### Global and European setting

#### World economic activity

Global economic dip

The global upturn started to falter in the fourth quarter of 2011. The main reason was a widespread weakening of economic momentum. Furthermore, severe flooding in Thailand in autumn not only led to a severe impairment of local industrial output but also caused the electronics and automotive industries in other countries, especially Japan, to suffer output losses as a result of disruptions to cross-border deliveries. In the meantime, the production processes outside of Thailand are likely to have returned to normal. Overall, in seasonally adjusted terms, global industrial output in October-November has remained at the same level as the summer quarter, in which it rose by 11/2%; nevertheless, this represents a year-onyear increase of 4%. On an average of October and November, the volume of world trade has slipped to just below the level recorded in the third quarter.

Euro-area debt crisis and tighter monetary policy in EMEs as main drivers The clear slowdown in the global cyclical upturn can also be attributed to the escalation of the euro-area sovereign debt crisis over the summer. As a result, in the crisis countries the pressure to consolidate intensified further, consumers' and investors' confidence took another turn for the worse and the financing conditions in trade and industry deteriorated. These dampening influences have meanwhile also spilled over to other euro-area countries via the trade and confidence channels. The extent of the negative impact on other countries has tended to vary, however. The US economy in particular, which was again able to step up the pace of economic growth in the fourth quarter, is likely to have remained relatively unscathed. Furthermore the slow pace of expansion in the emerging market economies (EMEs), where aggregate growth is likely to have lagged clearly behind trend growth for the third consecutive period, has less to do with problems in the euro area and more to do with the strong monetary policy tightening over the course of 2011, which became necessary to combat the – in most cases – significant acceleration in inflation.

Within the group of industrial countries, buoyant growth in the United States contrasted with a decline in aggregate output in the euro area, the United Kingdom and Japan. In the final quarter of 2011, the growth of real gross domestic product (GDP) taken across these countries as a whole came to a virtual standstill according to provisional data. Compared with the fourth quarter of 2010, GDP increased by 3/4%.

In autumn 2011, stagnation of real GDP in industrial countries

Recent initial signs of slightly

more positive

outlook for global economy

Assuming that the sovereign debt crisis in Europe does not worsen in the near future and escalate into a global financial crisis, and that the situation on the oil markets does not deteriorate, the short-term economic outlook for global economic activity appears to be somewhat more favourable again. This is corroborated by indicators based on economic surveys among enterprises and households – which are available at a relatively early juncture - many of which have recently barely fallen or have actually risen. Moreover, the marked rebound in share prices suggests growing optimism about the economy. This is underpinned by the ongoing strongly expansionary monetary policy in several industrial countries and the actual or prospective easing in the EMEs.

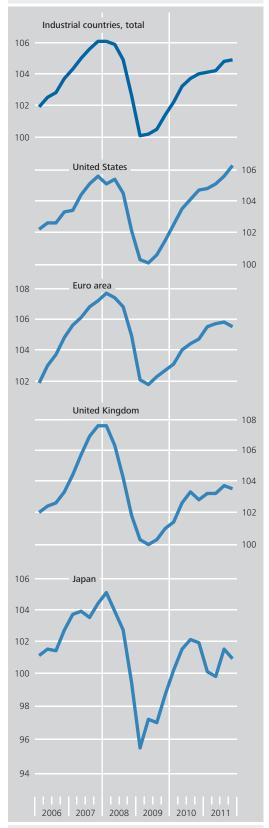
Given the pronounced cyclical slowdown, in January 2012 the IMF published a noticeable downward revision to its autumn (September) forecast. As a result, at 3.8%, global growth in 2011 is ¼ percentage point lower and global GDP is now only forecast to rise by 3.3% in 2012 compared with an estimate of 4.0% six months previously. The aggregate forecasts for advanced economies as well as for the EMEs and developing countries taken as a group for

Downward revision of IMF forecast

in January

#### Aggregate output in industrial countries'

2005 = 100, seasonally adjusted, quarterly, log scale



Sources: National statistics, Eurostat and Bundesbank calculations. \* The United States, euro area, United Kingdom and Japan.

Deutsche Bundesbank

2012 have each been lowered by 0.7 percentage point to 1.2% and 5.4%, respectively. The forecast for industrial countries is therefore more on the pessimistic side. It is primarily the projections for the euro area that have been reduced. In addition, significant revisions were also made for the United Kingdom, Japan and a number of smaller countries. By contrast, the autumn forecast for the United States (+1.8%) was confirmed. According to the IMF, the global economy will again grow at a much stronger rate of +3.9% in 2013. Assuming that crude oil prices do not rise again over the forecast horizon and that other commodity prices trend perceptibly downwards, inflation is expected to decrease considerably by 2013 to 1.3% for advanced economies and 5.5% for EMEs and developing countries. Despite the somewhat pessimistic baseline scenario, the IMF continues to stress the downside risks, citing an intensification of the sovereign debt crisis as the main driver.

The slowdown in global activity and especially in the manufacturing sector made itself felt in sharp price mark-downs in the commodities markets. As measured by the HWWI index, industrial commodities in the final quarter of 2011 were 141/4% cheaper than in the previous quarter on a US-dollar basis; food, beverages and tobacco prices were down 11%. For the first time since summer 2009, the aggregate index (excluding energy) showed a decrease on the year. By contrast, the situation on the crude oil market eased only slightly. At US\$10834, the price per barrel of Brent crude oil in autumn was only 3% cheaper than in the summer, yet was still 241/2% more expensive than one year previously. However, the year-on-year figure in the third quarter had been +453/4%. The reason for the high oil price is likely to be a continued short supply even though oil production in Libya is being restored at a quicker pace than originally expected. In general, crude oil prices pointed slightly upwards again at the beginning of 2012. In addition to more favourable economic reports, growing geopolitical tensions in the Persian Gulf were of particular im-

Oil still expensive despite general price markdowns for commodities

portance for crude oil prices. The euro price for Brent oil soared as a result of the euro's devaluation, even reaching a new high on a monthly average for January. As this report went to press, crude oil was trading at US\$119½; however, oil futures were still trading at considerable discounts.

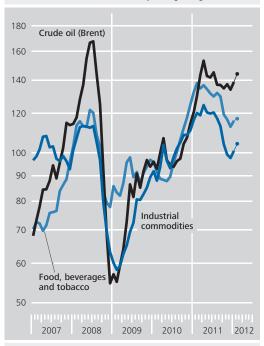
Falling consumer price inflation in industrial countries In the final quarter of 2011, too, energy continued to shape general consumer price inflation in industrial countries. Due to the slight decline in crude oil prices and to the base effect, year-on-year growth of energy prices narrowed from +14.0% in the summer to +10.5% in the autumn. At the same time, headline inflation fell by 0.3 percentage point to 2.7%. As the energy price surges from winter 2011 are gradually no longer being included in the calculations, inflation is likely to continue to fall noticeably in the coming months. Excluding the volatile energy and food prices, however, the inflation underlying the basket of consumer goods did not fall during the final months of 2011. On a quarterly average, at 1.7%, core inflation was just as high as in the previous period. The deflationary tendencies that were feared at times, particularly in the United States and United Kingdom, therefore do not appear to be materialising for the group of industrial countries as a whole.

## Selected emerging market economies

Slight slowdown in economic momentum in China In the final quarter of 2011, economic momentum in China slowed somewhat. According to the seasonally adjusted estimate by China's National Bureau of Statistics, real GDP increased by 2% from the summer, in which growth of 21/4% had been recorded. The year-on-year figure was surpassed by 9% in autumn. The main supply-side driver of this increase was the industrial sector, where output rose by just under 13% year-on-year. Compared with the summer quarter, the fall in the year-on-year rate of industrial output was minimal. Chinese exports continued to experience a loss of momentum

# World market prices for crude oil, industrial commodities and food, beverages and tobacco

US dollar basis, 2010 = 100, monthly averages, log scale



Sources: Thomson Reuters and HWWI. • Average of 1 to 10 February or 1 to 15 February 2012 (crude oil).

Deutsche Bundesbank

in the autumn due to an economic slowdown in China's major partner countries. However, at the same time, domestic demand appears to have picked up. This is indicated, for instance, by nominal retail sales, which increased in the final quarter at a somewhat faster rate than previously. In real terms, the growth acceleration is likely to be even larger because headline inflation eased considerably towards the end of the year. Consumer price inflation fell from 6.1% in September to 4.1% in December. In light of declining inflationary pressure, cooling tendencies in economic activity that have been observed since the beginning of 2011 as well as a flow of capital abroad, the People's Bank of China cut the minimum reserve rate for banks in December. The lending policy has recently also been eased somewhat.

According to the latest monthly indicators – a GDP estimate for the final quarter of 2011 is not yet available – India's economic output has continued to expand at a restrained pace. In-

Expansion in India curbed by tight monetary policy

vestment, in particular, is likely to have remained sluggish. For instance, the production of capital goods in the reporting quarter fell by one-sixth year-on-year. This is due, above all, to the tight monetary policy necessitated by the persistently high inflationary pressure. In the past few months, consumer price inflation has fallen markedly; in December it stood at 6.5% compared with 10.1% in September. Nevertheless, according to estimates by the Reserve Bank of India, the scope for cutting interest rates is still limited.

Protracted slowdown in growth in Brazil In seasonally adjusted terms, real GDP in Brazil went up marginally in the final quarter of 2011 following a period of stagnation in the summer. Industrial output, which was already on a downward slope in the third quarter, again fell perceptibly. However, on a more positive note, over the past few months the Purchasing Managers' Index for manufacturing has risen considerably from its low level, and in January it was back over the expansion threshold of 50 points. In the autumn months and at the beginning of the year, consumer price inflation trended downwards slightly. It was 6.2% in January and was thus within the tolerance interval set by the central bank. As a result of this and of feeble aggregate growth, the Brazilian central bank continued on its course of cutting interest rates, which it started in mid-2011.

Russian economy still on expansionary path According to an initial estimate by the Russian Federal State Statistics Service, Russian economic output increased by an average of 41/4% in 2011. These results suggest that economic output in the final quarter of 2011 - for which no published data are yet available - rose perceptibly from the previous quarter. Private consumption is the main driver for the rather buoyant economic growth in Russia. Real retail sales in the fourth quarter were up 91/4% on the year. But investment, too - especially in construction - recently again grew sharply. Consumer price inflation continued to subside in the reporting period, falling from 7.2% in September to 6.1% in December. At a rate of 4.2% in January, it even stood at the lowest level since the transition to a market economy system in the early nineties.

#### **United States**

In the final quarter of 2011, seasonally adjusted real GDP in the United States increased by 3/4% from the previous quarter. Despite the global economic slowdown, the US economy recorded its strongest growth since spring 2010; in 2011 GDP increased by a total of 13/4% on the previous year. The final spurt is primarily attributable to diminishing temporary burdens which had previously curbed the pace of growth. The strong contribution to growth by inventory movements should also be seen in this light; aggregate output in the second and third quarters could not keep up with the relatively robust growth in demand, thereby hampering the build-up of inventories. However, private consumption in autumn was predominantly driven by sales of new cars returning to normal after Japanese manufacturers overcame delivery problems: real consumer spending on cars and car parts was up by 81/4% on the guarter. The fact that consumption did not expand at a much faster rate than last summer, though, is due only in part to the mild weather conditions in the northern parts of the country, which curbed energy consumption in seasonally adjusted terms. The main reason is probably households' real disposable income, which increased only marginally after having even slumped in the previous two quarters. The savings ratio correspondingly fell a bit further. Declining inflation eased the burden on consumers. In autumn, headline inflation - as measured by the aggregate consumer price index – slipped by ½ percentage point to 3.3%, although, excluding energy and food, the rate increased to 2.2%. A decrease in the unemployment rate in summer from 9.1% to 8.7% additionally brightened the labour market situation.

Over the past few months, a number of indicators have given reason to believe that the real

Rather buoyant economic activity

estate market could make a sustained recovery. This is supported by a clear increase in private residential investment in the fourth quarter. By contrast, enterprises could not maintain their dynamic investment growth. Real spending on non-residential buildings even shrank noticeably. Furthermore, public sector demand has put a noticeable brake on aggregate growth. Even if this is chiefly due to an extraordinary decline in military expenditure, the necessary fiscal consolidation will, over the medium term, prevent a strengthening of the upturn.

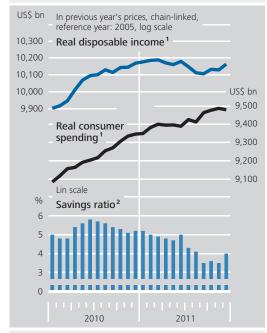
#### Japan

Set-back due to foreign trade

After the level of activity had more or less returned to normal in the summer, the Japanese economy suffered a set-back in autumn. Seasonally adjusted real GDP fell by ½% from the previous quarter, although this did not fully cancel out the earlier increase of 13/4%. Aggregate output still contracted by 1% year-on-year. The economic dampener at the end of the year was due entirely to foreign trade. Exports fell sharply not just as a result of the slackening of economic activity in Japan's partner countries - especially in Asia - but also due to the appreciation of the yen. This was intensified by delivery problems following production stoppages as a consequence of the flooding in Thailand; however, these factors are likely to have caused only temporary losses in exports. On the other hand, domestic demand proved to be robust and induced a further rise in imports, which - when taken in isolation - also reduced GDP. Commercial investment was up on the quarter for the first time since summer 2010, whereas private consumption rose slightly following the clear increase in the third quarter and public sector investment continued to decline. Now that the situation in Thailand has returned to normal, efforts have been made in Japan to start rebuilding and the government has introduced new support measures, the expansionary forces are likely to regain the upper hand in 2012. At 4.5%, the unemployment rate was still slightly lower in autumn than prior to the

#### Real disposable income, real consumption and savings ratio of households in the United States

Seasonally adjusted



Source: Bureau of Economic Analysis. **1** Annualised, priceadjusted with the personal consumption deflator. **2** Savings as a percentage of disposable income. Deutsche Bundesbank

earthquake in March 2011. At the same time, year-on-year consumer price inflation descended into negative territory (-0.3%). Excluding energy and food, the basket of consumer goods was as much as 1.0% cheaper on the year.

#### **United Kingdom**

According to an initial official estimate, UK GDP, adjusted for seasonal influences and price changes, fell by 1/4% quarter-on-quarter in the final quarter of 2011. This economic slowdown is often associated with the debt crisis in a number of euro-area countries. However, the fact that it was spread quite broadly across the supply side indicates otherwise. It was not just the highly globalised manufacturing sector that posted a clear decline in output. Gross value added in the mining and quarrying sector continued its downward slide, which had already been extremely steep at times in previous quar-

Recovery losing steam

#### New EU member states

Economic recovery continues

In the group of new EU member states (EU-7),1 economic output is likely to have once again grown noticeably in the final quarter following a rise of 34% in the third quarter after seasonal adjustment. Real GDP in Hungary, Bulgaria and Latvia expanded perceptibly. Economic growth in Poland – for which only an estimate of the GDP results for the year is available so far (+41/4%) – also appears to have continued unabated. Regardless of the continued recovery trends in the region, the labour market situation in most of the countries remained difficult; the aggregate unemployment rate stood at 9.3% in the final quarter and thus only slightly lower than one year previously. In this group of countries, consumer price inflation rose from 3.5% in the third quarter to 3.7% in the final quarter, ranging from 2.5% in Bulgaria to 4.2% in Poland.

### Macroeconomic trends in the euro area

In the final quarter of the year, the euro area endured a phase of weak economic growth, signs of which had already begun to emerge in the second and third guarters of 2011. Real GDP in the euro area declined for the first time since spring 2009, by 1/4% on the guarter after seasonal adjustment. Year-on-year GDP growth was a meagre 3/4%. Thanks to a strong carryover from 2010 and buoyant activity at the beginning of the year, growth for 2011 as a whole amounted to 11/2%. One reason for the decline in GDP in the final quarter was a pronounced slump in domestic demand, which was particularly marked in the peripheral countries. This was intensified not only by the dampening effects of consolidation measures, but also by the negative impact of a loss in confidence following the escalation of the sovereign debt crisis in the summer as well as a deterioration in financing conditions for enterprises. The other was that demand stimuli from non-euro-area markets diminished considerably due to the stalling economy in important EMEs. The quarter-onquarter decline in aggregate output was broadbased in the euro area in that, in addition to crisis countries in southern Europe, a number of economies that were not directly affected by the sovereign debt crisis also recorded negative GDP growth, including Germany, Belgium and the Netherlands.2 Of the 12 euro-area countries for which such data are already available, only France and Slovakia have recorded an increase in activity.

Even though the important leading indicators have either stabilised or resumed pointing upwards again of late, average GDP growth over 2012 is expected to be only weak. According to the Eurosystem staff macroeconomic projec-

Weak end to the year

Growth likely to be minimal in 2012

<sup>1</sup> This group comprises the non-euro-area countries that joined the European Union in 2004 and 2007.

**<sup>2</sup>** As a result of problems with statistics, no seasonally adjusted national accounts figures have been published for Greece since spring 2011. In the autumn, real GDP was 7% down on the year; over 2011 as a whole it fell by 63/4%.

#### The euro and prices – in Germany and the euro area

At the turn of 2001-02, three years after the beginning of the third stage of European economic and monetary union (EMU), euro banknotes and coins were introduced. Ten years on, many have begun to take stock of price developments in Germany and the euro area, focusing on the entire period as a whole.¹ However, when analysing medium-term price trends in a macroeconomic context, a comparison of developments in Germany with those in the rest of the euro area requires a distinction to be made between three phases.²

The period of preparation and transition prior to and at the beginning of the third stage was characterised by high GDP growth rates and low inflation in Germany and its partner countries. The large degree of price stability was fostered by falling international crude oil prices and the efforts undertaken by the new euro-area member states to achieve convergence and stability, the effects of which lasted into the first couple of years of monetary union.

The sudden end to the New Economy boom in 2000 caused a perceptible slowdown in real economic growth; in Germany it even fell to the stagnation point. However, lively domestic economic activity kept growth afloat in several of Germany's euro-area partner countries. This was due primarily to the significant decline in interest rates that had already begun in the run-up to the third stage. This drove inflation rates up. Germany, however, suffered an adjustment crisis which put perceptible downward pressure on wage growth but also highlighted the need for far-reaching labour market and social reforms. Although consumer prices likewise rose at an accelerated pace, this was due to changes in the global environment and to a series of hikes in consumption-related taxes and not to brisk domestic activity. All in all, inflation in Germany has been at the lower end of the spectrum across Europe.

Germany was the primary euro-area beneficiary of the global economic boom that began in the second half of the last decade, which was also connected with the resurgence of the south and east Asian emerging market economies. Key factors included not only Germany's traditional focus on exports but also a pronounced slump in domestic demand in the preceding years, which motivated firms to establish a greater presence in non-euro-area markets. The German economy, following its successful adjustment efforts, is likely to have made particularly good use of the integration of central and eastern Europe into the international division of labour. Germany's GDP growth rates then surpassed those of its partners by a large margin. Although the global financial and economic crisis directly hit Germany harder than other euro-area countries, the subsequent global recovery not only revealed the German economy's renewed resilience and vitality but also laid bare the unsound developments and structural weaknesses plaguing a number of euro-area countries.

Compared with the first half of last decade, the situation in the euro area has, in a sense, undergone a complete about-face. Whereas the German real economy was lagging at that time, it is now running full steam ahead. By contrast, it is particularly the euro-area peripheral countries that have now gone from being mostly leaders (in economic growth) to laggards. Although the erstwhile divide in inflation rates has not yet been completely levelled off, a tendency in this direction is visible. In

<sup>1</sup> This is not intended as an additional contribution to the debate on whether the introduction of euro banknotes and coins fuelled inflation. For more on that debate, see Deutsche Bundesbank, The euro and prices two years on, Monthly Report, January 2004, pp 15-28.

<sup>2</sup> Confining the view to Germany and the rest of the euro area as two separate entities is not meant to imply that the latter represents a homogeneous group. It is intended, rather, as a stylised description which emphasises the specific traits of trends in Germany.

the past five years, German HICP inflation was somewhat higher than in the preceding five-year period, whereas inflation eased slightly in the rest of the euro area. However, it was still above German inflation rates; one important factor here is that, in several partner countries, indirect taxes and administered prices were raised sharply of late under the pressure to achieve the necessary fiscal consolidation.

The differences between Germany and the rest of the euro area with regard to price developments in the last decade even tend to be understated by official figures because the HICP does not include the prices of owneroccupied housing. Whereas residential housing price trends in Germany were extraordinarily tranquil over a long period, in a number of partner countries they rose sharply. As the financial and economic crisis progressed, these countries then witnessed corrections, in some cases severe. On the other hand, Germany is currently seeing property prices pick up noticeably for the first time since the reunification boom.3 If the prices of owneroccupied housing are thus included, the convergence of inflation rates between Germany and the rest of the euro area is likely to be further advanced than suggested by HICP inflation rates.

In order to restore sustainable and competitive economic structures, several partner countries will have to have inflation rates below those of Germany for several years in succession. This is predicated on suitable wage moderation, especially under the constraint that price stability be maintained in the euro area as a whole. Extensive labour market reforms, including reforms to wage-setting mechanisms, would facilitate this process.

Consumer prices and aggregate output

Annual data, year-on-year percentage change

+3.0 Consumer prices in Germany<sup>1</sup>

<sup>+2.5</sup> +20+1.5 + 1.0 +0.5 0 Consumer prices in the euro area + 3.5 excluding Germany +3.0 + 2.5 +2.0 + 1.5 + 1.0 Scale reduced +5.0 Aggregate output in Germany<sup>2</sup> +40 +3.0 +20+ 1.0 0 -1.0 -2.0 -3.0 -4.0 -5.0 Aggregate output in the euro area +5.0 excluding Germany +4.0 +3.0 + 2.0 + 1.0 Λ - 1.0 -2.0-3.0 -40 1997 10 2011 1 Harmonised Index of Consumer Prices (HICP). 2 Gross do-

<sup>1</sup> Harmonised Index of Consumer Prices (HICP). 2 Gross domestic product, adjusted for price and calendar variations.

Deutsche Bundesbank

 $<sup>{</sup>f 3}$  See the box entitled "House prices in 2011 in Germany" in this issue of the Monthly Report, pp 50-51.

tions in December, growth will be merely ¼% (mean of the projection range). In its interim forecast of January, the IMF even expects a contraction of ½%, putting it at the lower end of the forecast range. The calculations underlying the IMF's forecast are based on a slight downturn from the fourth quarter of 2011 to the end of 2012.

Downswing in manufacturing sector

On the supply side, negative GDP developments in the final quarter are chiefly due to the marked contraction of manufacturing output. Seasonally adjusted construction output in the October-November period fell by 2% on the third quarter, in which it had still managed to post an increase of 1/2%. The decline in industrial output was more significant, falling by 13/4% from the third to the fourth quarter of 2011. This put it back below the end-2010 level; however, over the year as a whole, it was still up by 31/2%. In the reporting period, all industrial sectors were hit by a decline. For instance, the production of capital and intermediate goods fell by 11/4% and 13/4%, respectively, and 1% fewer consumer goods were produced than in the previous quarter. In seasonally adjusted terms, orders received in October and November were down 4% from the already depressed Q3 level. This suggests that the downswing in the industrial sector continued into 2012, though it is likely to have slowed. This is underscored by the fact that industrial capacity utilisation went back up slightly between October and January but is still somewhat below its long-term average. In addition, the Purchasing Managers' Index for manufacturing rose clearly in January and is now much closer to returning to the expansion threshold. Moreover, the industrial confidence indicator has stabilised at its long-term average in the past few months. This is primarily due to the fact that output expectations have improved considerably whereas the assessment of order books was once again unfavourable.

The contractionary stimuli affecting aggregate demand most likely came from gross fixed capital formation and private consumption. The

### Indicators of household consumption in the euro area

Seasonally adjusted, quarterly



**1** Quarterly figures. Including registrations by enterprises, the self-employed and central, state and local government.

Deutsche Bundesbank

decline both in construction activity and the production of machinery and equipment point to a perceptible reduction in investment expenditure. Weak private consumption is clearly reflected in the sizeable decline in real retail sales (excluding cars) and new passenger car registrations. However, on a positive note, consumer confidence improved somewhat at the beginning of the year after a protracted period of pessimism. Economic activity once again received a major boost from exports to noneuro-area countries, which, in the final quarter of 2011, were up 11/2% from the previous guarter in nominal terms. Imports rose by only 1/4% meaning that, overall, foreign trade is likely to have had a positive impact on real GDP growth.

The unfavourable economic situation in the euro area caused the already tense labour market situation to take another turn for the worse in the second half of 2011. Following a weak rise in the first half of the year, the number of persons employed went back down slightly in

Negative outlook on labour market

Weakness of domestic demand broadly based the third quarter, but was still 0.3% higher than during the previous year. In addition, the increase in unemployment, which started in spring, picked up again significantly in the final quarter. In seasonally adjusted terms, 326,000 more people were out of work than in the summer and 680,000 more than last year. At 10.4% in December, the unemployment rate was nearly ½ percentage point higher than in 2010.

Year-on-year consumer price inflation down slightly Year-on-year HICP inflation in the euro area declined each month, falling from 3.0% in September 2011 to 2.7% in December 2011. Consumer prices are likely to have gone up significantly in January 2012 in seasonally adjusted terms due to higher energy prices. However, according to Eurostat's estimate, the year-on-year rate held steady at 2.7% due to a base effect. Assuming moderate growth rates over the next few months, year-on-year inflation could decline if the hikes in energy prices at the

beginning of 2011 are removed from the calculations. The same is true for consumption-related tax rises that have come into effect in a number of euro-area countries.

The price trend in autumn 2011 was mainly determined by the contesting influences of crude oil prices and exchange rates. The perceptible depreciation of the euro raised energy prices for consumers to a similar extent as one year previously, despite a fall in crude oil prices. Prices excluding energy increased during the final quarter by slightly less than in the third quarter.

The inflation differential between the euro area and Germany, which had temporarily more or less closed, opened up again somewhat in the past few months. However, in the medium term, this could reverse itself in line with cyclical movements (for more information, see the box on pages 17 and 18).