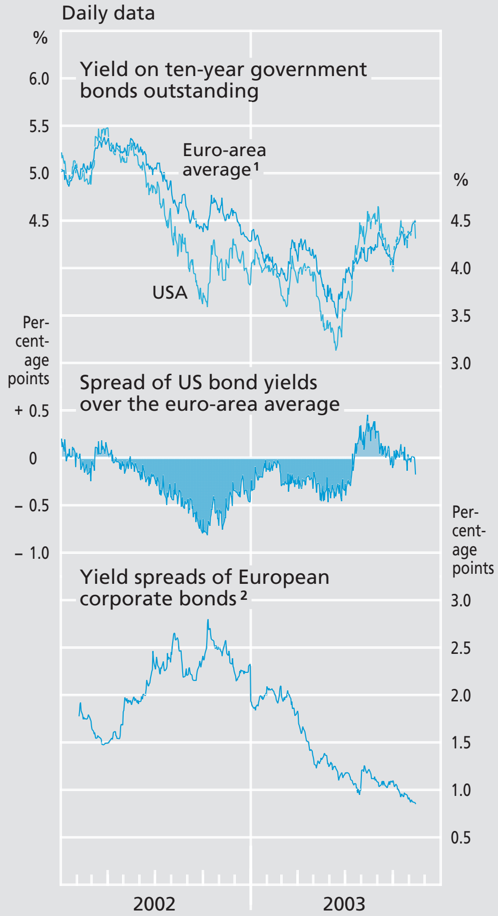
During the third quarter, euro-area financial markets were influenced by brightened economic expectations. However, the equity and bond markets became temporarily more volatile, which indicates that market players are still somewhat uncertain about the vigour of a potential economic upturn. Memories of the beginning of 2002 may also have played a part. At that time, financial markets reacted to positive signals from sentiment indicators which later were not borne out by actual economic developments.

European long-term yields quite volatile

The average yield on ten-year government bonds issued by euro-area countries rose distinctly up until mid-July. It subsequently grew at a much slower rate. In early September the yield, at 4.4%, was nearly 1 percentage point higher than in mid-June. During September, however, it temporarily retreated to just under 4%. The main reason may well be portfolio shifts from shares to bonds, a move which is consistent with the coincidence of falling share prices in September. Interest rates picked up again in October. As this report went to press, the average yield on ten-year government bonds in the euro area was 4½%.

Bond yields in the euro area and the USA

Daily data



1 Weighted average of the yields on ten-year government bonds of all euro-area countries; GDP-weighted. — **2** Spread of seven to ten-year BBB-rated European corporate bonds over euro-area government bonds with a comparable maturity. Source: Merrill Lynch Indices.

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US and European long-term interest rate levels converge

Yields on long-term US government bonds were much more volatile than European interest rates during the period under review. The US interest rate level, after falling just over 40 basis points below the yield on comparable euro-area government bonds in June, subsequently rose much more distinctly. In August, yields on US Treasuries were at times around 40 basis points higher than European bond yields. The interest rate gap had already closed by the time this report went to press, however.

Rise in real interest rates

The distinct rise in long-term nominal interest rates since mid-year is primarily a reflection of higher real interest rates and therefore of an improvement in the business outlook. This is certainly the result if market players' long-term inflation expectations are used as the basis for the expected rate of price increases;

Price movements and profit estimates for European public limited companies

Monthly data

1 End-1991 = 100; source: Deutsche Börse AG. — 2 Based on year-on-year I/B/E/S analyst estimates of the Dow Jones EuroStoxx share price index; source: Thomson Financial.

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as this report went to press, the markets expected inflation rates of 1.8% in the euro area and 2.2% in the USA. In the USA, in particular, the real interest rates measured in this fashion currently stand at 2.2% for ten-year government bonds and thus are distinctly higher than in June, when they were below 1%. The real interest rate on long-term euro-area government bonds, currently 2.5%, is still perceptibly below its average level, which since the start of monetary union in 1999 has been around 3%.

Share price gains

The share price gains posted on euro-area markets since March 2003 increased during the period under review. In August the Dow Jones EuroStoxx price index initially continued to rise, and at the end of the month it was around 40% higher than its low of mid-March. It was not until September that losses, which were at times substantial, were incurred. This was caused by market players' doubts about the fundamental justification of the share price upswing of the previous few months and also by intermittent fears of an "expectations bubble". However, share prices soon recovered, resulting in a 13% rise in the Dow Jones EuroStoxx price index since mid-year.

Uncertainty on equity markets declines

Market players' equity market uncertainty, measured in terms of the implied volatility of option prices in the Dow Jones EuroStoxx50 price index, has been in constant decline since March when the latest price upswing began. It has now fallen below its average of between 1999 and the present. On the whole, this indicates a rise in confidence in the current share price level.

Fall in valuation level owing to slight rise in earnings expectations

Analysts are assessing enterprises' earnings outlook somewhat more positively, too. The forecast for average profits over the next 12 months for the Dow Jones EuroStoxx price index was increased from €15.0 in August to €15.6 in October.[3] The longer-term earnings outlook, too, has improved since August after

3 I/B/E/S analysts' estimates.

being distinctly lower since the beginning of the year. The valuation level of European shares therefore improved slightly despite the rallies during the period under review. The price-earnings ratio, based on expected profits over the next 12 months, was around 14.7 in October.

Interest premia on non-top-rated corporate bonds continue to fall

The brightening of the economic outlook is being reflected in more favourable financing conditions on the market for corporate bonds, too. Since mid-year, risk premia on BBB-rated bonds over government bonds of comparable maturity have fallen by just over 30 basis points to less than 1 percentage point. As late as October 2002, the interest rate premium was at times as high as 280 basis points. This probably reflects investors' increased demand for higher-yielding alternatives given the currently low rate of return on government bonds. All the same, the lower ratio of downgrades to upgrades of companies by credit rating agencies is a sign that credit risk is on the decline. In the third quarter of this year, only 1½ times as many bonds were downgraded as upgraded. This contrasts with a ratio of 13 to 1 in the first quarter. Whereas the decline in risk premia on the corporate bond market was associated with falling share prices in the first three months of this year, current developments are now consistent once again with share price gains.

Markets no longer expect further ECB rate cuts

In line with the positive outlook for the economy, the yield curve for German federal securities, which serves as a benchmark for the euro area, has again become steeper since mid-year. The spread between money market rates, which remained virtually unchanged during the period under review, and the increased long-term interest rates went up to around 2½ percentage points. The inverted shape of the yield curve at the short end in June and July has vanished completely. This may be interpreted as a sign that bond market participants do not expect the ECB to lower interest rates any further.