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## QUARTERLY REPORT ON THE EURO AREA

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## Editorial

The economic recovery in the euro area started in the first quarter of this year, but has failed to accelerate. Domestic demand has stayed weak all year, undermined by stock price falls and an uncertain geopolitical, corporate and employment outlook. Recently, some of the shocks which hampered economic recovery during the course of the year have begun to unwind. For instance, equity prices have rebounded from their October lows. Oil prices, although again on a slight upward trend since mid-November, have remained below their peak of early October.

Nevertheless, despite these positive developments, there have so far been no indications that economic activity is accelerating in the euro area. Uncertainty about the strength of the recovery in domestic demand is increasing, while world trade is showing signs of weakness. Weak business confidence in manufacturing and services suggests that the required adjustment to the equity price fall might not have run its course, dampening the outlook for an investment recovery. Moreover, the outlook for consumption, which showed some signs of revival in the second and third quarters, is clouded by deteriorating household confidence.

The timing and strength of an acceleration of the recovery depends largely on internal forces. In an environment that is characterised by uncertainty and low consumer and investor confidence, the required policy response is clear. Domestic policies that are geared towards reducing uncertainties and propping up confidence will help kick-start the recovery. Forceful policy action will reduce the impact of the ongoing corporate adjustment on consumer confidence and spending and will transform improved

corporate profitability into renewed investment.

Recent monetary and budgetary policy and wage developments address current requirements. Concretely, waning medium-term risks to price stability have made room for a *monetary policy* response. On 5 December, the ECB acted by cutting its key interest rates by 50 basis points.

On the *budgetary policy* side, the credibility of the budgetary framework of the euro area has been reinforced. On 27 November, the Commission adopted a Communication with proposals to strengthen the Stability and Growth Pact by promoting more rigorous adherence to budgetary commitments and by exploiting the existing scope of the Treaty and Pact provisions; this requires no additional legislation on procedural arrangements. The resulting combination of better implementation and enforcement can enable the Pact to better fulfil both its growth and its stability objectives. The strengthening of the Pact underpins consumer and investor confidence in these testing times for the budgetary framework.

Implementation of these proposals implies that the fiscal consolidation path - that was abandoned by several Member States in 2000 - will be resumed. Improving the quality of public finances, while putting them on a sound footing, to deal with the budgetary consequences of ageing populations, will also contribute to reducing uncertainties and restoring confidence.

In this context, it is noteworthy that domestic demand was relatively more resilient during the downturn in 2001 and 2002 in those euro-area countries that continued to improve their structural budget balance. Confidence effects concerning the sustainability and credibility of

these policies have probably played an important role. It follows therefore that the required fiscal consolidation - especially in the euro-area countries that have not reached close-to-balance budgetary positions - need not be costly in terms of short-term output losses. In addition to positive confidence and credibility effects, fiscal consolidation provides the leeway for monetary policy to play its role, contributing to a more balanced policy mix.

Meanwhile, *wage growth* is beginning to decelerate. Continued wage moderation is required to ensure a sustainable investment recovery that goes hand in hand with vigorous job creation and a resumption of the declining trend of unemployment. Although wage moderation will dampen the short-term growth of workers' disposable income somewhat, it will preserve jobs and reduce job-uncertainty. It will also support profitability and investment and reduce inflation, contributing to a domestic demand recovery in the short run and providing a sound platform for balanced and sustainable recovery in the medium run.

Inflation differences in the euro area, a topic which is regularly monitored by the Commission services, is the theme of the focus section of this report. There are several reasons for inflation differences, some of them warranted others not. Reasons for warranted inflation differences include economic adjustment to inappropriate competitive positions, cyclical differences, external shocks combined with different structural conditions and so-called Balassa-Samuelson effects. In contrast, inflation differences appear unwarranted when they are due to the malfunctioning of product and labour markets, the price indexation of wages

or inappropriate policies.

In other words, inflation differences as such are not necessarily a matter for concern. An optimal currency area is characterised not so much by full convergence as by the capacity to deal with adjustment needs. In that regard, warranted inflation differences are an essential part of the economic adjustment mechanism in EMU.

Looking at the data, inflation rates have tended to remain quite dispersed in the euro area in recent years. However, the analysis presented in our focus section concludes that inflation differences in the euro area largely reflect the diversity of national economies and is not a major source of concern. But, it also underlines the fact that cyclical imbalances can have lasting effects on inflation differences due to price and wage rigidities. Two policy conclusions can therefore be drawn from this analysis. First, pro-cyclical policies should be avoided as they can have lasting inflationary effects that can, in turn, lead to severe economic costs in a monetary union. Secondly, further progress with structural reforms would help to reduce inflation differences in the euro area. In particular, it is important to improve price and wage flexibility to prevent inflation responding to temporary adjustment needs to become entrenched.

Pedro SOLBES

MEMBER OF THE EUROPEAN  
COMMISSION



## I. Economic situation in the euro area

*Recent data show a progressive re-balancing of the sources of growth in the euro area from trade to domestic demand. However, domestic demand is not expected to gather much extra momentum in the months to come and short-term growth is likely to remain sluggish. Private consumption, currently the main engine of growth, could be hampered by deteriorating confidence. The present business cycle has to a considerable extent been supply-driven and the persistent weakness of business sentiment is not conducive to rapid recovery of capital formation. Finally, support from foreign trade is likely to be weak due to both an appreciating exchange rate and faltering world demand. On a more positive note, there are signs of a modest turnaround in productivity that should help ease the squeeze on profitability. With sluggish growth prospects, upside risks on inflation are limited and the ECB was able to cut its key rates by 50 basis points in early December.*

### 1. Sluggish short-term growth prospects in the euro area<sup>1</sup>

Recent data fail to show any clear sign of a strengthening of the recovery in the euro area in the near future. According to the latest reading of the national accounts, GDP increased by 0.3% in the third quarter, the same rate as in the previous quarter. However, national account data suggest that there is a re-balancing of the sources of growth with domestic demand gradually replacing trade as the main driver of the recovery. Despite further acceleration of exports, the contribution of net trade to GDP growth stood at zero in the third quarter.

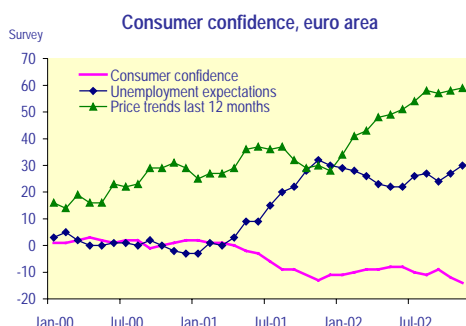
*Private consumption turns into main engine of growth. Private consumption is progressively turning into the major source of growth in the euro area. According to Eurostat's latest release, q-o-q growth in private consumption accelerated noticeably from 0.2% in the second quarter to 0.5% in the third quarter. Nevertheless, households have recently begun to show worrying signs of losing confidence and private consumption is unlikely to pick up significantly during the remainder of 2002. Consumer sentiment deteriorated in October and November, falling below the previous trough of November 2001 to reach a level last seen in mid-1997.*

Table 1: Euro-area growth components					
	2001 Q3	2001 Q4	2002 Q1	2002 Q2	2002 Q3
<b>% change on previous quarter, volumes</b>					
GDP	0.2	-0.3	0.4	0.3	0.3
Private consumption	0.1	0.0	-0.2	0.2	0.5
Government consumption	0.4	0.4	0.9	0.8	0.3
Gross fixed capital formation	-0.7	-0.9	-1.0	-1.2	0.0
Changes in inventories (% of GDP)	-0.3	-0.4	-0.3	-0.1	-0.2
Exports* of goods and services	-0.2	-1.3	0.0	1.6	2.2
Imports* of goods and services	-1.4	-1.4	-1.0	1.4	2.2
<b>% contribution to change in GDP</b>					
Private consumption	0.1	0.0	-0.1	0.1	0.3
Government consumption	0.1	0.1	0.2	0.1	0.1
Gross fixed capital formation	-0.1	-0.2	-0.2	-0.3	0.0
Changes in inventories	-0.3	-0.1	0.2	0.1	-0.1
Net exports	0.4	0.0	0.4	0.1	0.1

\* Including intra-euro area trade.

<sup>1</sup> The cut-off date for statistics included in this issue was 18 December, 2002.

Increasing concerns about unemployment are probably an important explanation for the current bout of weakness but most of the measures that form the overall index of consumer sentiment have deteriorated in the past two months, suggesting that the loss in confidence is broad-based.



Source: Commission services.

In addition, household concerns about past inflation pressures, which had surged to historical highs in the summer, have so far shown no sign of receding. This mis-perception of the impact of the changeover has so far not affected households' inflation expectations but it has probably taken its toll on consumer spending since the beginning of the year. The recent rebound of equity prices, if it persists, could help to boost confidence but past trends suggest that stock market recoveries affect

sentiment only with a lag of several months.

*Persistent weakness in the corporate sector.* The corporate sector continues to be the main source of weakness in the euro area, suggesting that supply side factors are playing an important role in the current business cycle. The latest release of the quarterly accounts shows an unexpected stabilisation of total investment in the third quarter. However, this positive surprise is offset by a negative surprise on inventories which registered their seventh quarter of contraction. The depletion of inventories in the current downturn so far represents a cumulated loss of GDP of about 1.3%.

Recent surveys paint a mixed picture of business sentiment. The manufacturing PMI index, which had been on a downward trend since the summer, picked up very slightly in October and November. The Business Climate Indicator (BCI), which had also dropped sharply over the summer, has regained most of the lost ground over the past three months. Nevertheless, both indicators remain low by historical standards. The PMI is still below the 50 threshold which marks the limit between manufacturing expansion and contraction. The BCI is broadly consistent with stagnation of industrial production in the fourth quarter (see Box 1 on manufacturing surveys).

Table 2: Selected euro area and national leading indicators, 2001-2002

	SENT. IND <sup>1)</sup>	BCI <sup>2)</sup>	OECD <sup>3)</sup>	PMI <sup>4)</sup>	IFO <sup>5)</sup>	NBB <sup>6)</sup>
Long-term average <sup>7)</sup>	99.3	-0.18	2.0	52.7	100.2	-9.7
Trough in latest downturn	98.6	-1.18	-3.0	42.9	89.6	-21.1
February 2002	98.9	-0.88	3.6	48.6	101.1	-14.1
March	99.2	-0.61	4.8	50	106.1	-9.9
April	99.1	-0.65	6.1	50.7	104.7	-8.3
May	<b>99.5</b>	<b>-0.28</b>	6.6	51.5	<b>106.2</b>	<b>-1.6</b>
June	99.3	-0.51	6.0	<b>51.8</b>	104.8	-5.5
July	99.0	-0.39	4.8	51.6	102.4	-7.4
August	98.7	-0.60	4.2	50.8	100.7	-7.6
September	99.0	-0.49	3.8	48.9	99.2	-9.8
October	98.8	-0.43	3.3	49.1	97.9	-10.5
November	98.6	-0.36		49.5	95.8	-9.0
December					97.9	

1) Economic sentiment indicator, DG ECFIN. 2) Business climate indicator, DG ECFIN. 3) Composite leading indicator, six monthly change. 4) Reuters Purchasing managers index, manufacturing. 5) Business expectations, West Germany. 6) National Bank of Belgium indicator for manufacturing. 7) Jan-92 till last observation available, for PMI (manufacturing) since beginning of series in June-97.



### Box 1: Extracting more information from manufacturing surveys

The monthly survey of manufacturing industry published by the European Commission is widely used to assess the cyclical position of the manufacturing sector in the euro area. The survey measures the opinion of industrial managers on the economic situation, distinguishing seven specific fields related to production, order books, stocks, employment and prices. This represents a relatively large set of information that is not always straightforward to summarise and to understand. This box describes three approaches developed at the Commission which help both to synthesise and to interpret the results of the survey.

#### The business climate indicator

The business climate indicator (BCI) is designed to deliver a clear and early assessment of the cyclical situation in the euro area manufacturing sector. It uses as input five of the seven series of measurements covered by the survey, namely opinions of respondents on production trends in recent months, production expectations, order books, export order books and stocks. The BCI is based on the principle that each of these series is the sum of a **common component**, which measures the general cyclical situation in the euro area, and a **specific component**. Using factor analysis, the BCI is calculated as the common component to the five series. It therefore summarises the cyclical position of the euro-area industry by stripping out all information that is series specific and not related to the overall cyclical trend.

To establish the leading properties of the indicator, the table below shows the correlation between the BCI and year-on-year growth in industrial production for various leads and lags. With a maximum correlation reached when industrial production is lagged by 1 or 2 months, the BCI in level is a lagging indicator of activity. However, a filter equivalent to the one used for industrial production should be used for a proper assessment of the leading properties in the BCI. As shown in the table, the difference of order 12 of the BCI (i.e. the change relative to the same month of the previous year) leads y-o-y industrial growth by about 2 months.

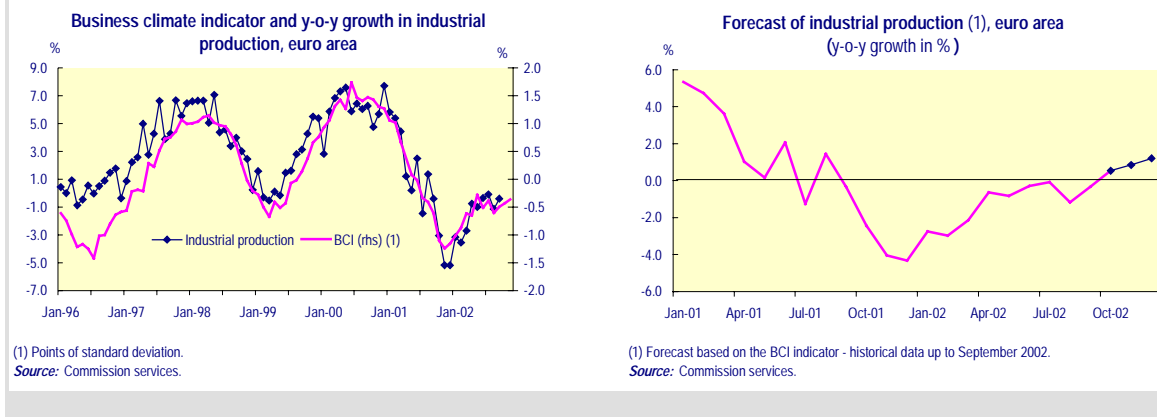
Correlation between the BCI and y-o-y growth in industrial production

Lead/lag (1)	-3	-2	-1	0	1	2	3
BCI (level)	0.74	0.81	0.86	0.89	<b>0.90</b>	0.89	0.87
BCI (diff. of order 12)	0.73	<b>0.76</b>	<b>0.76</b>	0.74	0.70	0.63	0.55

(1) Negative number indicates that the BCI is leading growth in industrial production.

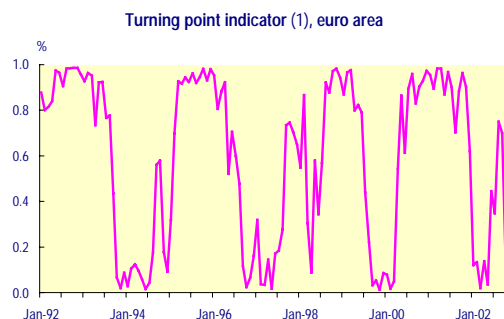
Source: Commission Services

In order to assess the predictive power of the BCI, a number of quantitative models have been tested. The econometric analysis shows that adding the BCI significantly improves the forecasting power of a standard auto-regressive model of industrial production. In other words, the BCI unambiguously helps to anticipate changes in industrial production. The BCI-based forecast of industrial production points to a very modest pick up of year-on-year growth in the last three months of 2002 (see graph below). The acceleration is essentially attributable to base effects and corresponds to flat q-o-q growth in the fourth quarter of the year.



### The turning point indicator

Turning point indicators are designed to provide early warnings of changes in the cyclical situation. They are based on the assumption that the economic situation can be characterised by a hidden variable taking two or more values representing the states of the business cycle. Economic data are then used to estimate the probability of being in one or another of these states. The graph displays a turning point indicator (TPI) based on the same five measurements of manufacturing sentiment as the BCI. The TPI measures the probability of being in a recession phase. A value close to 1 (respectively 0) indicates a strong probability of being in a recession (respectively an expansion). The indicator has been somewhat volatile in the past few months, rebounding to 0.4 in November. Nevertheless, its latest reading remains significantly below the levels which have preceded a manufacturing downturn in the past.



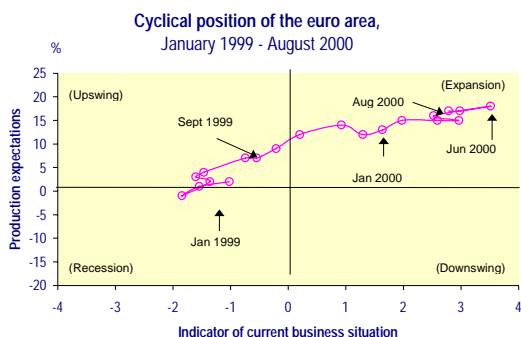
(1) Probability of being in a recession phase.  
Source: Commission services.

### Characterising the phases of the business cycle

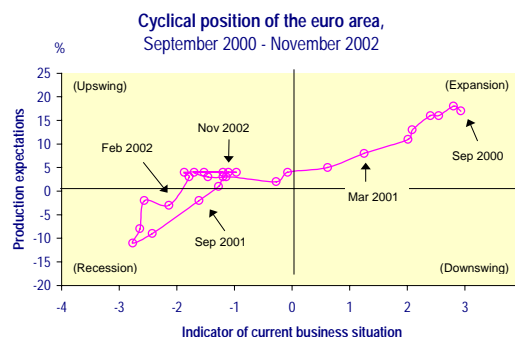
On the basis of the set of information used to construct the BCI and the TPI, it is possible to decompose the economic cycle into four different phases by comparing industrialists' assessment of the current business situation with their production expectations. An assessment of the current situation is obtained by applying a principal component analysis to four series of the survey (order books, export order books, past production trends and stocks). The first component of the analysis is taken as a measure of industrialists' opinion of the current economic situation.

Combining the indicator that summarises the current situation with the information provided by the balance of opinions on production expectations for the months ahead allows four phases of the business cycle to be distinguished. When the assessments of the current and the future situation are both positive, industry is said to be in the expansion phase of the cycle. If they are both negative it is in recession. The upswing (positive values for expectations and negative values for the current situation) and the downswing are intermediate phases.

The two graphs below display the measure of the current business cycle on the horizontal axis and the balances relative to production expectations on the vertical axis. The graphs show that the euro area moved from the upswing to the expansion phase during 1999. It remained there during 2000 and in the first quarter of 2001. It then moved progressively towards the lower left quadrant, entering the recession phase in September 2001. The euro area has been in the upswing quadrant for the past nine months. However, it has remained close to the recession quadrant and has clearly failed to move towards the expansion phase. Recent fluctuations in manufacturing sentiment have been essentially due to changes in the assessment of the current situation with production expectations remaining broadly constant.



Source: Commission services.



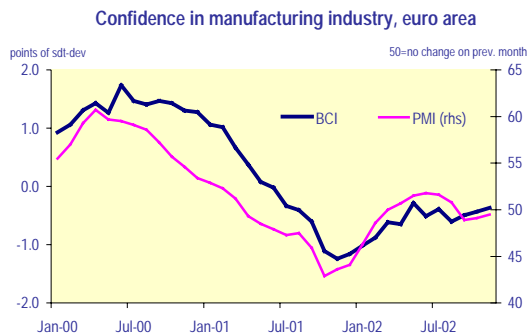
Source: Commission services.

Overall, the three analyses presented above paint a mixed picture of the current economic situation in the euro-area industry. Although activity in the sector is picking up modestly, growth will remain sluggish in the months to come and risks of a recession have recently increased.





Furthermore, there is some uncertainty as to the sources of the recent improvement in sentiment. Gains in the PMI in the past two months result from a strengthening of both backward-looking indicators (output) and forward-looking indicators (new orders). In contrast, only backward-looking indicators have recovered noticeably in the manufacturing surveys of the European Commission. In short, uncertainty remains high in the manufacturing sector, a conclusion that is also backed up by a rebound of the turning point indicator of the European Commission (see Box 1).

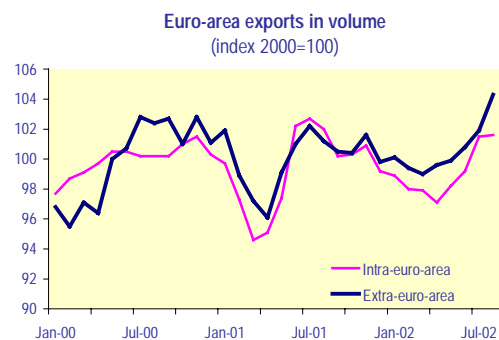


Source: Commission services and Reuters.

The situation is only slightly better in the service sectors. Confidence in the retail trade sector has improved in the past two months, suggesting further resilience of consumer demand during the last quarter of the year. However, the European Commission survey of services (which excludes retail) indicates a significant weakening of confidence in that sector since the summer with no signs of recovery so far. Given that the survey covers mostly services for the business sector, it measures an activity that is dominated by corporate demand. Recent results suggest that the cost-cutting process in the corporate sector has not yet been completed.

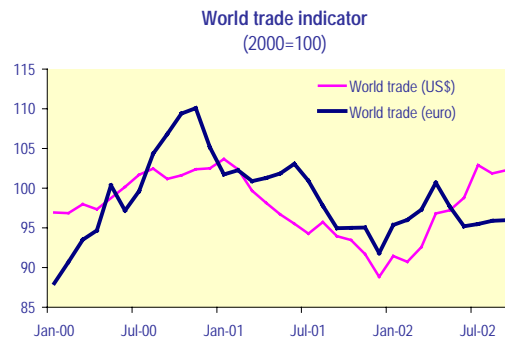
Overall, recent data suggest that the adjustment phase is not over in the corporate sector, an impression which is also reinforced by recent developments on the labour market (see next section). As a result, the corporate sector will continue to weigh on the recovery in the next months.

*Fading support from foreign trade.* Net exports have been the major source of growth in the euro area economy since the beginning of the year. This has partly reflected the weakness of euro-area imports following lacklustre domestic demand. In addition, extra-euro-area exports have picked up significantly since the spring on the back of a progressive strengthening of world demand (see next graph). However, the growth momentum from trade is likely to fade, owing to a relapse of growth in world demand and to deteriorating competitiveness.



Source: Commission services.

DG ECFIN has developed an early indicator of world trade which shows that after a noticeable recovery during the first half of the year, world imports in US \$ have been levelling off since July (see graph below). For the euro area, the negative effect of stagnating world demand has been compounded by the appreciation of the euro. When converted into euros, world import demand actually fell between April and June before stagnating in the following months.



Source: Commission services.

The recent stagnation of world trade reflects disappointing growth in most OECD countries

but also in many emerging markets. A rapid recovery of world demand in the coming months appears unlikely as short-term growth prospects remain mixed both in Europe and in the USA. In the latter, the policy-induced recovery is losing steam despite the fiscal stimulus in the aftermath of the terrorist attack on 11 September and the lowering of interest rates. Corporate scandals and collapsing stock markets still weigh on confidence. Notwithstanding a remarkable resilience in private consumption and a good productivity performance, there are signs that US industrial production has been contracting again since the beginning of the autumn.

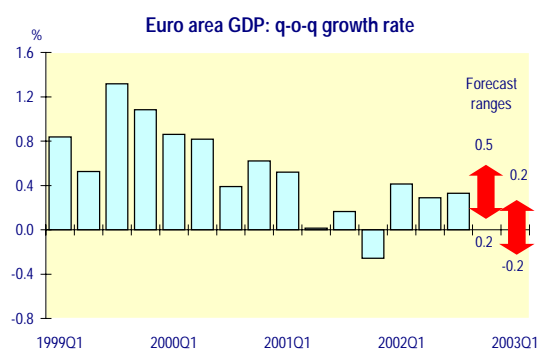
The euro exchange rate appreciated by 7% in effective terms between January and November. Although so far the appreciation seems to have had only a limited impact on euro-area's real exports, recent DG ECFIN research shows that it has entailed significant pressures on exporters' margins.<sup>2</sup> Later on, margin compressions could be followed by losses in market shares that could further hamper euro-area export growth in the months to come.

*Continuation of the anaemic recovery.* Overall, recent developments do not foreshadow an acceleration of the euro-area recovery in the coming months and growth is not expected to return to potential before the second half of next year. The latest short-term indicators of activity and sentiment are sending mixed signals, limiting short-term visibility. As a result, downside surprises cannot be excluded, especially if households fail to provide as much stimulus to growth as expected.

The next graph presents the latest results of DG ECFIN's indicator-based model for short-term quarterly GDP growth. The model predicts q-o-q growth in the range of 0.2 to 0.5% in the last quarter of 2002, relapsing to a range of -0.2 to 0.2% in the first quarter of 2003. As any model based approach, the

<sup>2</sup> See focus on the euro-area's international competitiveness in Quarterly Report on the Euro Area III/2002. The report also emphasised the positive impact of the euro exchange rate appreciation on inflation and disposable income.

projections should be considered with prudence. The deceleration of growth in the first quarter of 2003 remains consistent with the scenario of gradual recovery in the course of 2003 presented in the Commission Autumn forecasts.<sup>3</sup> However, the results of the indicator-based model illustrate the uncertainty presently surrounding the short-term outlook of the euro area.



Source: Commission services.

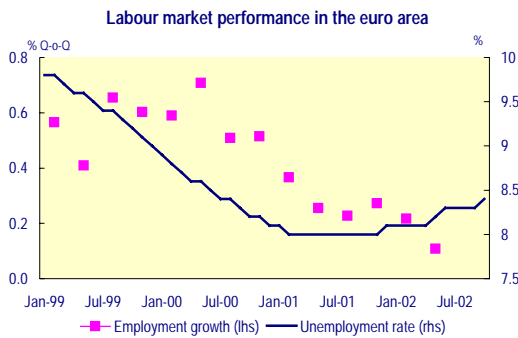
## 2. A shift in the response of the labour market to the downturn

One of the remarkable features of the euro-area economy in the current slowdown has been a persistently high level of job creations. The resilience of employment has supported private consumption but at the cost of a serious squeeze on profit margins. However, there are now indications that the corporate sector has begun to change its employment strategy to respond to the enduring weakness of activity, reducing the pace of recruitment relative to 2001. Despite a moderate rise of GDP growth, employment growth decelerated significantly in the first half of the year, allowing labour productivity, which had dropped during most of 2001, to improve slightly in the second quarter of 2002. Developments in employment

<sup>3</sup> It is important to distinguish the Commission's Autumn forecasts for the euro area for the 2003-04 period and the results of the indicator-based model for GDP growth in 2002Q4 and 2003Q1. The former is built upon a comprehensive forecasting exercise for each individual Member State. The latter only reflects the mechanical results of an econometric model relating quarterly GDP growth for the euro area as a whole to a number of indicators.



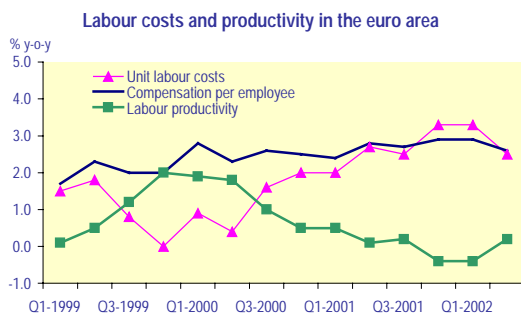
expectations in the European Commission's manufacturing surveys suggest persistent employment weakness during the second half of the year.



Source: ECB, Commission services.

The unemployment rate, which had remained stable throughout 2001, began to creep up last spring and picked up slightly again in October to reach 8.4%.

On a more positive note, the recent slight improvement in productivity has allowed a modest deceleration of unit labour costs. In the second quarter, the effect of productivity gains was reinforced by a moderation of wage increases, leading to a deceleration of growth in unit labour costs (see graph below). If confirmed, these developments would mean a much needed easing of pressures on corporate profits relative to past trends. Nevertheless, it is worth stressing that real unit labour costs continue to move upwards and have been growing slowly but almost uninterrupted over the past eight quarters.

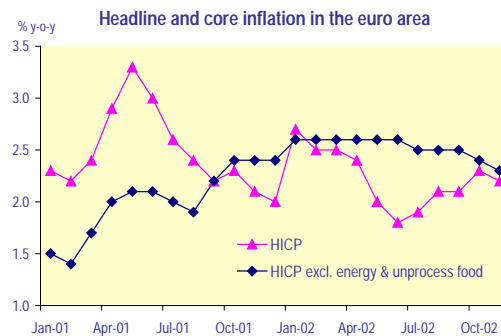


Source: ECB and Commission services.

### 3. Gradually diminishing inflation pressures

After a rapid deceleration in the first half of 2002, inflation picked up again during the second half of the year, climbing from 1.8% in June to 2.3% in October. It decelerated slightly to 2.2% in November.

The main reasons for the rebound of headline inflation in the past months are special factors such as increases in indirect taxes and public tariffs in some Member States, less favourable developments in energy prices, and sharp rises in the prices of fresh fruit and vegetables. Although the impact of the past rises in oil prices is still being felt, the effects of these special factors are generally unwinding rapidly.



Source: Commission services.

Recent developments in core inflation depend, to some extent, on how it is measured. HICP inflation excluding energy and unprocessed food has only begun to show signs of a deceleration very recently, decreasing from 2.5% in September to 2.3% in November. In contrast, core inflation based on the weighted median has followed a very gentle downward trend since late 2001, falling below 2% in October (see Box 2 on core inflation). Given that this indicator tends to lead the other measure of core inflation and may be considered as a more accurate measure of underlying inflation pressures, the resilience of core inflation in recent months has probably been somewhat overestimated.

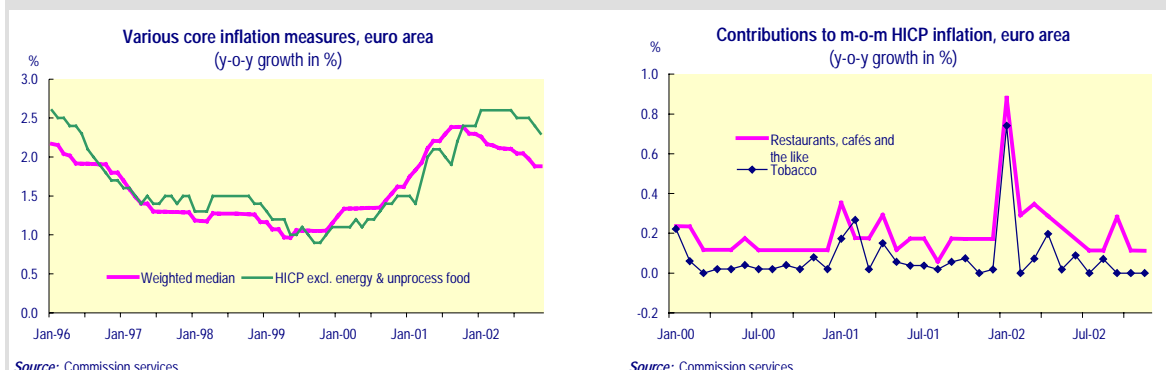
**Box 2: The basics of core inflation measures**

Consumer price indices, like the HICP, contain a vast number of goods and services, some of which are subject to large and frequent price fluctuations – examples are petrol, fuel, fruit and vegetables. When such fluctuations are sufficiently large to affect the aggregate CPI measure, they can hinder the understanding of underlying price developments in the economy. To give a better picture of the general inflation trend, a measure of “core inflation” can be helpful. So far, economic researchers have not been able to agree on the best way of measuring the core component of consumer price inflation. Existing methods to calculate core inflation can be grouped into three main categories:

- *Methods based on the permanent exclusion of one or more goods or services.* The most common approach is to exclude goods with volatile prices such as food and energy, as well as indirect taxes.
- *Statistical measures such as the trimmed mean and the weighted median.* Compared to the previous category, the statistical measures are more general. Rather than assuming that a few goods always have the largest price fluctuations, they allow data to determine the items that need to be excluded each month.
- *Econometric models.* Finally, core inflation can be estimated by setting up an econometric model based on theoretic economic research.

Several criteria can be used to evaluate the merits of the existing measures of core inflation. Measures based on the permanent exclusion of one or more goods or services present a clear advantage in terms of *transparency* as they are easy to understand. These measures, together with the statistical measures of the second category, are also superior in terms of *timeliness*. Both of them are easy to calculate and therefore much easier to produce in “real time” than measures based on econometric models. The only criterion that favours the use of methods based on an econometric model is that of an *explicit theoretical background*.

The Commission services have traditionally used HICP excluding energy and unprocessed food (HICPex) to assess underlying price trends. The weighted median has recently been added to the toolkit for inflation analysis. It is computed by ranging all the price changes from lowest to highest together with their respective weights. The median inflation rate is the growth rate where the accumulated weight has reached 50%. The left-hand chart below presents the two measures of core inflation. Developments were quite similar from the middle of the 1990s until the end of 2001. However, since the beginning of 2002 the discrepancy between HICPex and the weighted median has increased, possibly because factors other than energy and unprocessed food were important outliers discarded in the weighted median. Candidates for such outliers can be some indirect taxes and the restaurants and hotels sector where prices were influenced by the euro cash changeover.



The right-hand chart above shows that in January 2002 the restaurants and cafés category contributed nearly 0.9 percentage points to the month-on-month HICP inflation rate, while the tobacco category contributed nearly 0.8 percentage points, mainly due to tax increases. Another feature of the weighted median is that, in the short HICP history available, it seems to indicate turning points earlier than the HICPex.



Nevertheless, the deceleration of core inflation, whatever method of measurement is used, has been at best only modest in the past months. The slow pace of the abatement of inflation pressures is essentially explained by continued high inflation in the services component which can in turn be related to several factors including the pass-through of past increase in import prices and labour cost pressures. Such cost pressures tend to be more lasting in service sectors due to a lower level of competition than in good sectors. The persistence of high services inflation remains a cause for concern, as it can prevent further declines in underlying inflation and suggests the need for further progress with structural reforms in the service sector.

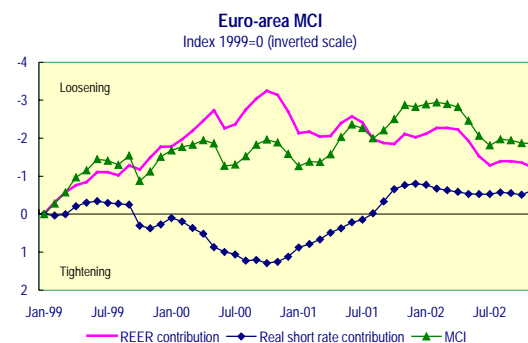
Looking ahead, the Commission's Autumn 2002 projection is for headline inflation to slow from an average of 2.3% in 2002 to 2.0 % in 2003. This forecast is supported, in the short term, by the expected continued unwinding of past increases in energy and food prices, low pressure from producer prices, subdued inflation expectations and favourable effects from the appreciation of the euro. In the medium term, support comes from lower unit labour costs resulting from an expected improvement in labour productivity and downward pressure from the demand side as reflected in the negative output gap.

#### 4. Macroeconomic policy mix

##### *Monetary conditions*

The euro exchange rate remained in a relatively narrow band of 0.97-0.99 against the dollar from the beginning of August to the end of October. Following weak US data and increasing expectations of a rate cut by the Federal Reserve, the euro strengthened against the US dollar in early November, breaching parity once the 50 basis point US interest rate cut was announced on 6 November. Mainly driven by mounting geopolitical tensions the euro strengthened further in December, and a three-year high of just above 1.03 was reached in the middle of the month.

Nominal short-term interest rates were fairly stable from the end of 2001 until November 2002. As expectations for an interest rate cut started to build up in late autumn, the three-month money market rate went down to 3% by the end of November. Against the background of a delayed recovery and reduced inflationary risks, the ECB cut its key interest rates by 50 basis points on 6 December 2002, bringing the minimum bid rate down to 2.75%. As the interest rate cut was widely expected, the 3-month interest rate did not react to the ECB cut.



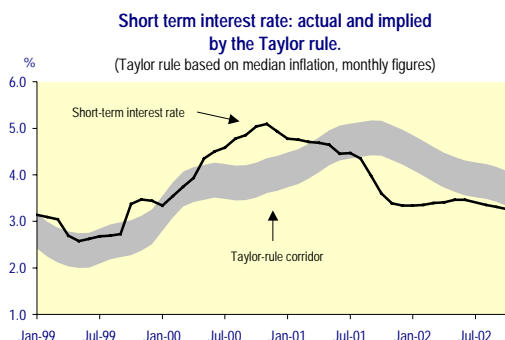
Source: Commission services.

In spring 2002, the Monetary Conditions Index (MCI)<sup>4</sup> moved in the direction of tighter monetary conditions due to significant appreciation of the euro exchange rate. Since July the MCI has been fairly stable, as the real exchange rate has remained broadly unchanged and the 3-month interest rate and inflation have decreased at the same pace.<sup>5</sup> It is worth stressing that inflation data are necessary to calculate the MCI index and the Taylor rule discussed hereafter. As no inflation data was available for December at the time of the cut-off date for this report, the effects of the ECB

<sup>4</sup> The MCI tries to capture the combined impact on economic activity of changes in the real effective exchange rate and the real short-term interest rate.

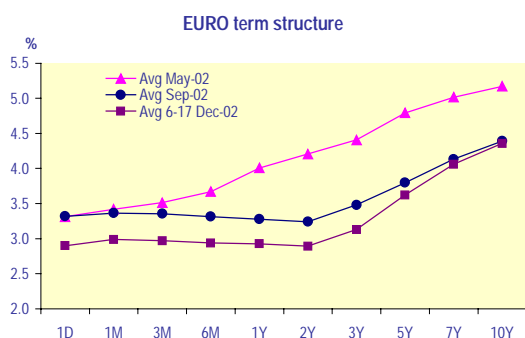
<sup>5</sup> A methodological change has been made compared with past issues of the Quarterly Report on the Euro Area. Both the MCI and the Taylor rule are now calculated with weighted median inflation rather than core inflation excluding energy and unprocessed food. The major advantage of the change is that assessments of monetary conditions are no longer hampered by erratic fluctuations in prices. See Box 2 measures for a more detailed explanation of the weighted median concept.

interest rate cut of 6 December 2002 do not appear in the MCI and Taylor rule charts.



Source: Commission services.

The decline in median inflation since the end of last year has shifted the Taylor rule interest rate corridor progressively downwards. As a result, short-term interest rates have been only slightly below the corridor of the Taylor rule since the summer.



Source: Commission services.

Interest rate expectations have stabilised in the past few months. From spring until September the yield curve shifted down across the maturity structure. At the long end the decrease was close to 100 basis points. The shift was partly due to increasing doubts about the strength and timing of the recoveries both in the USA and in the euro area and to lower inflation expectations. Long-term government bond yields also decreased due to portfolio shifts, from stocks into higher quality assets. Since September, the yield curve has remained unchanged for longer maturities. However, for shorter maturities, yields have declined due to the ECB's rate cut on 6 December. At the end of 2002, short-term interest rates were more

than 100 basis points below market expectations in spring.

Despite the stability of the yield curve for longer maturities, long-term financing conditions to the corporate sector have recently begun to ease slightly. Spreads on long-term corporate bonds, which had increased dramatically since spring for the more risky grades, have posted a modest downward trend since mid-October. Hence spreads on A or BBB grades dropped by about 30-40 between the first half of October and the end of November. In addition, euro-area stock markets have staged a significant recovery, gaining about 20% over the same period.

*Budgetary prospects.*

The latest available information points to a sizeable deterioration in the aggregate euro-area budget deficit in 2002. Against a background of sluggish economic growth and important elections in several Member States, a number of countries stopped budgetary consolidation before reaching a close-to-balance position. At the same time, some countries already at the "steady state" turned their fiscal stance in a clearly expansionary direction, especially those countries with large surpluses.

**Budgetary developments in the euro area**

Autumn 2001 stability programmes / Commission Autumn 2002 Economic Forecast

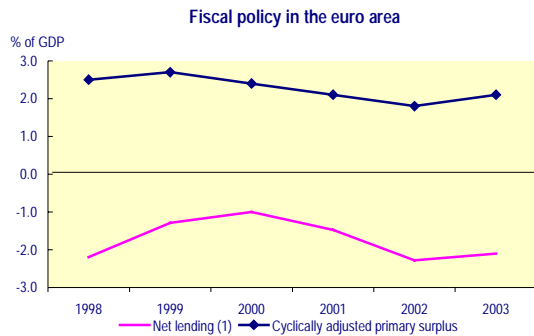
GDP growth forecasts (% p.a.)	
Autumn 2001 stability programmes	1.8
Commission Autumn 2002 Forecast	0.8
Budget deficit (% of GDP)	
Autumn 2001 stability programmes	0.9
Commission Autumn 2002 Forecast	2.3

Source: Commission services.

The table above compares the Commission Autumn 2002 Economic Forecasts with the budgetary targets and growth assumptions for 2002 in the 2001 update of the stability programmes. It shows that, for the euro area as a whole, budgetary results are significantly worse than planned. The Commission now estimates that the euro-area's budget deficit has



increased to 2.3% of GDP in 2002 against an initial target of 0.9% in the stability programmes. Calculations show that less than half of this difference can be attributed to cyclical factors, i.e. to slower growth than envisaged when the Autumn 2001 stability programmes were submitted.



(1) Data exclude the one-off proceeds related to UMTS licences.  
Source: Commission services Autumn 2002 Economic Forecasts.

Turning to the outlook for fiscal policy in 2003, the Commission Autumn 2002 Forecasts anticipate a modest decrease in the average euro-area budget deficit to 2.1%. The cyclically-adjusted primary surplus will increase from

1.8% of GDP in 2002 to 2.1% of GDP in 2003. This represents a very modest fiscal tightening which, nevertheless, marks a reversal of the trends observed in the past three years.

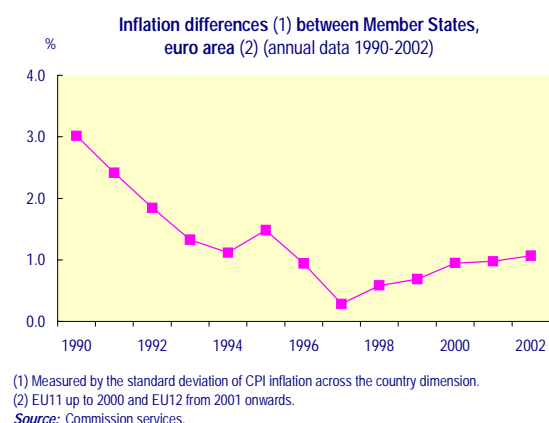
In preparing their stability and convergence programmes, Member States are expected to be guided by the approach, put forward by the Commission and endorsed by the Ministers of the Eurogroup in October, according to which those countries which have not yet reached the objective of close-to-balance need to pursue continuous adjustment of the underlying balance by at least 0.5% of GDP per year. For Member States with an excessive deficit or high debt, the adjustment should be more pronounced. Although this will have to be confirmed in the assessment of the Autumn 2002 stability programmes, the agreement should imply a somewhat stronger tightening of fiscal policy in the euro area than envisaged in the Autumn 2002 Forecasts.

## II. Focus on inflation differences in the euro area

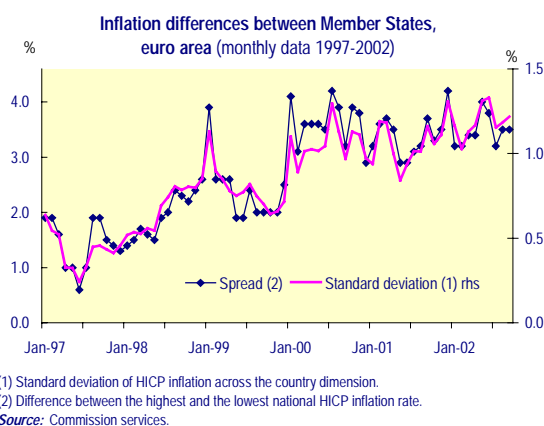
Since its inception, the EMU has seen persistent and, to some extent widening, differences between inflation rates in the Member States. Inflation differences can reflect the effective functioning of a monetary union where, because there is no room for manoeuvre at country level on exchange rates and monetary policy, changes in relative prices between countries become a key adjustment mechanism. Alternatively, inflation differences can be a symptom of growing economic imbalances which in some countries will require an adjustment of policy. This section gives an analysis of recent inflation developments in the euro area. Its main conclusion is that inflation dispersion in the last few years is attributable essentially to the asymmetric impact of several price shocks, to productivity differentials and to asymmetries in national cyclical positions. From a policy perspective, recent inflation dispersion largely reflects the diversity of national economies and is not a major source of concern. However, recent evidence also shows that cyclical imbalances can have lasting effects on inflation differences because of price and wage rigidities. Further progress with structural reforms would therefore help to reduce inflation disparities in the euro area.

### 1. Recent developments in inflation differences

During the 1990s, in the euro area and in other industrialised areas around the world, inflation rates declined to levels not seen on a sustained basis since the 1960s. In the euro area, this decline was accompanied by rapid inflation convergence between Member States, in particular prior to the assessment of convergence in 1998. The graph below displays inflation differences in the euro area as measured by the standard deviation of CPI inflation rates across the country dimension.<sup>6</sup> This indicator shows a sharp and almost uninterrupted decrease in inflation differences from the early 1990s to 1997.



The high degree of inflation convergence in the euro area reached in 1997 was not sustained and there has been a steady upward rise in inflation differences since. The graph below plots two indicators of inflation dispersion based on the monthly HICP index. The first one, the standard deviation of inflation rates, gives an idea of the average dispersion of national inflation rates. The second one, the spread, is calculated as the distance between the highest and the lowest national inflation rates and is therefore, in theory, a more extreme measure of inflation differences. Indicators of dispersion tend to be rather volatile month by month but the two plots in the graph follow a strikingly similar path, with a clear upward trend in inflation differences since the late 1990s. Box 1 on the next page also shows that there has been no single month since the beginning of Stage 3 of EMU in which all participating euro-area economies would have fulfilled the inflation criterion used for the adoption of the euro.



<sup>6</sup> To avoid distortions due to the adoption of the euro by Greece in 2001, the calculations are based on 11 countries up to 2000 and 12 countries after 2000. The convention is applied throughout the section.



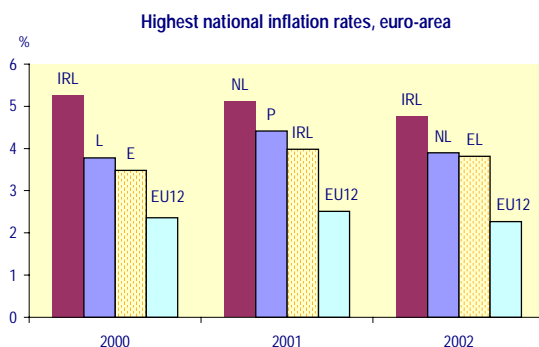


### Box 1: The Maastricht inflation criterion

In 1998 the European Commission assessed the progress of Member States in terms of economic convergence and made a recommendation to the Council as to which Member States fulfilled a number of criteria that comprised an inflation criterion. The widening gap between national HICP inflation rates in recent years begs the question as to whether the current euro-area Member States are recording inflation rates within the reference margins of the inflation criterion. To provide an answer exercise, average inflation rates have to be calculated for all EU Member States and the margin is given by the non-weighted average of the three best-performing Member States (not necessarily in the euro area) plus 1.5 percentage point (this is the reference rate).

A comparison of national average HICP inflation rates with the reference rate shows that there has been no single month since the beginning of Stage 3 of EMU in which all participating euro area economies were below the reference rate. In all Member States except Germany, France, Italy and Austria the national rate exceeded the reference rate in at least one month. However, the impact of such deviations from the reference rate on the euro area average has been negligible. On the one hand, in all months except January 1999 the reference rate was partially based on data from non-euro area Member States, and on the other hand deviations were either small or observed in the smallest Member States, or both. This can be explained by a simulation exercise. Assuming that the countries with inflation rates above the reference rate had brought down their rates to the reference value, the decline in the euro area average inflation rate would have been between 0.02 and 0.16 percentage points (0.08 pp on average). This figure suggests that inflation diversity has only, if any, a very small euro area-wide impact.

The graph below shows the rates of the three Member States with the highest annual inflation over the 2000-02 period. Ireland and the Netherlands are the two countries where inflation has been the highest in the past few years. Ireland posted the highest inflation rate in the euro area in 2000 and 2002 and has been on of the top three countries in each of the three years. The Netherlands registered the highest and the second highest inflation rates in the euro area in 2001 and 2002 respectively. Other countries with above euro-area inflation over the 2000-02 period are Spain, Portugal and Greece. Price pressures have been far less marked in the three largest Member States which have posted inflation rates close to or below the euro-area average.



Source: Commission services.

Finally, it is important to stress that the increase in dispersion observed after 1997 is a rather pervasive phenomenon and not just the result of accelerating inflation in one or two countries. Hence, measures of dispersion excluding Ireland and the Netherlands, the two countries which have seen the sharpest increase in price pressures over 2000-02, also show an increase in inflation dispersion after 1997, albeit at a slower pace.

## 2. Possible sources of inflation differences

A high degree of price flexibility is crucial for the proper functioning of market economies in general, and even more so in a monetary union, where changes in relative prices across Member States can no longer come about through changes in the exchange rate. A number of factors can explain why the national inflation rates of Member States are likely to differ in the euro area. Some differences may be attributed to temporary shocks while others are related to more long-term structural factors. In some cases, inflation differences leave the relative competitive positions within the area unchanged while in others, a change in competitive positions is needed to facilitate adjustment towards external or internal equilibrium. The main factors

which could explain inflation diversity in the euro area are reviewed below.<sup>7</sup>

**Price shocks.** The euro-area economy has experienced several large price shocks in the past years. In particular, the increase in energy prices in 2000-2001 and the effect of animal diseases in 2001 hit some countries more than others. In countries where energy has a large weight in the HICP, the impact of oil price changes was reflected more strongly in HICP inflation rates. Countries with a higher share of meat products in their HICP were hit harder by disruptions on the meat markets than others. Furthermore, because of differences in the pass-through of exchange rate fluctuations and in trade openness, the sharp depreciation of the euro after its launch in 1999 hit some Member States more than others. Finally, the asymmetric impact of price shocks on inflation has probably been compounded in some Member States by the existence of schemes indexing wages to prices inflation.

**Market integration.** Despite substantial progress in market integration in the 1990s, current studies continue to point to important differences in the national price levels of many tradable goods and services in the euro area. In particular, comparisons with price dispersion within Member States or in the USA reveal that there is still scope for further convergence in price levels in the euro-area tradable sector.<sup>8</sup> Further progress with the Internal Market, particularly in network industries, combined with the higher price transparency resulting from the euro should lead to further convergence in price levels in the years to come, entailing some temporary inflation divergence.

**The Balassa-Samuelson (BS) effect.** There is also convergence in the prices of non-tradable

goods and services in the euro area. Here forces of convergence are indirect and linked to the catching-up of low-income Member States. The BS argument states that the process of real convergence between high- and low-income countries causes higher inflation in the catching-up countries. Inflation differences between high- and low-income countries are the result of productivity differentials between the tradables and the non-tradables sectors and the associated wage contagion from the former to the latter (see Box 2 on next page). They do not reflect losses in trade competitiveness as they are entirely due to different price trends in the non-tradables sector. It is worth stressing that, although the BS effect is generally associated with the catching up of low-income countries, it can also be found in high-income countries if technological change or structural reforms cause the productivity gap between tradables and non-tradables to widen. Hence, the BS argument probably explains some of the price pressures registered in Ireland and Finland in recent years.

**Structural factors affecting price competitiveness.** Inflation differences can be the result of economic adjustment processes to inappropriate competitive positions within the euro area. For instance, differences in industrial structure may result in different Member State exposure to changes in world demand and foreign competition. These asymmetries call for adjustments in real exchange rates if large current account imbalances are to be avoided. In an economic and monetary union changes in real exchange rates can be achieved only through inflation differences. Other examples of potential sources of asymmetries include the possibly inappropriate level of the conversion rates for EMU participation, differences in countries' foreign asset positions and supply or demand shocks which affect some Member States and not others. In particular, differences in the pace of structural reforms or in the ageing of the population may call for real exchange rate adjustments.

**Cyclical differences.** Despite the stability-oriented macro-economic policy framework, some cyclical differences are likely to persist across euro area economies. In general, a more

<sup>7</sup> For a recent contribution on this issue, see Italianer, A. and O. Dieckmann (2002), "Are divergent macroeconomic performances in a monetary union a reason to worry?", in: *Competitions of Regions and Integration in EMU, 30<sup>th</sup> Economics Conference 2002*, edited by Oesterreichische Nationalbank, Vienna, 2002, pp. 252-68.

<sup>8</sup> See for instance: European Commission (2001), "Price levels and price dispersion in the EU", *European Economy*, No 7, July and ECB (2002), "Price level convergence and competition in the euro area", *Monthly Bulletin*, August.



### Box 2: The Balassa-Samuelson effect

The Balassa-Samuelson (BS) effect explains inflation differences across economies in terms of real economic developments. The explanation starts by distinguishing two sectors of the economy:

- a *tradable sector* mainly producing manufacturing and agricultural goods, the producers of which are subject to relatively intense international competition, and
- a *non-tradable sector* mainly comprising services.

**Wage formation.** Wages are assumed to be equal in both sectors as a result either of perfect factor mobility across sectors (as assumed by Balassa and Samuelson) or of centralised wage bargaining and settlements. While labour is mobile across sectors, it is assumed to be immobile across economies, unlike capital which is perfectly mobile internationally.

**Productivity differences.** At the centre of the explanation are differences in productivity growth between the two sectors of the economy. Usually productivity growth in the non-tradables sector is slower because technological innovation is most likely to be concentrated in the tradable-goods sector. Assuming that the purchasing power parity holds, prices cannot deviate from world prices in the tradable sector. Assuming further that producers' margins remain unchanged, wages growth in the entire economy will reflect the high productivity gains of the tradable sector. As a result, price growth will be faster in the non-tradable than in the tradable sector. As to overall inflation, economies with larger gaps between productivity growth in the two sectors will exhibit higher inflation rates. Such developments are not only found in developing countries (catching-up), but can also result from productivity enhancing structural reforms.

advanced position in the cycle is often accompanied by higher inflation rates, as Ireland, the Netherlands and Portugal have shown in recent years. However is not always easy to draw a line between structural and cyclical sources of inflation differences as the two factors may reinforce each other.

**Policy-induced price changes.** Decisions about indirect taxes and administrative prices are taken at the level of the Member States. They can affect measured HICP inflation as has been shown, for instance, by the so-called ecological tax in Germany and the tobacco excise duty in Ireland. Also, a different pace of deregulation of national telecommunication or electricity markets and gas markets could explain some of the inflation differences registered in the euro area in recent years.

**Statistical differences.** The weights used to aggregate sub-sectors in each Member State's HICP are set according to the country's pattern of consumption and revised every year. Since these patterns are not the same in all Member States, there may be mechanical inflation differences, even if inflation rates for different goods and services are the same in all Member States. Furthermore, a shift in inflation from one sector to another or a change in weights in one

country might affect inflation differences. Another source of statistical differences is the practice of quality adjustment.

### 3. Assessing the sources of recent inflation differences

Exploring the sectoral sources of inflation dispersion sheds some light on the causes of recent inflation differences. The table on next page shows the contribution of several broad consumption categories to the total variance of HICP inflation rates across Member States. For instance, the total variance of HICP inflation across euro-area countries was 1.13 in 2002, of which 0.14 is attributable to the dispersion of inflation rates in the non-energy industrial good sector. Two elements stand out from a close look at the table. First, the contributions of individual sectors to total inflation dispersion in the past few years were only loosely related to each sector's weight in the HICP index. In particular, the industrial goods sector made a low contribution relative to its weight in consumption while food, energy and recreations services posted a comparatively high contribution. Second, inflation divergence over the 2000-02 period is essentially attributable to food, energy and recreation services. The three

## Decomposition of inflation differences by sector, euro area

	Weights in HICP index 2002 (in %)	Sectors' contributions to total HICP variance					Contribution to the increase in variance between 1997 and 2002 (1) in %
		1997	2000	2001	2002 (2)	Average 2000-02	
Non-energy industrial goods	32.1	0.06	0.06	0.19	0.14	0.13	7.7
Energy	8.6	0.01	0.17	0.12	0.15	0.15	13.7
Food	20.4	-0.03	0.31	0.24	0.22	0.26	23.4
Communication services	2.5	0.00	0.02	0.01	0.00	0.01	-0.6
Housing services	9.7	0.02	0.05	0.06	0.06	0.06	3.9
Recreation services	14.3	0.00	0.28	0.18	0.39	0.28	37.1
Transport services	6.3	0.01	0.00	0.02	0.04	0.02	2.5
Misc. services	6.1	0.00	0.07	0.09	0.13	0.10	12.1
Variance of HICP inflation	100.0	0.08	0.95	0.92	1.13	1.00	100.0

(1) Average over 2000-02 relative to 1997.

(2) Based on the first 10 months of the year.

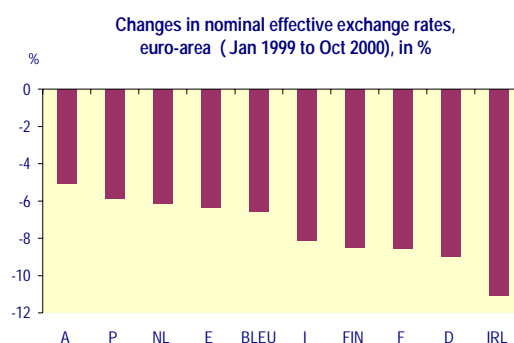
Source: Commission services

sectors account for nearly three quarters of the increase in inflation dispersion relative to 1997 (see last column of the table). In contrast, the contribution of non-energy industrial goods remained rather small during all three years except, to some extent, in 2001.

**Price shocks.** The analysis of the sectoral contributions to inflation dispersion shows that symmetric price shocks can have strongly asymmetric effects. Both food and energy products have been a major and continuous source of inflation dispersion since 2000. In the case of energy, inflation differences have been compounded by policy intervention, with the so-called ecological tax in Germany and temporary schemes aiming at softening the impact of high oil prices in some Member States.

Although this cannot be directly concluded from the table above, there are solid reasons for believing that the fluctuations of the euro in recent years have also made a significant contribution to price dispersion in the euro area. Member States differ significantly in terms of exposure to extra-euro-area trade. In particular, with a comparatively much higher share of extra-euro-area imports in GDP, Belgium, the Netherlands and Ireland are much more exposed than other Member States to exchange rate fluctuations. Furthermore, Member States can

have different geographical specialisations in trade. As a result, the impact of changes in the external value of the euro can vary substantially depending on the country considered.



Source: Commission services.

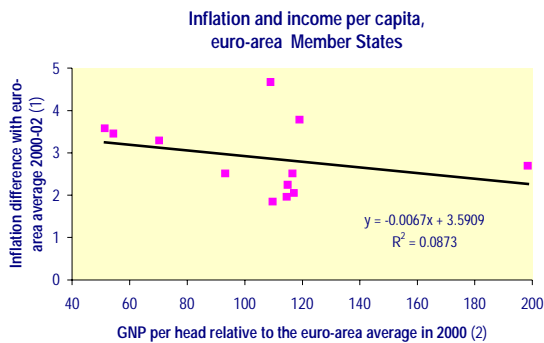
As shown in the graph above, the sharp depreciation of the euro from early 1999 to its low point in late 2000 affected the nominal effective exchange rates of some Member States, such as Ireland, Germany and France, significantly more than others. The effect of geographical differences is probably compounded by different pass-through rates across countries. Campa et al. (2002) show that the long-run pass through of exchange rates to import prices is generally close to one in euro area countries but that the short-term pass-through is generally much smaller and can vary



substantially from one Member State to another.<sup>9</sup> Hence different speeds of adjustment to exchange rate fluctuations can generate temporary inflation dispersion across countries.

**Market integration.** Available evidence suggests that market integration has not been a major source of inflation dispersion in the euro area in recent years. As shown in the table on the previous page, sectors where the Internal Market is playing an important role (non-energy industrial goods, communication and transport services) have only made a relatively small contribution to inflation divergence since 2000.

**The Balassa-Samuelson effect.** The Balassa-Samuelson hypothesis is empirically supported by recent studies on productivity and price developments in euro area economies (see Box 3 on next page).



(1) average difference between Member State and euro-area inflation over 2000-02  
(2) Ratio between Member State and euro-area GNP per head of population in %.

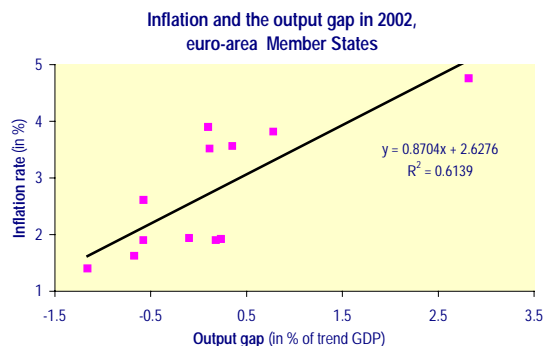
Source: Commission services.

The graph above illustrates the link between income levels and inflation by plotting income per capita (gross national product per head of population relative to the euro-area average) on the horizontal axis and the inflation differential with the euro-area average on the vertical axis. It shows a negative relation between the two variables that is in line with the catching-up argument. The correlation between income and inflation disparities over the 12 Member States is low, indicating that the BS effect was not the

only source of price dispersion in the recent past. However, by eliminating Ireland and the Netherlands, two countries where price tensions since 2000 are to a large extent due to cyclical factors, it is possible to raise the correlation substantially, to above 50%.

Although, the BS effect is clearly a factor of price dispersion in the euro area, it is not easy to quantify its overall importance with any precision. Because of the difficulties in determining empirically the size of productivity differentials between the tradable and non-tradable sectors, the studies reviewed in Box 3 provide a rather wide range of quantitative estimates of the BS effect. Overall, it appears likely that the low in inflation dispersion registered in the euro area in 1997 was at or even below what might be justified by the BS effect. However, it is quite likely that inflation differences since 2000 can be attributed only partly to the BS argument. Furthermore, the estimates in Box 3 are based on productivity data up to the mid-1990s. The steady convergence of per capita income in the euro area has probably reduced the magnitude of the catching-up effect on price dispersion in recent years.

**Cyclical differences.** Inflation dispersion in the euro area can be partly related to differences in the cyclical positions of Member States. The link is illustrated in the graph below, which shows a strong correlation between output gaps and inflation across countries in 2002.



Source: Commission services.

Nevertheless the link between cyclical factors and inflation dispersion must be regarded with prudence. A similar graph for 2001 would have

<sup>9</sup> See e.g. Campa, J.M. and J.M. González Mínguez (2002), "Differences in exchange rate pass-through in the euro area", *Banco de España Working Paper* 2002/19.

### Box 3: Empirical Studies of the Balassa-Samuelson effect

In recent years, a large number of studies have endeavoured to provide quantitative assessments of the Balassa-Samuelson (BS) effect. This research, which covers a broad range of cities, regions, and countries -mostly in Europe and Asia- has generally confirmed the existence of a BS effect. A few selected empirical studies are reviewed below. A distinction is made between the studies based on co-integration tests, those based on regression analysis and those exploring the impact of the BS effect on average euro-area inflation.

**Co-integration tests.** Most empirical studies on the link between productivity and inflation start from empirical tests of the relationship between both. In order to focus on the long-term link, co-integration tests are applied. Most authors confirm the existence of a long-term relationship between inflation and productivity differentials (e.g. Alberola and Tyrväinen 1998, Canzoneri et al. 2002 and MacDonald 2000).

**Regression analysis.** A few empirical studies on the BS effect apply regression analysis, usually choosing the relative productivity of the non-tradable sector and of the tradable goods sector as an explanatory variable. De Gregorio and Wolf (1994) find a highly significant impact of productivity on the real exchange rate but no impact for non-tradable goods prices. Looking at the time dimension, De Gregorio et al. (1994) find that in the short run demand-side factors (e.g. income growth) have strong explanatory power for relative price changes, but that in the long-run supply-side factors (e.g. productivity differentials) can explain most of the increase in the relative price of non-tradable goods. Rogers et al. (2001) find a significant role for both cyclical and catching-up factors in explaining inflation differences in Europe.

**Impact on average inflation.** As far as EMU is concerned, an issue which has attracted a lot of attention in recent years, is the link between the BS effect and average euro-area inflation. Sinn and Reutter (2001) is an

example of this research. The authors have calculated what they call "positive minimum inflation rates", i.e. inflation rates that are necessary to prevent deflation in any one country. They start by estimating productivity growth rates, which vary a great deal across countries. They interpret this variance as indicating an important role for BS effects. Differences in price changes in both sectors mirror the productivity figures (non-traded goods prices increase faster than traded goods prices in all Member States). Taking into account the shares of traded and non-traded goods in consumption, minimum inflation rates are calculated such that there is no deflation. For instance in the case of Germany a

productivity growth differential of 0.34% implies that traded goods prices in the euro area must not fall by more than 0.26% to prevent overall deflation (negative HICP change) in that country. In some Member States there is a substantial differential between productivity growth in the tradable and non-tradable sectors. As a result, the average inflation rate for the euro-area as a whole that is compatible with zero inflation in Germany is roughly one percent.

Similar results for the euro area have been presented by several authors. The table on next page compares implied inflation differentials across euro area countries for various studies, assuming an average euro-area inflation rate of 2.0%. The need of for German inflation rates to remain substantially below the average is confirmed. However, these calculations are clearly sensitive to the choice of period. Especially in the cases of Belgium, Portugal and Spain the catching-up appears to have taken place to such an extent that the BS explanation of higher inflation rates has lost much of its relevance. Overall the studies reviewed in the table provide a fairly wide range of estimates as to the dispersion of inflation attributable to BS effects. When

Sectoral productivity and inflation diversity							
	Labour productivity (1987-95)		Value added prices		Intersectoral productivity growth differential	Price different'l (non-traded - traded)	Minimum inflation rates (1)
	Traded	Non-traded	Traded	Non-traded			
B	3.07	1.74	1.62	3.35	1.33	1.73	0.88
D	1.90	1.55	1.71	3.25	0.34	1.54	0
E	1.92	-0.36	3.49	5.90	2.28	2.41	1.53
F	3.01	0.97	1.20	2.98	2.04	1.77	1.34
IRL	6.07	1.84	0.23	3.76	4.23	3.52	2.35
I	3.79	1.50	3.34	5.79	2.29	2.44	1.49
NL	2.91	0.79	0.89	1.90	2.13	1.02	1.43
A	3.21	1.07	1.38	3.41	2.14	2.03	1.42
P	3.52	2.00	8.25	10.43	1.52	2.18	0.82
FIN	5.98	1.88	1.62	4.45	4.10	2.84	2.74
Euro area	.	.	.	.	.	.	0.94

(1) Rates compatible with 0 inflation in D (Euro area excl L).

Source: Sinn and Reutter (2001).



measured in terms of standard deviation, the estimated dispersion ranges from about 0.3 to over 1%. As a reference, the total standard deviation of inflation rates in the euro area has remained at about 1% since 2000.

A comparison of results on inflation diversity due to the BS effect													
		B	D	EL	E	F	IRL	I	NL	A	P	FIN	Euro area
<i>De Grauwe-Skudelny (2000)</i>	1971-95	2.4	1.7	.	1.6	1.8	.	2.4	2.1	2.2	1.8	2.0	2.0
<i>Canzoneri et al. (2002)</i>	1973-97	2.6	1.0	.	2.4	2.4	.	2.8	.	1.8	.	2.6	2.0
<i>Alberola-Tyrväinen (1998)</i>	1975-93/5	3.1	1.3	.	3.1	1.7	.	2.4	2.3	1.8	.	2.4	2.0
<i>Sinn-Reutter (2001)</i>	1987-95	1.4	0.6	4.9	2.2	2.0	3.0	2.1	2.1	2.1	1.5	3.4	2.0

Source: Studies named in the first column and Commission services' calculations.

The differences in the above studies call for some prudence when assessing the importance of the BS effect. Furthermore, the estimates are based on historical productivity growth that cannot readily be applied to the future, since the catching-up process may have changed in the meantime.

#### Selected references

Alberola, E. and T. Tyrväinen (1998), "Is there scope for inflation differentials in EMU?", *Bank of Finland Discussion Paper*, No 15/98.

Canzoneri, M.B., R.E. Cumby, Diba, B. and G. Eudey (2002), "Productivity trends in Europe: Implications for real exchange rates, real interest rates & inflation", *Review of International Economics Discussion*, Vol 10 No 3, August, pp. 497-516.

De Gregorio, J., Giovannini, A. and H.C. Wolf (1994), "International evidence on tradables and nontradables inflation", *European Economic Review*, June 1994, 38(6), pp. 1225-44.

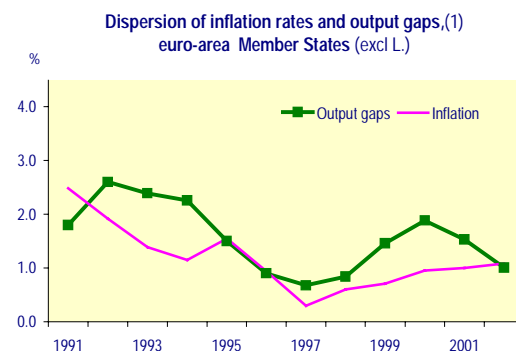
De Gregorio, J. and H.C. Wolf (1994), "Terms of trade, productivity, and the real exchange rate", *NBER Working Paper*, No. 4807.

DeLoach, S.B. (2001), "More evidence in favor of the Balassa-Samuelson hypothesis", *Review of International Economics*, 9(2), pp. 336-42.

Rogers, J.H., Hufbauer, G.C. and E. Wada (2001), "Price level convergence and inflation in Europe", *Institute for International Economics Working Paper*, No 01-1.

Sinn, H.-W. and M. Reutter (2001), "The minimum inflation rate for Euroland", *NBER Working Paper* No 8085.

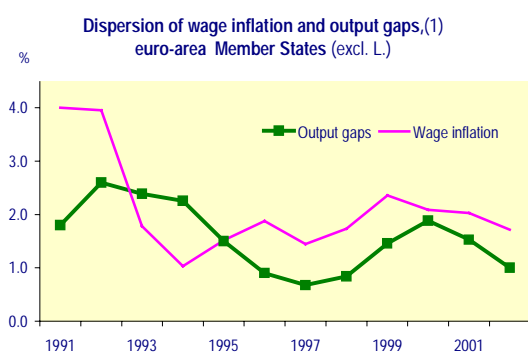
revealed a much lower correlation between output gaps and price tensions. The somewhat elusive nature of the link is confirmed in the next graph which simultaneously plots measures dispersion for inflation and output gaps. Business cycle synchronisation across euro-area countries decreased in the late 1990s before rising again in the current downturn. The graph suggests a positive relation between cyclical and inflation dispersion. However, the convergence of national business cycles registered since 2000 has not been associated with a similar trend in inflation. There are two possible explanations for this. First, price shocks in the food and the energy sector may have offset the convergence effect of cyclical factors. Second, adjustments to changes in output gaps may be slow and asymmetric in the sense that increases in output gaps are followed more rapidly by changes in prices than reductions in output gaps.



(1) Measured by the standard deviation of inflation rates and output gaps.  
Source: Commission services.

Although the two arguments are not mutually exclusive it is noteworthy that wages have been slow to respond to the current downturn in some Member States. In the euro area as a whole, growth in unit labour costs picked up in 2001 and 2002. The acceleration was sharper in

countries such as Ireland, the Netherlands and Finland, which were posting the highest positive output gap before the beginning of the downturn and experienced the fastest deterioration of output gaps in the downturn. The graph below indicates that the dispersion of wage inflation across Member States responded strongly to diverging cyclical positions in the late 1990s but has been reduced only moderately in the current downturn.



(1) Measured by the standard deviation of wage inflation rates and output gaps.  
Source: Commission services.

Indexation of wages on past or expected inflation can be found in several Member States. It can be either legally based or determined contractually and negotiated by social partners. Indexation may have contributed to nominal wage rigidities in the euro area and slowed down the economic adjustment to price shocks.

Assessing quantitatively the overall importance of cyclical asymmetries between countries for recent inflation differences in the euro area is not straightforward. The large contribution of recreation services and miscellaneous services to the variance of euro-area inflation suggests that a significant role is played by sectors sheltered from cross-border competition. This is consistent with both the BS effect and cyclical factors. However, the fact that the contribution of non-tradable sectors has increased markedly since 2000 is difficult to reconcile with the BS effect which reflects the working of long-term forces. It is therefore likely that a large part of recent inflation dispersion in the non-tradable sector is attributable to cyclical factors,

compounded by changes in taxes and, possibly, the differing impacts of the euro changeover.

**Structural factors affecting price competitiveness.** Quantitative assessments of equilibrium exchange rates depend closely on the characteristics of the model estimated and are therefore subject to a substantial degree of uncertainty. However, some studies suggest the existence of possibly large differences between EMU entry rates and equilibrium exchange rates. Hence, Hansen and Roeger<sup>10</sup> find that the entry rates for Italy, the Netherlands, Finland and Ireland were either strongly or moderately undervalued. Conversely, the authors conclude that entry rates were high relative to equilibrium rates in countries such as Portugal and, to a much lesser extent, Germany. Re-alignments of real exchange rates must have contributed to inflation differences in the euro area in recent years. However, this effect is difficult to measure and to disentangle from normal business cycle differences. It is noteworthy that countries which allegedly enjoyed an undervalued entry rate have also tended to build up larger positive output gaps in the late 1990s than the euro-area average.

In any event, the sectoral contributions to inflation suggest that competitiveness effects have played only a modest direct role in recent inflation divergence in the euro area. Non-energy industrial goods, where competitiveness effects are potentially the most important, have made only a relatively small contribution to inflation dispersion since 2000.

#### 4. Conclusion

Recent inflation dispersion in the euro area seems to be mainly attributable to three groups of factors namely, price shocks, Balassa-Samuelson effects and differences in Member States' business cycle positions. Estimates of contributions to the total variance of HICP inflation suggest that price shocks linked to fluctuations in oil prices, to food crises and to

<sup>10</sup> Hansen, J. and W. Roeger (2000), "Estimation of real equilibrium exchange rates", European Commission, *Economic Paper* No 144.





swings in the euro exchange rate may account for nearly half of the inflation dispersion registered over the past three years. Based on the same estimates, the combined impact of business cycle divergence and the BS effect probably represents a similar share of the contribution to inflation diversity. In contrast, the relatively low contribution to total inflation dispersion of sectors open to trade reveals that competitiveness factors and market integration have played only a modest role in recent inflation divergence. Recent evidence also suggests that cyclical imbalances can have lasting effects on inflation differences due to rigidities in prices and wages. The latter may have been compounded by the existence of wage indexation schemes in several Member States. Price and wage rigidities are a factor of inflation divergence and indicate the need for further progress with structural reforms.

All in all, inflation diversity as such is not necessarily a matter of concern. An optimal currency area is characterised not so much by complete convergence as by the capacity to deal with adjustment needs. Inflation differences are part of the economic adjustment mechanism in EMU. Often, but not necessarily always, inflation differences are a problem from a Member State perspective. It is important to improve price and wage flexibility to prevent inflation responding to temporary adjustment needs to become entrenched. As monetary policy can not differentiate by Member States, real short-term (and to a lesser extent long-term) interest rates may not always give the "right" signals at the national level. Other policies may have to step in. From a euro area wide perspective, while the differences need to be watched, their impact on the euro area average HICP has so far been limited. They may imply however a higher area wide inflation rate than the one normally expected in the absence of inflation differences.

### III. References to further work

#### 1. Policy documents

**Communication from the Commission to the European Parliament and the Council. COM(2002)670 final. On the needs and the means to upgrade the quality of budgetary statistics**

This Communication focuses on the need to improve the quality of budgetary statistics that are crucial to ensure an adequate implementation of the EU budgetary surveillance framework and the SGP.

[http://europa.eu.int/comm/economy\\_finance/publications/sgp/com2002670\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/sgp/com2002670_en.htm)

**Communication from the Commission to the Council and the European Parliament. COM(2002) 668 final. Strengthening the co-ordination of budgetary policies Press release**

This Communication follows the conclusions of the 2002 Barcelona European Council on the need to reinforce existing fiscal policy co-ordination mechanisms, and for the Commission to "... present proposals to reinforce economic policy co-ordination in time for the Spring European Council." It forms part of a more general strategy to strengthen economic policy co-ordination;

[http://europa.eu.int/comm/economy\\_finance/publications/sgp/com2002668\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/sgp/com2002668_en.htm)

EUROPEAN ECONOMY No. 6. 2002.

#### **The EU Economy 2002 Review**

The EU Economy 2002 Review presents the assessment of recent and prospective developments in the economy of the European Union as well as an examination of a number of economic issues which are of particular importance for economic policy

[http://europa.eu.int/comm/economy\\_finance/publications/european\\_economy/the\\_eu\\_economy\\_review2002\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/european_economy/the_eu_economy_review2002_en.htm)

EUROPEAN ECONOMY No. 5. 2002.

#### **Economic Forecasts, Autumn 2002**

After the decline in economic activity in the last quarter of last year, the recovery in the euro area and the EU started in the first quarter of this year, but failed to accelerate subsequently. Investment continued to contract and private consumption was weak as uncertainty increased, preventing the promising pick-up in international trade to spill over to domestic demand.

[http://europa.eu.int/comm/economy\\_finance/publications/european\\_economy/forecasts\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/european_economy/forecasts_en.htm)

EUROPEAN ECONOMY No. 4. 2002.

#### **The 2002 Broad Economic Policy Guidelines**

Covering both macroeconomic and structural policies, the BEPGs are at the centre of the EU economic policy co-ordination process, and constitute the reference for the conduct of economic policies in the Member States.

[http://europa.eu.int/comm/economy\\_finance/publications/european\\_economy/broadeconomicpolicyguidelines2002\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/european_economy/broadeconomicpolicyguidelines2002_en.htm)

EUROPEAN ECONOMY No. 3. 2002.

#### **Public finances in EMU - 2002**

This is the third report dedicated to Public finances in EMU.

[http://europa.eu.int/comm/economy\\_finance/publications/european\\_economy/public\\_finances2002\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/european_economy/public_finances2002_en.htm)

EUROPEAN ECONOMY. Special Report. No. 1. 2002.

#### **Responses to the challenges of globalisation**

[http://europa.eu.int/comm/economy\\_finance/publications/european\\_economy/eespecialreport0102\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/european_economy/eespecialreport0102_en.htm)

ENLARGEMENT PAPER No. 14.

#### **Evaluation of the 2002 pre-accession economic programmes of candidate countries**

[http://europa.eu.int/comm/economy\\_finance/publications/enlargement\\_papers/elp14\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/enlargement_papers/elp14_en.htm)



ENLARGEMENT PAPER No. 13.

**Main results of the April 2002 fiscal notifications presented by the candidate countries**

[http://europa.eu.int/comm/economy\\_finance/publications/enlargement\\_papers/elp13\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/enlargement_papers/elp13_en.htm)

ENLARGEMENT PAPERS No. 12.

**Forecasts Autumn 2002 for candidate countries**

[http://europa.eu.int/comm/economy\\_finance/publications/enlargement\\_papers/elp12\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/enlargement_papers/elp12_en.htm)

ENLARGEMENT PAPERS. No. 11.

**Update of the report on macroeconomic and financial sector stability developments in candidate countries**

[http://europa.eu.int/comm/economy\\_finance/publications/enlargement\\_papers/elp11\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/enlargement_papers/elp11_en.htm)

## ***2. Analytical documents***

ECONOMIC PAPER No. 179.

Mariassunta Giannetti, Luigi Guiso, Tullio Jappelli, Mario Padula and Marco Pagano: **Financial Market Integration, Corporate Financing and Economic Growth**

[http://europa.eu.int/comm/economy\\_finance/publications/economic\\_papers/economicpapers179\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers179_en.htm)

ECONOMIC PAPER No. 178.

Werner Röger and Jan in 't Veld: **Some selected simulation experiments with the European Commission's QUEST model**

[http://europa.eu.int/comm/economy\\_finance/publications/economic\\_papers/economicpapers178\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers178_en.htm)

ECONOMIC PAPER No. 177.

Anne Brunila (Ministry of Finance, Finland), Marco Buti and Jan in 't Veld: **Fiscal policy in Europe: how effective are automatic stabilisers?**

[http://europa.eu.int/comm/economy\\_finance/publications/economic\\_papers/economicpapers177\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers177_en.htm)

ECONOMIC PAPER No. 176.

Cécile Denis, Kieran Mc Morrow and Werner Röger: **Production function approach to calculating potential growth and output gaps – estimates for the EU Member States and the US**

[http://europa.eu.int/comm/economy\\_finance/publications/economic\\_papers/economicpapers176\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers176_en.htm)

## ***3. Regular publications***

**Euro area GDP indicator** (Indicator-based forecast of quarterly GDP growth in the euro area)

[http://europa.eu.int/comm/economy\\_finance/indicators/euroareagdp\\_en.htm](http://europa.eu.int/comm/economy_finance/indicators/euroareagdp_en.htm)

**Business and Consumer Surveys** (harmonised surveys for different sectors of the economies in the European Union (EU) and the applicant countries)

[http://europa.eu.int/comm/economy\\_finance/indicators/businessandconsumersurveys\\_en.htm](http://europa.eu.int/comm/economy_finance/indicators/businessandconsumersurveys_en.htm)

**Business Climate Indicator for the euro area** (monthly indicator designed to deliver a clear and early assessment of the cyclical situation)

[http://europa.eu.int/comm/economy\\_finance/indicators/businessclimate\\_en.htm](http://europa.eu.int/comm/economy_finance/indicators/businessclimate_en.htm)

**Key indicators for the euro area** (presents the most relevant economic statistics concerning the euro area)

[http://europa.eu.int/comm/economy\\_finance/indicators/key\\_euro\\_area/keyeuroarea\\_en.htm](http://europa.eu.int/comm/economy_finance/indicators/key_euro_area/keyeuroarea_en.htm)

**Monthly and quarterly notes on the euro-denominated bond markets** (looks at the volumes of debt issued, the maturity structures, and the conditions in the market)

[http://europa.eu.int/comm/economy\\_finance/publications/bondmarkets\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/bondmarkets_en.htm)

**Price and Cost Competitiveness**

[http://europa.eu.int/comm/economy\\_finance/publications/priceandcostcompetitiveness\\_en.htm](http://europa.eu.int/comm/economy_finance/publications/priceandcostcompetitiveness_en.htm)

## IV. Key indicators for the euro area

<b>1 Output</b>		2001	2002*		Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
Industrial confidence <sup>1.1</sup>	Balance	5			-11	-11	-12	-12	-11	-10
Industrial production <sup>1.2</sup>	Ann. % ch	5.7			-0.3	-0.1	-1.2	-0.6		
		2001	2002*	2003*	01 Q3	01 Q4	02 Q1	02Q2	02Q3	02Q4
Gross domestic product <sup>1.3</sup>	Ann. % ch	1.5	0.8	1.8	1.4	0.4	0.3	0.6	0.8	
	Qtr. % ch				0.21	-0.3	0.4	0.3	0.3	
<b>2 Private consumption</b>		2001	2002*		Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
Consumer confidence <sup>2.1</sup>	Balance	1			-8	-10	-11	-9	-12	-14
Retail sales <sup>2.2</sup>	Ann. % ch	2.6			-1.1	1.5	1.6	-0.6		
		2001	2002*	2003*	01 Q3	01 Q4	02 Q1	02Q2	02Q3	02Q4
Private consumption <sup>2.3</sup>	Ann. % ch	1.8	0.6	1.7	1.8	1.6	0.5	0.2	0.6	
<b>3 Investment</b>		2001	2002*	2003*	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
Capacity utilization <sup>3.1</sup>	%	83.5			83	81.8	81.1	81.2	81	81.5
Gross fixed capital formation <sup>3.2</sup>	Ann. % ch	-0.3	-1.9	2	-1.6	-2.5	-3.2	-3.7	-3	
Change in stocks <sup>3.3</sup>	% of GDP	-0.2	-0.1	0.1	-0.3	-0.4	-0.3	-0.1	-0.2	
<b>4 Labour market</b>		2001	2002*	2003*	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
Unemployment <sup>4.1</sup>	%	8.0	8.2	8.3	8.3	8.3	8.3	8.3	8.4	
		2001	2002*	2003*	01 Q3	01 Q4	02 Q1	02Q2	02Q3	02Q4
Employment <sup>4.2</sup>	Ann. % ch	1.4	0.4	0.4	1.1	0.8	0.7	0.5		
Wages <sup>4.3</sup>	Ann. % ch	2.8	2.9	2.8	3.1	3.2	3.1	3.1	2.9	
<b>5 International transactions</b>		2001	2002*	2003*	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
Export order books <sup>5.1</sup>	Balance	-14			-21	-20	-24	-22	-20	-20
Exports of goods <sup>5.2</sup>	Bn. EUR	767.4	776.9	823.4	90.6	94.4	81.2	89.3		
Imports of goods <sup>5.3</sup>	Bn. EUR	802.2	781.6	828.1	79.6	80.1	71.2	79.8		
Trade balance <sup>5.4</sup>	Bn. EUR	-34.8	-4.7	-4.7	11	14.3	10	9.5		
		2001	2002*	2003*	01 Q3	01 Q4	02 Q1	02Q2	02Q3	02Q4
Exports of goods and services <sup>5.5</sup>	Ann. % ch	4.3	0.7	6.1	1.4	-2.8	-2.8	0.1	2.5	
Imports of goods and services <sup>5.6</sup>	Ann. % ch	2.1	-1.6	6.2	-0.3	-4.6	-4.5	-2.3	1.2	
		2001	2002*	2003*	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
Current account balance <sup>5.7</sup>	Bn. EUR	-12.3	9.6	11	3.9	2.6	9.7	8		
Direct investment (net) <sup>5.8</sup>	Bn. EUR	-104.6			-15.5	-3.6	1.7	-3.4		
Portfolio investment (net) <sup>5.9</sup>	Bn. EUR	36.5			14.3	14.2	4.5	15.8		
<b>6 Prices</b>		2001	2002*	2003*	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
HICP <sup>6.1</sup>	Ann. % ch	2.5	2.3	2	1.8	1.9	2.1	2.1	2.3	2.2
Core HICP <sup>6.2</sup>	Ann. % ch	2.0			2.6	2.5	2.5	2.5	2.4	2.3
Producer prices <sup>6.3</sup>	Ann. % ch	2.2			-0.9	-0.3	-0.1	0.1	0.9	
Import prices <sup>6.4</sup>	Ann. % ch	0.4	-1.4	0.3						
<b>7 Monetary and financial indicators</b>		2001	2002*	2003*	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02
Interest rate (3 months) <sup>7.1</sup>	% p.a.	4.3	3.3	2.8	3.5	3.4	3.4	3.3	3.3	3.1
Bond yield (10 years) <sup>7.2</sup>	% p.a.	5	4.8	4.3	5.0	4.9	4.6	4.4	4.4	4.2
Stock markets <sup>7.3</sup>	Index	4047			3143	2811	2697	2450	2385	2542
M3 <sup>7.4</sup>	Ann. % ch	5.3			7.4	7.1	7.1	7.1	7.1	
Credit to private sector (loans) <sup>7.5</sup>	Ann. % ch	7.9			5.4	5	5.1	5.1	5	
Exchange rate USD/EUR <sup>7.6</sup>	Value	0.90	0.94	0.98	0.96	0.99	0.98	0.98	0.98	1.00
Nominal effective exch. Rate <sup>7.7</sup>	Index	80.1	82.2	83.7	96.5	98.3	97.6	97.7	97.9	99.0

\* ECFIN Autumn 2002 Forecasts (*European Economy*, No 5/2002)



Number	Indicator	Note	Source
<b>1</b>	<b>Output</b>		
1.1	Industrial confidence indicator	Industry survey, average of balances to replies on production expectations, order books, and stocks (the latter with inverted sign)	ECFIN
1.2	Industrial production	Annual percentage change, volume, excluding construction, wda	Eurostat
1.3	Gross domestic product	Annual percentage change, volume (1995), seasonally adjusted	Eurostat
<b>2</b>	<b>Private consumption</b>		
2.1	Consumer confidence indicator	Consumer survey, average of balances to replies on four questions (financial and economic situation, unemployment, savings over next 12 months)	ECFIN
2.2	Retail sales	Annual percentage change, volume, excluding motor vehicles, wda	Eurostat
2.3	Private consumption	Annual percentage change, volume (1995 prices), seasonally adjusted	Eurostat
<b>3</b>	<b>Investment</b>		
3.1	Capacity utilization	In percent of full capacity, manufacturing, seasonally adjusted, survey data (collected in each January, April, July and October).	ECFIN
3.2	Gross fixed capital formation	Annual percentage change, volume (1995 prices), seasonally adjusted	Eurostat
3.3	Change in stocks	In percent of GDP, volume (1995 prices), seasonally adjusted	Eurostat
<b>4</b>	<b>Labour market</b>		
4.1	Unemployment	In percent of total workforce, ILO definition, seasonally adjusted	Eurostat
4.2	Employment	Annual percentage change, ECFIN calculations on basis of Eurostat figures, partly estimated	Eurostat
4.3	Wages	Annual percentage change; not fully harmonised concept (mostly hourly earnings)	ECFIN
<b>5</b>	<b>International transactions</b>		
5.1	Export order books	Industry survey; balance of positive and negative replies, seasonally adjusted	ECFIN
5.2	Exports of goods	Bn. EUR, excluding intra euro area trade, fob	Eurostat
5.3	Imports of goods	Bn. EUR, excluding intra euro area trade, cif	Eurostat
5.4	Trade balance	Bn. EUR, excluding intra euro area trade, fob-cif	Eurostat
5.5	Exports of goods and services	Annual percentage change, volume (1995 prices), including intra euro area trade, seasonally adjusted	Eurostat
5.6	Imports of goods and services	Annual percentage change, volume (1995 prices), including intra euro area trade, seasonally adjusted	Eurostat
5.7	Current account balance	Bn. EUR, excluding intra euro area transactions; before 1997 partly estimated	ECB
5.8	Direct investment	(net) Bn. EUR, excluding intra euro area transactions	ECB
5.9	Portfolio investment	(net) Bn. EUR, excluding intra euro area transactions	ECB
<b>6</b>	<b>Prices</b>		
6.1	HICP	Annual percentage change, harmonised index of consumer prices	Eurostat
6.2	Core HICP	Annual percentage change, harmonised index of consumer prices, excluding energy and unprocessed food	Eurostat
6.3	Producer prices	Annual percentage change, without construction	Eurostat
6.4	Import prices	Annual percentage change	Eurostat
<b>7</b>	<b>Monetary and financial indicators</b>		
7.1	Interest rate	Percent p.a., 3-month interbank money market rate, period averages	Datastream
7.2	Bond yield	Percent p.a., 10-year government bond yields, lowest level prevailing in the euro area, period averages	Datastream
7.3	Stock markets	DJ Euro STOXX50 index, period averages	Datastream

7.4	M3	Annual percentage growth rate of seasonally adjusted flows, moving average (3 last months): from 1997 onwards corrected for holdings by non-residents	ECB
7.5	Credit to private sector (loans)	Annual percentage change, MFI loans to euro area residents excluding MFIs and general government, monthly values: month end values, annual values: annual averages	ECB
7.6	Exchange rate USD/EUR	Period averages, until December 1998: USD/ECU rates	ECB
7.7	Nominal effective exchange rate	Against 13 other industrialised countries, double export weighted, 1995 = 100, increase (decrease): appreciation (depreciation)	ECFIN

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Comments on the report would be gratefully received and should be sent to:

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