



QUARTERLY REPORT ON THE EURO AREA

Volume 5 N° 2 (2006)

Highlights in this issue:

- **Recent economic developments and short-term prospects**
- **A mid-year review of budgetary policy in the euro area**
- **Cyclical synchronisation within the euro area: what do recent data tell us?**
- **Focus: The growing importance of services in the euro-area economy**

**EUROPEAN
COMMISSION**

**DIRECTORATE-GENERAL FOR
ECONOMIC AND FINANCIAL AFFAIRS**



Table of contents

EDITORIAL.....	3
I. ECONOMIC SITUATION IN THE EURO AREA.....	5
RECENT ECONOMIC DEVELOPMENTS AND SHORT-TERM PROSPECTS	5
A MID-YEAR REVIEW OF BUDGETARY POLICY IN THE EURO AREA	15
CYCLICAL SYNCHRONISATION WITHIN THE EURO AREA: WHAT DO RECENT DATA TELL US?	19
II. FOCUS: THE GROWING IMPORTANCE OF SERVICES IN THE EURO-AREA ECONOMY	25
III. RECENT DG ECFIN PUBLICATIONS.....	37

BOXES:

1. WHAT CONSTITUTES A GOOD MEASURE OF CORE INFLATION?	10
2. STORMY SPRING FOR FINANCIAL MARKETS.....	13
3. REVENUES EXPLAIN BETTER THAN EXPECTED DEFICIT OUTTURN IN 2005.....	15
4. MEASURING BUSINESS CYCLE CONVERGENCE.....	21



EDITORIAL

Recent economic data give grounds for optimism. Activity in the euro area has returned to a solid growth path with GDP growing above potential in the first quarter. This brings 'hard' activity data back in line with 'soft' survey data and confirms that the disappointing GDP reading at the end of last year was only a technical blip. In other words, we can now be more confident that the marked improvement in business confidence in the last few months really reflects a robust underlying momentum in the euro-area economy and was not just a statistical anomaly.

Another encouraging development is the increasing evidence that the long-awaited strengthening of domestic demand is finally taking place. Private consumption picked up substantially in the first quarter and made a significant contribution to growth. Consumer spending is underpinned by strengthening household confidence, which is now well above its long-term average, and a gradual firming of the labour market. For private investment, the underlying momentum is also strong. Growth picked up only modestly in the first quarter, with poor weather conditions weighing on construction, but a sharper acceleration is expected for the second quarter. If confirmed in the quarters to come, the pick-up in domestic demand would put growth on a stronger footing.

Overall, recent economic data are in line with the Commission services' spring economic forecasts which project GDP growth to accelerate to 2.1% in 2006. If anything, the strong gains in confidence in the past few months suggest that risks to the near-term outlook may be tilted to the upside.

Nevertheless, there are also downside risks to growth stemming from higher energy prices or a possible disorderly correction of global imbalances. Recent turbulences in global financial markets are an additional

source of uncertainty. After having risen steadily in the first four months of the year, equity market indices across the world fell in recent weeks. Emerging markets were worst affected, with stock markets tumbling by about 20% in Turkey, Brazil, India and Russia. Heightened investor sensitivity to risk has been reflected in investment flows out of emerging-market assets, leading also to a sizeable increase in bond yields and a pronounced fall in exchange rates in these countries. By contrast, there has been less financial turbulence in industrialised economies, with less of a decline in stock prices and no significant effect on bond prices and exchange rates. Finally, it should be noted that among the recently acceded Member States, those in ERM II have fared better than the others and better than emerging market economies in general. This suggests that the 'euro umbrella' has effectively shielded those countries from financial market contagion.

At this moment, there is no reason for the euro area to be overly worried about the turbulence on financial markets. The increase in volatility has been largely confined to equity markets and to financial markets in emerging market economies. Moreover, the decline of equity prices in May can be seen as a correction following the "mini-boom" in the preceding few months. Nevertheless, there remains a risk of a more protracted – and potentially disruptive – adjustment in the international financial system, especially in the light of the persistent global imbalances. Against this background, the situation on the financial markets requires careful monitoring.

The strengthening economic activity provides a golden opportunity for more forceful consolidation of public finances. However, our latest assessment gives no grounds for complacency. According to the Commission services' spring forecasts, the structural government deficit – i.e. cyclically-adjusted and net of one-off and

other temporary measures – is projected to improve only marginally in 2006, by 0.1% of GDP for the euro area as a whole. This falls short of the objectives set by Member States in their stability programmes. For the entire period 2006-07 the Commission projects – on an unchanged policy basis – the structural deficit to improve only by ¼% of GDP, although additional fiscal consolidation may happen when 2007 budgets are prepared. Finally, debt and long-term sustainability remain a matter of concern. In four out of the seven euro-area Member States with debt levels above 60% of GDP, debt is expected to increase rather than decrease between 2005 and 2007.

Fiscal policy in 2006 and 2007 should apply the lessons learned from past mistakes, especially the failure to adjust in the last period of 'good times' between 1999 and 2001. Member States should – when necessary – make use of benign growth conditions, with growth above or close to potential, to tighten the fiscal stance in order to step up the pace of fiscal consolidation.

Finally, this Quarterly Report examines the consequences for the euro area of the progressive shift in its production structure from goods to services over the past few decades. Nowadays, services account for 70% of employment and value added in the euro area. Although there are big differences within the services sector, as a whole it is characterised by slower labour productivity gains and lower competition than in manufacturing industry. As a result of these two interrelated factors and of temporary factors in some Member States, inflation tends to be significantly higher for services than for non-energy industrial goods. Finally, in the euro area, the services sector is also an important source of inflation persistence and therefore hampers the economy's capacity to adapt to shocks.

It is important to stress that, although partly related to the production structure of services, these features also reflect past policy choices. Hence, while the lack of competition in some services sectors is related to the limited tradability of many services, it also stems from extensive national regulation hampering full integration and the achievement of a single market for services in the euro area. In a similar vein, the low growth of labour productivity in the services sector is partly the consequence of a lack of competition and insufficient exploitation of ICT. The US experience shows that there is room for dynamic services markets that contribute both to employment and to strong productivity growth. To achieve this, however, there is a clear need for policy measures that increase competition in and integration of the euro-area services markets, favour the spread of new technologies and enhance human capital. The Services Directive is an important step in the right direction. Once it is adopted, it will be essential to ensure that it is transposed rapidly and fully. Given the significant difficulties associated with measuring services output and prices accurately, efforts should also be made to improve the quality of data on services.



Klaus REGLING
DIRECTOR GENERAL



I. Economic situation in the euro area

Since the beginning of the year, the economy has returned to a robust growth path, buttressed by strengthening domestic demand. Although investment growth suffered from poor weather conditions in the first months of the year, private consumption has shown signs of recovery underpinned by strengthening household confidence and a gradual firming of the labour market. Continued improvements in business and consumer confidence in recent months suggest that the upswing could surprise on the upside in the next quarters. Overall, the strong growth momentum and broadening recovery in domestic demand should allow the economy to weather the negative effects of high oil prices, recent stock market turbulence and the moderate appreciation of the euro.

This report presents a mid-year review of budgetary policy in the euro area. The structural budget balance in the euro area improved by about 3/4% of GDP in 2005 but prospects for fiscal consolidation in 2006 and 2007 are meagre. According to the budgetary plans submitted by Member States in the 2005 updates of their stability programmes, the structural budget balance in the euro area was expected to improve further by almost 1% of GDP by 2007. However, the Commission services' spring 2006 forecast signals that the fiscal consolidation targets for 2006 of the stability programmes are at risk in half of the Member States. To meet the budgetary consolidation plans in the Stability programmes, 2006 budgetary improvements would need to be better than forecast and complemented by ambitious 2007 budgets. When necessary, Member States should make use of benign growth conditions, with growth above or close to potential, to tighten the fiscal stance and secure a significant fall in the euro-area debt ratio.

As part of the regular analysis of growth differences within the euro area, this report also looks at recent developments in cyclical synchronisation between Member States. The latest data show that the dispersion of Member States' output gaps has remained at a historical low in recent years. By contrast, some measures of business cycle correlation suggest tentative signs of cyclical desynchronisation in a few Member States since 2004 (Belgium, Greece, Finland and Spain). Careful analysis shows that these signs of desynchronisation are generally not a source of concern as they reflect temporary and minor shifts in cycles. Nevertheless, they should continue to deserve attention by national policy makers.

1. Recent economic developments and short-term prospects¹

Robust and more balanced growth in the first quarter

Following a technical moderation in economic growth to a quarter-on-quarter growth rate of 0.3% in the fourth quarter of 2005, euro-area GDP doubled to 0.6% in the first quarter of 2006, in line with the Commission services' spring 2006 economic forecasts. The solid pace of growth in the first quarter was corroborated by positive signals from consumer and business survey data. The underlying growth momentum, as measured by the year-on-year growth rate, also edged up from 1.7% in the fourth quarter of 2005 to 1.9% in the first quarter of 2006, the second-best reading since the beginning of 2001.

Regarding the composition of demand, the first quarter showed a more balanced picture

compared to the previous quarter, with both domestic demand (excl. inventories) and net trade marking positive contributions to GDP growth of 0.5 pp and 0.3 pp, respectively. Inventories, by contrast, subtracted 0.2 pp from GDP growth.

Against a background of an improving labour market situation, private consumption grew by 0.7%. Total employment expanded at an annual rate of 1.2% in the fourth quarter of 2005 and the first quarter of 2006, the strongest pace of expansion since the beginning of the current recovery. At the same time, the unemployment rate declined to a rate of 8.1% in the first quarter of 2006, significantly below the average rate recorded in 2005 (8.6%).

Total fixed investment accelerated only mildly in the first quarter (0.3%) from an already subdued performance in the previous quarter. Although a breakdown of investment between construction and equipment is not yet available for the euro area as a whole, developments at the Member State level indicate that weather-related weakness

¹ The cut-off date for the statistics included in this issue was 22 June 2006.

Table 1: Euro-area growth components

	2005 Q2	2005 Q3	2005 Q4	2006 Q1	Carryover to 2006	Forecast (1)	
						2006	2007
% change on previous period, volumes							
GDP	0.4	0.7	0.3	0.6	1.2	2.1	1.8
Private consumption	0.3	0.5	0.1	0.7	1.1	1.7	1.4
Government consumption	0.6	0.7	0.0	0.5	1.0	2.0	1.2
Gross fixed capital formation	1.4	1.0	0.2	0.3	1.3	4.2	2.4
Changes in inventories (% of GDP)	0.3	0.3	0.7	0.5	0.1	0.6	0.6
Exports of goods and services	1.5	2.8	0.7	3.1	5.4	5.4	5.3
Imports of goods and services	2.0	2.9	1.3	2.5	5.5	6.0	4.8
% contribution to change in GDP							
Private consumption	0.2	0.3	0.1	0.4	0.6	1.0	0.8
Government consumption	0.1	0.1	0.0	0.1	0.2	0.4	0.2
Gross fixed capital formation	0.3	0.2	0.1	0.1	0.3	0.9	0.5
Changes in inventories	0.0	0.0	0.4	-0.2	0.1	0.0	0.0
Net exports	-0.2	0.0	-0.2	0.3	0.1	-0.2	0.3

(1) European Commission Spring 2006 Forecasts.

Source: Commission services.

in construction investment may have weighed on gross fixed capital formation. With the rate of capacity utilisation in manufacturing now exceeding its long-term average (82%), the underlying momentum for investment spending appears sound. Investment growth is therefore expected to see a rebound in the second quarter.

Overall, the first quarter provided evidence of a stronger, domestic-demand-based recovery which, if confirmed in the coming quarters, would increase the underlying growth momentum of the euro-area economy and which has already started to affect the labour market positively.

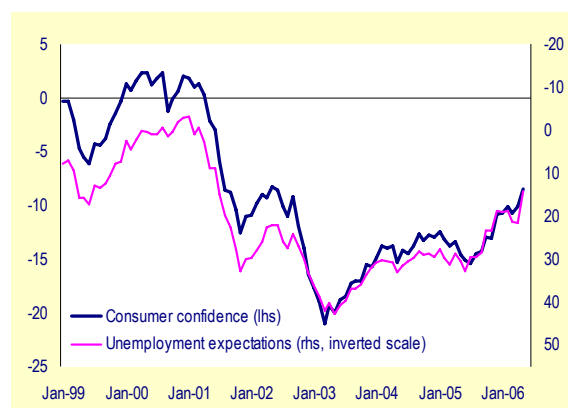
On the external side, robust global demand entailed a strong pick-up in the growth of exports of goods and services in the first quarter of 2006. Exports grew by 3.1% (q-o-q), outweighing growth in imports (2.5% q-o-q). As a result, there was a significant positive contribution from net exports to growth in the first quarter.

The recovery could surprise on the upside in the second quarter

Available indicators for the second quarter of 2006 point to a further strengthening of the current recovery. Business and consumer surveys from the European Commission have improved markedly in the last few months. The overall economic sentiment indicator – a coincident indicator for GDP growth in the euro area – rose

to an average level of 106.2 in April–May, markedly above the first-quarter reading of 102.6.

Graph 1: Consumer confidence, euro area
(Balance in % – Jan 1999 to May 2006)



Source: Commission services.

Consumer confidence brightened again in April and May, reflecting improvements in expectations concerning the general economic situation and diminishing concerns about unemployment. Given the links between consumer confidence and household spending, these indications support the view that the recovery in private consumption is pursuing its course. This picture is in line with developments in retail confidence which continued to improve in the second quarter, and is now well above its long-term average. The first hard data on retail sales for the second quarter also proved



Table 2: Selected euro-area and national leading indicators, 2005-2006

	SENT. IND ¹⁾	BCI ²⁾	OECD ³⁾	PMI Man. ⁴⁾	PMI Ser ⁵⁾	IFO ⁶⁾	NBB ⁷⁾	ZEW ⁸⁾
Long-term average	100.0	0.00	2.75	52.3	54.5	96.4	-9.5	33.7
Trough in latest downturn	88.1	-1.25	-0.77	42.9	46.7	87.3	-26.5	-10.4
June 2005	96.1	-0.31	-0.3	49.9	53.1	93.4	-14.3	19.5
July 2005	97.2	-0.09	0.4	50.8	53.5	96.0	-13.3	37.0
August 2005	97.5	-0.10	1.3	50.4	53.4	96.0	-11.3	50.0
September 2005	98.5	0.05	2.0	51.7	54.7	96.7	-7.0	38.6
October 2005	100.2	0.16	3.0	52.7	54.9	99.5	-6.0	39.4
November 2005	99.7	0.12	3.6	52.8	55.2	98.4	-5.6	38.7
December 2005	100.5	0.36	4.0	53.6	56.8	100.4	-0.8	61.6
January 2006	101.5	0.33	4.4	53.5	57.0	103.9	-4.4	71.0
February 2006	102.7	0.60	4.9	54.5	58.2	104.9	1.6	69.8
March 2006	103.6	0.81	4.9	56.1	58.2	105.7	0.3	63.4
April 2006	105.7	1.16	5.1	56.7	58.3	105.5	6.4	62.7
May 2006	106.7	1.06		57.0	58.7	104.0	1.4	50.0
June 2006								37.8

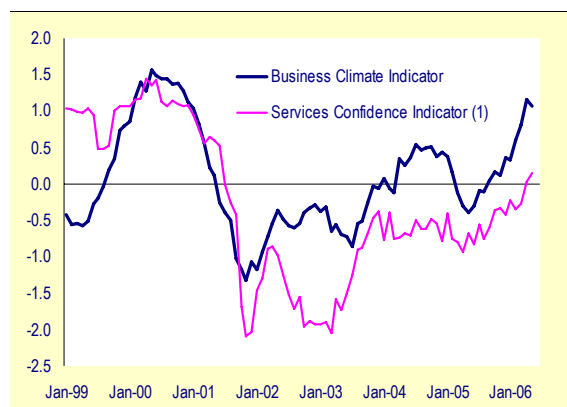
1) Economic sentiment indicator, DG ECFIN. 2) Business climate indicator, DG ECFIN. 3) Composite leading indicator, six monthly change. 4) Reuters Purchasing Managers Index, manufacturing. 5) Reuters Purchasing Manager Index, services. 6) Business expectations, West Germany. 7) National Bank of Belgium indicator for manufacturing. 8) Business expectations of financial market analysts, Germany.

encouraging, with a pick-up of year-on-year growth to 2.8% in April.

Industrial confidence climbed in May to the highest level observed since December 2000. The stronger assessment in the order books component and the surge in production expectations in April–May 2006 compared to the first quarter of the year suggest that the recovery in the euro area is gathering pace. This is also suggested by Reuters PMI index for manufacturing activity, the current level of which is indicative of industrial production expanding at its fastest pace since the year 2000. Furthermore, the employment component of the PMI for the manufacturing sector indicates that firms in the manufacturing sector may have begun to increase employment.

After a good showing in the first quarter, some hard data for the manufacturing sector came in somewhat weaker than expected in April. Industrial production and new orders both fell compared with the previous months (by 0.6% and 0.2% respectively). However, the drop in industrial production comes after 6 months of steady increases and is at odds with the continuous improvement in the assessment of production by manufacturers in surveys. Furthermore, new orders increased strongly in April once the volatile transport equipment sector is excluded, suggesting that the underlying momentum remains solid.

Graph 2: Business confidence indicators, euro area
(Balance in % – Jan 1999 to May 2006)



(1) Normalised.

Source: Commission services.

Survey data provide an upbeat outlook for the services sector. Following a substantial improvement in April–May, the services confidence indicator reached a level last attained five years ago. The recent improvement has been broad-based with all components of the service index showing gains. Similarly, Reuters index for services also strengthened in the first two months of the second quarter, reflecting a broad-based improvement across components and, in particular, an upbeat assessment of incoming new business along with a significant increase in the employment component.

On the external side, still robust world growth should support exports. This is also suggested by the assessment of export order books in the euro-area manufacturing sector, which remains at its highest level in more than five years. Global PMI indicators also confirm strong momentum in the second quarter, despite some weakening in US growth.

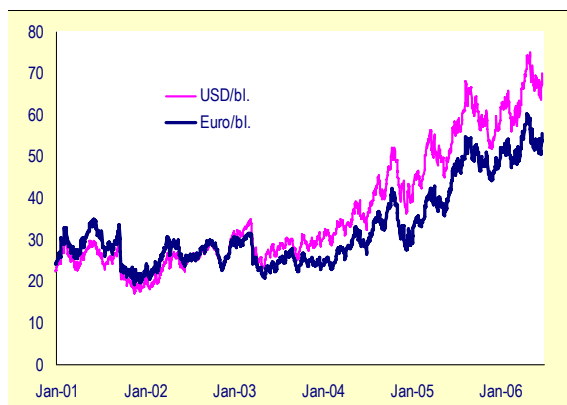
The appreciation of the euro exchange rate – by about 2.5% in nominal effective terms since the beginning of the year – has reversed part of the depreciation in 2005, implying some renewed pressure on the market shares of euro-area exporters. However, with unit labour costs growing more slowly in the euro area than in the economies of its main trading partners, the potential negative effects of the recent deterioration in the nominal effective exchange rate on the export performance of the euro area should be attenuated.

The economy is in a good position to weather the latest rise in oil prices

Following a brief respite after the previous highs reached in September 2005 due to hurricanes in the Mexican Gulf region, oil prices have resumed their upward path in the first half of 2006, reaching new record highs, in nominal terms, of around 74 USD/bl. Since mid-April the spot price of Brent oil has hovered in the 66 to 74 USD/bl range and stood at about 70 USD/bl on 22 June. The appreciation of the euro against the US dollar since the beginning of the year has, however, dampened significantly the oil price increase in euro terms.

Supply concerns following disruptions to Nigerian oil production and geopolitical uncertainty surrounding the Middle East region, in particular Iran and Iraq, have been the main drivers of the recent increases. Low excess refinery capacity has added further pressure on the price of petrol and other refined products. Moreover, the demand for oil continues to be buoyed by robust global GDP growth, with oil demand projected by the International Energy Agency to grow around 1.4% in 2006.

Graph 3: Oil price developments - Brent (Jan 2001 – June 2006, daily data)



Source: Commission services.

Based on these developments, futures prices indicate that the oil price will remain elevated in 2007 and 2008. At the beginning of June, the average price of Brent crude for delivery in 2007 was 74 USD/bl, corresponding to a jump of roughly 10 USD/bl compared to the level at the beginning of the year.

It is clear that high oil prices have lowered growth in the euro area, denting households' real disposable income and weighing on corporate profitability. Simulations carried out with DG ECFIN's Quest model suggest that a permanent 10 USD increase in oil prices reduces GDP growth in the euro area by 0.3 pp in the first year and by 0.1 pp in the second and third years. The oil price rise would also lift inflation by 0.2 pp in both the first and second year.

However, the euro area has coped relatively well with higher oil prices so far and the economy's momentum should allow it to contain their negative impact on growth. Business and consumer sentiment does not seem to have been overly affected. Second-round effects via wages have not materialised, so that core inflation remains well below 2%. Besides, it should be stressed that most of the recent increase in oil prices was actually already factored into the Commission spring 2006 forecast. The forecast was based on an assumption of an average price of Brent crude oil of 71 USD/bl. in 2007, which is in line with current levels and only slightly lower than futures prices.

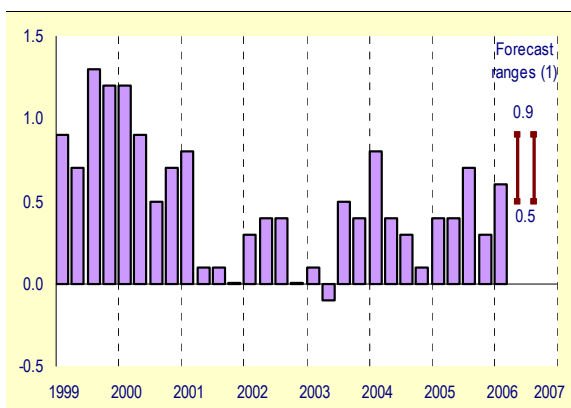


Short-term growth outlook and risks

Despite the impact of higher oil prices and the recent appreciation of the euro, the indications are that the euro-area economy should experience robust growth, at or above potential, throughout 2006. DG ECFIN's dynamic factor model for quarterly GDP growth in the euro area projects a range of 0.5% to 0.9% for GDP growth in the second and third quarter of 2006.

These projections, reflecting the continued strong business survey indicators, suggest that there may be upside risks to short-term growth prospects and, in particular, to the Commission spring forecast for GDP in 2006 (2.1%). Downside risks to growth stem from higher commodity prices, rising interest rates and the recent increase in uncertainty in financial markets, but these are outweighed in the short term by the relatively robust momentum.

Graph 4: GDP growth in the euro area
(Q-o-q changes in %)



(1) Confidence level: 68% (+/- one standard deviation of past forecast errors).

Source: Commission services.

In 2007, growth is likely to temporarily slow down somewhat, mainly due to the effect of the planned budgetary measures in Germany which will induce German households to shift part of their consumption and housing investment from 2007 to 2006.

In addition, the risks to growth appear greater and more tilted to the downside for 2007. In particular, oil price increases above those already assumed cannot be ruled out, given the very low

spare capacity and continued geopolitical risks. Furthermore, while the resulting inflationary pressures have so far been kept in check, greater indirect effects as well as second-round effects on wages could yet emerge. Similarly, disorderly exchange rates adjustments vis-à-vis the euro resulting from the unwinding of global current account imbalances would imply a downside risk to the growth outlook for the euro area.

Finally, there are also downside risks related to the recent stock market turbulence. The slide in stock prices since May has mostly eliminated gains recorded since the beginning of the year and may be seen as a correction following the "mini-boom" of the preceding few months. If this interpretation is correct, the recent episode in financial-market turbulence is simply a one-off event which should have only a limited impact on growth. However, it could also mark the beginning of a more protracted adjustment in international financial markets in a context of large global imbalances. In this case, it could prove to be significantly more disruptive for the euro-area economy.

Oil prices continue to exert upward pressure on inflation

Headline inflation has remained above 2% since the beginning of 2005. It eased slightly during the first quarter of 2006 but was again on a moderate upward path in the past two months, climbing to 2.5% in May (Graph 5). Measures of core inflation have also edged up in the past few months but the increase has remained modest.

The rather large gap that has emerged between headline and core inflation since 2005 is to a large extent due to the strong direct impact of oil price rises on the HICP index through its energy component. Energy inflation has made an increasingly strong impact on headline inflation over the past year, currently contributing about 1 pp to overall headline inflation. The other main contributor to inflation is the services sector which, over the last few years, has made a persistently large contribution also of about 1 pp

Box 1: What constitutes a 'good' measure of core inflation?

In striving to achieve price stability over the medium term, central banks face the difficulty of interpreting monthly movements in the inflation rate. 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. When such fluctuations are sufficiently large to affect the aggregate HICP, they can hinder the understanding of underlying price developments. Therefore, several measures of "core" inflation have been developed. While economic researchers have not been able to agree on one preferred measure of core inflation,¹ there is agreement that a good measure of core inflation should be transparent, able to predict future headline inflation and possible to estimate in a timely fashion.²

For the euro area, the most common measure of core inflation is **HICP excluding unprocessed food and energy**. Although this core inflation measure has a clear advantage in terms of transparency and timely estimation, the degree to which it accurately reflects future headline inflation is unclear. Firstly, since January 1999, the standard deviation of monthly inflation rates was almost the same for both headline HICP and HICP excluding food and energy. Secondly, the appropriateness of this measure is called into question by the fact that the same structural factors, related to increasing globalization (the "China effect"), that put upward pressures on energy prices are also holding back some core inflation components (e.g. non-energy industrial goods). Looking at one element but not at the other could provide a distorted view of the inflationary outlook, reducing the value of this core inflation indicator as a measure of underlying inflation trends. Finally, regression analysis shows that for the euro area HICP excluding unprocessed food and energy has hardly any predictive power for future headline inflation (see table). It even lagged headline inflation over the period between the second half of 1999 and 2002. This is in contrast with the experience of the US, where this measure of core inflation appears to have some predictive power, although also in the US there were periods in which core inflation lagged headline inflation.

Rather than assuming that a few goods always have the largest price fluctuations, **trimmed mean measures** of core inflation exclude a certain percentage (e.g. 15 percent) of the items showing the most extreme inflation rates. An arithmetic mean is calculated for the remaining components of the index. While the trimmed mean measure performs slightly better than the HICP excluding unprocessed food and energy as a leading indicator for headline HICP inflation, its predictive power is also negligible.

A third measure of core inflation, **the weighted median**, is obtained by arranging the inflation rates of each sub-category of the HICP index in ascending order, with their cumulated weights, and identifying the rate that is at the 50th percentile. For the euro area, this measure of core inflation appears to have some limited predictive power for headline inflation over the period of observation and is comparable to CPI excluding energy and food in the US. This suggests that, while some measures are better at predicting future inflation prospects than others, no one measure of core inflation can be regarded as a "good" indicator of the underlying level of inflation.

The predictive power of a number of measures of core inflation for headline inflation, euro area and United States (Jan 1999 to Apr 2006) #

	HICP excl. energy and unprocessed food (EA)	Trimmed mean (EA)	Weighted median (EA)	CPI excl. energy and food (US)
c	0.23*** (0.07)	0.29*** (0.08)	0.46*** (0.08)	0.46*** (0.11)
β	0.18 (0.12)	0.47** (0.20)	0.81*** (0.17)	0.64*** (0.11)
Adj-R-Squared	0.02	0.06	0.23	0.17
AIC	1.61	1.57	1.37	2.97
SC	1.67	1.63	1.43	3.03

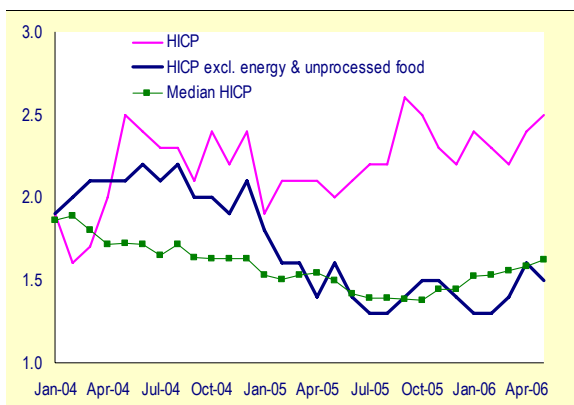
Note: ***, **, * denote significance at 1, 5 and 10 percent levels, respectively. Values in brackets are standard errors.
Regressions take the following form: $\hat{p}_{t+12} - \hat{p}_t = c + \beta (\hat{p}_t^{core} - \hat{p}_t)$, where \hat{p} denotes headline inflation (HICP for the euro area and CPI for the USA) and \hat{p}^{core} denotes one of the core inflation measures.

¹ For more detailed analyses on core inflation measures, see Rich, R. and C. Steindel (2005), 'A review of core inflation and an evaluation of its measures', *Federal reserve Bank of New York Staff Report*, No. 236, December.

² See also ECB (2005), 'Diverse patterns in headline and underlying inflation', *Monthly Bulletin*, November.



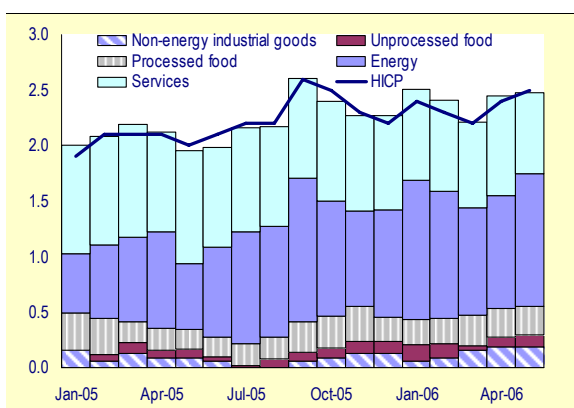
Graph 5: **Headline and core inflation**
(Y-o-y changes in % – Jan 2004 to May 2006)



Source: Commission services.

to headline inflation. The three remaining categories, processed food, unprocessed food and non-energy industrial goods, have only had a minor impact on inflation developments. In particular, inflation in non-energy industrial goods has fallen to very low levels compared to previous years as a result of intense competition in this sector within the EU and from emerging markets as well as still relatively weak domestic demand.

Graph 6: **Contributions to headline inflation**
(Y-o-y changes in % – Jan 2005 to May 2006)



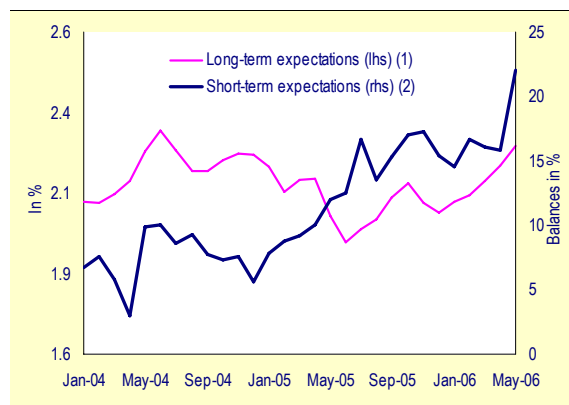
Source: Commission services.

The recent modest pick-up in core inflation measures, together with that in producer prices for consumer goods and intermediate goods, indicates that the effects of higher energy prices are starting to be passed on to other sectors of the economy. There are also signs of a build-up

of pipeline price pressures in business surveys. As yet, second-round effects in the form of increased wage demands have not emerged. The current annual growth rate for compensation per employee and negotiated wages, at about 2%, is in line with developments over the last three years. However, as economic growth gathers pace, the risk of second-round effects increases.

The Commission services' spring 2006 forecasts project headline inflation to remain above 2% over the next two years (2.2% in both 2006 and 2007), as do the latest forecasts by other international organisations such as the ECB, the OECD and the IMF. The risks to the outlook for inflation are mainly on the upside and pertain to higher-than-expected direct and indirect effects of oil price rises, the emergence of second-round effects and further unexpected increases in indirect taxes and administered prices. Downside risks include lower-than-expected oil prices and weaker-than-expected GDP growth.

Graph 7: **Inflation expectations**
(Jan 2004 to May 2006)



(1) As embedded in euro-area index-linked bonds.

(2) EU Consumer survey – price trend over the next 12 months.

Source: Commission services.

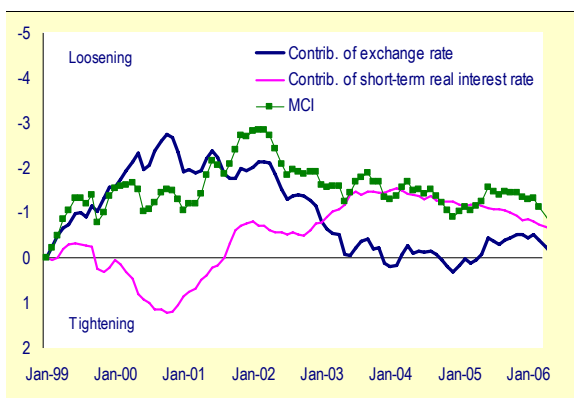
These forecasts are in line with current expectations of inflation. Inflationary expectations have been on an upward path for some time now. Short-term inflationary expectations, as measured by the European Commission's Consumer Surveys, have been rising since the beginning of 2005 and have registered a sharp increase in May. Long-term inflationary expectations, derived from index-

linked bonds, have risen modestly from about 2% in mid-2005 to a current level of 2.2%. The ECB surveys of professional forecasters also show slightly rising expectations in the medium term, although longer-run expectations remain anchored below 2%.

Monetary and financial conditions

Monetary conditions in the euro area, as measured by the Monetary Conditions Index (MCI), have slightly tightened over the last few months, driven by the exchange rate appreciation and the increase in real short-term interest rates. However, despite the three ECB rate hikes since December 2005, nominal and real short-term interest rates remain low by historical standards, and liquidity in the euro area remains ample by all plausible measures.

Graph 8: The euro-area MCI and its contributors
(Inverted scale – Jan 1999 to May 2006)



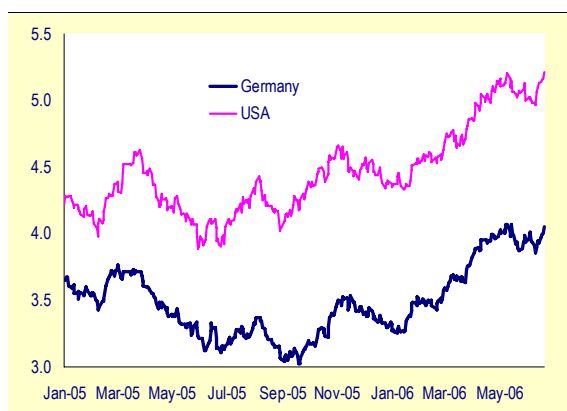
Source: Commission services.

On 8 June, the ECB increased its policy rates further by 25 basis points, bringing its main policy rate to 2.75%. The decision to hike interest rates reflected the upside risks to price stability over the medium term indicated by both the economic and monetary analysis. The rate hike should help anchor medium- to long-term inflation expectations in the euro area. Financial markets' future contracts are pricing in another rate hike by 25 basis points by September and a high probability of another 25-basis-point hike before the end of the year. This would bring the ECB's policy rate to 3.25%.

Over the last few months, government bond yields in the euro area have continued the gradual

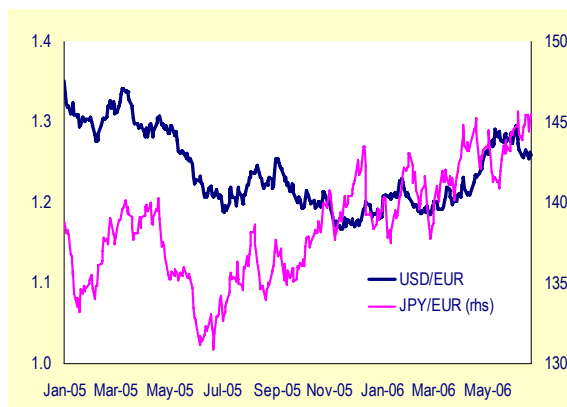
increase which started at the end of last year. Mid-May, 10-year-government bond yields rose above 4% for the first time since October 2004. The driving forces behind the upturn of government bond yields were positive data releases that fuelled economic sentiment and increased inflation expectations that led to further rate hike speculations. At the same time, bond yields in the USA moved almost in parallel, driven by speculations about further monetary tightening caused by inflation fears.

Graph 9: 10-year government bond yield
(1 Jan 2005 to 22 June 2006)



Source: Ecwin.

Graph 10: Euro exchange rates
(1 Jan 2005 to 22 June 2006)



Source: Ecwin.

The euro has gradually appreciated since the beginning of the year. It gained 9% against the dollar, climbing from 1.18 USD to around 1.29 USD in early June. The most recent strengthening was triggered by a change in interest rate expectations but it gained



Box 2: Stormy spring for financial markets

Sell-off in global stock markets...

After reaching the highest levels in five years in early May, global stock markets recorded sharp declines in the following weeks, with the most pronounced losses taking place in emerging economies. The correction in global equity prices reflects investor concern about inflation risk in the US economy and the possible need for the Federal Reserve to tighten monetary policy by more than had been discounted by investors. The prospect of slower US economic growth amid a more sizeable withdrawal of liquidity (and by extension lower growth in the global economy) focused investors' attention on risk exposure. The initial correction in stock markets was partially reversed in the following trading days as investors hunted for bargains. Nevertheless, investors remained nervous and prices volatile, and the stock market correction continued until mid-June, followed by some rebound in recent days. Between early May and 22 June, major stock markets lost between 5% (Dow Jones) and 13% (Nikkei). The EuroSTOXX50 lost about 8% in the same period. However, the global price correction was most pronounced in the stock markets of the emerging economies, with Russia and Turkey down by more than 20%, and Brazil and India down by 16%. Among the recently acceded Member States, those participating in ERM II fared better than other emerging market economies. Non-ERM II countries, however, were hit as hard by the stock market correction as other emerging market economies and saw their stock indices decline by around 15%. It is noteworthy that, alone of all EU countries, Slovenia was almost immune to the stock market sell-off. After initial losses in the first half of May, by mid-June the Slovenian stock market was above its early-May level. This may reflect the country's expected euro adoption in January 2007.

Changes in exchange rates and equity prices (Between 2 May and 22 June 2006 – in %)

	Exchange rate (vs. US dollar) (1)	Equity markets
Turkey	-26.2	-22.9
Brazil	-8	-16.3
Indonesia	-6.7	-11.7
Russia	1.0	-21.1
India	-2.6	-15.9
Hungary	-6.4	-19.7
Poland	-5.3	-15.5
Czech Republic	-1.0	-11.7
ERM II (ex SI)	-0.3 (2)	-9.0
Euro area	-0.6	-8.2

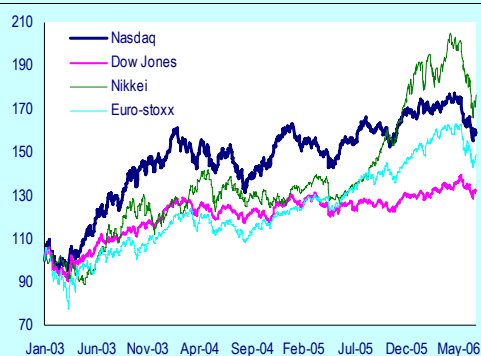
(1) Negative sign indicates a depreciation.

(2) vs. euro.

Source: Ecowin and Commission services.

Stock indices

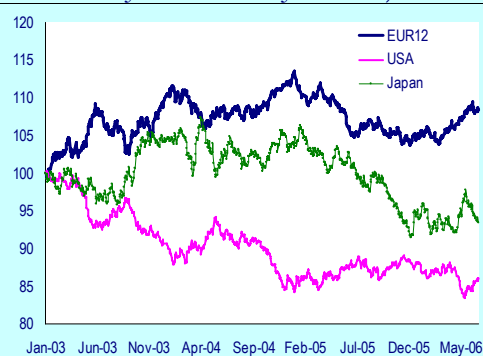
(Index 1 Jan 2003=100 – 1 Jan 2003 to 22 June 2006)



Sources: Ecowin and Commission services.

Nominal effective exchange rate

(broad group of 41 countries)
(Double export weights – Index 1 Jan 2003=100
1 Jan 2003 to 22 June 2006)



Source: Commission services.

...left G3 currencies almost unaffected...

G3 currencies were only marginally affected by the stock market correction. The euro fluctuated between 1.27 USD and 1.29 USD during the stock market sell-off. Against the Japanese yen, the euro lost some 2% in the first half of May. These losses were more than reversed in the remainder of May and the JPY/EUR rate is currently some 1% above its early-May level. In nominal effective terms (against 29 trading partners), the euro and the yen gained some

1% in the course of May, while the US dollar remained virtually unchanged. In the course of June, the yen gave away its gains, while the US dollar strengthened slightly.

...but a number of high-yielding currencies were hit hard

As the sharp reversal in emerging stock markets was driven by a rise in global risk aversion, emerging market bond spreads also went up by some 50 basis points in the course of May, but are still low by historical standards. While currency losses were relatively mild in some emerging markets (e.g. India, Hong Kong, Mexico and Russia), a number of other high-yielding currencies were hit hard. The Indonesian rupiah has lost almost 7% against the US dollar. Bird flu worries seemed to have contributed to the depreciation. The Brazilian real has declined by around 8% against the US dollar since early May. The Turkish lira recorded the highest losses against the US dollar and is currently trading more than 26% below its early May level. Country-specific concerns about domestic inflation rates and current account deficits seem to have contributed to exchange rate pressures in these countries.

Interpretations of sell-off still vary

The correction in equity markets was not a complete surprise. The heavy capital inflows into equities in the months before May had occurred against a background of a progressive withdrawal of liquidity by the main central banks. Some readjustment was always a possibility, as tighter monetary conditions made investors more sensitive to risk. However, market commentators differ in the analysis of the causes of the correction and the outlook for stock prices. Some argue that price declines are a healthy correction as valuations had become particularly stretched in after a rally of more than three years in which for example the EuroStoxx50 almost doubled. Even after the significant correction, major stock indices are still around their end-2005 levels. Other commentators are less sanguine and highlight global imbalances and compressed credit-risk spreads as the backdrop to the market correction. In the view of the pessimists, this could be the beginning of the long-anticipated adjustment in international financial markets. On balance, however, it is too early to reach a definitive judgement on the significance of recent equity market developments. The crucial question is whether the recent episode in financial-market turbulence is simply a one-off event or the beginning of a more protracted – and potentially disruptive – adjustment in the international financial system. For the time being, the correction is largely an equity-market event, but any evidence of more marked contagion into other markets would be a cause for concern.

momentum after the World Bank-IMF spring Meetings in Washington in April which reawakened financial markets' concerns about global imbalances. Since then, a combination of both factors seems to have contributed to short-term volatility in the dollar-euro exchange rate. In recent weeks, a changed market view on monetary policy in the US, driven by inflation fears, has re-strengthened the US dollar and brought the bilateral USD/EUR rate back to 1.26.

bilateral appreciation against the dollar. In nominal effective terms, the euro has appreciated by 3.5% since the beginning of the year and stands around 15% above its 1995-2005 average. In real effective terms (deflated by consumer prices), the euro is slightly above its 1980-2005 average.

May and June were turbulent months for financial markets (see Box 2 for a detailed discussion). After reaching a five-year high in early May, global stock markets experienced a serious downward correction. The sell-off in stock markets has been reflected, to a lesser extent, in developments in foreign exchange markets where trading has been characterised by a general flight to quality and profit-taking. A flight to quality was also reflected in long-term bond yields in both the euro area and the USA, which temporarily declined by some 10 basis points in the first two weeks of May. After some temporary relaxation, the sell-off continued in the first weeks of June.

Table 3: Changes in nominal exchange rate
(in %)

22 June compared with:	USD/EUR	JPY/EUR	NEER euro area IC41
1 Jan 06	6.4	4.2	3.5
Avg 2005	1.2	6.3	1.1
Avg. 1995-2005	12.5	14.45	14.8

Source: Commission services, EcoWin.

In effective terms, however, the euro's appreciation was much less pronounced than its



2. A mid-year review of budgetary policy in the euro area

Revenues explain better-than-expected deficit outturn in 2005

Following several years of negative surprises vis-à-vis forecasts, in 2005 public finances fared better than expected. The general government budget balance in the euro area posted a deficit of 2.4% of GDP, half a percentage point lower

than expected some five months earlier in the Commission services' 2005 autumn forecast. Adjusted for cyclical effects and one-off measures, the structural budget balance improved by $\frac{3}{4}$ of a percentage point, which is the largest improvement since 1997. The better-than-expected deficit outturn in the euro area as a whole in 2005 can mainly be attributed to revenues. Adjusted for the impact of statistical revisions to GDP, revenues turned out 0.4 pp higher than forecast while expenditures were 0.1 pp point lower than expected. (See Box 3).

Box 3: Revenues explain better-than-expected deficit outturn in 2005

As shown in the table below, the better-than-expected deficit outturn for 2005 is the result of a lower-than-expected revenue ratio being more than offset by a significantly lower-than-expected expenditure ratio. Hence, at first sight the story behind the positive surprise would seem to be that restrained expenditure dynamics made up for revenues that did not keep pace with the level of economic activity.

However, a closer look at the nominator and denominator of the expenditure and revenue ratios leads to a different conclusion. In absolute terms, the total amount of revenues accrued to the general government sector in the euro area in 2005 was actually some € 26 billion (0.3% of GDP) higher than projected in autumn, while total expenditure turned out 'only' around € 8 billion below the forecast level. Meanwhile, the level of nominal GDP was revised significantly upwards and tuned out to be 1.5% higher than projected last autumn. This level shift does not reflect stronger-than-expected economic growth or higher-than-expected inflation - the growth rate of nominal GDP remained essentially unchanged between autumn and now. It is in fact entirely due to statistical revisions which have been made between autumn and now. The mechanical effects of these statistical revisions of the GDP level on both the revenue and expenditure ratios are necessarily the same (around -0.7% percentage point - see last column of the table). They have therefore no impact on the 2005 deficit ratio but make comparisons between the actual revenue and expenditure ratios and those projected in autumn more complicated.

In conclusion, the better-than-expected deficit outturn in the euro area as a whole in 2005 can be mainly attributed to revenues. Adjusted for the impact of technical/statistical revisions to GDP, revenues turned out 0.4% higher than forecast while expenditures were 0.1% lower than expected.

Commission services' forecast vs. outturn, euro area 2005

	Autumn 2005 (1)			Outturn (2)			Difference (2)-(1)		Effect of level shift in nominal GDP on ratio (1) %
	% of GDP	Levels (bil. €)	% ch.	% of GDP	Levels (bil. €)	% ch.	% of GDP	Levels (bil. €)	
Total revenue	45.5	3581.6		45.1	3607.8		-0.3	26.0	-0.7
Total expend.	48.4	3807.4		47.5	3799.8		-0.8	-7.6	-0.7
Budget balance	-2.9	-225.8		-2.4	-192.1		0.5	33.8	0.0
GDP		7873.5	3.1		7991.3	3.0	1.5	117.7	

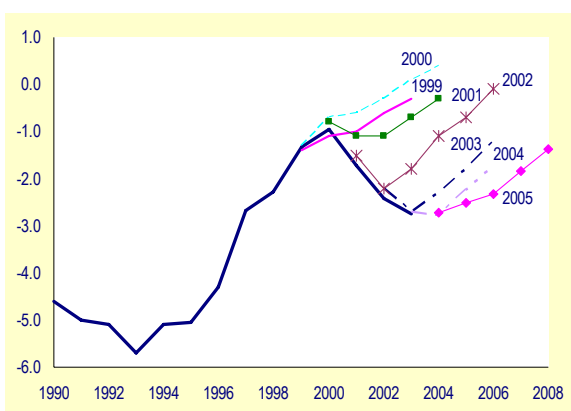
(1) Calculated as (ratio) x (% change in nom. GDP level).

Source: Commission services.

Limited consolidation in 2006 and 2007

The 2005 updates of the stability programmes, which were submitted before the better-than-expected 2005 outturn was known, continued the trend of previous years, shifting the adjustment paths for the general government balance further into the future (Graph 11).

Graph 11: Nominal budget balances in the euro area: evolution in projections in the successive (1999-2005) updates of the stability programmes (In % of GDP)



Source: Commission services.

In the past, the failure to meet budget and debt targets over the years could be partly attributed to a misjudgement of cyclical conditions as well as overestimation of potential growth, which led to higher-than-projected structural deficits. In large part, however, it was also attributable to fiscal slippage.

Addressing the failure to make progress towards the medium-term objectives (MTOs)² was one of the main objectives of the 2005 Stability and Growth Pact (SGP) reform. The March 2005 Council report on strengthening the implementation of the SGP states that *'The past failure to reach the medium-term budgetary objective of 'close to balance or in surplus' calls for a strengthening of the preventive arm of the Stability and Growth Pact, through a renewed commitment by Member States to take*

² The medium-term budgetary objective is set by the Member States to ensure a sufficient safety margin with respect to the 3 percent of GDP reference value and to ensure medium and long-term sustainability of public finances. It is measured in structural terms, i.e. cyclically-adjusted, net of one-off and temporary measures.

the budgetary action necessary to converge towards this objective and respect it'. It also states that 'Member States that have not yet reached their MTO should take steps to achieve it over the cycle. Their adjustment effort should be higher in good times; it could be more limited in bad times. In order to reach their MTO, Member States of the euro zone or of ERM-II should pursue an annual adjustment in cyclically adjusted terms, net of one-offs and other temporary measures, of 0.5% of GDP as a benchmark.' For countries in the excessive deficit procedure (EDP), the requirement set in the corrective arm of the SGP is stricter: *'As a benchmark, countries in excessive deficit will be required to achieve an annual minimum fiscal effort of at least 0.5% of GDP in cyclically adjusted terms, net of one-off measures (...).'*

Now, one year after the reform of the Pact, several Member States are not following the key principles that were agreed last year. In particular, some which have achieved their MTO seem to be following pro-cyclical fiscal policies while others not yet at their MTO are not pursuing an annual structural adjustment of at least ½% of GDP. This runs against the spirit and the letter of the reform of the preventive part of the Pact.

The Council Opinions on the 2005 updates already reflected concern about the degree of back-loading of fiscal efforts and about the fiscal relaxation and lack of ambition in 2006. The more recent projections of the Commission services' spring 2006 forecast signal that the fiscal consolidation targets for 2006 of the stability programmes are at risk in half of the Member States. In order to change the trend of further shifting out the adjustment paths towards the MTOs, the 2006 budgetary improvements would need to be better than forecast and complemented by ambitious 2007 budgets.

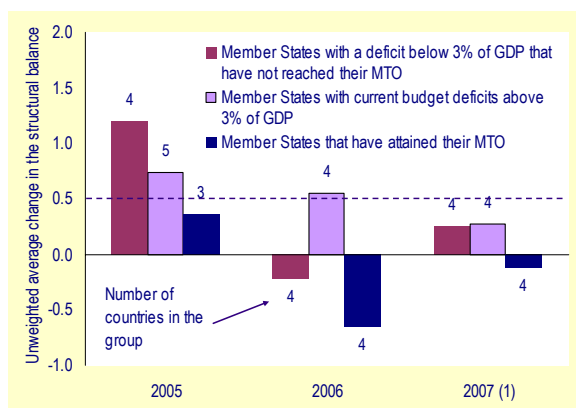
Graph 12 looks at the budgetary developments in different groups of euro-area Member States. The Member States are grouped according to their budgetary situation. It shows that:

- (i) A large deterioration in the structural balance (i.e. cyclically adjusted balances net of one-off and temporary measures) is forecast in 2006 in 'countries which are already at the MTO'. This, however, reflects in particular the large deterioration (between 1 and 1½ % of GDP) of the structural balance in Ireland and the



Netherlands, reversing improvements of a similar order in 2005 which were partly due to exceptional revenues, and as such does not reflect a large policy change. In 2007, on the basis of the no-policy-change scenario underlying the Commission services' 2006 spring forecast, the structural budget balance is expected to remain broadly unchanged. In several Member States, the 2007 budgets are likely to include fiscal consolidation measures, improving the outlook for 2007.

Graph 12: Forecast annual change in the structural budget balances, euro-area Member States (Spring 2006 forecasts – in percentage points)



(1) Projections for 2007 are based on a no policy changes assumption.

Source: Commission services.

(ii) 'Member States with a deficit below 3% of GDP but which have not reached their medium-term budgetary objective' also show on average a structural deterioration in 2006, by about ¼% of GDP. In Austria and Belgium, the deterioration is due to fiscal loosening in particular. With no further policy changes, in 2007 the countries in this group of Member States would on average improve their structural balance by ¼% of GDP. Additional consolidation measures in the 2007 budgets are expected to tighten the fiscal stance and achieve at least the benchmark improvement in the structural balance of 0.5% of GDP.

(iii) 'Countries in Excessive Deficit Procedure' are expected to make the required effort of 0.5% of GDP in 2006. For 2007, on the basis of the no-policy-change scenario underlying the

Commission services' 2006 spring forecast, countries in EDP are projected to improve their structural balance by ¼% of GDP only. Especially in Italy and Portugal significant consolidation measures are required to ensure the required fiscal efforts and correct the excessive deficit by the deadlines set by the Council.

Fiscal stance and cyclical conditions

Having been clearly expansionary in 2001 and 2002, the fiscal stance was broadly neutral between 2002 and 2004, before tightening significantly in 2005. The CAPB improved particularly sharply in the Netherlands, Greece, Spain and France and, to a lesser extent, also in Finland and Germany. According to the Commission services' spring 2006 forecast, the fiscal stance is projected to return to broadly neutral in 2006 (and, on a no-policy change basis, in 2007) as a result of some tightening in countries in EDP and fiscal loosening in some other euro-area Member States. Member States are not making use of growth above or close to potential to tighten the fiscal stance and speed up fiscal consolidation, even though lessons from the past show that windfall revenues should be used for deficit and debt reduction.

General government debt developments in the euro area

The Commission services' spring 2006 forecast foresees a decline in the debt ratio from 70.8% to 70.5% of GDP in 2006 and, under the no-policy-change assumption, to 70.1% in 2007, helped by high growth and inflation and the better-than-expected deficit outturn for 2005. This would be the first decline in the euro-area debt ratio since 2002. Still, ambitious budgetary consolidation and decisive progress towards the medium-term budgetary objectives over the next few years are required to sustain and speed up the trend of debt reduction and thereby prepare for the budgetary costs of ageing populations.

The aggregate debt projections in the spring 2006 forecast hide important differences across countries. In Greece and Italy, government debt ratios are expected to remain above 100% of GDP according to both their respective stability

programmes and the spring forecast. Belgium reduced its debt below this level in 2003 and its debt ratio is expected to be reduced further in the future thanks to continued significant primary surpluses. Four other euro-area Member States recorded debt ratios above 60% of GDP in 2005 (Germany, France, Austria and Portugal). According to the Commission services' spring 2006 forecast, of the seven euro-area Member States with debt levels above 60% of GDP, Germany, Portugal, France and Italy are expected to record increases in their level between 2005 and 2007.

Concluding remarks

In 2005, the structural budget balance in the euro area improved significantly more than expected, by about $\frac{3}{4}$ % of GDP, which is the largest improvement since 1997. According to the budgetary plans that the Member States have submitted in their stability programmes, the structural budget balance in the euro area as a whole was expected to improve further by almost 1% of GDP from 2005 until 2007. However, recent evidence paints a much less upbeat picture

of budgetary consolidation in the euro area. The Commission services' spring 2006 forecasts signal that the fiscal consolidation targets for 2006 of the stability programmes are at risk in half of the Member States. To meet the budgetary consolidation plans in the Stability programmes, 2006 budgetary improvements would need to be better than forecast and complemented by ambitious 2007 budgets.

Speeding up progress towards the medium-term budgetary objectives while growth conditions are benign, with growth above or close to potential, will allow the full play of automatic stabilisers during the next downswing. Lessons from the past show that windfall revenues should be used for deficit and debt reduction. More ambitious fiscal restraint in the current benign economic environment could also reduce or postpone the need for increases in interest rates. In turn, this would make it easier for Member States with high debt levels to accomplish the necessary fiscal consolidation which is essential in the light of the upcoming budgetary challenge of population ageing.



3. Cyclical synchronisation within the euro area: what do recent data tell us?

A high degree of business cycle synchronisation between Member States is critical for a smooth functioning of EMU. It facilitates the coordination of economic policies and, in particular, the conduct of a common monetary policy. It is therefore important to regularly monitor the issue of cyclical synchronisation and indeed it has already been analysed on two occasions in the Quarterly Report on the Euro Area.³ These studies concluded that Member States' business cycles were relatively closely aligned and that the dispersion in output gaps within the euro area had tended to narrow since the 1990s.

The issue of cyclical synchronisation within the euro area has recently also received considerable attention in the academic literature. There is a certain consensus in the empirical literature that euro-area business cycles are closely aligned. Giannone and Reichlin (2006), for instance, show that turning points in national business cycles have shown a remarkable degree of simultaneity since 1970.⁴ However, available evidence on the existence of a cyclical convergence process (i.e. an increase in synchronisation over time) is more controversial. On the one hand, Darvas and Szapáry (2005) show that the business cycles of euro-area Member States have become more synchronised over time, particularly since 1993 (the start of the run-up to EMU).⁵ De Brandt, Bruneau and Flageollet (2006) also report an increasing correlation of the business cycles of the three largest euro-area countries from the mid-1990s.⁶

On the other hand, Artis (2005) does not find clear signs of cyclical convergence among euro-area countries and Camacho, Pérez-Quirós and Sainz (2005) report a decrease in business cycle correlations in the last decade.^{7 8}

The fact that the recent empirical literature is not fully conclusive regarding the evolution of business cycle synchronisation within the euro area in recent years suggests that synchronisation indicators should be regularly reviewed.

The academic literature proposes a wide range of statistical tools, both to separate cyclical fluctuations from trend growth and to measure the degree of cyclical synchronisation between two countries. In this section, a modified version of the Hodrick and Prescott filter was used to extract the cyclical component from national real GDP series. Synchronisation is measured via two simple statistical tools: the dispersion of national output gaps and their correlation (see Box 4). As will be discussed, both tools have their pros and cons and can sometimes send conflicting signals.

Indicators of cyclical dispersion point to high synchronisation within the euro area...

The dispersion (or more technically the standard deviation) of output gaps is probably the most relevant measure of cyclical synchronisation in a macroeconomic policy perspective. At a given point in time, the dispersion will be close to zero if all Member States are in a similar cyclical position. Hence, the closer to zero the measure is, the more synchronised are the business cycles and the more appropriate common monetary impulses are for each Member State.

Graph 13 presents the dispersion of output gaps for the euro-area countries. It shows that, since the early nineties, dispersion has narrowed considerably and now stands at a historical low.

³ See Focus on 'Growth differences in the euro area', Quarterly Report on the Euro Area, Vol. 4, No. 2 (2005), and Focus on 'Cyclical convergence in the euro area', Quarterly Report on the Euro Area, Vol. 3, No. 2 (2004).

⁴ Giannone, D. and L. Reichlin (2006), 'Trends and cycles in the euro area: how much heterogeneity and should we worry about it?', ECB Working Paper Series, No. 595.

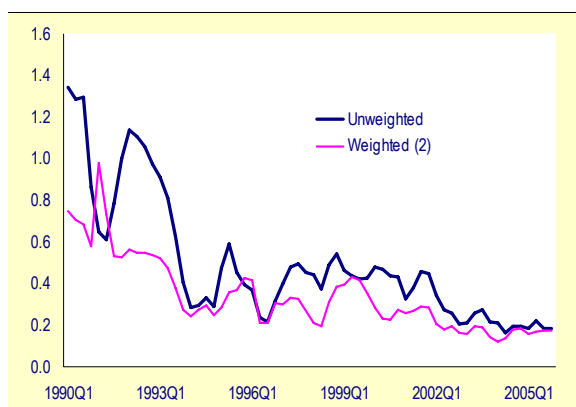
⁵ Darvas, Z. and G. Szapáry (2005), 'Business cycle synchronisation in the enlarged EU', CEPR Discussion Paper, No. 5179.

⁶ De Brandt, O., C. Bruneau and A. Flageollet (2006), 'Assessing aggregate comovements in France, Germany and Italy using a non stationary factor model of the euro area', Banque de France, NER, No. 145.

⁷ Artis, M. (2005), 'Business Cycle Affiliations and their determinants: where do we stand?', European Economy, Economic Papers, No. 227.

⁸ Camacho, M., G. Pérez-Quirós and L. Sainz (2005), 'Are European business cycles close enough to be just one?'; European Economy, Economic Papers, No. 227. It is worth stressing, however, that in contrast to the other studies mentioned above, this work is based on monthly industrial production data instead of GDP data.

Graph 13: Standard deviation of output gaps, euro-area Member States (As % of GDP – 1990Q1-2005Q4) (1)



(1) IE, LU and PT are excluded owing to lack of data.
 (2) Using GDP as a weight
 Source: Commission services.

However, it cannot be excluded that the observed reduction in the dispersion of output gaps is not due to the fact that Member States' business cycles are increasingly in phase but is explained by a general decrease in the amplitude of cyclical fluctuations. Indeed, the dispersion will remain low even when national business cycles move apart, as long as output gaps do not stray too far from zero. In other words, a cyclical divergence trend could be masked by the low amplitude of cyclical fluctuations.

There has actually been a significant decline in the amplitude of business cycle fluctuations in most OECD countries since the 1980s. This reduction in cyclical volatility is well documented but not yet fully understood. Explanations proposed in the empirical literature include improved macroeconomic policies, structural reforms, changes in economic structures (including more developed financial markets) and smaller or less frequent economic shocks.⁹ There is, however, little consensus as to the relative importance of these factors. In particular, it is

⁹ See, for instance, Cotis, J.P. and J. Coppel (2005), 'Business cycle dynamics in OECD countries: evidence, causes and policy implications', paper presented at the Reserve Bank of Australia Economic Conference on 'The changing nature of the business cycle', Sydney, Australia, July 11-12, 2005. Another reference is Stock, J. H. and M. W. Watson (2003), 'Has the Business Cycle Changed? Evidence and Explanations', Paper prepared for the Federal Reserve Bank of Kansas City symposium on 'Monetary Policy and Uncertainty', Jackson Hole, Wyoming, August 28–30, 2003.

not clear to what extent lower volatility can be ascribed to temporary factors (smaller economic disturbances) or is an ingrained feature of OECD economies.

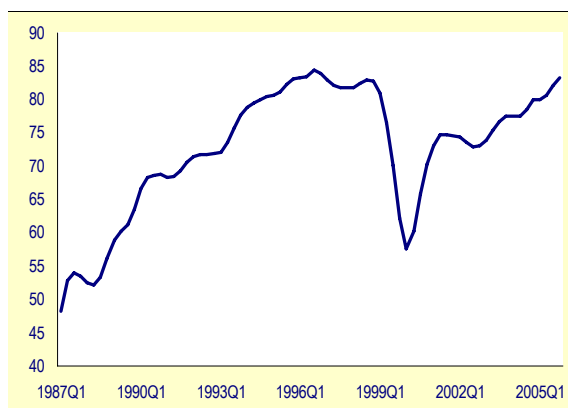
Overall, it is likely that the fall in output gap dispersion within the euro area since the 1990s is attributable, at least partly, to the reduced amplitude of business cycles. If lower cyclical volatility is only temporary, the high degree of cyclical synchronisation currently indicated by measures of output gap dispersion could turn out to be short-lived. It is therefore necessary to complement the analysis by looking at additional indicators of cyclical synchronisation.

... but measures of cyclical correlation send more conflicting signals

The correlation of business cycles is an alternative measure of synchronisation that is insensitive to changes in the amplitude of the business cycle. Graph 14 displays the mean of the correlations of euro-area Member States' business cycles with the euro-area cycle (as measured by detrended euro-area GDP). The correlations are calculated for a 6-year rolling window – i.e. the number at a given point in time is the correlation calculated for the 6 years to that point. A rise in the mean correlation indicates increased synchronisation.

Graph 14: Mean output gap correlation for a 6-year rolling window, euro-area Member States

(Average of the unweighted correlations between national and the euro-area output gaps in % – 1987Q1-2005Q4) (1)



(1) AT, IE, LU and PT are excluded owing to lack of data.
 Source: Commission services.



Box 4: Measuring business cycle convergence

Various methods have been proposed in the literature to investigate the issue of business cycle convergence. One possible approach is to look at the evolution of the standard deviation of euro-area countries' business cycles over time. The smaller the standard deviation for a given period, the closer the individual cycles cluster together. It is important to bear in mind that the measure is scale-dependent, i.e. for a given level of cyclical synchronisation, the standard deviation will rise (or fall) proportionally with a rise (or fall) of the mean amplitude of the individual cycles. Given that the absolute degree of dispersion of euro-area output gaps is of great importance for the conduct of monetary policy in a monetary union, the standard deviation is a very relevant measure to gauge the degree of cyclical convergence in the euro area.

Due to its scale-dependency, however, it is less suited to measuring the genuine synchronisation dimension of business cycle convergence, i.e. whether the cycles display a common periodicity and phase, disregarding possible changes in amplitude. By contrast, the coefficient of correlation between the business cycles of euro-area countries lends itself well to an examination of this issue. Such correlation coefficients can be computed over a series of rolling windows, providing a continuous track of developments over time. This approach is taken in numerous investigations of the issue of business cycle synchronisation, in the euro area and elsewhere. Belo (2001) demonstrates that the correlation approach allows an accurate assessment of business cycle synchronisation within the euro area. It enables conclusions to be drawn that are consistent with an analysis of the concordance index proposed by Harding and Pagan (2002) (the concordance index measures the fraction of time that the cycles of two countries are in the same phase). However, the correlation measure also suffers from drawbacks. Indeed, correlations can be very sensitive to the length of the rolling window chosen. Moreover, small shifts in cycles could lead to systematic drops in correlation at turning points of the cycles if the window is shorter than the length of the cycle.

References:

Belo, F. (2001), 'Some Facts about the Cyclical Convergence in the Euro Zone', Economic Bulletin, Banco de Portugal, December.

Harding, D. and A. Pagan (2002), 'Synchronization of Cycles', Melbourne Institute of Applied Economic and Social Research, mimeo.

Based on this measure, cyclical synchronisation within the euro area showed a clear upward trend between the late 1980s and the late 1990s. Contrary to dispersion indicators, the correlation measure points to a sharp but short-lived drop in synchronisation in the late 1990s and early 2000s. A look at the individual Member States' contribution to the drop suggests that the temporary desynchronisation mainly reflected the differentiated effect of the emerging-market crisis of the late 1990s combined with the beginning of a phase of divergence between Greece and the rest of the euro area. Thanks to robust domestic demand, Member States such as the Netherlands and Spain weathered the emerging-market crisis with only a mild slowdown in economic growth. Other countries such as Finland and Italy were hit more severely. However, since 2000, a clear convergence trend has again been visible.

A major drawback of measures of cyclical synchronisation based on correlation is that they are sensitive to the length of the period chosen. The mean euro-area correlation computed over a 6-year window gives more or less the same

picture as the 8-year window (which is also used in the empirical literature). However, if we look at the mean correlation computed over a shorter 4-year window, the picture changes considerably (Graph 15). It becomes difficult to discern any convergence trend in the 1990s. Furthermore, the estimated average correlation displays large and regular swings:

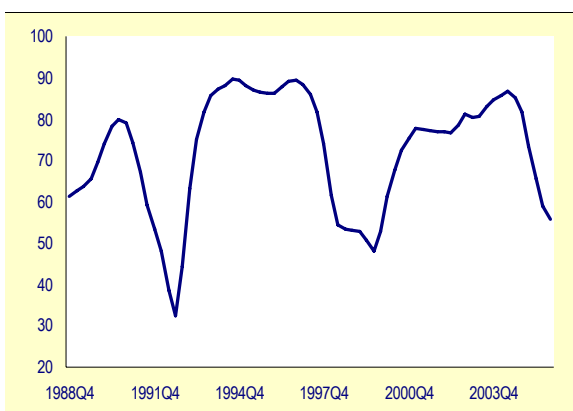
- There was a temporary divergence phase in the early 1990s which is mostly attributable to a number of asymmetric shocks which hit the euro area in those years, including German unification, the effect of the collapse of the Soviet Union on the Finnish economy and a public sector crisis in Greece. In the longer 6-year window, these asymmetric shocks only translated into a pause in the upward trend in correlation.
- The episode of divergence of the late 1990s already noted in the case of the 6-year window is also visible with the 4-year window. Interestingly, it begins somewhat earlier than in the case of the longer window. The countries responsible for the fall are the

same for both windows, suggesting that the shorter window may have some leading properties.

- Euro-area business cycles seem to have again entered a phase of lower synchronisation since the second half of 2004. The fall in correlation is mainly attributable to Belgium, Finland, Greece and Spain.

Graph 15: Mean output gap correlation for a 4-year rolling window, euro-area Member States

(Average of the unweighted correlations between national and the euro-area output gaps in % – 1987Q1-2005Q4) (1)



(1) AT, IE, LU and PT are excluded owing to lack of data.

Source: Commission services.

Overall, any assessment of cyclical synchronisation based on correlation should be interpreted with caution. Indeed, this indicator can be very sensitive to the length of the period for which it is calculated. Shorter windows tend to be more sensitive to small deviations in Member States' business cycles and may therefore sometimes suggest large falls in synchronisation even when the underlying divergence is minor and short-lived.¹⁰ The comparison between the 4- and 6-year windows suggests that the shorter window may sometimes have leading properties over the longer one. The sources of the recent drop in correlation reported in Graph 15 therefore need to be investigated carefully.

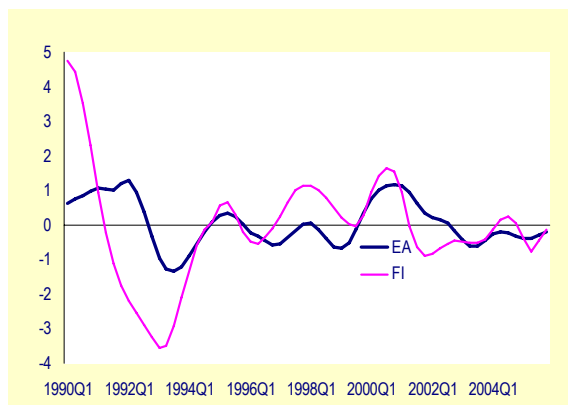
¹⁰ Simulations show that the correlation between two identical series, one of which is slightly lagged, displays a pattern of periodical drops, when the correlation window is smaller than the length of the cycles. The risk of such systematic drops is thus higher for the 4-year window than for the 6-year window.

Several factors explain the recent fall in some correlation measures

Several divergence factors emerge from the analysis of the business cycles of the Member States which have contributed to the fall in correlation observed since 2004 with the 4-year window.

A slight shift in the Belgian cycle. The fall in correlation between the Belgian and the euro-area cycles since 2004 reflects a slight shift in cycles. The Belgian cycle, which had traditionally been closely aligned with the euro-area cycle, seems to have lagged the rest of the euro area since 2003 (Graph 16). The lag, however, has remained small (about a quarter), illustrating the fact that correlation coefficients can be very sensitive to small shifts in cycles, specially when they are calculated for short windows.

Graph 16: The euro-area and Belgian business cycles
(Output gap in % – 1990Q1-2005Q4)

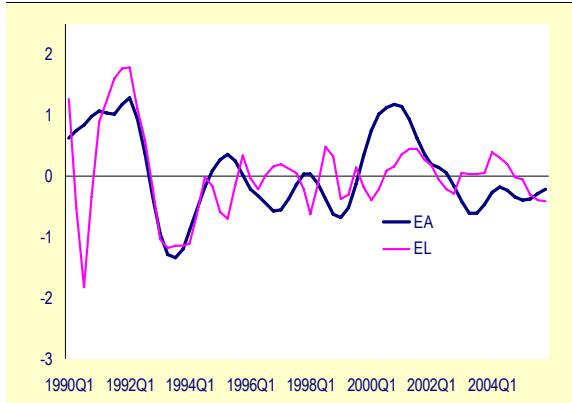


Source: Commission services.

Specific factors in Greece. Since the mid-1990s, Greece has tended to be the odd country out, with a business cycle largely disconnected from the rest of the euro area (Graph 17). This low synchronisation can partly be explained by structural features of the Greek economy, particularly its comparatively low integration in intra-area trade. In recent years, the Greek economy has benefited from the positive impact of a later adoption of the euro and the strong economic stimulus from the 2004 Olympic Games.



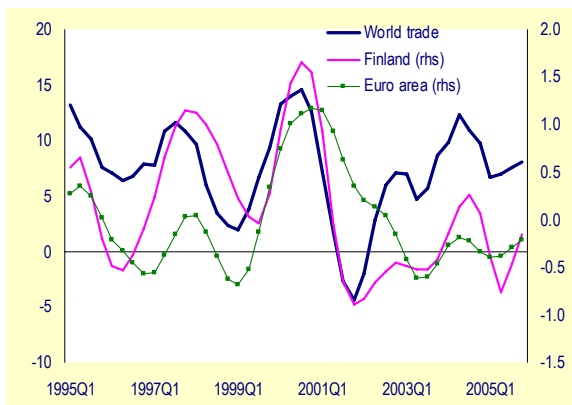
Graph 17: **The euro-area and Greek business cycles**
(Output gap in % – 1990Q1-2005Q4)



Source: Commission services.

Common shocks with differentiated effects. Differences in Member States' economic structures may lead to possible temporary episodes of cyclical divergence. Fluctuation in world trade may have such an asymmetric effect. Graph 18 suggests that, since 2004, the Finnish economy has been much more exposed to the swings of the world trade cycle than the rest of the euro area. Finnish exports have also responded to these swings with a slight lag that can probably be ascribed to the country's highly specialised production structure. Given Finland's trade openness the slight lag in exports has entailed a slight lag in the business cycle that, as in the case of Belgium, has brought a large fall in the correlation with the euro-area business cycle.

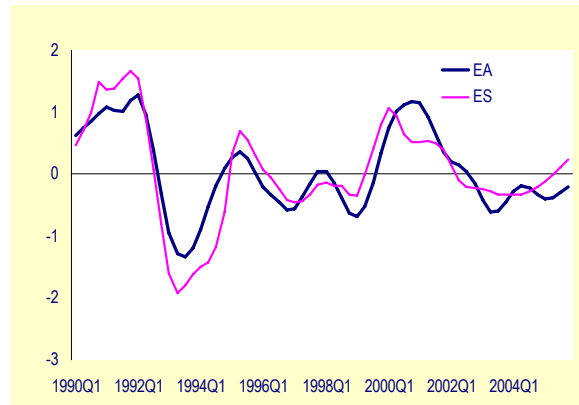
Graph 18: **The world trade and the Finnish and euro-area business cycles** (Output gap in % – 1995Q1-2005Q4 and world trade: y-o-y % change)



Source: Commission services.

The real interest rate channel at work in Spain. Cyclical activity in Spain picked up gradually during the course of 2004 and did not experience the relapse observed in the rest of the euro area. Growth in 2004 was 3.1%, in contrast with the euro-area's 2%. In 2005, Spain remained amongst the fastest-growing economies in the euro area. As a consequence, the decoupling with the euro-area cycles over the past two years appears somewhat more marked for Spain than for Belgium or Finland (Graph 19).

Graph 19: **The euro area and Spanish business cycles**
(Output gap in % – 1990Q1-2005Q4)



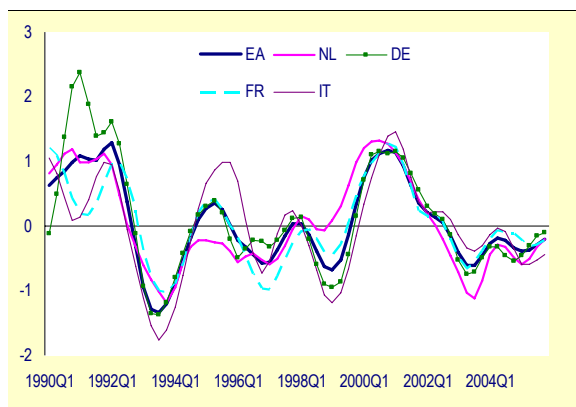
Source: Commission services.

The recent fall in Spain's synchronisation is rooted in domestic demand. Economic activity in Spain has been led by domestic demand with private consumption being supported by strong job creation and the effect of real interest rates in EMU. Under a single monetary policy, countries with higher inflation enjoy comparatively lower real interest rates that tend to fuel domestic demand. In the case of Spain, the divergence effect of real interest rates seems to have been reinforced by the interaction between real interest rates and housing markets. Given that inflation differentials tend to persist over relatively long periods, the real interest rate channel emerges as a potentially lasting source of cyclical differences in Spain, albeit an increased sensitivity to short-term interest rates may lead to a stronger impact of the ongoing monetary tightening by the ECB. The Spanish economy is therefore experiencing a phase of desynchronisation with the rest of the euro area that, although moderate at this stage, could turn

out to be less short-lived than in the case of Greece, Finland and Belgium.

Overall, the recent drop in the average 4-year correlation does not seem to give much cause for concern, except possibly in the case of Spain. Some degree of cyclical differences is unavoidable in an economic and monetary union which is subject to country-specific factors or common shocks with asymmetric impacts. Furthermore, measures of correlation can sometimes be very sensitive to what may be considered as minor deviations in business cycles and should therefore be interpreted with prudence.

Graph 20: Business cycles of the euro area, France, Germany, Italy and the Netherlands
(Output gap in % – 1990Q1-2005Q4)



Source: Commission services.

Finally, it is worth stressing that, apart from the case of Spain, the recent cyclical desynchronisation is entirely attributable to smaller Member States. In contrast, the business cycles of France, Germany, Italy and the Netherlands have remained closely aligned (Graph 20). In 2005, the average cyclical correlation of these countries with the euro area stood above 90%.

Conclusion

Although measures of cyclical synchronisation have recently sent somewhat conflicting signals, the analysis presented here suggests that Member States' business cycles have remained relatively closely aligned in the past few years.

While the dispersion of Member States' output gaps has remained at historical lows, some measures of business cycle correlation have pointed to a possible cyclical desynchronisation in a few Member States (Belgium, Greece, Finland and Spain) since 2004. A careful analysis of these countries shows that these signs of desynchronisation are not generally a source of concern. They mostly reflect temporary and minor shifts in cycles which are inevitable in EMU insofar as economic structures still vary significantly across Member States. Nevertheless they should continue to deserve attention by national policy makers.



Focus

II. The growing importance of services in the euro-area economy

Over the last three decades, the euro area, like other developed economies, has undergone a progressive shift of its production structure from goods to services which now account for about 70% of employment and GDP. The objective of this focus is to review the specificities of services compared with manufacturing and discuss the impact of the shift on the euro-area economy.

Services tend to be relatively sheltered from external trade or cyclical fluctuations. The services sector is prone to higher and more persistent inflation than industry. Finally, it is also the mainstay of employment creation but, unlike in the USA, suffers from low and decelerating productivity gains. The shift to services therefore has potentially important implications for the performance of the euro-area economy in terms of productivity, inflation and business cycle fluctuations.

Nevertheless, the analysis presented in this focus shows that these enduring features of services should be refined in two ways. First, the services sector is characterised by a high degree of heterogeneity. Some sub-sectors, particularly in the market services sector, are relatively exposed to international trade and can be subject to strong cyclical swings either directly or because of strong input-output linkages with industry. Second, low productivity and high and persistent inflation are partly a symptom of a lack of competition and therefore not an inevitable structural feature of the sector. The US experience shows that the shift to services does not necessarily entail a deceleration of productivity. There is room for dynamic services markets that contribute both to employment and to strong productivity growth provided that an adequate framework is set in place that fosters competition and allows service providers to innovate, restructure and make full use of the possibilities offered by ICT.

The objective of this focus section is to review the contribution of the services sector to the euro-area economy and to highlight the specificity of service sectors relative to industry. After assessing the rising weight of services in the economy (Section 1), the note examines the contribution of services to productivity and inflation (Sections 2 and 3). It then gauges the strength of the sector's linkages with the international economy (Section 4) and domestic industry (Section 5). A final section discusses briefly the exposure of services to business cycle fluctuations (Section 6).

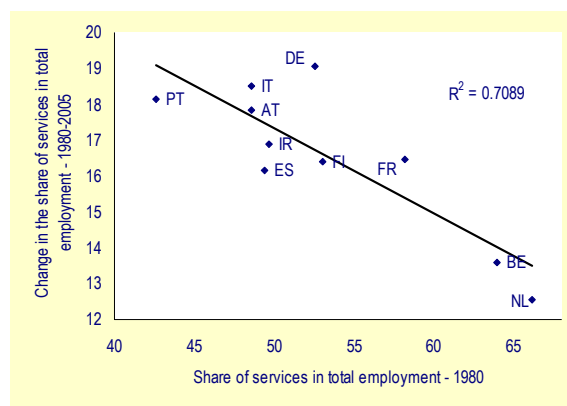
1. The growing importance of services in the euro-area economy

Services account for about 70% of total value added and total employment in the euro area. The last three decades have witnessed a steady rise in their importance in the euro-area economy. The share of services in the economy's total value added increased by more than 13 percentage points between 1980 and 2003. (Table 4) The gain was even more impressive when measured in terms of employment (17 pp).

The structural shift towards services has been widespread among developed economies. Within

the euro area, the shift has been associated with a marked convergence process. As shown in Graph 21, countries where services were less developed in the mid-1980s have experienced larger increases in the share of services over the last two decades. There has also been a steady convergence of the euro-area share of services towards the higher US level.

Graph 21: Convergence in the share of services in total employment, euro-area Member States (In %)



Source: OECD STAN database, Commission services.

Looking at the composition of services, much of the increase stems from the expansion of the subcomponent 'finance, real estate and business services', which accounts for about 28% of the

Table 4: Trends in the share of services in total employment and value added, euro area
(Share of total in % – 1980-2003)

	Value added			Employment (2)		
	1980	1990	2003	1980	1990	2003
Total services	58.5	63.9	71.0	51.8	59.9	68.0
Market services	37.0	41.9	47.1	30.6	34.7	39.9
of which:						
Trade and tourism	12.0	12.4	12.5	16.9	18.3	19.3
Transport and communication	7.1	6.7	6.8	6.3	6.2	6.0
Financial and business services	17.3	22.8	27.8	7.4	10.3	14.7
Non-market services	21.6	22.0	23.9	21.2	25.2	28.1
Manufacturing	26.6	23.4	18.4	26.5	23.2	18.5
Other good sectors (1)	14.9	12.7	10.6	21.8	16.9	13.5
All sectors	100	100	100	100	100	100

(1) Agriculture, mining, construction and supply of electricity gas and water.

(2) In man-hours.

Source: Commission services and Groningen Growth and Development Centre.

value added in services in the euro area (but only 15% of employment). Limited data is available on the composition of this sector but available evidence in some Member States suggests that growth in activity and employment may be mainly ascribed to real estate activities, computer services and other business activities. By contrast, financial services seem to have played only a negligible role in the relative expansion of services in the euro area. Finally, reflecting weak gains in productivity or problems related to the measurement of prices, some sectors – such as community and personal services – have made significant contributions to employment growth but more modest contributions to growth in value added.

Several factors are likely to have contributed to the structural shift towards services.

First, households tend to spend more on some categories of services as their income grows. The fact that the weight of services in the economy tends to be higher in countries with higher GDP per capita lends support to this explanation.

Second, demand for services is being driven up by a number of technological, regulatory and socioeconomic factors. In sectors such as transport and high-tech services (telecom and computer services) it is rapid technical developments, sometimes combined with deregulation, that are fuelling demand. In the corporate sector, the tendency to outsource non-core activities means that some service activities previously performed internally by manufacturing companies are now performed by service companies and recorded as services in

national accounts (e.g. cleaning services, computer services). Rising female employment may also result in the transfer to the market of activities previously carried out by households on their own account (e.g. child care). Population ageing is also fuelling demand for care and health services.

2. A prominent role in employment and productivity developments

The contribution of services to employment

The services sector has long been the mainstay of employment creation in the euro area. In the eighties, job creation in services more than offset job losses in manufacturing and the acceleration of employment growth since the mid-1990s owes much to the dynamic development of market services (Table 5).¹¹ The contribution of non-market services, while still substantial, has not played a major role in the recent improvement of employment figures.

¹¹ In this focus section, services are broken down into market and non-market services. *'Market services'* include wholesale and retail trade; repair of motor vehicles, motorcycles, and other household goods; hotels and restaurants; transport, storage and communication; financial intermediation; and real estate, renting and business activities. *'Non-market services'* include public administration and defence, compulsory social security; education; health and social work; other community, social and personal service activities; and employment in private households. It should be stressed that the distinction between market and non-market services is a somewhat arbitrary simplification as some services included in the 'market services' sector also partly belong to the public sphere (e.g. research and development activities) and vice versa.



Table 5: **Employment growth, euro area (1)**

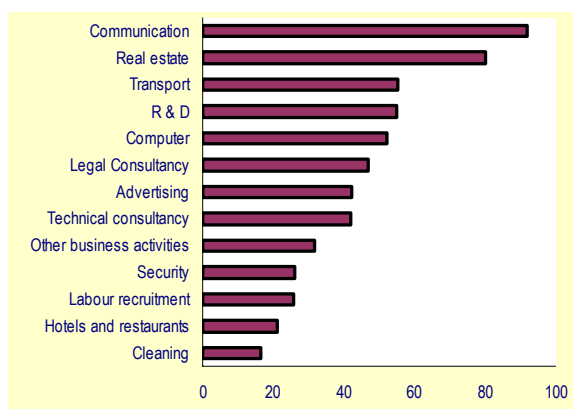
	Contribution to average annual growth (In %)		
	1980-90	1990-97	1997-03
Total economy	0.7	0.1	1.3
<i>Of which:</i>			
Manufacturing	-0.2	-0.5	0.0
Market services	0.6	0.4	0.9
Non-market serv.	0.5	0.4	0.5

(1) Based on number of jobs.

Source: Commission services and Groningen Growth and Development Centre.

Within market services, business services are especially dynamic as they account for half of the sector's contribution to total employment growth in the 1997-2002 period. Their rapid expansion reflects not only buoyant demand but also, as already mentioned, increasing outsourcing in the manufacturing sector. In the latter case, employment growth in services finds its statistical counterpart in job losses in manufacturing.

Graph 22: **Value added per employee in business service sectors, euro area (1) (1000 euro, 2003)**



(1) Excluding FI and NL

Source: Commission services.

However, business services are by no means a homogenous entity. Within the sector, two sub-groups can be identified. The first – comprising the cleaning, security and temporary-work sectors – is characterised by low value-added per employee (Graph 22), a weak investment rate and high numbers of personnel per company. It accounted for 36% of employment and 19% of value added in business services in 2003. The other, made up of computer services, consultancy work and advertising, constitutes 52% of employment and 69% of value-added.

Both sub-groups have witnessed a rapid rise in employment (respectively + 30% and + 35% from 1998 to 2003).

Productivity gains tend to be slow in services and have stalled in recent years...

Labour productivity tends to be lower in services than in manufacturing due to factors related to the sector's production process, including the need for face-to-face relations between providers and consumers of most services, and less scope for technological change. In addition, some services cannot be stockpiled; they have to be produced and delivered at the same time. Finally, service companies tend to be smaller than manufacturing companies. This reduces the scope for mass production, scale economies and exploitation of international comparative advantage.

Lack of competition is another explanation for weak productivity gains in services. Services are much less exposed to international trade and foreign competition than goods and many sub-sectors are still subject to a constraining regulatory environment. Restrictions on competition tend to ease the pressures to innovate and make it harder to put in place more effective production processes.

A recent empirical study by the ECB confirms this relation by providing evidence of a negative link between restrictions on competition and productivity.¹² The study provides econometric estimates of the impact of regulations (using various measures thereof) on labour productivity in services. The estimations are based on a panel of euro-area Member States' data and carried out for the aggregate services sector as well as several individual sub-sectors. The results show that, once key macroeconomic determinants are taken into account (e.g. R&D spending, GDP per capita), a higher level of sectoral regulation has a negative impact on growth in labour productivity in the aggregate services sector. The study also reports that employment protection legislation has a negative effect on productivity. Nevertheless, reflecting the heterogeneity of

¹² ECB (2006), Competition, productivity and prices in the euro area service sector', ECB Occasional Paper, No. 44, April.

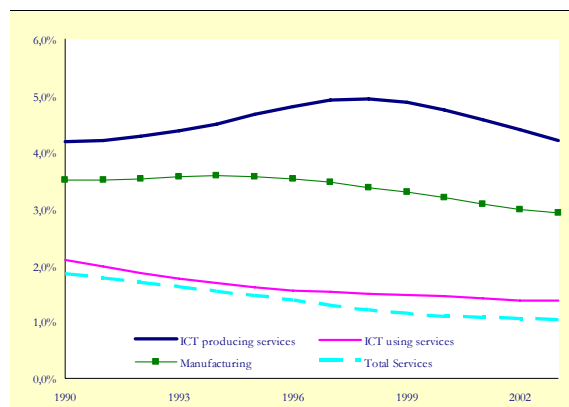
services and possible measurement problems in some sub-sectors, regression results vary significantly depending on the services sub-sectors considered. In particular, for 'hotels and restaurants' and 'real estate, renting and business services', measures of regulations either do not seem to have a meaningful effect or come with the wrong sign.

Productivity growth in services has decelerated significantly in the euro area since the 1990s. This deceleration seems to be of a structural rather than a cyclical nature, although not all service sectors have been equally hit (Graph 23). A possible explanation – which holds for both services and industry – is that wage moderation and the labour market reforms undertaken in the euro area since the 1980s have contributed to a reduction in capital-labour substitution. In addition, the re-integration of lower-productivity workers into the workforce may have exerted downward pressure on productivity by weighing on total factor productivity. According to this explanation, much of the deceleration of productivity should prove to be temporary. Nevertheless, empirical work carried out for the whole economy suggests that labour market reforms and wage moderation can only account for part of the trend deceleration in productivity growth in the euro area.¹³

Other possible explanations for the slowdown in productivity include the outsourcing trend from manufacturing to services and low competition in the service sector. However, neither explanation stands up to closer scrutiny. It is true that an acceleration of the scope of outsourcing of lower-productivity activities from manufacturing to the service sector could potentially have a negative impact on labour productivity in services, but if this were the explanation we should find its counterpart in an acceleration of manufacturing productivity, and we do not. As to competition, whereas the persistently low level of growth in productivity in the services sectors can partly be ascribed to a low level of competition, its deceleration since the mid-1990s is difficult to relate to competition which, if anything, has

increased slightly in services in recent years. Overall, therefore, the trend decline in productivity remains partly unexplained.

Graph 23: **Trend hourly labour productivity, euro area**
(Average annual growth in % – 1990-2003) (1)



Sources: Commission services and Groningen Growth and Development Centre.

...while the gap with the USA has widened

These lacklustre developments stand in sharp contrast with the acceleration of US productivity in services from the mid-nineties on. There is evidence linking this acceleration to the impact of information and communication technologies (ICT), whether directly through productivity gains associated with the production of ICT services, or indirectly through additional productivity gains as a result of their diffusion. This productivity surge has widened the gap with the euro area. As shown in Table 6, even if the euro area is keeping pace with the USA in ICT-producing sectors, strong productivity gains in US ICT-using sectors are not matched by similar gains in Europe.

Nevertheless, productivity comparisons between the euro area and the USA should be considered with prudence. Much of the divergence stems from a few ICT-using services such as trade and financial services (Graph 24) and further disaggregated analysis of the gap with the USA is needed for two main reasons. First, it cannot be excluded that factors other than ICT explain the widening gap with the euro area. For instance, productivity acceleration in the US wholesale and retail sectors has been associated with the emergence of the 'big box' business model. Such an evolution might be more difficult to achieve

¹³ See European Economy 2004 Review, Chapter 3. According to estimates provided in this study, labour market reforms account for 10% to 35% of the deceleration in the growth of total factor productivity for the euro-area economy as a whole.



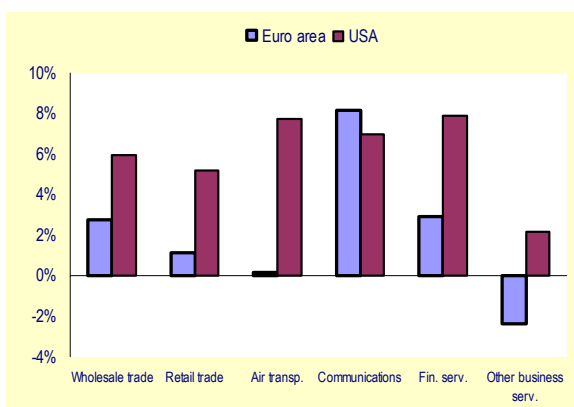
in the euro area due to stricter zoning restrictions, shop-opening regulations and competition barriers. The fact that the US economy has also experienced a pick-up in productivity growth in the service sectors which do not make an intensive use of ICT (Table 6) lends some support to the idea that factors other than ICT have also contributed to the gap between the euro area and the USA. Second, productivity is notoriously difficult to measure in these sectors and the gap might partly be a statistical artefact.¹⁴

Table 6: Hourly labour productivity, euro area and USA (Average annual growth in %)

	Euro area		USA	
	1989-1996	1997-2003	1989-1996	1997-2003
Total	2.1	1.5	1.2	2.4
Manufacturing	3.4	3.1	3.7	5.5
Services	1.6	1.0	1.4	3.1
<i>of which:</i>				
ICT producing services	3.8	5.4	3.3	5.2
ICT using services	1.5	1.5	2.0	4.9
Other services	1.5	0.1	0.5	1.1

Sources: Commission services and Groningen Growth and Development Centre.

Graph 24: Hourly productivity, selected fast growing service sectors (Average annual growth in % – 1997-2003)



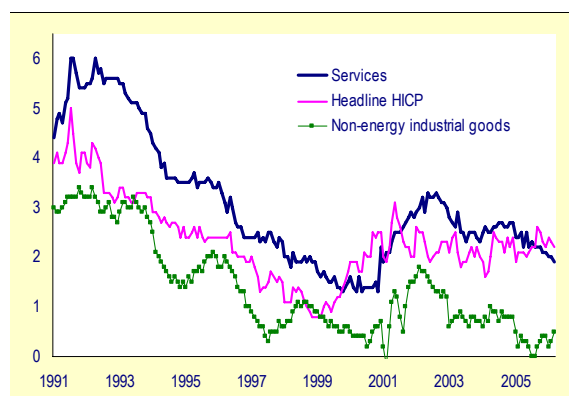
Source: Commission services and Groningen Growth and Development Centre.

3. High and persistent inflation in services

Since January 1991, services inflation – weighting 41% in the Harmonised Index of Consumer Prices – has generally been, at an average of 3.1%, than headline inflation at 2.3% (Graph 25).

Among the main services components, hospital services, medical and paramedical services, health insurance, financial services and transport services have had the highest inflation rates since January 1999. This suggests that high inflation in services may, to some extent, be attributed to temporary factors. Rapid price increases in health-care services have partly to do with reforms, such as the phasing-out of reimbursement of certain health-care services in Germany and the reduction in health-care coverage in the Netherlands in January 2004. Further, strong increases in petrol prices in 2000-2001 and 2005-2006 have fuelled inflation in the transportation sector.

Graph 25: Services, non-energy industrial goods and headline HICP inflation, euro area (Y-o-y % changes – Jan 1991 to March 2006)



Source: Commission services.

Nevertheless, the enduring nature of the inflation differential between services and industry indicates that temporary factors such as structural reforms or high oil prices have only a limited explanatory power. To assess the sources of the differential, Table 7 displays inflation in industrial goods and services as measured by the deflators of value added in national accounts. The change is decomposed into productivity, wage and profit margin components. The table clearly shows that

¹⁴ The European Commission is funding further research efforts in this area with the EUKLEMS project. In this context, more detailed and internationally comparable industrial productivity data should be made available by the end of 2006.

Table 7: Inflation as measured by value added deflators, euro area
(Average y-o-y changes in %) (1)

	1992Q1-1998Q4					1999Q1-2005Q4				
	<i>P</i>	<i>w</i>	<i>q</i>	<i>ulc</i>	π	<i>P</i>	<i>w</i>	<i>q</i>	<i>ulc</i>	π
Industry	0.9	3.4	3.2	0.2	0.6	0.3	2.3	2.5	-0.2	0.5
Services	2.0	2.5	0.9	1.6	0.4	2.1	2.1	0.2	2.0	0.1
<i>of which:</i>										
Market services	1.8	2.4	1.1	1.3	0.6	2.0	1.9	0.2	1.8	0.2
Non-market services	2.3	2.6	0.4	2.2	0.2	2.4	2.3	-0.2	2.5	-0.1
Total economy	1.7	2.7	1.6	1.1	0.6	1.8	2.1	0.7	1.4	0.3

(1) Based on data for BE, DE, ES, FR, IT, AT and FI. *p* = value added deflator, *w* = compensation per employee, *q* = productivity (value added in constant prices divided by total employment), *ulc* = unit labour costs and π = profit margin.

Source: Commission services.

productivity differentials are the main cause of the persistent inflation gap between services and industry. Between 1999 and 2005, productivity growth averaged 2.3% in industry and 0.2% in the services sector. A similar productivity differential was registered during the 1990s. As already discussed, the productivity gap reflects important differences in the production processes of manufacturing and services but also differences in the degree of competition.

Developments in wage growth can differ substantially between services and industry over short periods of time. However, these differences tend to narrow over time. Hence, since 1999, wage differentials between the two sectors have accounted for only a relatively small part of average inflation differentials. Wage growth has remained slower in services than in industry but the gap between the two sectors has been much smaller than productivity differentials. This suggests a certain degree of inter-sectoral labour market integration in euro-area countries. The wage differential even narrowed in the 1990s, which may be an indication that labour market integration has somewhat improved.

Besides its comparatively high level, inflation in services is also characterised by a high degree of persistence in the euro area. After a shock, service prices need more time than industrial goods prices to return to their long-term level.

The higher persistence of service inflation is illustrated in Table 8, which provides sectoral estimates of price-setting equations. Results should be considered with prudence given the short sample over which the equations were estimated, but they point to a much slower response of prices to changes in the business

cycle for services than for industry. In the case of market services, the response of prices to changes in unit labour cost appears quite sluggish (the estimated coefficient is actually not significant at the 10% level).

Table 8: Estimations of sectoral price-setting equations, euro area (1)

(Dependent variable: inflation in the value-added deflator)

	Industry	Market services	Non-market services
Constant	0.77 (1.7)	1.68 (5.7)	1.69 (4.5)
ULC (lagged 1 q)	0.25 (3.1)	0.14 (1.3)	—
ULC (lagged 3 q)	—	—	0.20 (1.7)
Out. gap (lagged 1 q)	0.40 (3.1)	—	—
Out. gap (lagged 4 q)	—	0.86 (3.7)	—
Dummy 1996:1	—	—	1.31 (2.2)
AR (1)	0.77 (8.3)	0.71 (6.3)	0.63 (5.2)
Adjusted R ²	0.71	0.75	0.47

(1) Based on data for BE, DE, ES, FR, IT, AT, and FI. Inflation and unit labour costs are measured in y-o-y % changes. Sample is 1992Q1–2005Q4. Output gap is calculated as % of potential output. Potential output is calculated with the HP-filter ($\lambda=1600$). *t*-statistic within parenthesis.

Source: Commission services.

These findings are in line with a number of recent empirical studies which report higher inflation persistence and price stickiness in service sectors than in the rest of the economy. For instance, Altissimo et al. (2006) conclude that services in the euro area exhibit a larger degree of nominal price rigidity than goods (i.e. price changes are less frequent for services than for goods). Furthermore, price cuts are less common in services than in other sectors. Likely explanations for the higher price stickiness in services include wage rigidities – wages form a



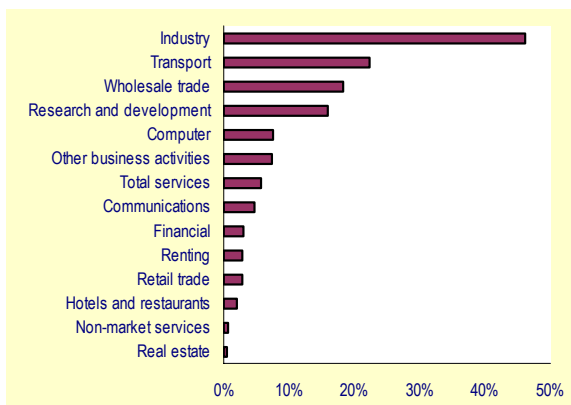
larger share of production costs in the case of services than in the case of goods – and insufficient competition.¹⁵

4. Services and international trade

A low exposure to international trade

Services are traditionally portrayed as having a small bearing on international trade. Input-output tables computed for seven euro-area countries reveal that exports in most sub-sectors account for less than 2% of total output, with financial services and telecommunications only marginally above that level. On average, service sectors exported less than 6% of their output in 2000 (the last year for which input-output data are available), compared to an export share of close to 40% for the manufacturing industry.

Graph 26: Exports as a share of production, selected services, euro area (In % – 2000) (1)



(1) Based on data from seven countries.
Source: Commission services.

A minority of service sectors, however, export a much bigger share of their output. In addition to transport and wholesale trade, which are more open due to their structural characteristics, services to companies, including R&D and computer services also export a non-negligible share of their output (Graph 26). Taken together these more-export-intensive service sectors

¹⁵ See Altissimo, F., M. Ehrmann and F. Smets (2006), 'Inflation persistence and price setting in the euro area. A summary of the IPN evidence', ECB Occasional Paper, No. 46.

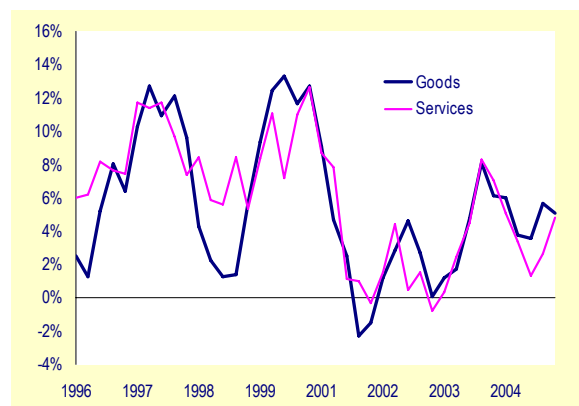
account for close to one third of total output in the service sector of the euro area.

Expansion of trade in services is parallel to trade in goods

In unconsolidated terms (i.e. including intra-area trade) the euro area accounted for 33% of total world trade in services in 2005. In recent years, the volume of exports of services expanded at a rapid pace, their share in GDP rising from 8% in 1995 to 12% in 2005 (like balance of payments data, national accounts do not disentangle intra-area flows from extra-area flows). In growth terms, trade in services has merely expanded at the same pace as trade in goods, a rather lacklustre performance given that it is starting from a much lower level.

Over the last decade, fluctuations in euro-area exports of services have been closely correlated with fluctuations in exports of goods (Graph 27). Beyond the fact that trade is driven by common macroeconomic factors in both sectors, an explanation for these co-movements might be that the provision of services is often bundled with deliveries of goods.

Graph 27: Exports of goods and services, euro area (Volume, y-o-y change – 1996Q1-2005Q4)



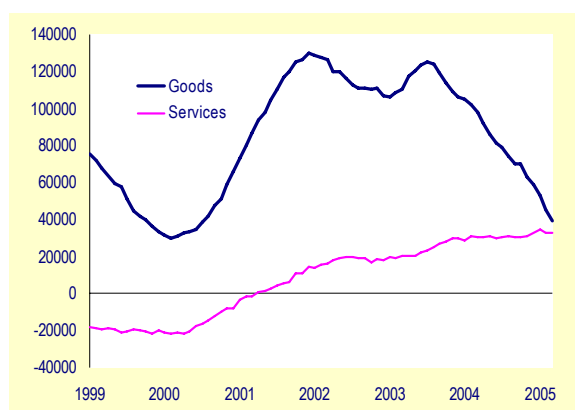
Source: Commission services.

Balance-of-payment data indicate that, a small surplus has emerged in the service sector in recent years, reaching EUR 21 billion in 2005

(0.2 % of GDP) (Graph 28).¹⁶ An analysis of the sub-components of the BoP data reveals the following points (Table 9):

- Travel, construction services and computer services are major contributors to the euro-area surplus.
- Sectors which have registered rapid export growth in recent years include computer services and miscellaneous business services such as legal, management and consultancy.
- It should also be noted that the large surplus registered in the computer services sector is associated with a large deficit in royalties. The surplus and deficit are both mostly attributable to Ireland, reflecting the prominent role of non-European multinational companies in that country.
- Finally, the development of internationally tradable high-value-added business service has some way to go: a deficit in fees related to the provision of technical know-how – through consultancy arrangements for instance – is recorded, in contrast to the significant US surplus (USD 20.7 billion in 2003).

Graph 28: **Trade in goods and services, euro area**
(12-months cumulated balance – in EUR millions, monthly data, 1999 – 2005)



Source: Commission services.

Table 9: **Trade in services – selected components, euro area**

	Net trade (Value in EUR bn, 2003)	Weight in total trade ⁽¹⁾ (%, 2003)	Annual growth (00-03, average %)	
			Exp	Imp
Transport	+4.7	20.8	4.4	3.6
Travel	+10.4	24.1	4.9	2.6
Construction	+4.6	2.8	-0.7	-1.7
Computer	+8.7	4.3	18.9	8.3
Royalties	-13.1	5.0	7.3	6.3
Misc. services	-4.2	10.1	11.2	6.4
Of which consultancy	-2.2	5.0	20.7	12.4

(1) Exports plus imports.

Source: Balance of Payments data.

Foreign direct investment as a substitute for direct trade

Notwithstanding the sector's limited direct exposure to foreign trade, services are not immune from the influence of globalisation. Indeed, the sector appears as exposed to foreign direct investment (FDI) as manufacturing. The share of services in the FDI outward position of the euro area (i.e. the total accumulated stock of FDI) rose from 65% in 1995 to 72% in 2003, a level that is comparable to the sector's weight in GDP. The services' stock of FDI represented 25.4% of GDP in 2003, compared to 12.9% for the United States.¹⁷

Hindrances to direct trade might partly explain why companies use FDI to gain a foothold in external markets. However, product specificities play also a role. For instance, and even when e-commerce developments make it possible, most people are reluctant to avail themselves of the usual range of financial services without face-to-face contacts.

Even if FDI may act as a substitute to foreign trade in services, it may also act as a catalyst, as a reinforced presence of affiliates in a given country might provide additional commercial opportunities for the delivery of cross-border

¹⁶ Part of the improvement results from the integration of Greece into the euro area. Greece records a large surplus in travel and transportation services.

¹⁷ Based on OECD data for 8 Member States. Data include intra-area FDI operations.



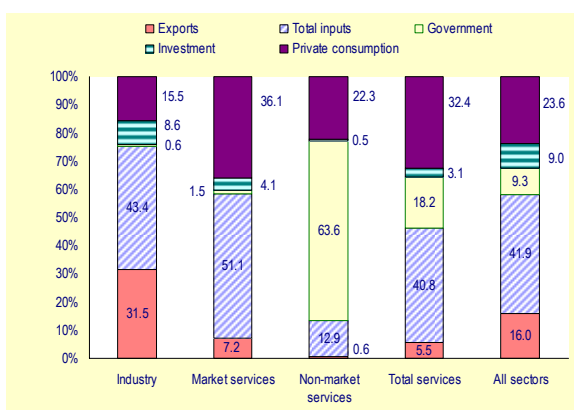
services over the medium term. For instance, according to the US Bureau of Economic Analysis, US affiliates abroad accounted in 2004 for 35% of exports of private services (excluding travel and transports) and for more than 75% of royalties and licence fees received domestically.

Finally, it should be noted that fears that offshoring of service activities outside the euro area would lead to massive job losses do not seem to be borne out by the available data at the macro level. Euro-area exports of computer services are well ahead of imports, while the deficit recorded by the euro area for miscellaneous services, which encompasses most business services liable to be offshored, has not widened in recent years.

5. Strong linkages between services and industry

There are strong linkages between service and manufacturing sectors. These linkages take two major forms. First, service sectors are important suppliers and outlets for manufacturing. Second, and more indirectly, the interplay between manufacturing and services is part of an economy's adjustment to disturbances.

Graph 29: Breakdown of total demand by type of demand, euro area (1) (2) (Shares in % in 2000)



(1) Based on input-output data for BE, DE, FR, IT, AT and FI.
(2) Contribution of stocks not shown (less than 0.5% of total).
Source: Commission services.

The substantial weight of intermediate consumption in demand for both industry and services (about 40% in both sectors, see Graph 29) allows for possible strong interactions

between the two sectors. Input/output techniques can be used to assess the size of these linkages. Table 10 displays a breakdown of the sectoral destinations of production in industry and services once the direct as well as indirect linkages related to intermediate consumption are taken into account.¹⁸ It shows that 15% of services production is channelled directly or indirectly to goods sectors – 11% from industry and 4% from other goods sectors. The share is close to 20% in the case of market services and is particularly high in the case of wholesale trade, transport and business services – reaching 30-40% in the case of most business services. On the other hand it is almost negligible for most non-market service sectors.

Overall, the estimates presented in Table 10 indicate that fluctuations in activity in industry can have a significant bearing on services. However, they also suggest that reverse linkages from services to goods are even stronger. Services account for 20% of demand in industry. For instance, the health service sector is an important outlet for pharmaceutical and medical equipment sectors. Service sectors, particularly business services, play a non-negligible role in the demand for office equipment while distributive trade sectors are intensive users of paper and printing products.

Two further points are worth mentioning here. First, while demand impulses from industry to services mostly concern market services, activity in non-market services has a non-negligible driving effect on industry. Second, because the service sector provides significant inputs to the production of goods, developments in the prices of services could have a larger impact on external competitiveness than suggested by the relatively small share of services in total exports (25%).

Besides input/output linkages, service sectors also represent an important source of investment demand. Services sectors account for close to three quarters of total investment demand in the euro area, most of which is directed to industry and construction.

¹⁸ The breakdown is derived from the so-called inverted Leontieff matrix.

Table 10: **Sectoral destination of production, euro area (1)**
(As a share of total sectoral production in % – 2000)

Producing sectors (2)	Sectoral destination					
	Industry	Other goods	Market services	Non-market services	Total services	Total
Industry	69.8	10.1	12.3	7.8	20.1	100
Market services	14.3	5.6	72.6	7.5	80.1	100
Non-market services	2.3	0.9	3.4	93.5	96.8	100
Total services	10.9	4.3	52.8	32.0	84.8	100
Other	16.6	65.4	11.6	6.5	18.0	100

(1) The data are derived from an inverted input-output matrix (based on data for BE, DE, FR, IT, NL, AT and FI). The calculated shares take into account all indirect effects related to intermediate consumption.

(2) Each row displays the sectoral destination of the production of a given sector (e.g; 20.1% of production in industry is shipped to services).

Source: Commission services.

Overall, the idea of industry as a driver of services rather than vice versa must be viewed with caution as reverse effects from activity in services to activity in industry may in fact be even more important.

Apart from input-output relations, a more indirect linkage between industry and services relates to the fact that industrial goods are mostly tradable and services are, to a large extent, non-tradable. Economic theory posits that the interplay between the tradable and non-tradable sectors is an important part of the response of an economy to shocks. For instance, a cyclical surge in domestic demand will generally be associated with a rise in the price of non-tradables (for which supply is purely domestic and therefore restricted) relative to the price of tradables (where increased imports can satisfy additional demand). The inflationary pressures generated by the surge in demand will therefore tend to be stronger in the non-tradable sector. Their strength will depend on the sensitivity of demand to the relative price of non-tradables as well as the ability of the economy to reallocate resources quickly and efficiently from the tradable to the non-tradable sector.

Another example relates to the role of non-tradables in external adjustment. There is evidence that changes in the relative prices of non-tradables explain a large part of observed fluctuations in real exchange rates in industrial economies.¹⁹ In addition, recent empirical

research has highlighted the critical role of non-tradables in the adjustment to large current account imbalances.²⁰ A reduction in a large current account deficit requires a large cut in the domestic demand for imports. This can be achieved either by a large reduction of total domestic demand – with serious costs in terms of growth – or by a shift of domestic demand from imports to domestically produced tradables and to non-tradables. The latter case requires, inter alia, a fall in the prices of non-tradables (relative to tradables). Overall, these considerations suggest that price flexibility in services is important for external adjustment even if services are not very tradable. They might be particularly relevant for the euro area where some Member States post large current account deficits which can no longer be curbed by changes in nominal exchange rates.

6. Services and the business cycle

As shown in Graph 30, activity tends to be considerably less cyclical in services than in industry. The difference may be related to the structure of demand, with the more cyclical components of final demand – namely inventories, investment and exports – playing a comparatively much smaller role for services than for manufacturing.

tradables are estimated to account for 50% of cyclical fluctuations in real exchange rates in OECD countries.

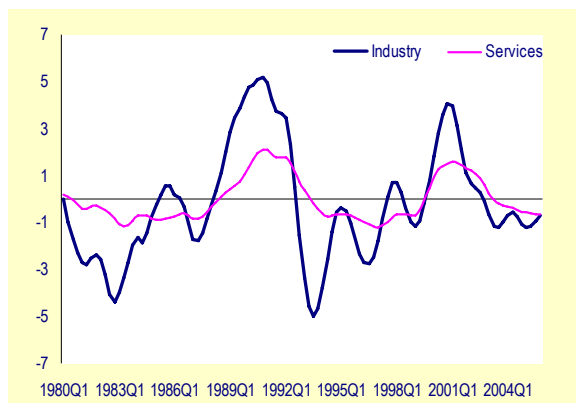
¹⁹ In Burstein, T., M. Eichenbaum and S. Rebelo (2005), 'The importance of nontradable goods' prices in cyclical real exchange rate fluctuations', CEPR discussion Paper Series No. 5306, variations in the relative price of non-

²⁰ See for instance Obstfeld, M. and K. Rogoff (2005), 'Global current account imbalances and exchange rate adjustments', Brookings Papers on Economic Activity 1:2005, pp.67-123.



Nevertheless, the picture of a relatively a-cyclical service sector should be nuanced. There is a broad heterogeneity in cyclical behaviours across different service sectors. Cyclical fluctuations are limited in the sectors where market forces do not play an important role such as 'government, community and personal services'. They tend to be much more pronounced in service sectors where market forces are more prominent. Over the past decade, sectors such as 'transport and communications' and 'hotel and restaurant' have actually experienced cyclical swings of a similar magnitude as industry. The cyclical nature of market services is partly 'imported' from industry via intermediate consumption. However, it also results from factors that are specific to services. For instance, final demand for hotel and restaurant services is closely tied to developments in household income.

Graph 30: Cyclical component of value added in industry and services, euro area (1980Q1-2005Q4) (1)



(1) Based on data for DE, FR, IT, ES, BE and FI.
Source: Commission services.

The shrinkage in cyclical volatility experienced in the euro area since the mid-1990s has been stronger in manufacturing than in services. Some services sectors such as 'transport and communications' and 'hotel and restaurant' have actually seen no reduction in volatility. The latest cyclical downturn points to some increasing degree of convergence in terms of scope of cyclical developments between manufacturing and services.

Turning to business-cycle affiliations, Table 11 displays the correlation of the business cycle of various service sectors with the economy's

overall business cycle. Cycles in service sectors tend to be more correlated with the aggregate euro-area business cycle than with industry. They also tend to display stronger cyclical affiliations with each other than with industry.

Table 11: Business cycle affiliations in the service sector, euro area (1980Q1 – 2005Q4)

	Correlation with overall cycle (1) (In %)	Lead/lag (Number of quarters) (2)
Transport, communication, trade and hotels	96	0
Real estate, finance and business services	93	-1
Government, community and personal services	77	-7
Business sector services	98	0
Total services	97	-1
Industry	94	+1

(1) Correlation between the cyclical component of value added in the sector considered with the cyclical component of total value added in the economy for the 1980-2005 period. Various leads and lags were tested and the number shown corresponds to the highest correlation.

(2) A negative number indicates that the sector considered is lagging the rest of the economy.

Source: Commission services.

Activity in services lags the overall business cycle by about one quarter and the industrial cycle by two quarters. The lag is significantly longer in the case of the 'government, community and personal services' sector (about seven quarters) indicating a very slow (and muted) response of non-market sectors to the business cycle.

7. Concluding remarks

Over the last three decades, the euro area, like other industrialised economies, has been undergoing a progressive shift of its production structure from goods to services. Given the specificities of services, this shift has potentially important consequences for the performance of the euro-area economy in terms of productivity, inflation and business cycle fluctuations. Services tend to be relatively sheltered from external or cyclical shocks. Price increases tend to be stronger and more persistent in services than in

manufacturing industry. Finally, although the sector is the mainstay of employment creation, it suffers from low and decelerating productivity gains.

However, this focus has shown that all of these points should be qualified.

Although the services sector as a whole is considerably more sheltered from global competition and cyclical fluctuations than industry, it exhibits a substantial degree of heterogeneity. Although services as a whole display a low openness to international trade, several sub-sectors export a large share of their production. And if public services are excluded, services also show a relatively high exposure to the business cycle with some sub-sectors experiencing cyclical fluctuations of the same magnitude as industry. This exposure to trade and the business cycle in some sectors is partly indirect, resulting from strong input-output linkages with industry.

Although some service sectors are more exposed to international trade than others, the development of the sector as a whole still appears to be hindered by a lack of competition, which has contributed to the persistence of inflation and to the low productivity growth that have been the hallmark of the sector so far. Increased competition could therefore improve the sector's performance in these areas.

Finally, the recent US experience shows that the shift to services does not necessarily entail a deceleration of productivity for the economy as a whole. There is room for dynamic services markets that contribute to both employment and productivity growth. However, this requires an adequate framework that fosters competition and allows services to innovate, restructure and make full use of the possibilities offered by information and communication technologies.

In January 2004, the European Commission proposed a Directive on Services in the Internal Market that aimed at facilitating the provision of market services across the borders of the EU through reduced regulatory fragmentation and enhanced mutual recognition. It can be expected that an intensification of trade and FDI in services will in turn intensify competition in the

sector, providing better value for money to final consumers and to producers using services as an input. Following the amendments voted by the European Parliament, in April 2006 the Commission put forward a revised proposal which almost completely removes the so-called 'country of origin principle'. Although the removal of the 'country of origin principle' will reduce the overall impact of the Services Directive, according to currently available empirical analyses 70-90% of the gains expected from the original proposal would still be maintained in its revised version. Therefore, the final adoption and implementation of the revised Directive is urgently needed as successfully implemented reforms in services can offer important benefits.

And it is not just regulatory changes that can make a difference. What matters is to inject new ICT capital into the economy and to complement this with the organisational and managerial changes needed to reap the full range of benefits associated with the introduction of ICT goods and services. As services depend increasingly on human capital rather than physical capital, changes in organisation and management will be crucial to ensure an efficient delivery of services. Mastering such know-how will be the key to exploiting the full potential of services in order to deliver new sources of growth and employment for the euro area.

Overall, structural changes in service sectors would help improve the performance of the euro-area economy, in terms not only of productivity and growth but also its external competitiveness and resilience to economic disturbances.



III. Recent DG ECFIN publications

1. Policy documents

EUROPEAN ECONOMY. No. 6. 2005

The EU Economy 2005 Review

http://europa.eu.int/comm/economy_finance/publications/european_economy/the_eu_economy_review_en.htm

EUROPEAN ECONOMY. No. 2. 2006

Commission spring economic forecasts 2006-2007: growth rebounds

http://europa.eu.int/comm/economy_finance/publications/european_economy/forecasts_en.htm

EUROPEAN ECONOMY. No. 3. 2006

Public finances in EMU - 2006

http://europa.eu.int/comm/economy_finance/publications/european_economy/public_finances2006_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No.23. April 2006

The Legal Framework for the Enlargement of the Euro Area

http://europa.eu.int/comm/economy_finance/publications/occasional_papers/occasionalpapers23_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No.24. May 2006

Enlargement, two years after: an economic evaluation

http://europa.eu.int/comm/economy_finance/publications/occasional_papers/occasionalpapers24_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No.25. June 2006

European Neighbourhood Policy: Economic Review of ENP Countries

http://europa.eu.int/comm/economy_finance/publications/occasional_papers/occasionalpapers25_en.htm

EUROPEAN ECONOMY. SPECIAL REPORT. No. 4. 2005

The 2005 EPC projections of age-related expenditure (2004-2050) for the EU-25 Member States: underlying assumptions and projection methodologies

http://europa.eu.int/comm/economy_finance/publications/european_economy/2005/eespecialreport0405_en.htm

EUROPEAN ECONOMY. SPECIAL REPORT. No. 1. 2006

The impact of ageing on public expenditure: projections for the EU25 Member States on pensions, health care, long-term care, education and unemployment transfers (2004-2050)

http://europa.eu.int/comm/economy_finance/publications/european_economy/2005/eespecialreport0106_en.htm

EUROPEAN ECONOMY. ENLARGMENT PAPERS. No. 27. 2006

2005 Pre-accession economic programmes of acceding and candidate countries

http://europa.eu.int/comm/economy_finance/publications/enlargement_papers/elp27_en.htm

2. Analytical documents

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 241.

Marco Buti (Directorate-General for Economic and Financial Affairs)

Will the new stability and growth pact succeed? An economic and political perspective

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers241_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 242.

Alexander Hijzen (GEP, University of Nottingham), Holger Görg (GEP, University of Nottingham and DIW Berlin) and Miriam Manchin (Tinbergen Institute, Rotterdam University)

Cross-border mergers and acquisitions and the role of trade costs

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers242_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 243.

Rachel Griffith, Rupert Harrison and Helen Simpson Institute for Fiscal Studies (IFS)

The link between product market reform, innovation and EU macroeconomic performance

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers243_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 244.

Rainer Nitsche (CRA International) Paul Heidhues (University of Bonn and CEPR)

Study on methods to analyse the impact of state aid on competition

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers244_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 245.

Catarina Dantas Machado Rosa and Kristiina Raade (Directorate-General for Economic and Financial Affairs)

Profitability of venture capital investment in Europe and the United States

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers245_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 246.

Klaus Weyerstrass, Johannes Jaenicke, Reinhard Neck, Gottfried Haber (Institute for Advanced Studies, Carinthia) and Bas van Aarle, Koen Schoors, Niko Gobbin, Peter Claeys (Gent University)

Economic spillover and policy coordination in the Euro area

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers246_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 247.

Cécile Denis, Daniel Grenouilleau, Kieran Mc Morrow and Werner Röger (Directorate-General for Economic and Financial Affairs)

Calculating potential growth rates and output gaps - A revised production function approach

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers247_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 248.

Edited by S. Deroose, E. Flores and A. Turrini (Directorate-General for Economic and Financial Affairs)

Proceedings from the ECFIN Workshop "The budgetary implications of structural reforms" - Brussels, 2 December 2005

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers248_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 249.

Daniel Grenouilleau (Directorate-General for Economic and Financial Affairs)

The Stacked Leading Indicators Dynamic Factor Model: A Sensitivity Analysis of Forecast Accuracy using Bootstrapping

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers249_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 251.

Lars Jonung and Werner Roeger (Directorate-General for Economic and Financial Affairs)

The macroeconomic effects of a pandemic in Europe - A model-based assessment

http://europa.eu.int/comm/economy_finance/publications/economic_papers/economicpapers251_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

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

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

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

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

Price and Cost Competitiveness

http://europa.eu.int/comm/economy_finance/publications/priceandcostcompetitiveness_en.htm



Contributors to this issue are:

Recent economic developments and short-term prospects

*C. Brzeski, H. Cigan,
D. Paternoster and S. Sorensen*

A mid-year review of budgetary policy in the euro area

S. Langedijk

Cyclical synchronisation within the euro area: what do recent data tell us?

C. Gayer and L. González Cabanillas

Focus: The growing importance of services in the euro-area economy

*K. Friberg, N. Sousa and
G. Tournemire*

Overall co-ordination and editing

J. Kuhlmann and E. Ruscher

Data assistance was provided by Danila Conte

Comments on the report would be gratefully received and should be sent to the Editor-in-Chief:

Servaas Deroose
Director – Macroeconomy of the euro area and the EU
Economic and Financial Affairs Directorate-General
European Commission
Rue de la loi 200 BU1 0/209
B-1049 Brussels

or by e-mail to servaas.deroose@ec.europa.eu, eric.ruscher@ec.europa.eu, joost.kuhlmann@ec.europa.eu



European Commission
Directorate General for Economic and Financial Affairs

