QUARTERLY REPORT ON THE EURO AREA

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- The Great Moderation in the euro area: what role have economic policies played?
- Recent labour market reforms in the euro area: characteristics and estimated impact
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EDITORIAL

The external headwinds that the euro-area economy has been facing for several months have gathered strength.

Firstly, uncertainties about the duration of the financial turmoil, the ultimate scale of its costs and the location of the losses have intensified and continue to affect investor confidence.

While the ECB and other major central banks have taken decisive action to stabilise money markets, the functioning of these markets has not yet returned to normal. Banks are still reluctant to lend to each other at longer maturities, and the use of central-bank lending facilities remains much higher than usual. Meanwhile, other key credit markets are disrupted. The fear of losses from defaults on US sub-prime mortgages remains pervasive and evidence also suggests that defaults have spread to other sectors of the US economy. Problems are emerging with higher quality US residential mortgages, as well as with commercial mortgages, automobile loans and credit-card debt.

Substantial asset write-downs have implied corresponding capital losses for banks and triggered a re-capitalisation in several cases – often involving investments by sovereign wealth funds. Amid the need to rebuild capital and the prospect of reduced earnings, there has been a generalised tightening in bank lending standards in the US and in Europe but not yet so in emerging markets.

Secondly, recent data for the US points to a more severe contraction of the housing sector than previously expected and, according to most private sector analysts, the US economy is already in, or is on the brink of, a recession. Looking ahead, it is difficult to say whether the US economy will rebound relatively quickly or whether the downturn will be more protracted.

Given the importance of the US economy and the international linkages through the trade channel and financial markets, the rest of the world will not be immune. In the case of the euro area, the impact of the US downturn will also depend on developments in exchange rates. In this respect, excessive volatility and disorderly movements in exchange rates are undesirable for economic growth and, in the present circumstances, excessive exchange rate moves are a source of concern.

Finally, inflation pressures from surging energy and food prices represent another downside risk to the outlook. Oil prices remain high and volatile, driven by limited spare capacity, robust demand from emerging markets and geopolitical tensions in oil-producing countries. According to the futures market, they will remain very high this year. Prices of non-fuel commodities, however, are now expected to stabilise.

These combined headwinds have begun to take a toll on euro-area GDP growth which decelerated from 2.6% year-on-year in the third quarter of last year to 2.2% year-on-year in the fourth quarter. They also led us to revise our growth projections downwards in our Interim Forecast released on 21 February to 1.8% for 2008 as a whole. This is 0.4 pp lower than projected in the 2007 Autumn Forecast. The most recent hard and soft data released since the publication of the interim forecast are consistent with this projection.

Having discussed downside risks, it is also important to emphasise the range of factors that will continue to support the euro-area economy during the course of the year and help it to weather the adverse external shocks. First, the euro area will continue to benefit from strong growth in emerging markets. Although a full decoupling from the US slowdown is unlikely, emerging markets are showing considerable resilience. Second, the euro area can count on the solid fundamentals of its economy, including robust labour market dynamics, healthy profitability and resilient investment. The absence of major macroeconomic imbalances (with, in particular, a balanced current account and an appropriate level of savings) also reduces its vulnerability to negative shocks. Third, although the rise in inflation has dampened households' purchasing power, its effect on consumption growth should fade progressively provided that second-round effects do not compound current price pressures.

The focus section of this report looks at an issue which has recently attracted renewed attention from economists and policy makers: the possible lessons of European economic and monetary integration for the process of regional integration in Asia. Greater intra-regional monetary and financial stability in East Asia would obviously be beneficial for the countries concerned. It would also be in the interest of the euro area and the global financial system, particularly if it could help support a more orderly unwinding of global imbalances where the euro would not have to bear an excessive weight of the exchange rate adjustment as is the case today.

The Asian financial crisis of the late 1990s has provided some momentum to economic integration in East Asia but progress has so far been uneven. While trade integration has increased rapidly, financial and monetary cooperation has advanced considerably more slowly.

In the field of monetary cooperation, the most advanced institutional process developed by East Asian countries so far is the so-called Chiang Mai Initiative (CMI). This collection of 17 bilateral swap agreements seems, however, to have exhausted its role. The bilateral swap agreements have never been activated and Asian countries have accumulated huge currency reserves, which may signal a lack of confidence in the credibility of the system.

There is therefore a need to give new momentum to the integration process and to put in place mechanisms that could help the region face currency turmoil effectively and reduce its exposure to global imbalances. Asia's recent decision to study the possibility of a multilateral swap arrangement can be seen as a step in that direction. Economists have also begun to discuss possible moves towards closer monetary and exchange rate cooperation with a view to full monetary and economic union.

Regarding lessons that can be drawn from the European monetary integration, it is necessary to stress the profound differences in political and economic conditions between the two regions. The global context is today also very different from the situation prevailing when monetary unification started in Europe. The integration steps followed by Europe clearly cannot be replicated in East Asia. Nevertheless, as argued in this Report, the European experience can provide some useful lessons, as on many issues, the European integration process transcends the local historical experience. In particular, it points to two major challenges facing further monetary integration in Asia.

First, real and nominal convergence is still elusive in Asia and on many counts Asia is not at the stage of integration where Europe was when it began its monetary integration process. This is particularly so in fields such as cross-border labour market mobility, regional financial integration, regulatory harmonisation and business cycle synchronisation. On the other hand, East Asian intra-regional trade has increased significantly in recent years and may be similar to that of Europe in the late 1980s. And, the European experience shows that the monetary integration process itself tends to bring countries concerned closer to an Optimum Currency Area. To be viable, however, further exchange rate and monetary integration will require important structural changes in the economies concerned.

Second, monetary integration calls for strong political commitment and adequate governance. The determination of the political leadership in East Asian countries to bring economic policy in line with the requirements of such an integration scheme appears weak at this stage. Furthermore, effective surveillance mechanisms are not in place. Effective surveillance, based on some form of institutional cooperation, is a pre-condition for the successful achievement of exchange rate and monetary coordination. This is probably the most important hurdle on the way to further monetary integration in East Asia.

Klaus REGLING
DIRECTOR GENERAL

I. Economic situation in the euro area

Activity in the euro area has now clearly started to soften under the combined effects of surging oil prices, continued financial market turbulence and slowing global trade growth. GDP growth decelerated to 0.4% (q-o-q) in the last quarter of 2007. This deceleration owes much to a significant weakening of private consumption, mostly attributable to unfavourable developments in consumer prices. A comforting development was the continuation of strong growth in investment spending (0.8% q-o-q), explained by high capacity utilisation and the high profitability of the non-financial corporate sector. According to the Commission's Interim Forecast of February 2008, economic growth in the euro area is expected to slow down to 1.8% for 2008, a 0.4 pp downward revision compared to the 2007 Autumn Forecast.

Most OECD countries have experienced a sharp reduction in output growth volatility over the past three decades. Econometric analysis indicates that this 'Great Moderation' is not just the result of a long period of luck in the form of milder shocks. It can also partly be ascribed to improvements in economic policies, in particular more credible monetary policy and, to a lesser extent, more powerful automatic fiscal stabilisers. Policy improvements have been more substantial in countries, particularly some Southern euro-area Member States, where policy mistakes were particularly acute in the 1970s-80s. In these countries, policy changes have made a comparatively larger contribution to the drop in output volatility.

Reform data compiled in ECFIN's LABREF database suggest that labour market reforms put in place in the euro area in recent years have mainly aimed at increasing labour utilisation, especially of those groups with low participation rates (the outsiders). Reforms targeted at improving labour market flexibility also focused mainly on the outsiders, with little effort made to adapt employment regulation for insiders. Evidence shows that reforms have to some extent paid off, raising the average employment rates and enhancing the response of employment to cyclical shocks. However, the increased dualism of the euro-area labour market may require further reform measures targeted at insiders rather than outsiders.

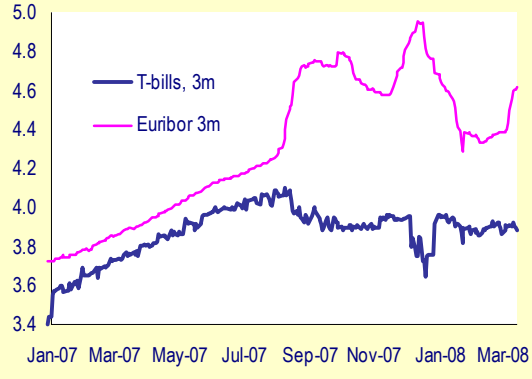
While headline inflation in the euro area has increased significantly in recent months, inflation dispersion amongst euro-area Member States has also increased visibly since summer 2007. Although energy and food prices have accelerated in all Member States, the global shocks to oil and agricultural commodity prices have been transmitted to individual countries with varying intensity. This heterogeneity can be related to a range of factors, including country differences in the weight of food and energy in the national HICP basket, in the degree of competition in retail markets and in the cyclical position. Furthermore, the exchange rate pass-through to consumer prices has differed across euro-area Member States.

1. Recent economic developments and short-term prospects[1]

The financial sector remains in a state of flux…

The global economic situation and outlook remain unusually uncertain at the beginning of 2008 mainly due to the uncertainty about the extent, duration and impact of financial turbulence. While the ECB and other major central banks have taken decisive action to stabilise money markets, the functioning of these markets has not yet returned to normal. Hence, spreads on interbank markets remain elevated when compared with previous periods, indicating continued tensions. Beginning of March, the spread between the 3-month Euribor and the 3-month treasury bills stood around 50 basis points, compared with 100 in December 2007 (Graph 1).

Graph 1: **Euro-area money market**
(in % – 1 Jan 2007 to 14 Mar 2008)



Source: Ecowin.

The financial turmoil has led to a clear tightening of monetary and financial conditions in the euro

[1] The cut-off date for the statistics included in this issue was 14 March 2008.

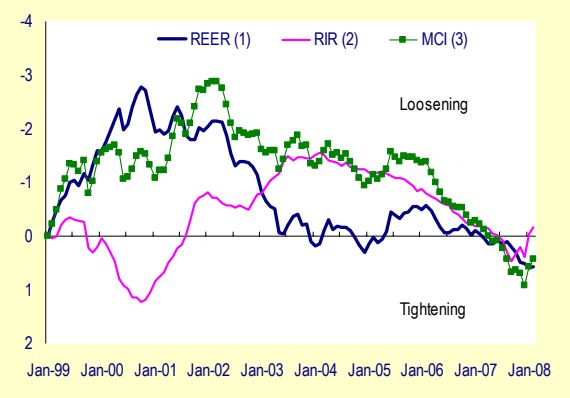
Table 1: **Euro-area growth components**

	2007 Q1	2007 Q2	2007 Q3	2007 Q4	Carryover to 2008	Forecast (1)	
						2007 (2)	2008 (2)
Percentage change on previous period, volumes							
GDP	0.8	0.3	0.7	0.4	0.7	2.6	2.2
Private consumption	0.0	0.6	0.5	-0.1	0.4	1.7	2.1
Government consumption	1.1	0.2	0.7	-0.1	0.3	2.0	2.1
Gross fixed capital formation	1.7	0.0	1.2	0.8	1.2	4.7	2.9
Exports of goods and services	0.9	0.8	2.1	0.5	1.6	5.8	5.3
Imports of goods and services	1.4	0.3	2.5	-0.4	1.0	5.3	5.5
Percentage point contribution to change in GDP							
Private consumption	0.0	0.4	0.3	0.0	0.2	1.0	1.2
Government consumption	0.2	0.0	0.1	0.0	0.1	0.4	0.4
Gross fixed capital formation	0.4	0.0	0.3	0.2	0.3	1.0	0.6
Changes in inventories	0.4	-0.3	0.2	-0.1	-0.1	0.0	0.0
Net exports	-0.2	0.2	-0.1	0.4	0.3	0.2	0.0

(1) Annual change in %. (2) European Commission Autumn 2007 Forecasts.
Source: Commission services.

area. The ECB has kept its policy rate unchanged since the summer but ECFIN's Monetary Conditions Indicator (which reflects real short-term interest rates and the real exchange rate) has showed a continued tightening until December due to both higher short-term interbank interest rates and further appreciation of the euro (Graph 2). In January and February, the MCI loosened somewhat again, mainly due to the effect of higher inflation on real interest rates but also to a moderate fall in the spreads between interbank interest rates and risk-free alternatives.

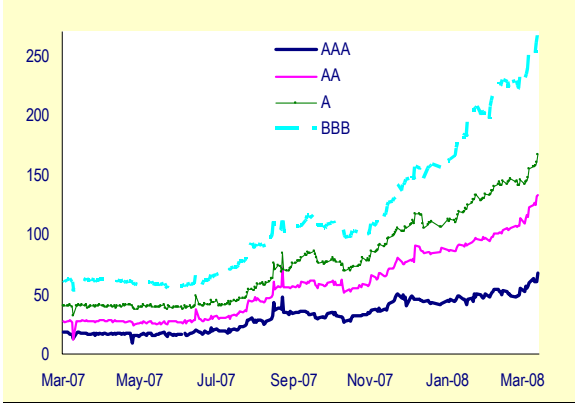
Graph 2: **Euro area MCI and its contributors**
(inverted scale – Jan 1999 – Feb 2008)



(1) Reel effective exchange rate.
(2) Real interest rate.
(3) Monetary Conditions Indicator.
Source: Commission services.

Problems in credit markets have been reflected in the balance sheets of euro-area banks. Many of these banks had retained significant exposure to credit risk in securitised products via off-balance-sheet operations. These off-balance-sheet exposures, which were originally a source of liquidity problems for banks, have now become a problem for bank capital. The need to rebuild capital and the prospect of reduced earnings have led to a generalised tightening in bank lending standards. The January 2008 ECB's bank lending survey for the euro area reported a further sharp tightening of credit standards for loans to enterprises as well as to households – although the former were more affected than the latter. The survey also suggests that the tightening phase is not over as banks expect the financial turmoil to have a greater impact on credit standards in the first quarter of 2008 than over the previous three months.

Graph 3: **Corporate bond spreads, euro area**
(basis points, 1 Mar 2007 – 14 Mar 2008)



Source: Commission services.

The tightening of financial conditions is not confined to bank loans. Spreads on corporate

Table 2: **Selected euro-area and national leading indicators, 2007-2008**

	SENT. IND[1]	BCI[2]	OECD[3]	PMI Man.[4]	PMI Ser	IFO[6]	NBB[7]	ZEW[8]
Long-term average	100.0	-0.1	93.3	52..8	54.9	96.9	-6.5	21.0
Trough in latest downturn	88.6	-0.92	98.1	46.4	47.7	90.3	-26.5	-41.6
March 2007	110.6	1.47	107.8	55.4	57.4	103.2	-1.0	5.8
April 2007	110.4	1.56	107.9	55.4	57.0	104.2	2.3	16.5
May 2007	111.6	1.47	108.0	55.0	57.3	104.7	3.9	24
June 2007	111.1	1.49	108.2	55.6	58.3	102.7	6.5	20.3
July 2007	110.4	1.31	108.2	54.9	58.3	101.7	4.5	10.4
August 2007	109.4	1.35	108.0	54.3	58.0	100.4	2.8	-6.9
September 2007	106.3	1.07	107.4	53.2	54.2	98.7	1.4	-18.1
October 2007	105.4	0.87	107.1	51.5	55.8	98.5	-1.8	-18.1
November 2007	104.1	1.03	107.2	52.8	54.1	98.3	-0.5	-32.5
December 2007	103.4	0.89	107.1	52.5	53.1	98.2	-1.8	-37.2
January 2008	101.7	0.77	106.9	52.8	50.6	99.0	-0.8	-41.6
February 2008	100.1	0.72	106.9	52.3	52.3	98.2	0.5	-39.5
March 2008								-32.0

1) Economic sentiment indicator, DG ECFIN. 2) Business climate indicator, DG ECFIN. 3) Composite leading indicator. 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) ZEW Indicator of Economic Sentiment, Germany

bonds have widened to multi-year highs, mostly for lower rated bonds (Graph 3). In addition, the cost of insuring against debt default has soared to new highs. Finally, equity markets, which had shown remarkable resilience to the financial turmoil in the past months, have dropped by more than 15% since the beginning of the year.

A significant softening of household spending….

The extent to which the financial turbulence has spilled over to the real economy in the euro area is difficult to assess at this juncture. The economy has in fact been hit simultaneously by a number of shocks, including surging commodity prices and a softening of world trade, the effects of which are difficult to disentangle. In any event, activity in the euro area has now clearly softened. GDP growth in the euro area decelerated to 0.4% (q-o-q) in the last quarter of 2007, compared to 0.7% in the previous quarter, bringing y-o-y growth down to 2.2%.

The GDP breakdown shows that the deceleration in the fourth quarter owes much to a significant weakening of private consumption. Household consumption dropped slightly (by 0.1% q-o-q) after increasing by 0.5% in the third quarter. The weakening was broad-based at the country level, though much sharper in Germany (-0.8% q-o-q). It was clearly the consequence of rising consumer prices. In nominal terms, GDP and consumption increased at broadly similar rates both in the fourth quarter of 2007 and during the year as a whole. Consumption weakness is therefore mostly attributable to the deterioration of the terms of trade, i.e. unfavourable developments in consumer prices relative to the GDP deflator. Although the household savings ratio dropped marginally in the second and third quarters of last year, there is no sign that consumers have decided to cut their savings significantly to cushion the price shock, which is consequently fully transmitted into lower real consumption.[2]

The most recent data paint a mixed picture of the ongoing dynamics in consumer spending. After three consecutive months of contraction, retail sales picked up again in January. Growth in consumer credit, while significantly below its 2006 peak, also accelerated moderately in December and January. However, price pressures have not abated so far. According to Eurostat's flash estimate, annual euro-area headline inflation was running at 3.3% in February, 0.1 pp higher than in January; i.e. the highest rate of inflation since 1999. The latest detailed breakdown of the HICP showed no sign of clear deceleration in the main drivers of the inflation bulge in February: energy inflation remains very high (10.4%), though slightly lower than in January (0.2 pp) while food inflation picked up to 5.2% from 4.8% in January.

[2] No data on households' savings is yet available for the fourth quarter.

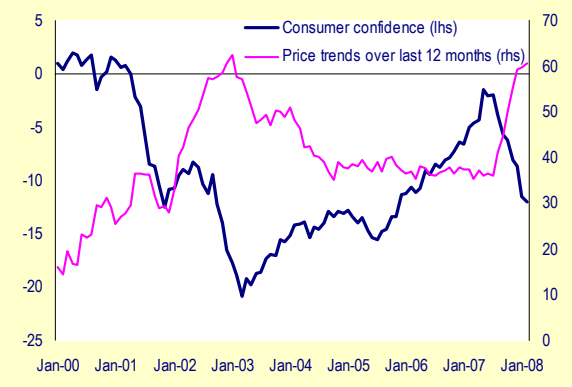
Table 3: **Real GDP growth**
(Interim forecast February 2008) (1)

	Quarterly GDP forecast (%, quarter-on-quarter)				Annual GDP forecast (%, year-on-year) 2007	
	2008/1	2008/2	2008/3	2008/4	Autumn forecast Nov. 2007	Interim forecast Feb. 2008
Germany	0.1	0.3	0.4	0.4	2.1	1.6
Spain	0.6	0.6	0.5	0.5	3.0	2.7
France	0.3	0.4	0.3	0.3	2.0	1.7
Italy	0.1	0.2	0.3	0.3	1.4	0.7
Euro area	0.3	0.3	0.4	0.4	2.2	1.8

(1) Where possible, the quarterly growth rates are working-day and seasonally-adjusted, whereas the annual projections are unadjusted.
Source: Commission services.

Negative developments in purchasing power have clearly dented consumer sentiment. Consumer confidence has been gradually declining since May 2007 and now stands below its long-term average. The deterioration of sentiment has been primarily visible in rising worries about price developments and the general economic situation. Households have also reported a rise in perceived risks of unemployment but, reflecting continuous good news from the labour market, the weakening of confidence has been more modest in that area. Growth in employment remains robust and unemployment has continued its downward trajectory in recent months.

Graph 4: **Consumer confidence, euro area**
(Balance in % – Jan 2000 to Feb 2008)



Source: Commission services.

Available data points to weak momentum in the other component of household spending, namely residential construction. Depending on the indicators considered, construction activity was either sluggish or contracting at the end of 2007 and the fall in residential building permits has accelerated since the beginning of 2007. Confidence in the construction sector has been on a clear downward path since the autumn and ECB data points to a steady easing of residential property prices. These negative developments must however be interpreted against the background of robust growth in mortgage lending. The rate of expansion of mortgage lending has come down from its peak in 2006 but continues to be strong with the latest data showing stable annual growth at 7.0% in January.

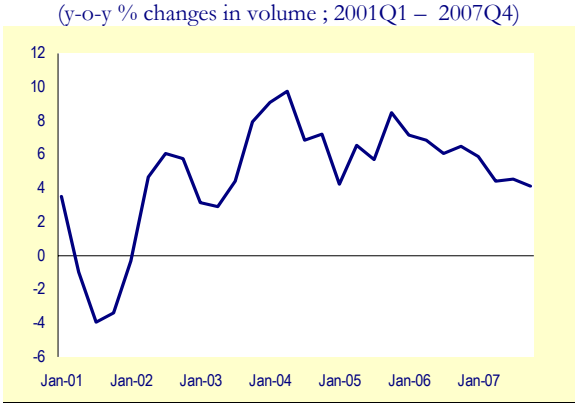
…but also of world trade

Weaker global growth, on the back of the financial market turmoil and the US slowdown, is now clearly weighing on world trade. Indeed, world trade has softened further in the last quarter of 2007. According to the CPB indicator, q-o-q world trade growth decelerated from 2.6% in 2007Q3 to 0.6% in 2007Q4. The loss in import momentum was broad-based although sharper in industrialised countries than in emerging markets.

The softening of the world trade momentum, together with the appreciation of the euro, are weighing on euro-area exports but the extent of these effects is difficult to gauge. Euro-area q-o-q export growth decelerated sharply from 2.1% in 2007Q3 to 0.5% in 2007Q4 but quarterly data tend to be volatile and the deceleration in exports was accompanied by a drop in imports (-0.4% q-o-q in 2007Q4). As a result, net exports contributed strongly to GDP growth in 2007Q4 (0.4 pp). As euro-area exports in national accounts cover both intra- and extra-area exports, it is difficult to say to what extent the slowdown in the fourth quarter reflects weakness in domestic or external demand. But manufacturing data suggests that domestic factors have dominated. First, in recent months, business confidence has weakened more markedly in services (which are less exposed to trade) than in the manufacturing sector. The January reading of industrial production was actually rather strong with y-o-y growth at 3.8%. Second, in the first 2008 issue of the European

Commission's quarterly manufacturing survey, companies reported a rebound of export expectations for the months ahead.

Graph 5: **World trade**
(y-o-y % changes in volume ; 2001Q1 – 2007Q4)



Source: Commission services

Looking ahead, surveys of the global economy point to a period of further moderation in trade growth in the coming months. The February reading of the quarterly World Economic Survey shows a further weakening of the current global economic situation but also a deterioration of its expectation component. In a similar vein, the February reading of the Global PMI indicator showed confidence in the global manufacturing sector at its lowest level since July 2003.

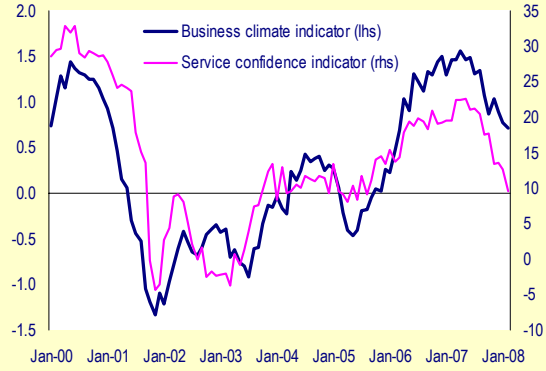
Capital spending, however, is holding up fairly well

A comforting development in the latest national accounts data was the continuation of strong growth in investment spending. Gross fixed capital formation increased by 0.8% q-o-q and contributed by 0.2 pp. to GDP growth. As developments in residential construction are likely to have been sluggish at best, the strong reading of investment can be primarily ascribed to the corporate sector.

The strength of business investment is also visible in recent loan data. The annual growth rate of loans to non-financial corporations stood at 14.6% in January, up from 14.5% in December, the highest rate since 1990. Although the strong reading may partly reflect a re-intermediation process in the wake of the financial turmoil, this effect is likely to have remained small. [3]

The resilience of investment can be explained by high capacity utilisation and the healthy financial position of the non-financial corporate sector. Capacity utilisation in the manufacturing sector, which has declined only slightly since the peak in the summer of 2007, remains well above its long-term average (83.9%). The profit share of non-financial corporations in the euro area has remained high (39.4% in 2007Q3).

Graph 6: **Business confidence indicators, euro area**
(Balance in % – Jan 2000 – Feb 2008)



Source: Commission services.

Another factor which has supported investment spending is the fact that confidence in the manufacturing sector has generally held up fairly well in recent months. The IFO indicator has remained broadly stable in the past four months thanks to a stable assessment of both current conditions and business expectations. The Reuters PMI index for manufacturing activity has also remained broadly stable in the past few months. That neither the IFO nor the PMI shows a downward trend in expectations despite strong headwinds (financial markets, the US slowdown, etc.) is encouraging. In contrast, however, the European Commission's manufacturing survey has recently painted a more negative picture. It has pointed to a downward trend since April 2007 and has continued to decline in the past three months. Nevertheless, the latest reading remains at a fairly high level, consistent with moderate growth in the manufacturing sector.

[3] ECB (2008), Monthly Bulletin, February, p.20.

Box 1: The impact of higher oil prices – simulations with the new version of the Commission's Quest model

This box revisits the issue of the macroeconomic impact of oil prices on the basis of new model simulations.(*) The simulations were run with the latest version of ECFIN's macroeconomic QUEST model. QUEST Version III is a new multi-region model that includes an energy production sector and in which energy serves as an intermediate input in final good production.(**) The euro area and the other EU Member States, as well as the US and Asia, are modelled as net importers of oil and gas, while the rest of the world is the oil-exporting region. As European natural gas prices are de facto indexed to oil prices with a lag of up to six months, the model treats oil and gas together as one aggregate. The model treats the relative oil price as exogenously determined.

Oil price shocks affect the economy through supply and demand channels. As terms-of-trade shocks, they have an impact on the economy through their effect on production decisions and relative prices. But oil price shocks also represent a shift in purchasing power between oil-exporting countries and oil-importing countries. An increase in energy prices leads to a loss in real income in oil-importing countries and affects consumers' and firms' spending on goods and services other than energy. The demand effects through this income channel are key to explaining the potentially significant impact of oil price changes on the economy. The model captures both supply and demand channels as energy serves as an input in the production process and is consumed directly by households.

The table below presents two sets of simulations. The first one shows the impact of a gradual increase in oil prices of 100% over a period of three years. This broadly corresponds to the increase registered between mid-2004 (€29 based on quarterly averages) and end-2007 (€63 based on quarterly averages). The second scenario takes the previous simulation as a new baseline and shows the effects of a further oil price increase of 25%. It illustrates the non-linearities that characterise the growth effects of oil prices.

Table : **Macroeconomic impact of gradual increase in oil prices**
(change from baseline scenario)

	First scenario (1)				Second scenario (2)			
	1st year	2nd year	3rd year	10th year	1st year	2nd year	3rd year	10th year
GDP	-0.23	-0.59	-0.88	-1.11	-0.21	-0.35	-0.34	-0.65
Consumption	-0.63	-1.47	-2.25	-3.41	-0.85	-1.13	-1.16	-1.89
Investment	-0.72	-1.68	-2.50	-3.45	-0.58	-0.92	-1.02	-1.77
Exports	0.60	1.42	2.45	4.55	0.79	1.12	1.43	2.12
Imports	-0.19	-0.80	-1.74	-5.92	-0.23	-0.77	-1.24	-3.13
Real wages	-0.11	-0.34	-0.62	-1.11	-0.11	-0.20	-0.28	-0.57
Consumer price level	0.54	1.27	1.95	2.56	0.65	0.73	0.75	1.08
Energy consumption	-0.27	-0.88	-1.70	-5.85	-0.22	-0.55	-0.84	-3.25

1) the impact of a gradual increase in oil prices of 100 percent; 2) the impact of a further increase in oil prices of 25%

In the first scenario, real GDP falls by 0.9% below baseline after three years and slightly more than 1% after 10 years. The impact on consumption is much stronger, 2% lower after three years and 3% after 10 years. Investment declines by 2.5% after 3 years and 3.5% after 10 years. The increase in energy prices does not have a significant impact on energy consumption in the short run due to the small short-run elasticities of substitution, but energy consumption by households is 6% lower after ten years. The pass-through into consumer prices builds up gradually. Inflation picks up by 0.5 pp the first year and by 0.7 pp the second and third year so that consumer prices are 2% higher after three years. The current account deteriorates by up to 1.9% of GDP after three years due to the increasing deficit on the oil balance, but the non-oil balance improves due to higher exports to oil-exporting countries (recycling of oil revenues) and a depreciating exchange rate.

The effects on GDP are significantly milder than those estimated with previous versions of the QUEST model. This reflects several differences with previous versions of the models. (1) First, oil-producing regions are now modelled in greater detail. This allows the recycling of higher oil revenues by oil producers into the euro area to be better taken into account. (2) Second-round wage effects are less strong than in the previous model as the effect of lower consumption on labour supply is now taken into account (i.e. workers partly try to recoup purchasing power losses by raising their labour supply). (3) Oil consumption is now modelled explicitly allowing substitution between oil and other goods (although these substitution effects are assumed to be low in the short run).

In the second scenario, the negative impact on real GDP is around 0.2% in the first year, rising to 0.7% after 10 years. The shock raises inflation and consumer prices are 0.8% above base after 3 years. This is substantially higher – and proportionally so – than the impact on GDP and inflation in the first scenario, indicating that the effect of oil price shocks is non-linear, i.e. larger when the starting price level is higher. A 25% price hike when oil prices are already at €60 per barrel represents a larger shock in euros than when oil prices are at €30 per barrel. This leads to a stronger income effect and a relatively larger impact on demand.

As is the case with any simulations, the results of the simulations presented here should be interpreted with prudence as they are model-dependent and sensitive to some modelling assumptions. In that respect two sources of uncertainties should be highlighted. First, the impact of oil price shocks on the economy depends crucially on how wages respond to the worsening of the terms-of-trade. The increase in consumer prices puts upward pressure on wages, but lower economic activity reduces wage demands and counteracts this. The overall effect on wages is the net outcome from these opposing forces. In the default setting of the model, wages decline (relative to the baseline growth) in line with the fall in productivity. However, earlier experiences of large oil price shocks have shown that there can be strong resistance to such wage flexibility and wage demands could rise in response to sharp increases in energy prices. If wages were to rise, output and employment losses could be much larger. Second, the magnitude of the effects of oil price shocks on the economy also depends on the price elasticity of oil demand. If it is easier to substitute away from energy, the real impact on the economy will be smaller.

(*) For previous assessments of the impact of oil prices on the economy see:

European Commission (2004), 'How vulnerable is the euro-area economy to higher oil prices?', Quarterly Report on the Euro Area, Vol. 3 No. 2.
European Commission (2005), 'The impact of higher oil prices on inflation', Quarterly Report on the Euro Area, Vol. 4 No. 4.

(**)QUEST III belongs to the modern class of Dynamic Stochastic General Equilibrium (DSGE) models that now serve as the foundation for macroeconomic policy analysis.

Commission's Interim Forecast points to a significant deceleration of growth in 2008

According to the Commission's Interim Forecast of February 2008, economic growth in the euro area is expected to slow down to 1.8% for 2008 as a whole. This represents a 0.4 pp downward revision compared with the 2.2% projected in the 2007 Autumn Forecast. The revisions mainly reflect the impact of the ongoing financial turmoil, the sharp slowdown in the US and high commodity prices (for an assessment of the impact of high oil prices see model simulations presented in Box 1). The hard and soft data released since the publication of the latest interim forecast are consistent with these projections.

The strong increase in food and energy prices has also led to an increase in the inflation forecast for 2008 as a whole. Future markets predict that oil prices will remain high in 2008-09. If so, recent oil price developments, together with the lag structure of the oil price pass-through, imply that energy HICP inflation will remain elevated in 2008. According to the Interim Forecast, consumer prices are projected to rise by 2.6% for the year as a whole, against 2.1% in the 2007 Autumn Forecast.

2. The Great Moderation in the euro area: what role have economic policies played?

Most OECD countries have experienced a sharp reduction in both output growth volatility and inflation volatility over the past three decades. In policy terms, a key issue is whether this 'Great Moderation' reflects a long period of luck in the form of milder shocks and could therefore be reversed rapidly or whether it is attributable to changes in the structures and the policies of the economies concerned and could thus be of a more permanent nature. Although there is not yet any firm consensus, in the case of the US economy – on which most of the empirical research has focused so far – several prominent authors have ascribed the dominant role to the good luck hypothesis.[4] This note builds on previous work presented in the Quarterly Report on the Euro Area and revisits, on the basis of an econometric panel analysis, the issue of what role changes in economic structures and policies have played in the great moderation.[5]

Key stylised facts

Over the past 30 years, the volatility of output has declined substantially in the euro area. When measured by the standard deviation of y-o-y GDP growth, it has dropped from over 2% in the 1970s to 1.1% in the most recent decade (1998Q1-2007Q3) (Graph 7). The decline was particularly pronounced in the late 1970s and early 1980s. It was brought to a temporary halt at the beginning of the 1990s but may have resumed its course in the 2000s.

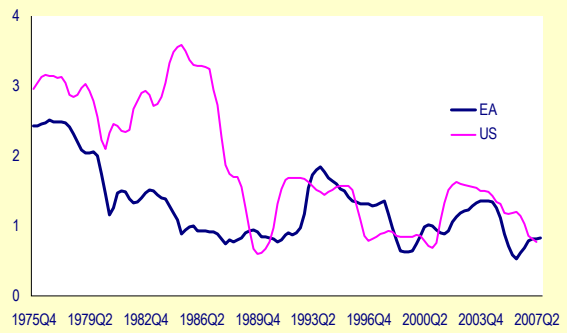
A look at a range of GDP data for the euro area suggests some stylised facts and provides some clues as to the possible drivers of the Great Moderation in the euro area.

[4] See for instance:
Stock, J. H., and M. W Watson (2003), 'Has the Business Cycle Changed? Evidence and Explanations', Federal Reserve Bank of Kansas City, pp. 9-56.
Gordon, R. J. (2005), 'What Caused the Decline in U. S. Business Cycle Volatility?', NBER Working Papers 11777.

[5] See European Commission (2007), 'The reduced volatility of output growth in the euro area', Quarterly Report On the Euro Area, Vol. 6 No. 1; and European Commission (2007), 'The decline of inflation volatility in the euro area', Quarterly Report on the Euro Area, Vol. 6 No. 4.

First, the decline in growth volatility has been broad-based, affecting to various degrees all GDP components and most industrial sectors. This seems to rule out explanations exclusively centred on one or a few segments of the economy. Nevertheless, volatility has decreased more sharply in the most volatile segments of the economy, notably inventories (when looking at the composition of demand) and manufacturing (when looking at industrial sectors).

Graph 7: **The volatility of GDP growth, euro area and US** (standard deviation of y-o-y growth in % - 5 year window – 1975Q4-2007Q3)



Source: Commission services.

Second, shifts in the composition of GDP have played only a modest role in the fall in growth volatility. The shares of GDP components have not changed sufficiently to affect noticeably the standard deviation of total growth. Shifts in the industrial structure, with the increasing importance of the most stable service sector, have been a more significant stabilisation force but this effect has remained rather limited.

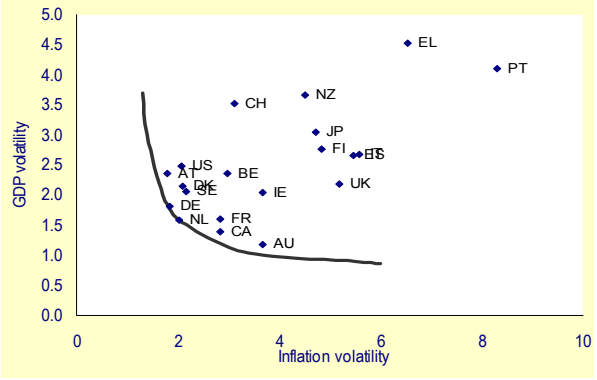
Third, the decomposition of GDP into its productivity and employment components indicates that the rise in output stability is attributable to lower volatility in productivity but not in employment. There has also been a decrease in the correlation between employment and productivity which could be an indication that changes in the functioning of the labour markets have helped to stabilise output.

Fourth, the moderation of output growth volatility has been accompanied by a decline in the level and volatility of inflation, which suggests that changes in the conduct of monetary policy have played a critical part.

Finally, while the Great Moderation is a feature common to most industrialised countries, the

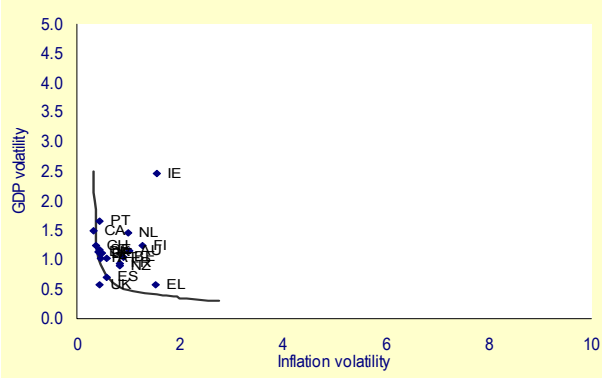
Graph 8: **Inflation and output growth volatility**
(standard deviation for the period in %)

1970-1979



Source: Commission services.

1998-2007



Source: Commission services.

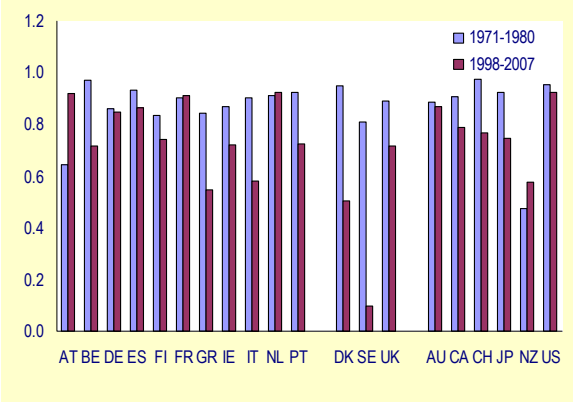
magnitude and timing of the decline have differed substantially from one to another. This heterogeneity casts some doubts on explanations focusing exclusively on common shocks. Somehow, both changes in shocks and changes in economic policies and structures must have been at play.

Graph 8 illustrates country differences in the magnitude of the Great Moderation. The graph displays estimates of inflation and output volatility in a number of OECD countries for the 1970s (left panel) and the last ten years (right panel). Most countries now show a relatively similar performance in terms of growth and inflation volatility. In the 1970s, however, the range of performances was considerably larger. While most OECD countries have benefited from a drop in volatility over the past three decades, the drop has been comparatively much larger in countries which had very high volatility in the 1970s (e.g. EL, IT, NZ, PT, UK) than those where volatility was comparatively lower (e.g. DE, NL, US).

Macroeconomic policies and output stability

Changes in the conduct of macroeconomic policies over the pas three decades have been most visible in the area of monetary policy. The associated improvements in the efficiency of monetary policy are measurable against a broad range of indicators, including more counter-cyclical interest rates, an increased stability of inflation expectations and an improved trade-off between output and inflation volatility. Graph 9, for instance, displays the first-order autocorrelation coefficient of inflation (based on the GDP deflator) for the 1970s and the most recent decade. The autocorrelation coefficient has dropped in most OECD countries pointing to a decrease in the persistence of inflation. Likely explanations include reduced inflation indexation and a shift from backward to forward looking inflation expectations in relation with a strengthening of the credibility of monetary policy. Interestingly, countries which have shown comparatively larger drops in the persistence of inflation have also tended to register larger falls in output volatility.

Graph 9: **Autocorrelation of inflation**
(first-order autocorrelation coefficient in %) (1)



(1) Inflation is calculated on the basis of the GDP deflator.
Source: Commission services

Evidence of the contribution of fiscal policy to the Great Moderation appears a priori more mixed. On the one hand, although the propensity to 'stop and go' has been considerably reduced, there are indications that discretionary fiscal policy retains pro-cyclical features in many OECD countries. On the other hand, empirical evidence points to a positive effect on output

stability of the rise in government size observed in many OECD countries in the 1970s and 1980s, which could be an evidence of an increase in the smoothing power of automatic stabilisers.[6]

Structural policies and output volatility

Economic theory does not provide clear guidance as to the effects of ***product or labour market*** rigidities on output stability. Some forms of rigidities may dampen the initial impact of a shock but lengthen the ensuing adjustment phase with the net effect on output volatility remaining theoretically undetermined. The empirical literature on this subject is very limited, consisting – to the best of our knowledge – of a single study reporting a negative link between regulation and volatility.[7]

Trade integration can affect output volatility via several, sometimes conflicting, channels. Increased trade integration means that a larger part of country-specific shocks are smoothed by being transferred to trading partners. However, trade integration may also foster production specialisation and therefore the occurrence of country-specific shocks. Empirical evidence for industrialised countries is relatively sparse and has so far failed to establish a significant link.[8]

By improving opportunities to diversify and share risks, ***financial liberalisation*** allows better consumption smoothing and should thereby help curb output volatility. Nevertheless, financial liberalisation may also facilitate production specialisation and therefore increase the risk of sectoral shocks. Furthermore, historical evidence also shows that phases of financial liberalisation may be associated with temporary spells of increased volatility as economic agents take time to come to grips with the full implications of the new financial environment. The few studies which have explored the question empirically have generally reported a positive link between financial developments and output stability.[9]

Results of a panel analysis

This section provides some quantitative substance to the discussion of the previous section by summarising the results of an econometric analysis of the determinants of output, consumption and investment volatility in a panel of 20 OECD countries. The econometric work is presented in more detail in Box 2.

One of the most critical findings of the regression work is that it brings support to the idea of a significant impact of macroeconomic policies on output volatility. Both monetary policy and fiscal policy – the latter via automatic stabilisers rather than discretionary policy – can help explain country differences in volatility developments over the past three decades.

The regression results suggest that changes in **monetary policy** have contributed to the Great Moderation process in OECD countries. The estimated contribution is particularly large in some euro-area Member States (e.g. EL, ES, IT, PT, FI) where monetary policy mismanagement was particularly acute in the 1970s. In these countries monetary policy could account for as much as 25 to 40% of the drop in output volatility. In contrast, the contribution of monetary policy is found to be small in the US – in line with past research on that country – as well as in Germany.

As regards **budgetary policy**, output growth volatility is found to be negatively correlated with the ratio of government expenditure to GDP, in line with results reported in Fatas and Mihov (2001). Provided that the size of government and the smoothing power of automatic stabilisers go hand in hand, this can be interpreted as evidence of a role of automatic stabilisers in the Great Moderation process. However, the relationship between government size and output stability

[6] Fatás, A. and I. Mihov (2001), 'Government size and automatic stabilizers: international and intranational evidence', *Journal of International Economics*, Elsevier, vol. 55(1), pages 3-28, October.

[7] Kent, C., K. Smith and J. Holloway (2005), 'Declining output volatility: What role for structural change?, RBA Research Discussion Papers, 2005-08.

[8] See Cecchetti, S. G., A. Flores-Lagunes and S. Krause (2006), 'Assessing the sources of changes in the volatility of real growth', NBER Working Papers 11946, National Bureau of Economic Research;

Kent et al. (2005), op. cit.;

Buch, C., J. Döpke. and C. Pierdzioch (2002), 'Financial openness and business cycle volatility', Kiel Working Papers 1121, Kiel Institute for the World Economy.

[9] See for instance Cecchetti et al. (2006) and Buch, et al. (2002), op.cit.

appears to be non-linear. According to point estimates, the effect of government size on stability is positive up to a ratio of government expenditure to GDP of 50% and turns negative above this level.[10] Overall, the contribution of government expenditure/automatic stabilisers to the drop in GDP volatility over the past three decades is found to be large only in few countries, mostly located in the euro area (e.g. EL, ES and PT). Finally, tests with a range of alternative public finance variables, including measures of the counter-cyclicality of discretionary fiscal policy, were unsuccessful. Hence, possible changes in the conduct of discretionary fiscal policy do not seem to have contributed sizeably to the rise in output stability.

By providing a framework geared at macroeconomic stability, **EMU** has helped to stabilise growth in euro-area Member States. In the regressions, this EMU effect is mostly captured by the monetary policy variable and can be related to the comparatively large role played by changes in monetary policy in some Member States. The regressions provide only mixed evidence of a specific role of EMU in addition to what is already encapsulated in the monetary policy variable. Tests with various dummies for participation in EMU and/or ERM generally indicate a positive but non-significant additional effect of monetary integration on the stability of GDP growth. In contrast, there is some indication that participation in ERM and EMU is associated with reduced consumption and investment volatility although further work would be needed to reconcile these results with the lack of impact of the variable in the case of GDP volatility.

The **shift of production to services** comes out as a significant regressor but the contribution of the variable to the fall in output volatility since the 1970s does not exceed 10-15% in those countries where the shift has been the most pronounced (e.g. EL, FR, NL, UK and AU). The only exception is Germany, where the contribution reaches 30%. In contrast with most of the literature on this subject, **openness to trade** is found to be positively correlated with output volatility. But the effect is very small.

Whereas conventional wisdom tends to give a prominent role **to oil shocks** in explanations of the high macroeconomic volatility of the 1970s and early 1980s, the hypothesis finds only mixed support in the panel regressions. Its effect is not statistically significant in the case of GDP volatility but it emerges as an important explanatory variable for the volatility of consumption growth. Thus, swings in oil prices could be a key source of consumption volatility while their impact on GDP volatility is limited as it depends on a range of other factors such as the credibility of monetary policy.

More stringent **product market regulations** are associated with lower output growth volatility. The result should however be considered with prudence as it appears statistically less robust than that for the macroeconomic policy variables. In addition the indicator of product market regulation used in the regression covers only some service sectors.

Likewise, results on **financial liberalisation** are mixed. The variable is not a statistically significant explanatory variable of GDP or consumption volatility but stands as a meaningful regressor in the case of investment. This could be an indication that financial liberalisation has so far contributed more to smooth investment than consumption or GDP. Nevertheless, caution is warranted as the proxy used for financial liberalisation is not very satisfying although widely used in the empirical literature.

Overall, the variables included in the regressions explain about 50% of the decline in output volatility since the 1970s, the rest being accounted for by time-fixed effects.[11] Most of the share is attributable to macroeconomic policy variables with monetary policy playing a leading role. The explanatory power of the model is somewhat higher for the euro area – particularly

[10] Such a non-linear relation was first estimated empircally in Debrun, X., J. Pisani-Ferry and A. Sapir (2007), 'Government size and output volatility: Should we forsake automatic stabilization?', Paper presented at the workshop 'EMU@10: Achievements and challenges', DG ECFIN, November 2007.

For a theoretical explanation of this non-linearity, see Buti, M., C. Martinez-Mongay, K. Sekkat and P. van den Noord (2003), 'Automatic fiscal stabilisers in EMU: a conflict between efficiency and stabilisation?', CESifo Economic Studies, Vol. 49, 1.

[11] In panel regression, fixed time effects capture effects which are common to all countries and are not captured by the explanatory variables.

Box 2: Quantifying the sources of the decline in output growth volatility

This box presents the results of a panel data exercise aimed at quantifying the possible contributions of a number of determinants to the decline in output volatility in OECD countries. Output growth volatility is regressed on a range of variables, including both structural and economic policy indicators. As regards structural changes, the main variables tested are: (i) the sectoral shift in production towards services (measured by the share of value added in the service sector in total value added); (ii) the degree of openness to international trade and (iii) changes in the exposure to oil prices. Economic policy variables include measures of changes in macroeconomic policies, both (iii) monetary policy and (iv) fiscal policy, as well as indicators aimed at capturing changes in structural policies in terms of (v) financial markets and (vi) regulation in the product markets.

The regression is estimated on a panel of 20 countries (the former EU15 Member States – except LU – US, JP, CA, AU, CH and NZ) with time- and country-fixed effects added when statistically appropriate. The analysis is carried out for the period 1973-2007 broken down into 7 sub-periods of 5 years each (1973Q1-1977Q4, 1978Q1-1982Q4, etc.). Volatility is measured as the standard deviation of year-on-year quarterly changes in the variable considered. Regression results are presented in the table below. The endogenous variable is the volatility of, respectively, GDP growth (Col. 1 and 2), consumption growth (Col. 3) and investment growth (Col. 4). All equations are estimated with time effects but country-fixed effects are found to be jointly non-significant in the case of the main specification (Col. 1), which is therefore estimated without them. Nevertheless, given that the test of statistical significance of the country-fixed effects does not point to a strong rejection of these effects, the equation obtained with country-fixed effects is also shown (Column 2) to allow to check the sensitivity of the results to the inclusion of country effects.

The sources of growth volatility – Results of a panel regression

Endogenous variable:	GDP volatility (no country FE) (1)	GDP volatility (with country FE) (2)	Consumption volatility (3)	Investment volatility (4)
Monetary policy variable	0.008 ***	0.007 ***	0.009 **	
Gov. expenditures	-0.200 ***	-0.138 **		
(Gov. expenditures) ^2	0.002 ***	0.001 *		
Share of services in VA	-0.025 **	-0.046 *		
World trade volatility x trade openness	0.040 **			
Participation in ERM / EMU			-0.630 *	-1.901 *
Ratio of private sector credit to GDP				-0.022 *
Index of product market regulation		-0.341 ***		
Energy intensity x oil price volatility			8.511 **	
Country fixed effects	No	Yes	Yes	Yes
Period fixed effects	Yes	Yes	Yes	Yes
Number of observations.	125	125	113	121

Notes – Estimation method: panel OLS regressions. ***, **, * denote, respectively, statistical significance at 1, 5, and 10% level (based on White robust estimates of standard deviations).
The regressions include two dummies to cater for, respectively, the high level of growth volatility generally registered in Greece (only Col. 1) and the extreme volatility brought by the recession of the early 1990s in Finland (Col. (1) to (4)).

The **monetary policy variable** is calculated as the distance between the real interest rate gap (i.e. the actual real short-term interest rate minus the equilibrium real interest rate) and a weighted sum of deviations of inflation and GDP from their respective trends. A high level of the variable suggests that the level of the real rate is not in line with developments in inflation and the output gap. Regression results show a positive and significant effect of the variable on volatility, i.e. inadequate interest rates are associated with higher output volatility. The contribution of the monetary policy variable to growth volatility was particularly high in the 1970s and early 1980s in some countries (EL, ES, IT, PT, FI) pointing to inadequate monetary policies in those countries for that period. Tests with various dummies for **participation in EMU and/or ERM** generally indicate a positive but non-significant effect of monetary integration on the stability of GDP growth (this is in addition to the EMU effect already captured in the monetary policy variable). In contrast, participation in ERM and EMU – as captured by a dummy variable with a value of 1 in case of participation in either ERM or EMU – is associated with reduced consumption and investment volatility and the size of the estimated effect is far from negligible. However, even in the case of consumption and investment, there is no evidence that EMU has played a stronger role than ERM.

Turning to **fiscal policy**, the indicator measuring the degree of fiscal activism (i.e. the correlation of the CAPB with the output gap) comes out as non-significant. In contrast, an increase in the size of government expenditure is

significantly associated with lower output volatility, suggesting a positive relationship between government size and the smoothing power of automatic stabilisers. The relationship appears, however, to be strongly non-linear. A test with a quadratic term points to a threshold for the share of government expenditure in GDP of about 50% (with a likely range of about 46% to 54% given estimated standard deviations). Above this threshold, an increase in government size is associated with an increase in GDP growth volatility. The threshold is slightly lower in the second specification in Column (2) (at 47%).

Looking at the coefficients of the variables capturing structural changes, the **services indicator** comes out significant and negative. However, the effect remains small: point estimates suggest that a 10% increase in the share of services in GDP results in a 0.3 percentage point decline in output growth volatility. **Trade openness** displays a positive but small sign. A country with a higher degree of openness faces higher output volatility but the effect is marginal. The coefficient on the **oil intensity** variable has the expected sign (i.e. an increase in oil intensity leads to higher output volatility in periods of swings in oil prices) but is not statistically significant in the case of GDP volatility. It only becomes meaningful in the consumption equation.

Finally, the two variables aimed at capturing changes in structural policies, i.e. the ratio of private-sector credit to GDP and the indicator of product market regulations, are both found to be statistically insignificant in the main regression (Column 1). There is, however, some evidence that increased **financial developments** have played a role in the reduction of investment growth volatility but the investment regression is not very robust statistically and the result should be viewed with caution. The index of **product market regulation** (PMR) is found to be negatively associated with GDP volatility (i.e. more regulations reduce volatility) but only in the specification which includes country-fixed effects. Furthermore, the PMR index (compiled by the OECD) only covers services. Again the result should be considered with considerable prudence and deserves further exploration.

southern Member States – than for the rest of the OECD, and is rather weak for the US.

Finally, it is worth stressing that estimation results suggest that it is difficult to interpret time effects purely in terms of shocks (good luck hypothesis). The estimated time effects show a clear and steady downward trend which suggests that they capture both common shocks and some missing explanatory variable. An obvious potential candidate for the latter would be the improvement in the management of inventories. There is indeed some correlation between the estimated time effects and the reduction of the contribution of inventories to GDP volatility as computed on the basis of the GDP accounting identity. Another potential candidate is financial market development which, due to lack of proper data, has only been crudely captured in the estimations.

Conclusion

Expanding on past Commission work on this issue, this section has looked into several drivers of the Great Moderation in OECD countries. Panel econometric analysis points to a significant role for changes in macroeconomic policies, particularly through more credible monetary policy but also possibly through an increasing smoothing power of automatic stabilisers. It also indicates that changes in economic structures such as the rising weight of services in production, increased trade openness and reduced oil exposure have made little or no contribution.

An attempt to quantify the possible impact of the liberalisation of financial and product markets leads to mixed results. There is some evidence that product market liberalisation is associated with lower output stability while financial liberalisation helps enhance investment stability. These two results seem, however, somewhat less statistically robust than those listed above, something which may be explained by the low quality of the indicators used.

For the sample of OECD countries considered, the explanatory variables used in the study can account for about 50% (or slightly more in the case of the euro area) of the drop in output growth volatility since the 1970s, the rest being broadly captured by a fixed time effect. This means that at least 50% of the drop in volatility is rooted in structural and policy changes and therefore unlikely to be unwound quickly. The share is actually an underestimation as the steady pattern of the time effects suggests that some explanatory variables are either missing – e.g. better inventory management – or poorly captured by the indicators used.

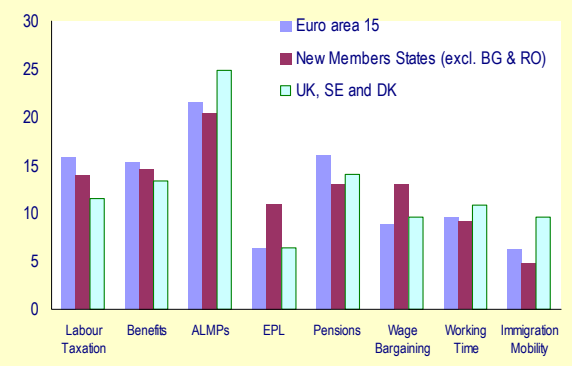
3. Recent labour market reforms in the euro area: characteristics and estimated impact

The recorded pace of structural reforms since the introduction of the euro has been somewhat mixed.[12] The advent of the third stage of EMU did not coincide with an acceleration of labour market reforms but with a continuation of reform strategy characterised by incremental reforms (i.e. a sequence of small changes), broadly heading towards better labour market adjustment capacity. A more in-depth analysis of labour market reforms enacted under the euro can be conducted using the LABREF database.[13] This section describes the reforms enacted in the euro area in various areas. Based on the chronology of reforms, it explores the effect of certain policy measures taken for groups with low labour market attachment on the average employment and participation rates and their response over the cycle.

Labour market reforms enacted in the euro area

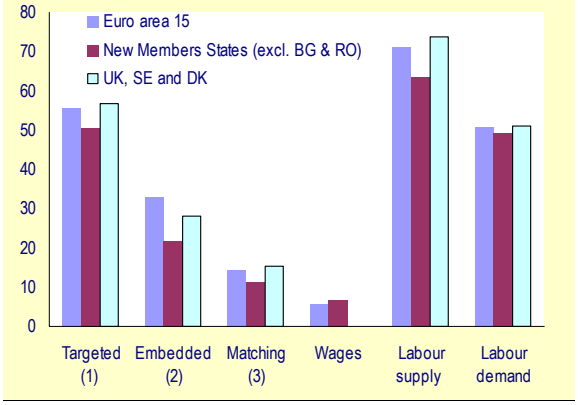
The structure of LABREF can be used to analyse the distribution of measures enacted between 2000 and 2006 by areas of policy intervention (Graph 10) and design characteristics (Graph 11). For the euro area as a whole, the majority of measures have been in the area of active labour market policies, taxation, unemployment and welfare-related benefits and pensions (Graph 10). Compared to the recently-acceded Member States, relatively few initiatives have been taken in the euro area in the area of employment protection legislation. About 15% of all reforms enacted in the euro area were in the area of pensions. As shown in Graph 11, a large number of policy measures targeted specific groups, with no major differences between euro-area and non-euro-area countries. Finally, labour supply has been the main focus of policy intervention in a large number of countries. This reflects the prevalence of measures in the field of welfare benefits and pensions.

Graph 10: **Distribution of labour market reforms by reform area**
(in % of total reforms – 2000-2006)



Source: LABREF

Graph 11: **Distribution of labour market reforms by reform characteristics**
(in % of total reforms – 2000-2006)



(1) Reforms targeting specific socio-economic groups.
(2) Reforms embedded in a formal long-term policy programme.
(3) Reforms aimed at a better match of the unemployed and vacancies.
Source: LABREF

Table 4 provides a synopsis of policy measures in different areas, based on the information available form the LABREF database for the years 2000 to 2006. Overall, there is a certain convergence between the measures enacted in the euro area. Several countries have eased the access to part-time and temporary forms of work. More flexible employment contracts may

[12] A review of different arguments in support of (or against) a change in the pace of structural reforms after the euro and some recent evidence can be found in QREA 2007 (Vol. 6 No 4).

[13] *LABREF* is an inventory of labour market reforms jointly managed by DG ECFIN and the Economic Policy Committee. It is a tool that provides a comprehensive description of qualitative features of the reform process, including the design of enacted reforms, their scope and durability. To date, the database covers the years 2000-2006 for the EU-27. Information for the year 2007 will be made available to the public in April 2008. The database can be freely accessed at: http://ec.europa.eu/economy_finance/db_indicators/db_indicators8638_en.htm.
For a description of LABREF, see *European Economy Research Letter* Vol. 1, Issue 3, November 2007.

Table 4: **Structural reforms in euro-area labour markets, 2006-2007**

Policy area	Main developments in the euro area as a whole
Active labour market policies	• Gradual shift from passive to active policies • Shift towards more effective job search and early activation • More focus on target groups • Improved governance of public employment services (PES) and closer complementarities/ streamlining of PES activities with welfare benefit providers
Welfare benefits	• Reducing the generosity and duration of unemployment benefits • Tightening eligibility and availability to work criteria and reinforcing sanction mechanisms • Increased use of in-work benefits to improve the work attachment of marginal workers • Increased attention to family-related policies, including child-care support
EPL	• Mainly increasing flexibility at the margin of the labour market with potentially detrimental segmentation effects
Taxation	• Cuts in labour taxes targeting low-income levels to reduce inactivity and unemployment traps for low-income earners • Reductions in social security contributions to boost labour demand, often targeting difficult to employ groups and older workers
Pensions	• Little focus on reforms of early retirement, sickness and disability • Some parametric reforms of pension systems and very few structural reforms, but substantial reform programmes (sometimes with gradual and long phasing-in) have been adopted in a number of Member States in previous years
Wage bargaining	• Few efforts, mainly in Belgium, Germany and Spain, to make wages more responsive to sectoral and local cyclical conditions
Working time	• Introduction of innovative working time arrangements, both to reconcile work and family life and to promote more flexible organisation of work at company level
Immigration and mobility	• Some measures to improve the integration of third-country nationals, to simplify the procedures for entry and regularisation or to develop a flexible employment permit system focusing on the economy's skills and labour needs.

Source: Commission services – Labour Marker Reform database (LABREF)

have made a positive contribution to the increase in labour utilisation, especially among groups with low participation rates, and enhanced the reallocation of labour.

Wage moderation has been observed since the launch of EMU. While this may have contributed to the improvements in the labour market trends registered so far, less clear is whether it has also made for a better response to country- and sector-specific shocks. In some countries, wage moderation has resulted from collectively agreed derogations to national contracts rather than from centrally-agreed income policies. This is particularly the case of Germany, where industry-level and company-level collective agreements negotiated in the early 2000s paved the way for the introduction of long-term working time accounts and for a wide range of opening clauses, which allowed companies to deviate from collectively agreed standards. Similar agreements, leading to *de facto* decentralisation of wage bargaining, have also been registered to various degrees in Austria, the Netherlands, Spain and France.

Conversely, proper reforms of **bargaining structures** to make wage settlements respond more to productivity gains at local and company level have been rare. More precise criteria to determine the general validity of collective agreements have been defined in Finland and France. In the latter country, the possibility was introduced at company level of departing from sector-level agreements. Changes in the collective bargaining procedure were also introduced in Portugal (2003), to enhance the responsiveness of wage settings to productivity and skill differentials across sectors. Some elements of flexibility have been introduced in the central income agreements in Spain and Slovenia to take account of productivity gains and local conditions on top of inflation.

Higher flexibility of **working time organisation,** either to reconcile work and family life or to adjust employees' working patterns more to the company's changing needs, has been observed in most euro-area countries. Measures in this field were either in support of labour supply – e.g. working parents (ES, AT), older workers (BE, DE, FR and AT) – or were intended to inject greater margins of flexibility into overtime schemes (EL, FR) and into working time arrangements (AT).

Reforms of the tax and benefit systems allow time to be reallocated between market and non-market activities and labour supply to be sustained. Intervention in the **benefit systems** was inspired by the principle that the threat of losing benefits if a job offer is not accepted increases the incentive to search for a job. Thus, they have combined a lower level and shorter duration of benefits with tight availability-for-work criteria and more systematic controls and effective application of sanctions for refusal of suitable job offers. These measures were often supported by tax cuts, mainly targeting low incomes, and by more rigorous activation policies. Reforms have entailed, for instance, a sharp cut in the unemployment benefit maximum duration (NL) or substantial cuts in benefits (DE).

Some reforms of the **tax systems** were based on the idea that higher taxes and the withdrawal of means-tested benefits when income rises can be detrimental as to the decision to work longer hours and shift from part-time to full-time. Reductions in the marginal effective tax rate, at least for some family types at low to medium wage levels, have been obtained in Spain, France, Ireland, the Netherlands, Austria and Portugal. Reductions in the tax wedge have been adopted in Germany, Portugal, Austria and Ireland. In addition, cutting the tax wedge on labour has been a frequently used instrument to stimulate labour demand in the euro area. Targeted cuts in employers' social security contributions have been introduced, usually on a short-term basis, to create incentives to hire those with the lowest probability of joining the labour market. Non-targeted reductions of employers' social security contributions were extensively used in Italy (to foster employment in regions with high unemployment rates) and in Spain (in case of conversion of fixed-term contracts into permanent ones). Substantial simplifications of the rebates of employers' social security contributions in favour of the lowest wage levels have been introduced in France and in Belgium.

In contrast, reforms of **job protection legislation** have been limited and piecemeal, mainly targeting flexibility for new entrants and marginal workers, while leaving the legislation on permanent employment unchanged. Finding a viable balance between flexibility and security also proved to be difficult on account of the complex interactions between institutions and the political sensitivity of the subject. As a significant exception to this general trend, important changes to job protection regulation were introduced in Slovenia in 2007. The lack of action observed in the field of employment protection legislation (EPL) seemed also to go together with substantial inactivity in the area of unemployment insurance in euro-area countries - such as Greece, Italy and Portugal - which have the most rigid EPL for open-ended contracts and the lowest level of protection in the market.[14]

Table 5: **Contribution of temporary and permanent employment to total average annual employment growth** (1)

	1991-1998	1999-2006
Temporary employment (in pp)		
Euro area	4.1	3.3
UK, SE and DK	2.9	-0.4
Permanent employment (in pp)		
Euro area	4.7	7.2
UK, SE and DK	10.8	5.4

(1) The sum of the contributions of temporary and permanent employment for each group of countries gives the cumulated average employment growth over each sub-period based on the LFS. This can differ from the growth rate based on National Accounts.
Source: Commission services – Labour Force Survey.

As shown in Table 5, euro-area countries experienced a sizeable increase in employment after 1998, which took the form of both permanent and temporary work positions. Conversely, non-euro-area countries experienced an increase in employment only thanks to the increase in permanent employment. This different pattern is likely to have resulted from the ease of employment protection legislation for workers with a temporary contract and may be held responsible for an increasing labour market

[14] From the point of view of risk-averse individuals, job security provided by employment protection is functionally equivalent to a system of unemployment benefits, which explains why countries with strict employment protection legislation have relatively low unemployment benefits and vice versa. However, an efficient system of unemployment benefits stabilises the expected incomes of risk-averse individuals, and may also induce workers to accept more employment flexibility. A better reallocation of labour could be achieved through reforms of the labour market and the welfare state that, in line with the flexicurity approach, shift the focus from protection of workers in the same job for their entire lifetime to protection of workers in the market.

dualism in some euro-area countries. Reducing this dualism is one of the priorities of the policy agenda. In France, a new type of open-ended employment contract was introduced in 2005 for new recruits in firms of up to 20 employees, making for a longer probation period. Efforts to narrow the gap between standard and flexible employment contracts have also been made in Spain and Finland.

Under the pressure of ageing and persistently low participation rates of older workers, many countries have implemented **pension reforms**. More often than not, these reforms established a stronger actuarial link between contributions and benefits and increased incentives for workers to retire later. In a large number of countries (e.g. DE, ES, CY, PT and FI), reforms usually involved the introduction of changes in the eligibility conditions for first pillar old-age benefits, either by increasing the statutory retirement age, or by introducing stricter eligibility conditions other than age, or both. Other measures included changes in the contribution rates and shares among employers and employees, in the tax regime of contributions and pension benefits, and in pension coverage, and setting up and developing mandatory and/or voluntary second- and third-tier pension schemes. Efforts to increase the flexibility in their pension systems have been made in Spain and Finland.

Incentives to **early retirement** have been reduced. Conditions for eligibility for early retirement and disability have been tightened. In many Member States, early retirement schemes have been abolished altogether. The possibility and incentives to work beyond the normal retirement age or to combine state/occupational pensions with pension contributions completed after entitlement have been introduced or expanded in most countries (notably, BE, ES, FR and IT).

Many of the measures enacted in recent years have been geared to activating socio-economic groups with low labour market attachment, namely low-skilled, women and older workers. This focus is captured by the high proportion of reforms targeting specific socio-economic groups (Graph 11). Thus, the policy emphasis on these groups may have contributed to the increase in the participation and employment rates of the recent years, a hypothesis that is confirmed in the next section.

Effect of reforms targeting marginally attached groups on employment rates

Box 3 presents an econometric analysis of the impact of reforms targeting marginally attached socio-economic groups (i.e. low-skilled, women and older workers) on the overall employment and participation rates. The reforms covered in this econometric exercise include measures involving: a change in the regulatory framework or fiscal incentives for temporary and part-time work; tax cuts for low-skilled/low-income workers; the use of employment subsidies and direct job creation schemes; and the introduction of in-work benefits. Overall, the econometric results show that these measures have paid off.

Estimation results indicate that the response of the employment rate to cyclical fluctuations in GDP, especially for men, is higher for countries outside the euro area than for those inside. The difference seems to relate primarily to employment demand rather than to employment supply and is consistent with euro-area countries being relatively more rigid in terms of employment.

Results also show that countries that have made an effort to activate groups at the margin of the labour market have enjoyed stronger gains in terms of employment rates. Euro-area Member States seem to 'gain' about twice as much from reforms as countries in the non-euro-area group. This result holds predominantly, but not exclusively, for men. It confirms that reforms targeting marginally attached groups have been more firmly geared to raising their employment rates in the euro area than in the rest of the EU.

The estimations also provide some indication that reforms that have improved the level of employment have also promoted adjustment to shocks in the form of a stronger response of the employment rate to cyclical fluctuations in activity. This effect, however, only seems to be in evidence in the euro area and for female workers.

The same econometric approach has also been used to assess whether reforms for groups at the

Box 3 : **Estimating the impact of reforms targeting marginally attached workers**

The chronology of reforms provided in LABREF is used to assess the quantitative effect of reforms targeting marginally attached workers on the total employment (or participation) rates. To this end, developments in the total employment (or participation) rates in those countries that have put in place reforms are compared with developments in employment (or participation) rates in non-reforming countries. Only reforms targeting marginally attached workers are considered (i.e. at women, older workers and low-skilled workers).

The following equation is estimated:

$$\Delta n_{i,t} = \alpha_i + \beta\, reforms_{i,t-1} + \mu \Delta gdp_{i,t-1} + \delta \Delta gdp_{i,t-1} * reforms_{i,t-2} + \varepsilon_{i,t}$$

where:

$n_{i,t}$ employment rate;

$gdp_{i,t}$ gross domestic product;

α_i country-specific fixed effect;

$reforms_{i,t}$ =1 if a reform targeting marginally attached workers is occurring in country i at time t and 0 otherwise.

This formulation allows to test whether employment and its cyclical response change after the reforms. The coefficients β and δ capture the differential effects of reforms on the employment rate and its cyclical response respectively. If β≠0, reforms influence the average employment rate. If δ≠0, reforms also affect its response over the cycle. To capture the lagged effect of reforms, the reform dummy is introduced with a 2-year lag.

This equation is estimated for total, female and male employment rates respectively, both for euro-area countries and for the rest of the EU-25 over the period 2001-2006 (see first table below). The equation is also estimated for total, female and male participation rates for the same groups of countries and time periods (see second table below).

Effect of reforms on total, female and male employment rates, euro area and rest of EU-25
Dependent variable: change in employment rate

	Total		Female		Male	
	Euro-area countries	Rest of EU-25	Euro-area countries	Rest of EU-25	Euro-area countries	Rest of EU-25
Reforms dummy (-1)	0.64***	0.24***	0.46***	0.23***	0.77***	0.12
	(2.66)	(7.27)	(2.04)	(3.86)	(2.62)	(0.72)
GDP growth (-1)	0.11**	0.15***	0.07	0.12***	0.10***	0.29***
	(1.96)	(4.30)	(1.50)	(2.98)	(2.07)	(7.56)
GDP growth (-1)*Reforms dummy (-2)	0.06	0.009	0.11**	0.025	0.001	0.02
	(1.20)	(0.56)	(2.18)	(1.28)	(0.02)	(0.02)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	72	78	72	78	72	78
R-squared (adjusted)	0.33	0.48	0.40	0.27	0.21	0.36

OLS regression controlling for country-specific heteroskedasticity and contemporaneous correlation. Absolute values of T-statistics in parentheses; *significant at 10%; ** significant at 5%; *** significant at 1%.. Estimation period: 2001-2006.

Effect of reforms on total, female and male participation rates, euro area and rest of EU-25
Dependent variable: change in participation rate

	Total		Female		Male	
	Euro-area countries	Rest of EU-25	Euro-area countries	Rest of EU-25	Euro-area countries	Rest of EU-25
Reforms dummy (-1)	0.41***	0.014	0.29***	-0.06	-0.13	-0.0013
	(5.01)	(0.12)	(4.41)	(-0.61)	(-0.99)	(-0.03)
GDP growth (-1)	-0.02	0.13***	-0.03	0.06	-0.02	-0.06***
	(-0.74)	(4.72)	(-1.10)	(1.33)	(-0.66)	(-4.05)
GDP growth (-1)*Reforms dummy (-2)	0.10**	-0.007	0.16**	0.02	-0.02	0.024
	(2.12)	(-0.40)	(2.93)	(1.04)	(-0.40)	(1.11)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	
Observations	72	78	72	78	72	78
R-squared (adjusted)	0.19	0.29	0.19	0.27	0.02	0.12

OLS regression controlling for country-specific heteroskedasticity and contemporaneous correlation. Absolute values of T-statistics in parentheses; *significant at 10%; ** significant at 5%; *** significant at 1%. Estimation period: 2001-2006.

margin of the labour market have effectively had the effect of changing the pattern of participation rates. Various specifications for the participation rate equation for euro area and non-euro-area countries suggest that these reforms have been paying off more in the euro area than in non-euro-area countries.

Conclusions

The information available from the LABREF database suggests that the reforms put in place in the euro area have mainly been targeted at increasing labour utilisation, especially among groups with low participation rates (the outsiders). In addition, the reforms enacted to improve labour market flexibility focused mainly on the same outsiders, while only minor policy intervention was geared to the needs of adapting employment regulation for insiders.

Econometric analysis indicates that this configuration of reforms has paid off in terms of increasing employment rates and participation rates in the euro area. It has also entailed a strengthening of the response of employment to cyclical fluctuations. However, data also point to the increasingly dual nature of euro-area labour markets, with reforms targeting the margins of the labour market rather than standard labour contracts. As advocated in the Commission Communication on Flexicurity,[15] this increased dualism may require further measures, with revision both of the labour regulation for standard contracts and of unemployment benefits and activation systems.

[15] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Towards common principles of flexicurity: More and better jobs through flexibility and security', SEC 2007(861) (862) 27/06/2007.

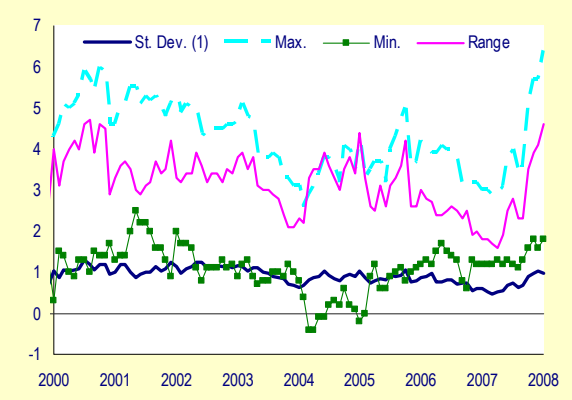
4. Member States' differences in the transmission of recent inflation shocks

Headline inflation in the euro area picked up significantly in the course of 2007, and inflation tensions are persisting at the beginning of this year. Higher energy and food prices have been important drivers in that respect, whereas the appreciation of the euro has worked in the opposite direction. This section looks into recent inflation developments in euro-area Member States and reviews country differences in the transmission of recent inflation shocks.

Inflation developments in euro-area Member States

Over the last six months, i.e. in the period between July 2007 and January 2008, annual HICP inflation increased by 1.4 pp in the euro area. In nine euro-area Member States (Austria, Belgium, Cyprus, Finland, France, Greece, Italy, Luxembourg, Malta, Slovenia and Spain), it increased by more than 1 pp, whereas upward movements in other countries were more muted. In January 2008, the highest inflation rates were observed in Slovenia (6.4%), Spain (4.4%), Luxembourg (4.2%) and Greece (3.9%).

Graph 12: **Headline inflation dispersion in the euro area**
(in % – Jan 1999 to Jan 2008)



(1) Monthly unweighted standard deviation across the euro area
Source: Commission services.

Inflation dispersion, measured by either the standard deviation or the range between the lowest and the highest inflation rates across euro-area Member States, fell slightly between late 2005 and early 2007, before rebounding towards spring 2007. For example, the range has more than doubled recently, increasing from a low of

Table 6: **Sectoral contribution to inflation in euro-area Member States in 2007**
(annual change in % – period averages)

	Non-energy industrial goods		Energy		Unprocessed food		Processed food		Services		All-items HICP		
	2007		2007		2007		2007		2007		2007		2008
	Q1	Q4	Q1	Q4	Q1	Q4	Q1	Q4	Q1	Q4	Q1	Q4	Jan-08
Belgium	0.3	0.3	-0.1	0.8	0.4	0.2	0.4	0.8	0.8	0.6	**1.8**	**2.7**	**3.5**
Germany	0.4	0.4	0.3	1.0	0.2	0.1	0.3	0.5	0.8	1.0	**1.9**	**3.0**	**2.9**
Ireland	-0.3	-0.4	0.3	0.8	0.2	0.1	0.4	0.9	2.3	1.8	**2.8**	**3.2**	**3.1**
Greece	0.8	0.5	-0.2	1.0	0.1	0.2	0.7	0.5	1.6	1.4	**2.9**	**3.6**	**3.9**
Spain	0.3	0.1	-0.1	0.9	0.5	0.5	0.4	1.0	1.4	1.4	**2.5**	**4.0**	**4.4**
France	0.1	0.2	0.0	0.8	0.1	0.2	0.0	0.3	1.0	1.0	**1.3**	**2.5**	**3.2**
Italy	0.5	0.5	0.2	0.4	0.3	0.3	0.3	0.5	0.8	0.8	**2.0**	**2.6**	**3.1**
Cyprus	-0.5	-0.1	-0.3	1.4	0.8	0.0	0.3	0.5	1.1	1.4	**1.3**	**3.2**	**4.1**
Luxembourg	0.5	0.5	0.0	1.4	0.2	0.1	0.7	1.1	0.9	0.9	**2.2**	**4.0**	**4.2**
Malta	0.1	0.6	-0.3	0.1	0.1	0.6	0.3	0.6	0.7	0.6	**0.8**	**2.5**	**3.8**
Netherlands	0.2	0.0	0.3	0.6	0.2	0.0	0.1	0.4	0.7	0.6	**1.5**	**1.7**	**1.8**
Austria	0.1	0.6	0.1	0.9	0.2	0.2	0.2	0.6	1.1	0.7	**1.8**	**3.2**	**3.1**
Portugal	0.6	0.2	0.2	0.8	0.7	0.0	0.0	0.6	1.0	1.1	**2.4**	**2.7**	**2.9**
Slovenia	0.0	0.3	0.1	1.1	0.4	0.8	0.5	1.5	1.6	1.8	**2.6**	**5.5**	**6.4**
Finland	-0.2	-0.3	0.0	0.6	0.3	0.3	0.1	0.2	1.2	1.2	**1.4**	**2.0**	**3.5**
Euro area	**0.3**	**0.3**	**0.1**	**0.8**	**0.2**	**0.2**	**0.2**	**0.5**	**0.9**	**1.0**	1.8	2.9	3.2

Source: Commission services.

1.6 pp in April 2007 to 4.6 pp in January 2008 (see Graph 12). This can to a large extent be attributed to a significant increase in inflation in Slovenia (to 6.4% in January 2008). Excluding Slovenia, the range increased more moderately, from a low of 1.5 pp in May 2007 to 2.6 pp in January 2008.

Table 6 shows the contributions to headline inflation in 2007 of the five main HICP consumption segments, both at aggregate euro-area and at Member State level. The acceleration of headline HICP inflation between the first and the fourth quarter of the year generally reflected increased contributions from energy and processed food. However, the extent to which the global price shocks were transmitted to individual euro-area Member States varied significantly.

Energy inflation and oil prices

One of the main factors affecting recent euro-area inflation developments has been the large rise in energy inflation, mainly caused by an increase in oil prices over the last year. Euro-denominated oil prices have increased by around 54% over the past twelve months, reaching 63 euros per barrel in January 2008 (in dollar terms the increase was 72%). Amongst euro-area Member States, the highest contribution of energy inflation to the increase in headline HICP in 2007 was recorded in Germany, Ireland, the Netherlands and Slovenia. The impact was null in Belgium and even negative in Malta.

One reason for these differences is the unequal energy weights in HICP baskets, particularly in Slovenia (3.2 pp higher than the euro-area average) and Germany (1.6 pp), where energy weights in the HICP baskets are higher than the euro-area average (see Table 7). In Malta, Greece and Finland, on the other hand, energy weights in the HICP baskets are much lower than the average. These differences imply that a given rise in energy prices will have a different impact on headline inflation in different countries. For instance, an increase of energy prices of 10% in Slovenia and Greece will entail a pick-up of headline inflation that will be 0.6 pp higher in the former country.

Another reason for the differentiated impact of oil prices on energy inflation is developments in administered prices. In Germany and Slovenia, for instance, administered prices on electricity and liquid fuels increased in 2007. In most other Member States, administered prices decreased.

Box 4: **The direct effect of changes in oil prices on euro-area HICP inflation**

Changes in oil prices impact on inflation through a number of channels. Firstly, inflation is directly affected by the impact on the HICP energy component. Secondly, there is an indirect effect on inflation as energy price changes are passed on to other sectors of the economy, such as the transport sector. Finally, inflation can be affected if these direct and indirect impacts then lead to second-round effects, i.e. if wages increase in response to higher inflation, in turn putting upward pressure on inflation.

This box analyses the size and the speed of oil price pass-through via the first of these channels in the euro area and in Germany, Spain, France and Italy. Q-o-q percentage changes of the HICP energy category are regressed on level changes in the euro-denominated Brent oil price and a number of its lags. The results of these estimations are reported in the table below.

Estimated pass-through of oil prices into the HICP

	Energy HICP					*Gas HICP*				
	Euro area	**Germany**	**Spain**	**France**	**Italy**	**Euro area**	**Germany**	**Spain**	**France**	**Italy**
Constant	0.47	0.66	0.26	0.13	0.15	0.53	0.69		0.34	0.21
	(2.68)	*(2.68)*	*(1.04)*	*(0.56)*	*(0.86)*	*(2.65)*	*(1.83)*		*(0.96)*	*(1.01)*
Oil price	0.50	0.50	0.66	0.52	0.32					
	(12.60)	*(8.94)*	*(11.5)*	*(9.59)*	*(8.35)*					
Oil price Q-1				0.13	0.18	0.09			0.26	0.11
				(2.28)	*(4.53)*	*(1.85)*			*(3.11)*	*(2.34)*
Oil price Q-2					0.09	0.37	0.50			0.37
					(2.19)	*(7.86)*	*(5.53)*			*(7.56)*
Oil price Q-3	0.12	0.18	0.11	0.10	0.08	0.29	0.37		0.43	0.13
	(2.81)	*(2.95)*	*(1.81)*	*(1.82)*	*(2.06)*	*(5.84)*	*(4.01)*		*(5.06)*	*(2.49)*
Oil price Q-4	0.08	0.10			0.11	0.17	0.26			0.14
	(2.00)	*(1.75)*			*(2.83)*	*(3.60)*	*(2.84)*			*(2.86)*
Oil price Q-5									0.21	
									(2.38)	
R^2	0.85	0.75	0.81	0.77	0.80	0.80	0.65		0.54	0.73
RESET test (p-value)	0.61	0.83	0.48	0.98	0.52	0.56	0.11		0.06	0.18

Note: Data are quarterly and cover the period from Q-1 1999 to Q-4 2007. Energy and gas HICP inflation reflects quarter-on-quarter percentage changes in the price level. Oil prices are quarterly changes in levels, since the overall properties of the regressions are better than when percentage changes in the oil price are used. Lags of the order of 1-6 (Q-1 to Q-6) in the oil price were included in the original regressions and insignificant regressors were removed subsequently. Numbers in parenthesis refer to t-values.
RESET test is a statistical test for functional form. In general, other diagnostic tests do not show signs of misspecification.

The results for the euro area as a whole show that changes in oil prices start to pass through to *average euro-area energy inflation* immediately: a 1 euro increase in the oil price translates into a 0.5 pp increase in the q-o-q change in the HICP energy component in the current quarter. Changes in the oil price do not appear to have a significant effect on energy HICP over the subsequent 2 quarters, whereas the results show that there are significant lagged effects for 3 and 4 quarters after the oil price change. The y-o-y energy inflation will increase by around 0.75 pp within the first year and the effect disappears after 7-8 quarters.

The lag structure of the oil price impact could indicate the importance of oil contracts and futures, setting the oil price for companies for up to 6 months. Furthermore, the existence of relatively long lags probably reflects the development in the gas component, which is *de facto* indexed to oil prices. The results for the sub-component 'gas' show that the oil price pass-through to gas prices is slow, with basically no immediate impact and the main impact occurring between 2 and 3 quarters after the oil price change.

The impact of a 1 euro increase in the oil price on y-o-y energy inflation is similar in Germany, Spain, France and Italy and is in the range of 0.70-0.75 pp during the first year, before fading out. The dynamic impact, however, is rather diverse in the four euro-area Member States. In Germany, the immediate impact on energy HICP inflation is similar to that of the euro-area average. The size of the impact in Germany after 3-4 quarters is, however, slightly larger. Furthermore, the constant term is larger. The latter could indicate historically significant increases in administered energy prices in Germany.

In Spain, the immediate oil price impact is very large, 0.66 pp, whereas the lagged effects are smaller than in the euro-area average. In France, the speed of the oil price pass-through is slightly lower than in Spain but higher than in Germany. Italy stands out, in that the dynamic impact from changed oil prices are spread out, quite evenly, over the four quarters following the oil price change.

The four countries' HICP energy weights (average 2007) in the HICP index range from 8.6% in Italy to 11.2% in Germany. Based on these data, a 1 euro increase in the oil price implies a direct contribution to headline HICP inflation (y-o-y) during the first year of: 0.058 pp in Italy, 0.066 pp in France, 0.075 pp in Spain and 0.078 pp in Germany.

Furthermore, the relatively low competition in the energy market in Belgium might be one of the causes of the current sharp price increases for gas and electricity in that country. The incumbents' market power in Belgium remains high and their presence in transmission and distribution network operators is significant. The liberalisation of the residential users market in 2007 has been only a partial success, with particularly slow progress in Brussels.

Table 7: **Euro-area Member States' weights of HICP categories compared to euro-area average** (in pp – 2007)

	Non-ener. ind. goods	Energy	Unproc. food	Proc. food	Services
BE	1.8	0.7	0.7	0.0	-3.2
DE	-1.4	1.6	-2.6	-0.3	2.6
IE	-4.1	-0.9	-1.5	1.8	4.7
EL	-1.2	-2.5	0.7	1.4	1.6
ES	-1.5	0.1	4.8	0.5	-3.8
FR	1.4	-0.8	0.7	-0.3	-1.0
IT	1.4	-1.0	0.7	0.3	-1.4
CY	-0.4	1.8	0.8	0.9	0.4
LU	2.6	1.7	-3.3	9.0	-10.0
MT	2.1	-4.0	0.2	2.4	-0.7
NL	0.8	0.6	-2.3	-0.4	1.3
AT	-1.1	-1.5	-2.3	-1.8	6.6
PT	1.1	-0.4	3.7	-1.3	-3.1
SI	1.1	3.2	-0.3	2.8	-6.8
FI	0.2	-2.4	-1.2	2.9	0.4
EA	**30.0**	**9.6**	**7.6**	**11.9**	**40.8**

Source: Commission services.

Box 5 presents estimates of the direct effect of changes in oil prices on inflation in the euro area as a whole, Germany, Spain, France and Italy. The estimations suggest that the pass-through of oil price changes into inflation is strong: a 1 euro increase in oil prices raises the energy component of the HICP by about 0.75 pp and headline HICP by about 0.05 pp during the first year following the shock. While most of the oil price impact on inflation occurs within the first year in all four euro-area Member States, the speed of the pass-through varies somewhat across countries. In Spain and France, the impact occurs mainly in the current or current and next quarter, whereas in Italy the impact is spread out over the first 4-5 quarters. In general, the lag structure indicates the importance of oil contracts and futures, setting the oil price for companies for up to 6 months, and also the lagged development in gas prices.

In addition to direct effects, oil price changes can also affect inflation both indirectly and via second-round effects. Previous research has shown that indirect effects can be substantial, with a 1 euro rise in Brent prices contributing between 0.02-0.03 pp to core inflation, but that these effects occur with a substantial delay of between one and three years.[16] Overall, the total effect of an oil price rise on euro-area HICP inflation can be considerable and long-lasting.

Food inflation and developments in agricultural prices

The average contribution of the food component to headline inflation increased markedly across euro-area Member States in 2007 compared to the period 2000-2006 (Table 8). The total contribution of unprocessed and processed food prices to headline HICP inflation across euro-area Member States ranged between 0.3 and 1.0 pp in 2007, with the exception of Slovenia, where it added about 1½ pp to the annual increase in headline inflation. This compares to a long-term average contribution of the food component to euro-area headline inflation of 0.5 pp. In 2007,

[16] See, for example, European Commission (2005), 'The impact of higher oil prices on inflation', Quarterly Report on the Euro Area, Volume 4, No 4, pp. 28-39.

the food component contributed more than 100 per cent to the overall increase in headline inflation in Malta and around 40-45% in Belgium, Slovenia and Luxembourg, whereas the contribution was less than 20% in Netherlands and France.

Unequal food weights in the HICP baskets can explain some of the differences in food price contribution to headline inflation. While food weights in the HICP baskets are higher in Luxembourg, Spain, Slovenia and Malta than the euro-area average, the weights are lower in Austria, Netherlands and France.

Table 8: **Contribution of food prices to headline inflation in the Member States**
(in % – 2000-2007)

	Contribution of food prices in % of total headline inflation		Weight of food in HICP	Food inflation (y-o-y)
	2000-2006	2007	2007	2007
BE	21.7	44.9	20.2	4.0
DE	20.2	21.7	16.7	3.0
IE	21.9	25.8	19.9	3.7
EL	26.2	22.4	21.7	3.1
ES	30.9	36.3	24.8	4.1
FR	28.5	18.7	19.9	1.5
IT	21.5	30.7	20.5	3.0
CY	41.2	41.6	21.3	4.3
LU	31.8	37.5	25.3	4.0
MT	23.6	101.2	22.1	3.2
NL	14.1	16.8	16.8	1.6
AT	17.2	26.7	15.5	3.8
PT	19.0	25.6	21.9	2.8
SI	20.4	41.2	22.1	7.1
FI	14.6	25.3	21.3	1.9
EA	**23.5**	**26.1**	**19.6**	**2.8**

Source: Commission services.

Other factors, such as the relative cyclical position of euro-area Member States and differences in retail market structures, also contributed to the cross-country differences in food inflation. Malta, for instance, imports almost all of its food supplies. Consequently, fluctuations in global food prices have a significant impact on inflation developments. In addition, due to its small size a few food importers dominate the market, thereby hindering effective competition. In Slovenia, the large increases in food prices point to insufficient competition in the food retail sector. In France, on the other hand, the recent increase in food prices has been relatively benign on account of measures taken by the French government in 2004 and in 2007 to enhance competition in the retail sector.[17]

Table 9: **Unprocessed and processed food HICP in euro-area Member States**
(annual change in % – 2005-2007)

	Unprocessed food			**Processed food** (1)		
	2005	2006	2007	2005	2006	2007
BE	1.7	3.3	3	2.0	2.1	4.7
DE	0.8	3.2	2.4	3.6	2.1	3.2
IE	-1.6	2.2	2.8	0.4	0.9	4.1
EL	-1.5	1.9	2.2	2.8	5.2	3.7
ES	3.3	3.9	4.3	3.5	3.9	3.9
FR	1.0	2.6	2.2	-0.4	0.6	1.0
IT	-0.7	1.6	3.2	2.2	2.7	2.8
CY	2.7	8.0	6.1	1.6	2.8	2.9
LU	1.3	2.7	3.7	5.1	3.0	4.0
MT	2.2	2.2	4.7	1.5	1.6	2.4
NL	-0.2	3.4	1.5	-0.3	0.6	1.6
AT	1.1	1.2	3.9	2.6	1.3	3.8
PT	-0.5	3.2	3.0	0.8	4.1	2.6
SI	-0.8	3.1	8.7	0.6	2.5	6.3
FI	0.0	2.0	4.0	-0.4	1.3	1.0
EA	**0.8**	**2.8**	**3.0**	**2.0**	**2.1**	**2.8**

(1) Including alcohol and tobacco.
Source: Commission services.

A large increase in international agricultural commodity prices has been a major factor behind the recent increase in euro-area inflation. Since January 2006, agricultural commodity price indices have increased by about 50%, with half of this increase occurring between summer 2007 and January 2008. During the first half of 2007, the price increase accelerated in particular for cereals and dairy products. Prices for skimmed milk powder in Europe rose by about 80%, butter prices by almost 50% and poultry prices

[17] The December 2007 reform proposals on the relation between suppliers and large retailers were converted into a law 'Loi pour le développement de la concurrence au service des consommateurs' (law to develop competition in favour of consumers) adopted on 3 January 2008. According to the French Ministry of Finance estimates, the measures envisaged by the law should lead to a substantial cut in prices (in particular in national brand retail prices), leading to a progressive consumer price decline of up to 1.4 pp.

by 30% between summer 2006 and summer 2007. Since then, prices have declined somewhat, particularly on dairy products and poultry. The price increase on wheat continued throughout the course of 2007 and by January 2008 it was around 90% higher than a year earlier.

The driving forces behind the recent price increases in agricultural commodities are partly temporary and partly structural in nature. Firstly, there have been weather-related shortfalls in a number of important producing countries. Secondly, agricultural world markets are becoming tighter due to swelling demand for higher-quality food and also on account of booming demand in emerging countries. Thirdly, rising demand for bio-fuels compounds the tight supply situation, particularly in the US, where the production of bio-ethanol is estimated to absorb around 25% of US maize production. Fourthly, the supply response to the growing demand seems to be hampered by relatively slower productivity growth in agriculture in emerging countries and also by limited availability of additional fertile farmland. Finally, the surge in agricultural commodity prices has been supported by a historically low level of international stocks. EU intervention stocks have been almost completely depleted.

The pricing of futures markets indicates that, although agricultural commodity prices will remain at elevated levels, they will decline over the next 12 months. This implies that food price inflation should decrease in the course of 2008.

Exchange rates

The euro has appreciated by more than 6% in effective terms over the last twelve months, reflecting a broad-based strengthening against most major currencies. The appreciation of the euro has put downward pressure on inflation, helping in particular to mitigate the inflationary pressures emanating from international commodity markets.

Available estimates show that the pass-through of exchange rate changes to import prices is strong in the euro area (about 75%), and rapid, with most of the effect occurring in the same month.[18] The pass-through is largest in Spain, Italy and Portugal and smallest in Ireland, Greece and Austria. The impact from exchange rates on producer and consumer prices is, however, smaller and significantly slower. Empirical estimates suggest a long-run rate of pass-through in the euro area of 23% and 19% for producer and consumer prices, respectively.[19] Based on these estimates, the 36% appreciation of the euro since year-end 2000 would have contributed to increased household purchasing power of about 7%, with some of these gains still to come.

Table 10: **Nominal effective exchange rate and import prices**
(annual change in % – 2003-2007) (1)

	NEER		Unit value indices, consumption goods	
	average 2003-06	2007	average 2003-06	2007 (2)
BE	1.4	1.2	-0.9	-5.3
DE	1.9	1.7	1.1	0.8
IE	2.5	2.6	1.4	1.8
EL	1.5	0.8	1.6	1.8
ES	1.4	1.2	0.9	0.7
FR	1.7	1.6	-0.2	-1.3
IT	1.8	1.6	1.9	2.0
CY	-3.5	-0.3	0.6	1.4
LU	1.4	1.2	-0.6	1.4
ML	1.3	2.9	1.5	-2.3
NL	1.2	1.0	-1.2	5.9
AT	1.1	0.9	0.2	4.1
PT	1.1	1.1	0.9	-0.1
SI	-0.7	0.3	-0.3	3.2
FI	1.8	1.5	-0.3	0.1
EA	**3.7**	**3.3**	0.5	0.9

(1) The unit value index is for imported goods from outside the euro area.
(2) The increase in the unit value index in 2007 is for the period November 2006 to November 2007, on account of the available data.
Source: Commission services.

Although the pass-through from import prices to consumer prices is not mechanical, developments in import prices (based on unit value indices)

[18] Campa, J.M., L.S. Golberg and J.M. Gonzalez (2005), 'Exchange-rate pass-through to import prices in the euro area', Documentos de Trabajo No. 0538, Banco De España.

[19] European Commission (2007), 'The impact of the euro appreciation on domestic prices and the trade performance', Quarterly Report on the Euro Area, Vol. 6 No 2.

across euro-area Member States can give a useful indication of the impact of exchange rate fluctuations on imported inflation (see Table 10).

The dynamics of import prices in the Netherlands, Austria and Slovenia were particularly strong in 2007.[20] This coincides with a modest appreciation of the effective exchange rate in these Member States last year. In Malta and France, on the other hand, import prices fell last year, whereas the exchange rate increase was significant.

The linkage between changes in exchange rates and import prices is not however clear in all Member States, e.g. Belgium, where a modest appreciation of the exchange rate in 2007 coincided with a substantial decline in import prices. The extent to which movements in the euro exchange rate affect domestic inflation rates varies across Member States, depending on factors such as the pattern of international trade, cyclical conditions, pricing strategies of foreign exporters and the behaviour of domestic retailers (related to the degree of competition in domestic retail markets).

Conclusion

While headline inflation in the euro area has been high in recent months, inflation dispersion amongst euro-area Member States has increased significantly since summer 2007. Although energy and food prices have accelerated in all Member States and contributed substantially to the increase in inflation, the global shocks to oil and agricultural commodity prices have been transmitted to individual countries with varying intensity, depending on the weight of food and energy in national HICP, as well as on idiosyncratic factors such as the degree of competition in retail markets and the extent of domestic demand pressures. Furthermore, the exchange rate pass-through on consumer prices has differed across euro-area Member States. Looking forward, earlier increases in energy and food prices will continue to affect euro-area inflation in 2008 through base effects and possible second-round effects. While the impact will gradually disappear in most euro-area Member States, earlier experience suggests that it will be different across Member States.

[20] Data on unit value indices for imports suffer from a number of shortcomings, which tend to make them less reliable than import deflators in national accounts. The latter, however, do not distinguish between intra- and extra-area origins.

Focus

II. Economic and monetary integration in East Asia: Are there lessons to be learned from Europe's experience?

The European experience of economic and monetary integration has been followed closely in East Asia, especially since the Asian financial crisis in the late 1990s. Academics, but also policy-makers, have started to consider whether, mutatis mutandis, exchange rate coordination and monetary cooperation might not be a viable way for East Asia to achieve greater monetary and financial stability in the region and help to prevent any repetition of the crisis the late 1990s. From a strictly economic viewpoint, given the growing intra-regional integration of East Asian economies, greater monetary and exchange rate cooperation would have its advantages and could be beneficial to the region. Even if the processes of economic and monetary integration in East Asia and Europe will inevitably be different, this focus shows that some aspects of the European experience are relevant for the current efforts under way in East Asia to enhance exchange rate coordination and monetary cooperation. From a long-term perspective, a case can be made for an Asian Monetary Union. Some of the obstacles are of an economic nature, since East Asia is not an optimal currency area and, in most of the countries, major structural changes will have to take place before a process of monetary unification can be started. Some other obstacles relate to governance issues and require a political commitment to regional integration. Even in a market-driven and institution-light process of economic and monetary unification, effective surveillance, based on some form of institutional cooperation, is a precondition to achieving successful exchange rate and monetary coordination. This is certainly the main and most important lesson that East Asian countries can draw from the European experience.

1. Introduction

The Asian financial crisis in the second half of the 1990s provided new momentum to the process of East Asia economic and monetary integration. However, since then, the progress made has been uneven. On the one hand, the rapid growth of intra-regional trade has made the region increasingly integrated. On the other, despite a flurry of (often uncoordinated) initiatives (trade agreements, bilateral currency swap arrangements, initiatives aimed at creating a regional bond market, etc.), from an institutional perspective, East Asia economic integration is still in its very early stages.

This focus section argues that the European experience provides some guidance for the subsequent stages in this process. Although East Asia and Europe are very different and the international environment has changed dramatically from the time when Europe started its unification process, the integration process in East Asia can still be informed from Europe's experience. After reviewing the progress made in economic and monetary integration in East Asia in the last decade, this focus section discusses whether East Asia can be considered an optimal currency area. It also reviews different approaches to achieving exchange rate stability in the Asian region and their trade-offs. The analysis then turns to the issue of why and how the European experience in terms of exchange rate and monetary cooperation can be relevant for this region. The final part of the focus is devoted to the main obstacles hampering the process of Asian economic and monetary integration and looks at what useful lessons can be learned from the European experience.

2. East Asia economic, financial and monetary integration

Through various groupings, …

The process of East Asia integration mainly takes place within three regional frameworks: ASEAN,[21] ASEAN+3 (i.e. ASEAN plus Japan, China and Korea) and the East Asia Summit (EAS).[22]

[21] Established in 1967, ASEAN now encompasses 10 South-East Asian countries (Brunei, Burma/Myanmar, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand and Vietnam).

[22] There are also a number of intra-regional groupings, such as APEC (a Pacific-wide forum) and ASEM (a forum for dialogue between Asia and Europe), and a number of economic forums, such as EMEAP (the Executives' Meeting of East Asia-Pacific Central banks), which also help to foster regional integration. EMEAP aims at enhancing financial and monetary cooperation. It comprises the central banks of eleven economies: Australia, China, the Philippines, Hong Kong, Indonesia, Japan, Korea, Malaysia, New Zealand, Singapore and Thailand.

ASEAN is the most advanced framework for integration in Asia and the only one that has a coordinating structure at regional level (the ASEAN Secretariat). The past years have seen its integration process accelerate. In 2003, an ASEAN Summit agreed to achieve an Economic, Security and Social-cultural Community by 2020. An ASEAN Free Trade Agreement (AFTA) is now in place, with reduced tariffs applying to some 95% of intra-ASEAN trade. In 2007, the 12th ASEAN Summit decided that an ASEAN Single Market should be created by 2015, five years ahead of schedule, so as to cope more effectively with the competitive pressure from China and India.

Since its creation in 1997, the main aim of ASEAN+3 has been to provide a framework for closer cooperation in East Asia. A Summit meeting takes place each year back-to-back with the ASEAN Summit. Results have been limited so far to noteworthy cooperation, mainly in the exchange rate and financial areas.

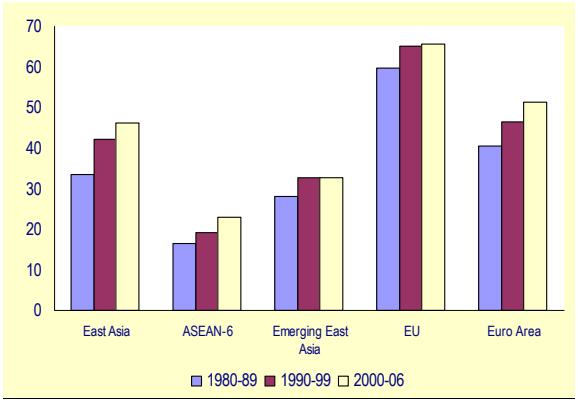
Created in 2005, the East Asia Summit is the most recent initiative to promote closer integration in East Asia. EAS membership is wider than ASEAN+3 (it includes ASEAN+3 plus India**,** Australia and New Zealand) and it is a much looser forum for cooperation than ASEAN or ASEAN+3. It is not yet clear how EAS will evolve in the future.

The variable geometry of these frameworks and groupings provides some flexibility in the early stages of cooperation arrangements, but it often unduly complicates the picture and produces a plethora of weak agreements that make further regional integration difficult to achieve.

… regional integration in East Asia takes place mainly in trade …

For the past four decades, trade has been the engine of economic growth in most of East Asia. While unilateral liberalisation of trade has helped to initiate export-led development in the region, increasing economic integration has been a significant factor in supporting the region's growth. Graph 13 illustrates the rise in intra-regional trade in East Asia in the past decades. It also shows that regional trade integration has reached levels comparable to that of the euro area when the EMU project was launched.

Graph 13: **Intra-regional trade**
(Share of total trade in %) (1)



(1) East Asia is defined as Japan, China, Hong Kong, Korea, Thailand, Singapore, Indonesia, Malaysia, Vietnam and the Philippines; ASEAN-6 includes Thailand, Singapore, Indonesia, Malaysia, Vietnam and the Philippines; and Emerging Asia includes China, Hong Kong, Thailand, Singapore, Indonesia, Malaysia and the Philippines.
Source: IMF Direction of Trade Statistics.

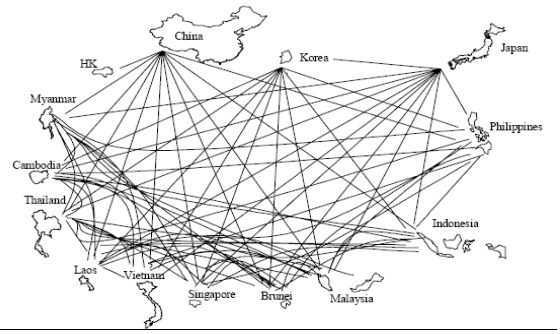
One of the key features of Asian trade patterns is the prominent role taken by vertical trade integration through the rapid expansion of supply-chain networks. Vertical intra-industry trade, involving trade in goods at different stages of production, has come to the fore in East Asia, with comparative advantage driving countries to specialise in those segments of production in which they are most efficient. By lowering transport and communication costs, technological progress has played a key role. Another factor behind the expansion of supply-chain networks has been the strategic reallocation by multinational companies of parts of their production process to low-cost countries. Falling tariff barriers have also supported the trend, while the trade policies of East Asian countries have also played a role. For instance, trade policies that lowered tariff rates on imported inputs have raised the effective protection in processing industries reliant on such inputs, reducing their costs of production and assisting their development. An additional key factor has been the emergence of China as a major low-wage producer. There is now a triangular trade pattern in Asia, with firms located in more

advanced economies using China as a platform for final exports to third countries.[23]

Another illustration of the intra-regional business activity of multinational companies in East Asia can be found in the rapid increase in FDI flows to and from the region over the past decades – at a faster pace than the region's growth in trade – and in the fact that many of these flows have become intra-regional.

In this intra-regional trade network, it is often argued that East Asian countries are currently both 'comrades and competitors'. The similarities between the various economies in the region have also resulted in increasing rivalry between Asian countries for market shares abroad. This implies that exchange rate movements between the Renminbi and other East Asian currencies have become increasingly relevant to trade and FDI.

Graph 14: **The noodle bowl syndrome** (1)



(1) The map shows FTAs signed or under negotiation in 2006. East Asia is defined here as the 10 ASEANs, China, Japan and Korea
Source: Baldwin, R. (2006), 'Managing the noodle bowl: The fragility of East Asian regionalism', CEPR Discussion Papers No 5561.

This intra-regional competitive dynamics has led to a proliferation of bilateral and regional trade agreements in Asia in recent years, referred to by Richard Baldwin as the Asian Noodle Bowl (see Graph 14). While fewer than 20 agreements notified to the WTO involved East Asian countries in 2005, the Asian Development Bank (ADB) estimated that almost 110 were signed in 2006 and over 80 were under negotiation.[24] While about one-third of Asian FTAs involved extra-regional partners, the remaining two-thirds were between East Asian partners.

As stressed by the ADB, the proliferation of bilateral regional trade agreements in Asia reflects both countries' strategic and political interests and their commercial interest in institutionalising market-driven integration processes. However, the pursuit of overlapping bilateral, regional and plurilateral FTAs by Asian countries has resulted in multiple agendas for integration. Harmonising these agendas to tap the potential of non-discriminatory approaches to liberalisation, and to expand the reach of integration, is a major challenge and may become an obstacle to further integration.

… as well as in financial and monetary areas.

Regional financial cooperation in Asia is relatively new. Asian interest in exploring forms of financial cooperation increased greatly following the 1997-98 Asian financial crisis, alongside growing intra-regional trade and investment. The main objective has been to diversify sources of financing, improve mutual surveillance and dialogue and consolidate the stability of financial systems. In this regard, the main steps taken by East Asian policy-makers are the following:

(1) The Chiang Mai Initiative (CMI). This was launched in 2000 and consists of swap arrangements aimed at providing short-term liquidity support to participating ASEAN+3 countries facing balance of payments problems.

(2) The monitoring of Short-Term Capital Flows. In 2001, ASEAN+3 Finance ministers agreed on bilateral exchange of information on cross-border short-term capital flows, in a bid to promote policy coordination.

(3) The ASEAN+3 Economic Review and Policy Dialogue (ERPD). This was created in 2002 to exchange information on economic situations and policy issues in the region. It meets once a year at Finance minister level and twice a year at finance and central bank deputy level.

(4) The Asian Bond Markets Initiative (ABMI). Discussions began in 2002, with the aim of developing regional bond markets in East Asia. In 2003, ASEAN finance ministers agreed on the

[23] See, for example, Zebregs, H. (2004), "Intraregional trade in emerging Asia", IMF Policy Discussion Paper PDP/04/1

[24] Asian Development Bank (2006), 'The Asian development outlook'.

establishment of working groups, to be engaged primarily in constructing a regional infrastructure and in devising plans for harmonising various financial standards, regulatory systems and tax treatment throughout the region.

(5) The Asian Bund Funds Initiative. EMEAP launched this initiative with the aim of (i) providing a catalyst, as a lead investor, for private investors to consider investment in Asian bond issues, particularly domestic currency bonds, and (ii) diversifying investment of foreign currency-denominated assets held by central banks into Asian bonds. This initiative is implemented via two different funds: the Asian Bond Fund – established in 2003 - which invested USD 1bn in a basket of US dollar-denominated bonds issued by Asian governments – and the Asian Bond Fund 2 – launched in 2005 - which invested around USD 2bn in local currency bonds.

In spite of these initiatives, most observers agree that East Asian financial and monetary integration is still at the conceptual stage and continues to lag when compared with progress made in trade integration. Not surprisingly then, standard measures of financial integration show that global financial integration dominates intra-regional integration in Asia.[25]

3. Is East Asia an optimal currency area?

While East Asia could satisfy some of the conditions required to be an OCA …

In its traditional definition, an optimum currency area (OCA) is an economic area composed of economies with strong intra-regional trade links, high correlation of demand and supply shocks, and in which labour, capital and other factors of production move freely. In such an area, a single currency would maximise economic efficiency. Although such a definition of an OCA is difficult to achieve, the theory of the optimum currency area provides a useful benchmark to assess real and nominal convergence within a given area. As seen above, East Asia's intra-regional trade accounts for a high share of total trade and supply chains are particularly well-developed and sophisticated. The level of intra-regional integration of East Asia is now comparable to intra-regional trade within the European Union when it decided to create EMU and the single currency. In addition, nominal and real wages in East Asian countries are relatively flexible, possibly more flexible than wages in Europe pre- and post-EMU. There is also evidence that business cycle synchronisation between members of ASEAN+3 – as measured by the bilateral correlation of GDP growth rates – has increased, especially since the financial crisis.[26] A few studies have also reported that, with the exception of Japan and China, cross-country correlations of supply and demand shocks in Asia are not much different from those across Europe in the early 1990s and are becoming stronger over time, although shocks seem to be mostly symmetric within two specific groups, i.e. ASEAN and North-East Asia.[27]

… others still need to be met.

However, there are other prerequisites for an OCA that are not easily met by East Asian countries. Intra-regional labour mobility is limited. Although there are no reliable statistics available, the foreign population share in Asian countries is likely to be many times smaller than in the European Union, and most East Asian countries apply very tight immigration rules, which impede intra-regional labour mobility. It is argued, however, that domestic labour markets in East Asia are more flexible than in the euro area, allowing thus for faster adjustment to shocks. As a result, the importance of labour mobility as an OCA criterion is less relevant for East Asia than it was for Europe.[28]

[25] See, for example, Cowen, D., R. Salgado, H. Shah, L. Teo and A. Zanello, (2006), 'Financial integration in Asia: Recent developments and next steps', IMF Working Paper No 06/196.

[26] See Rana, P. B. (2007), 'Economic integration in East Asia: Trends, prospects, and a possible roadmap." Economic Growth Centre Working Paper Series No 2007/01, Nanyang Technological University.

[27] Kwack, S. Y. (2004), 'An optimum currency area in East Asia: Feasibility, coordination and leadership', *Journal of Asian Economics*, Vol. 15 No 1, and Zhang, Z., K. Sato and M. McAleer (2004), 'Is a monetary union feasible for East Asia?', *Applied Economics* Vol. 36 No 10.

[28] See, for instance, Watanabe, S. and M. Ogura (2006), 'How far apart are two ACUs from each other? Asian Currency Unit and Asian Currency Union', Bank of Japan Working Paper Series No 06-E-20 and Kawai, M. (2008), 'An East Asian currency for an integrated Asia', Asian Development Bank (forthcoming).

Leaving OCA theory aside, real convergence is also lagging. The standard deviation of GDP per capita in Asia (in PPP terms) is about two to three times that of Europe.[29] In addition, the correlations of demand and supply disturbances show that the effects of external shocks are not quite symmetric across East Asian economies and this asymmetry is significantly higher than in the euro area. This implies that national economic structures in East Asia are still significantly different and a unified monetary policy would have problems in providing an appropriate response to external shocks. And although East Asian countries are also faster to adjust to supply and demand shocks, the large size of these disturbances indicates that monetary unification would be more costly for East Asia than for Europe. [30]

Financial market integration remains insufficient despite some decline in cross-market differentials in interest rates and bond yields. As mentioned above, East Asian financial markets are increasingly integrated globally, much more than at regional level. In addition, although cross-border portfolio investment flows in East Asia have gradually increased over the past decade (in particular for equities), the share of intra-regional portfolio investment flows remains limited (6% in 2005) compared to the EU-15 (62%).[31]

Another prerequisite not met by a number of Asian countries is production and consumption diversification. High diversification in production and consumption weakens the incidence of specific sector shocks. Therefore, diversification reduces the need for changes in the terms of trade via the nominal exchange rate. Highly diversified economies are more likely to incur reduced costs as a result of forsaking nominal exchange rate changes between them. However, the patterns of production and consumption of a number of ASEAN countries are still not diversified enough and make them more vulnerable to asymmetric shocks if they cannot use any longer the exchange rate instrument.

Overall, as discussed further in Section 6, East Asia departs from an optimal currency area in several respects, as was also the case of the euro area when EMU was launched. Furthermore, history shows that OCA criteria can partly be endogenous in the sense that monetary integration affects economic structures and may bring the region concerned closer to an OCA.

4. Toward an East Asia exchange rate regime?

In order to stabilise intraregional exchange rates…

Current exchange rate regimes in East Asia differ widely. Most ASEAN countries and Korea have managed floats; China and Malaysia have a managed peg to the dollar; Hong Kong has a hard peg to the dollar; and the Japanese yen floats freely. Although *de facto* the US dollar remains the reference currency for all East Asian currency regimes (including the free-floating Japanese yen), their diversity presents major drawbacks, which makes the current exchange rate configuration in East Asia far from optimal.

It is no surprise, therefore, that there is a strong interest in the region in proposals aimed at enhancing exchange rate cooperation and, in the long term, at setting up a process of monetary and financial integration. Part of this interest is related to the lessons drawn from the Asian financial crisis of 1997-98, in particular on the issue of contagion. The potential for 'real contagion' was thought to be small, given the relatively low levels of trade integration at the time,[32] and the fact that portfolio investment among the countries in the region was almost non-existent. The crisis showed that this was not the case. The crisis was also aggravated by dollar-peg exchange rate regimes, which were inherently unstable and vulnerable to speculative attacks. The absence of exchange rate cooperation in the region only made things worse.

In response to the crisis, a number of proposals designed to lay the foundations for exchange rate cooperation, to introduce a common managed floating regime and, in some cases, to create a

[29] See Watanabe, S. and M. Ogura (2006), op. cit..

[30] See Kwack (2004), op. cit.

[31] See, for instance, Cowen et al. (2006), op. cit.

[32] See Plummer, M. and G. Wignaraja (2007), 'The post-crisis sequencing of economic integration in Asia: Trade as a complement to a monetary future', Asian Development Bank, Working Paper Series on Regional Economic Integration No 9.

currency union as the ultimate goal emerged. Both the reorganisation of supply chains in East Asia and the successful launch or the euro gave new momentum, not only among academics, but also among policy-makers and business people, to the idea that the region needs enhanced currency and monetary coordination to ensure greater financial stability and reduce risks related to currency crises.

... and reduce East Asia exposure to global imbalances …

Another argument in favour of exchange rate cooperation in Asia is linked to the persistence of global current account imbalances and the rapid accumulation of foreign exchange reserves in East Asia, which have played an important role in financing the US current account deficit.[33] Reserve accumulation prevents East Asian currencies from appreciating against the dollar, but it may also have unintended consequences (for instance, on money supply and inflation). To limit these effects, East Asian central banks have engaged in extensive sterilisation and, in fact, so far have been successful in preventing money supply growth from accelerating excessively. However, sterilisation also produces undesired effects. As a result, commercial banks end up holding central bank bills yielding low interest rates. This erodes banks' profitability and affects credit allocation. In addition, the huge accumulation of dollar-denominated assets exposes East Asian monetary authorities to large losses if the dollar goes through rapid depreciation.

The risk of an abrupt fall in the US dollar and parallel appreciation of East Asian currencies has become even more prominent amidst the current financial turmoil. While some currency appreciation would be desirable in most East Asian countries (in particular those facing strong domestic inflationary pressures), such an appreciation, if the currencies move in an uncoordinated way, would also damage some countries' international price competitiveness, and all countries would face significant capital losses.

To address the pitfalls of the *de facto* peg to the dollar, a number of proposals have been put forward to enhance exchange rate coordination and monetary policy cooperation in East Asia, and ultimately to abandon the *de facto* dollar peg for a basket of currencies.

… several proposals have been made.

Most of the proposals/initiatives aimed at achieving exchange rate stability in East Asia can be divided into four types of possible currency arrangements (some of which can be a variant of a multi-stage process towards monetary union):

(1) The creation of bilateral swap agreements (BSAs) between East Asian countries. The goal of BSAs' is to provide liquidity assistance at bilateral level. The main aim is to build a defensive system against future crises and discourage speculative attacks against the currencies of countries that have subscribed to BSAs. They can also be a first step in the process of monetary and financial integration, as they can constitute a test to the readiness of countries to cooperate in tense and difficult conditions.

BSAs between ASEAN countries pre-dated the crisis, but their small size was no match for the turmoil of the late 1990s. To make them effective after the financial crisis, Japan, China and Korea were called in. In 2000, ASEAN+3 Finance ministers agreed in Chiang Mai to set up a network of BSAs of a much bigger size than past arrangements, now known as the Chiang Mai Initiative (CMI). In 2007, the 17 bilateral swaps among ASEAN+3 countries had grown to the sizeable level of almost 83 billion US$.

The CMI, however, is unsatisfactory for several reasons. There are in particular concerns about the way and the speed with which BSAs would be activated. While delays in BSA activation may undermine an effective defence of the currency, a partial BSA activation, with some countries declining to lend their support, may even be

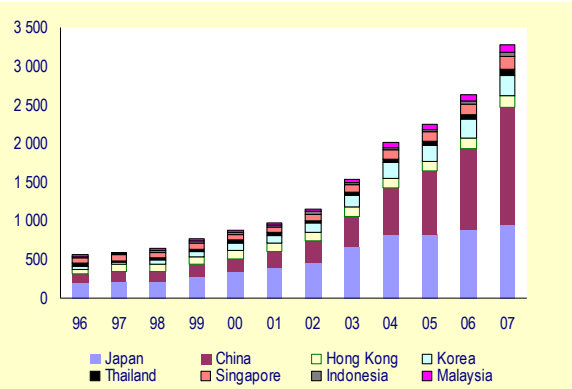
[33] See Yoshitomi, M., (2007), 'Global imbalances and East Asian monetary cooperation', in Chung D.K. and B. Eichengreen (eds.), Toward an East Asian Exchange Rate Regime, Brookings Institution Press.

worse, feeding speculative attacks against the currency under pressure.[34]

Therefore, it is hardly surprising that, despite signing a panoply of BSAs, almost all East Asian countries have dramatically increased the amount of their reserves, *de facto* signalling that they did not consider BSAs to be either credible or effective. As shown in Graph 15, the Chiang Mai Initiative has not had a mitigating impact on reserve accumulation in East Asia, which is now more than 30 times bigger than the BSAs in total.

Acknowledging these drawbacks, most of the ASEAN+3 participating countries agree that the CMI network needs to be supported by an independent monitoring and a surveillance system and that the CMI should be multilateralised. This "multilateralisation of the CMI" includes the creation of a secretariat or committee that could allow joint activation of all BSAs of a requesting country to facilitate a concerted and timely reaction in the event of a crisis. This kind of collective decision-making mechanism has been agreed in principle, but the details of it still need to be worked out.

Graph 15: **Foreign exchange reserve accumulation in East Asia** (USD bn)



Source: IMF IFS, Ecowin.

(2) The creation of a multilateral swap arrangement (MSA) would allow rising the effectiveness and credibility of the defensive system in place and increasing the commitment to monetary cooperation in East Asia.[35] Compared to BSAs, MSAs have the advantage of really pulling together the financial resources of the participating countries. Furthermore, it would send out a signal that all East Asian countries stand behind the economy under attack. Once in place, contrary to BSAs, an MSA cannot function without a system of monitoring and surveillance, in order to allow collective solution to payment defaults.[36]

Although not in place yet, in 2007, the ASEAN+3 Finance ministers' agreed in principle that a self-managed reserve pooling (SMRP) arrangement governed by a single contractual agreement would be an appropriate form of multilateralisation' of the existing system.

The SMRP project would replace the current CMI network. It would be set up as an independent fund managed by the Central bank Governors, who would also be supposed to harmonise their monetary policies; this implies a system of collective surveillance. Being a legally binding and enforceable agreement, it would provide effective protection for the participating countries. This, in turn, would guarantee the required credibility of the system. Under certain conditions (see next section), the SMRP could prove to be effective in fending off speculative attacks without raising major moral hazard problems.

(3) While the function of bilateral and multilateral swap arrangements is mainly defensive and aims at countering speculative attacks against one or more currencies, the adoption of a managed float based on a basket numeraire of the currencies of the major trading powers would bring monetary and currency cooperation to a much more advanced stage. This proposal suggests that each country should peg its own currency to a basket composed of the currencies of the dollar, the euro and the yen, the so-called YES basket.[37] Each country would tolerate a pre-determined range of deviations from a central rate and review this rate when needed.

[34] Another drawback of CMI is that, under the current arrangement, the duty of surveillance falls to the lending country, which may have only limited information on the real situation that the borrowing country may be facing.

[35] See Kwack (2004) op. cit.

[36] Park, Y. C. and C. Wyplosz (2008), 'Monetary and financial integration in East Asia: The relevance of the European experience', Preliminary draft report to the European Commission, January.

[37] There are various versions of the YES basket, some of which, the so-called G3-plus currency baskets, also include emerging East Asian currencies.

The key feature of this system is that it would reduce nominal effective exchange rate fluctuations both between Asian countries and between Asian countries and the rest of the world. Hence, the regime 'would guarantee that no change in third-country exchange rates would disturb the trading relationships among the East Asian countries themselves'.[38]

(4) The adoption of a managed or free float based on the creation of a parallel currency, the Asian Currency Unit (ACU), whose value would be defined as a basket of East Asian currencies.[39] The creation of an ACU would advance the process of East Asian monetary integration a step further. It would be used as a calculation unit for intra-regional trade and foreign exchange reserves. According to its proponents, it could also serve as a measure of divergences of Asian currencies from a regional average. Some economists even envisage the issuance of ACU-denominated bonds.

Eichengreen (2007) suggests that the ACU should be allowed to circulate alongside existing East Asian currencies. A "virtuous" circle could materialise, where the advantages of using the ACU would increase while integration would deepen, which would, in turn, reduce (both financial and logistical) transaction costs of the use of a parallel currency and would further stimulate intra-regional trade and investment.

The major risk related to the ACU as a parallel currency is the possibility of financial turmoil. It will indeed allow the emergence of currency mismatches (i.e. differences in currency composition between assets and liabilities), which could become a source of vulnerability if the system were to lose its credibility.[40] Eichengreen (2007) argues that one of the advantages of the ACU is therefore that it would highlight the urgency of reforms to strengthen supervision and regulation and to promote investor discipline.

5. Why and how the European experience can be useful for East Asia

East Asia is not Europe …

Europe opened the way for regional economic integration. As a pragmatic first mover, through a process of trial and error, it has progressed for over 50 years. Although its integration sequencing cannot be reproduced, the effectiveness and desirability of the choices made can be assessed. Therefore, they can provide some guidance for other countries that want to follow the path of regional integration, even if this path will necessarily be different.

A word of caution is however needed when regional economic integration in East Asia and Europe is compared. Both regions are very different. From an economic viewpoint, Europe is much more homogeneous than East Asia, which includes some of the richest and some of the poorest countries in the world. East Asia is also much more polarised by size than the European Union or the euro area. While the two biggest economies in the euro area make up less than 50% of its GDP, in East Asia, the share of China and Japan in total GDP is around 75% (see Graph 16). In addition, while Germany and France are close allies and have developed very strong political and cooperation ties, China and Japan are not only economic partners, but also strategic rivals, with different political regimes and belonging, among other things, to different systems of alliances.

The integration path followed by Europe, i.e. to proceed from a free trade area to a single market and from there to monetary and financial integration, cannot be reproduced by East Asia, since, because of globalisation, trade and financial integration are taking place in parallel.[41]

[38] See Williamson, J. (2005), 'A currency basket for East Asia, not just China', Policy Briefs in International Economics, PB05-1, Institute for International Economics. As additional advantages of a common YES basket, Williamson mentions that it would facilitate further regional monetary integration and a possible 'Plaza-type agreement, under which all the countries of developing East Asia adjusted their currency values simultaneously'.

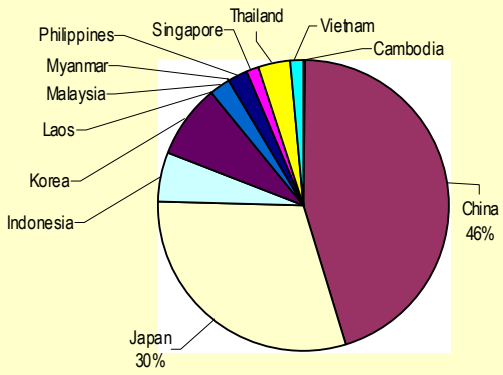
[39] See Chung D.K. and B. Eichengreen (2007), op. cit.

[40] This is paradoxical in certain aspects: the efforts to improve the coordination of exchange rate policies, started in response to the Asian financial crisis, would end up reproducing some of the conditions that made that crisis possible.

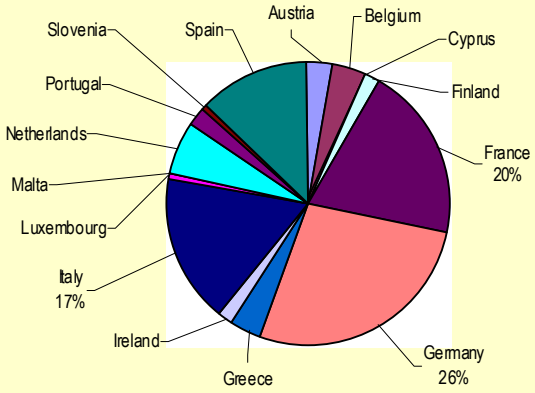
[41] For instance, the capital controls with which the European Community was able to delay the move to financial integration are not present in Asia.

Graph 16: **Comparison between euro-area and Asia GDP shares**

ASEAN+3 GDP PPP shares (2006)



Euro area GDP PPP shares (2006)



Sources: IMF WEO

However, this does not mean that it is impossible to draw inferences from the European experience, in particular in the area of monetary and exchange rate cooperation and integration. On many key issues this experience transcends the concrete historical experience of Europe and has a more general dimension.[42]

… but the European experience in terms of exchange rate coordination and monetary cooperation is valuable to East Asia.

When looking at the process of monetary unification in Europe, it is probably correct to infer that, since the integration process in East Asia is still in its early stages, the periods that are presently most relevant for this region are the coordination attempts of the 1970s and the European Monetary System more than the euro and EMU.

As we shall see, this does not imply that there are no useful lessons to be learned from the transition to the single currency and from the first 10 years of the euro, in particular if the ultimate objective of cooperation efforts in East Asia is to create a currency union.

In its process of monetary and exchange rate coordination, the European Community did not set up any bilateral swap arrangements. Because of their many shortcomings, European countries discarded them from the beginning. The long survival of the Chiang Mai Initiative in its current format is mostly due to the fact that it has never really been tested. There was talk of activating it in 2005 when the Indonesian and Philippine currencies came under pressure, but in the end, it was not needed, and the CMI has gone untested to this day.

As in the case of early European exchange rate coordination attempts, such as the Short-Term Monetary Facility and the European Monetary Cooperation Fund (which, however, were not bilateral, but multilateral arrangements), the real value added of CMI is elsewhere, namely in its symbolism. In 2000, Asian countries used it to signal that, after the financial crisis, they were ready to gear up their exchange rate cooperation. However, in the absence of a well-defined regional institutional setting and strong political determination to move towards East Asian regional integration, the approach had to be slow and gradual. BSAs would be the first step in such a gradual process. The hope was also that, as was the case for the first attempts of monetary and currency cooperation in Europe, they would help to build confidence and trust between economic and monetary policy-makers and create the conditions for an effective surveillance process, which, as the European experience shows, is a prerequisite to moving to enhanced forms of monetary and exchange rate coordination. Although failing to create the mechanisms for effective surveillance by setting up a regional forum for policy dialogue on monetary and financial issues, the CMI can be considered to be partially successful at this early stage of Asian exchange rate cooperation.

[42] Eichengreen, B. (2007), 'Integrating Asia: Lessons from Europe', paper presented at the conference 'Integrating Asian economies: Ten years after the crisis', Bangkok, 18 July 2007.

As it now stands, with all its limits, the CMI is the most advanced institutional process so far developed by ASEAN+3 countries on their way to enhanced monetary and exchange rate cooperation. Therefore, it will be from the CMI experience that East Asian policy-makers will have to start when they decide to move forward in the project of regional economic integration.

As a result, *mutatis mutandis*, some goals of the Chiang Mai Initiative are common to those of European policy-makers in the 1970s, namely to create the conditions for closer dialogue and surveillance through the setting-up of mechanisms requiring the involvement of national economic authorities at regional level. In this respect, the European experience proved successful since it was able to create both the political momentum and the institutional framework that, despite the failure of early attempts, such as the European Monetary Cooperation Fund and the European Monetary Snake, would lead twenty-five years later to the successful introduction of the euro.

However, with 17 BSAs signed and never activated and more than 3 trillion dollars of accumulated currency reserves, it is clear that, in its current format, the Chiang Mai Initiative has probably exhausted its role. Its continuation without any change or its mere expansion (as it happened in 2005 with the doubling of the swap amounts) would have been interpreted as a stalemate in the process of regional integration. The decision to look into the possibility of a multilateral swap arrangement (MSA) is certainly designed to give new momentum to the integration process and to put in place an effective mechanism to counter any currency turmoil.

The MSA presents some similarities with the Short-Term Monetary Facilities (STMF), where the six members of the European Community pledged to lend pre-declared amounts to each other, on request. The facilities were introduced in 1970 and, in 1972, became the European Monetary Cooperation Fund, which collected the reserves pledged under STMF. It was managed by the central bank governors, and its board was supposed to exert some form of surveillance, which proved to be very limited, however. In the same way, Park and Wyplosz (2008) find some similarities between the proposal of Self-Managed Reserve Pooling in East Asia under the CMI and the experience of the European Monetary Cooperation Fund (EMCF) in Europe. They argue that one of the lessons to be drawn from this experience is that reserve pooling can evolve equally into either a virtuous or a vicious circle. For instance, participating countries need guarantees that moral hazard will be contained before they agree to pool sizeable amounts of reserves. Therefore, while the size of the pooled reserves might not be an issue among ASEAN+3 members (given the large accumulated reserves in the region), the proposal will have to overcome several political and institutional obstacles before it can be implemented.

One way of overcoming some of these obstacles is to merge the two existing surveillance mechanisms, the "Economic Review and Policy Dialogue" (EPRD) at the level of ASEAN+3 Ministers of finance and the EMEAP at the level of Central bank Governors. This would create a surveillance structure similar to that in place in the EU with the ECOFIN and the Economic and Financial Committee (EFC) that include representatives of the financial ministry and central bank of the Member states, the European Commission and the ECB.[43] This kind of structure, with a clear political mandate, would in fact have the political weight to implement enhanced peer review and "due diligence" processes. This merger would be far from easy, however, not least because the countries participating in EPRD and EMEAP are not the same, the level of central bank independence varies, and the member states would have to abandon some of their sovereign prerogatives, etc. In addition, it would require a political agreement on which countries should be in the initial Asian Community.[44] Nevertheless, an

[43] In reality, an East Asian ECOFIN and EFC would probably be the final step of a process that, as in the case of Europe, would start from looser forms of cooperation and coordination. This was the case with the Monetary Committee, the institutional framework that carried out the economic surveillance and the coordination of exchange rate policies when the European Monetary System (EMS) was set up.

[44] Although ASEAN+3 seems the most likely grouping, so far there has been no official statement as to who is in and who is out. In this respect, the recent creation of the EAS (*de facto* an ASEAN+6 grouping) complicates the picture further. Furthermore, it seems to indicate that there is not much clarity (and probably conflicting

"East Asian ECOFIN and EFC", supported – as suggested by Kawai (2008) – by an "independent secretariat" would be a milestone in the process of exchange rate and monetary coordination and would create strong momentum to move the integration process forward.

Should East Asian nations decide to peg their currencies to a basket composed of the euro, the dollar and the yen (or a G3 plus currency basket) the European experience could be less enlightening than in other scenarios. When they decided to create their own basket, European countries chose a basket from among their own currencies. This basket was floating freely vis-à-vis the dollar. Europe's choice was dictated by the objective of developing the single market further and avoiding currency tensions (in particular, competitive devaluations) among the Member States. The aim of a YES basket would be somewhat different: as pointed out by Williamson (2005), a common basket numeraire based on the dollar, the euro and the yen would be a better solution than the *de facto* dollar peg for fear of losing competitiveness vis-à-vis their regional peers. In addition, a YES basket would certainly help in the medium term to ensure that the valuation of East Asian currencies evolves more in line with economic fundamentals than in the current *de facto* peg to the dollar. However, it would keep the East Asian countries in an export-led growth framework, where exchanges with the rest of the world matter more than intra-regional trade. In the absence of further steps toward enhanced exchange rate coordination, this choice may not be very forward-looking, since East Asia's export-led growth models are not sustainable in the long run and they exacerbate global imbalances.

However, as seen above, a YES basket could also be an intermediate step towards closer monetary and exchange rate cooperation. This would imply the creation of an Asian Currency Unit and a formal exchange rate mechanism, for which the European experience, especially as regards the EMS, would become particularly relevant. As pointed out by Park and Wyplosz (2008), an exchange rate mechanism would provide something that is still missing in Asia: an anchor for surveillance, which could focus the attention of policy-makers on whether the policy pursued is compatible with the exchange rate regime.

In addition, in a system with formal exchange rate policy coordination, such as the EMS, exchange rate realignments must be agreed upon by all members of the exchange rate mechanism. The European experience has shown that such a mechanism has worked because European countries were ready to think economic policy in line with the requirements of the exchange rate regime and were ready to share detailed information with their partners on the economic situation and the problems they encountered. Despite good cooperation between ERM members and some capital controls in place, inflation differentials and differences in economic policies required frequent parity realignments among the members of the European Monetary System. In 1992, a major currency crisis could not be avoided; this triggered significant currency realignments and led to the fluctuation bands being widened. To be viable and to withstand financial market turbulence and/or speculative attacks, pre-determined ranges for intra-regional exchange rate variations may require a commitment to establish a currency union in the not too distant future.[45] In the absence of such a commitment, it is unlikely that, in a world of globalised finance, a pegged exchange rate regime involving multiple countries can be defended indefinitely, even if all participants make firm policy commitments.

6. Asian economic and monetary integration in a wider context

East Asia is not an Optimum Currency Area…

Is an Asian Monetary Union possible and conceivable? As we have already seen, some economic indicators show that the level of economic integration among ASEAN+3 countries is similar to that of euro-area Member

interests) as to the type of regional integration that Asian policy-makers intend to set up. As a result, the widening of regional groupings will be much faster than the deepening of such groupings.

[45] The problems for Asia could be bigger than those faced by Europe in the past, in particular because capital flows in Asia can move much more freely today and are of much bigger size, making it much more difficult for East Asian countries to stabilise their exchange rates around a central parity.

Box 5: **Would East Asia satisfy the Maastricht Criteria?**

The Maastricht criteria provide a useful toolbox to assess a region's degree of nominal and fiscal convergence. The table below summarises the reference values for ASEAN+3 member countries.

Maastricht convergence criteria in East Asia

	Inflation rate (1)	Interest rate (2)	Fiscal balance (3)	Gross public debt (4)
Brunei	0.2	**--**	--	--
Cambodia	**4.7**	**--**	**-3.1**	41.4
China	1.5	3.9	-0.8	17.9
Indonesia	**13.1**	**9.6**	-1.0	38.6
Japan	0.3	1.7	**-3.3**	**193.1**
Korea	**2.2**	**5.3**	-1.3	32.2
Laos	**6.8**	**--**	**-3.7**	**69.6**
Malaysia	**3.6**	3.7	**-3.8**	**62.5**
Myanmar	**25.7**	**--**	--	--
Philippines	**6.2**	**7.2**	-1.9	**77.4**
Singapore	1	2.9	6	**102.7**
Thailand	**4.6**	4.1	0.1	42.3
Vietnam	**7.5**	**10.4**	**-3.8**	45.3

Note: numbers in bold exceed the reference values set out in the Maastricht Treaty.
(1) The reference value for the inflation criterion is calculated as the average of the three lowest inflation rates + 1.5 pp.
(2) The reference value for the interest rate criterion is calculated as the average of the interest rates of the three countries with the lowest inflation rates + 2 pp.
(3) The reference value for fiscal balance is -3% of GDP.
(4) The reference value for gross public debt is 60% of GDP (or the country should be approaching this level at a satisfactory rate).

The table shows that, in 2006, no group of countries would have met the Maastricht reference values and that most countries do not satisfy at least two of the criteria. It is however worth noting that, with the exception of Japan, Singapore, and, to a lesser extent, the Philippines, the public finances criteria are met by almost all countries.

States ahead of the launch of EMU; business cycles have become more correlated, and the correlation of demand and supply shocks has increased. And, like the EU, the potential gains from having an economic and monetary union are far from negligible. However, on a number of issues, East Asia is not at the same level as "Europe in the late '80s" (labour mobility, regulatory harmonisation, obstacles to intra-regional trade, consumption patterns, etc.).

Nominal and fiscal convergence is still far from being achieved, as the simple exercise in Box 6 shows.[46] Indicators regarding real convergence show even greater divergence. Clearly, East Asian countries exhibit much more variability than the current European Union or even Central and Eastern European countries.[47] As pointed out by Wyplosz (2001), 'this variability reflects deep differences in terms of economic structure. The absence of real convergence is Asia's Achilles heel'. Although real convergence has increased since 2001, the levels of development of East Asian countries are still very different. Moving, with some chance of success, toward economic and monetary unification in East Asia will require huge structural changes in the region and difficult and painful structural reforms.

East Asia is not an optimal currency area, although some sub-groups of countries may not be so far from being one and other countries are converging, albeit slowly. Therefore, if well prepared and not introduced too hastily, most East Asian countries could benefit from the creation of a monetary union. From an economic viewpoint, effective East Asia monetary integration could bring greater intra-regional trade and investment, eliminate exchange rate risks, reduce the impact of international financial turmoil when it occurs, avoid intra-regional tensions related to possible "competitive devaluations", counter speculative attacks, eliminate the transaction costs related to the presence of different currencies in the region, reduce the dependence on the dollar of the exchange rate regime and favour a better allocation of resources in the region. It is also important to stress that, before deciding to move

[46] In the late 1980s/early 1990s, several euro-area Member States did not fulfil the criteria either.

[47] See Wyplosz, C. (2001); 'A monetary union in Asia? Some European lessons', in Gruen, D., and J. Simon (eds.), Future Directions for Monetary Policies in East Asia, Reserve Bank of Australia.

forward toward a single currency, the EU was not an optimal currency area and neither is Asia at this stage of integration. The endogeneity of an optimal currency area shows that it is not necessary for a region to be a proper OCA before moving to monetary integration, since setting up the process will create its own momentum and accelerate the process.

... but the main challenge to integration is political more than economic.

However, the political will and the institutional infrastructure that created the momentum for the endogenous development of an optimal currency area in Europe are for the time being simply not there in East Asia. This is, in fact, the biggest challenge that the region has to address if it really wants to move to enhanced levels of exchange rate coordination and monetary cooperation, and, ultimately, to a monetary union. As the European experience shows, even a gradual process will not necessarily be successful if a number of key issues are not successfully tackled. It is to these issues that the final part of this paper is devoted.

The first key issue to be addressed is mutual trust and readiness to cooperate in a regional framework. At this stage, East Asian countries do not seem ready to give up part of their sovereign prerogatives and to allow other countries to intervene/interfere in the implementation of national economic policies. However, the European experience shows that without effective multilateral surveillance even multilateral swap arrangements become problematic. This is an issue that can be solved only at political level and that will be difficult to address fully as long as East Asian countries look at their neighbours not only as partners, but also as rivals in both the economic and political sphere. History, different political regimes, regional rivalries, unresolved border disputes, and different systems of military alliances make regional political and economic cooperation much more difficult and complicated in East Asia than in Europe. Against this background, effective multilateral economic surveillance is in fact a key political decision.

The second key issue relates to the first: can countries overcome their mistrust and their entrenched rivalries mainly through an intergovernmental process? Even in Europe, where countries have made their peace with history and the fear of the emergence of a superpower is almost non-existent, mere intergovernmental cooperation proved to be a slow, cumbersome and often unsuccessful process. For this reason, even intergovernmental decision-making procedures in the European Union are facilitated if the European Commission plays an active role in them. Although the creation of an East Asian Commission is not on the agenda, it is difficult to see how a synthesis at regional level that is more than a minimum common denominator can be pushed forward without a regional institution with a high degree of independence from the various Member States.

Given the political realities in East Asia, some economists think that an institution-light intergovernmentally-driven Asian Community could be envisaged. They suggest that, rather than trying to build strong regional institutions and delegate sovereign prerogatives to them, East Asia should borrow another example of governance from the European experience: the open method of coordination, whereby countries share information and best practices and exert forms of peer support and peer pressure to encourage the implementation of agreed policies. They admit that the final outcome would be a much more 'loosely configured grouping than the European Union',[48] in which surveillance and peer pressure would be much more of a problem and difficult to implement.

It is clear that without some form of regional institutional infrastructure to provide analytical input and put forward independent proposals on how to foster regional monetary cooperation, progress might not only be extremely slow and painstaking, but also dangerously dependent on how political and economic relations evolve between the major powers in the region. As a result, short periods of enhanced cooperation can be followed by long periods of inaction, as has been the case, for instance, in recent years. Even an institution-light, market-driven Asian Community cannot operate effectively without some form of independent institutions. In this

[48] See Eichengreen (2007b), op. cit., p.18

respect, an Asian Community whose governance is based on the "open method of coordination" cannot really aspire to the creation of an economic and monetary union, even in the long term. As Eichengreen (2007) recognises, 'the open method of coordination […] is better for encouraging policies to foster the development of Asian financial markets or for helping central banks to learn how to back regimes of greater exchange rate flexibility with inflation targeting than for, say, establishing a single regional competition policy or agreeing to move to a single currency'.

Therefore, an Asian currency for an integrated Asia can only be achieved if East Asian countries already exhibit the political determination at the early stages of the process to abandon some of their own sovereign prerogatives and to cooperate openly and candidly, accepting some political interference from the other members in their policy choices. This inevitably means the creation of regional institutions (an enhanced EPRD, an independent secretariat) that can make sure that real surveillance and peer pressure are effectively implemented.

7. Conclusions

Are there lessons that East Asia can learn from the process of European monetary unification? Despite the huge differences between East Asia and Europe's processes of regional integration, this focus replies in the affirmative to the question. Three different types of lessons are identified: (1) lessons related to European reserve and exchange rate arrangements of the past, which have some similarities with East Asian arrangements currently being implemented or under consideration; (2) lessons related to the transition stages towards formal exchange rate coordination and, possibly, an Asian currency union; and (3) lessons related to decision-making and governance. This does not mean that East Asia has to follow in EMU's footsteps. The world has dramatically changed since the process of monetary unification started in Europe more than thirty years ago, and the integration sequence pursued by Europe cannot be replicated in East Asia. Furthermore, while the integration process in Europe was politically and institutionally as much as economically driven, in East Asia it has been mainly market-driven, which implies that its institutional framework will be lighter than Europe's, even once (should this ever happen) a single Asian currency is introduced and an Asian Central bank is created.

However, even an institution-light monetary unification process cannot afford lax and ineffective surveillance. The European lesson in this respect is clear from start to finish, from the first uncertain steps toward exchange rate cooperation to EMU: mutual surveillance works and is effective, especially if it is backed by clear procedures carried through by independent regional institutions. Although it can evolve in time from simple peer review to structured forms of monitoring with specific rules and possible sanctions (as in the case of the Stability and Growth Pact), it remains the most important precondition, without which it is very difficult to move forward exchange rate and monetary policy coordination, and, *a fortiori*, to an Asian monetary union.

Last but not least, is it in Europe's interest that East Asia should succeed in its efforts to gear up exchange rate and monetary cooperation? On this count, too, the answer is in the affirmative: if East Asian countries are able to achieve greater intra-regional currency stability, they will have far more scope to let their currencies appreciate without the fear of significant competitive losses to their neighbours. This could help support a more orderly unwinding of global imbalances. It could also help avoid a situation where the euro has to bear most of the weight of the exchange rate correction needed to tackle these imbalances. In addition, monetary integration in East Asia could bring more stability to the region and help to avoid disruptive crises, as it happened in 1997-98. This, in turn, would reduce uncertainty and foster economic growth. Thus, learning the right lessons from EMU is not only in the interest of East Asia, since the positive spillovers from effective and successful monetary and exchange rate coordination among East Asian countries can have beneficial effects both on the EU and on the world economy.

IV. Recent DG ECFIN publications

1. Policy documents

EUROPEAN ECONOMY. No. 6. 2007
2007 Convergence Report on Cyprus and Malta
http://ec.europa.eu/economy_finance/publications/publication_summary443_en.htm

EUROPEAN ECONOMY. No. 7. 2007
Autumn economic forecasts 2007 – 2009
http://ec.europa.eu/economy_finance/publications/specpub_list9253.htm

EUROPEAN ECONOMY. No. 8. 2007
The EU Economy: 2007 Review
http://ec.europa.eu/economy_finance/publications/publication_summary10132_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 33. June 2007
Main results of the 2007 fscal notifications presented by the candidate countries
http://ec.europa.eu/economy_finance/publications/publication_summary5954_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 34. June 2007
Guiding principles for product market and sector monitoring
http://ec.europa.eu/economy_finance/publications/publication_summary5923_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 35. November 2007
Pensions schemes and projection models in EU-25 Member States
http://ec.europa.eu/economy_finance/publications/publication_summary10175_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 36. December 2007
Progress toward meeting the economic criteria for accession: the assessments of the 2007 Progress Reports
http://ec.europa.eu/economy_finance/publications/publication_summary10568_en.htm

EUROPEAN ECONOMY. OCCASIONAL PAPERS. No. 37. March 2008
The quality of public finances. Findings of the EPC Working Group (2004-2007)
http://ec.europa.eu/economy_finance/publications/publication_summary12186_en.htm

2. Analytical documents

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 299.
Björn Döhring (European Commission)
Hedging and invoicing strategies to reduce exchange rate exposure – a euro-area perspective
http://ec.europa.eu/economy_finance/publications/publication_summary11479_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 300.
Alfonso Arpaia (European Commission) and Alessandro Turrini (European Commission and CEPR)
Government expenditure and economic growth in the EU: long-run tendencies and short-term adjustment
http://ec.europa.eu/economy_finance/publications/publication_summary12026_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 301.
Ulrike Mandl, Adriaan Dierx and Fabienne Ilzkovitz (European Commission)
The effectiveness and efficiency of public spending
http://ec.europa.eu/economy_finance/publications/publication_summary11904_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 302.
Francesco Paolo Mongelli (ECB)
European Economic and Monetary Integration, and the Optimum Currency Area Theory
http://ec.europa.eu/economy_finance/publications/publication_summary12083_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 303.
Barry Eichengreen (University of California, Berkeley)

Sui Generis EMU
http://ec.europa.eu/economy_finance/publications/publication_summary12101_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 304.
Zsolt Darvas (Corvinus University of Budapest and Argenta ZRt) and Gyorgy Szapary (Central European University and former Deputy Governor of the National Bank of Hungary)
Euro Area Enlargement and Euro Adoption Strategies
http://ec.europa.eu/economy_finance/publications/publication_summary12103_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 305.
Andrew Hughes Hallett (George Mason University, University of St. Andrews and CEPR)
Coordination without Explicit Cooperation: Monetary-Fiscal Interactions in an Era of Demographic Change
http://ec.europa.eu/economy_finance/publications/publication_summary12109_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 306.
Jurgen von Hagen (Department of Economics, University of Bonn) and Charles Wyplosz (Graduate Institute of International Studies and CEPR)
EMU's Decentralized System of Fiscal Policy
http://ec.europa.eu/economy_finance/publications/publication_summary12136_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 307.
Michael Bordo (Rutgers University and NBER) and Harold James (Princeton University and European University Institute)
A Long Term Perspective on the Euro
http://ec.europa.eu/economy_finance/publications/publication_summary12182_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 308.
Giancarlo Corsetti (European University Institute, University of Rome III, and CEPR)
A Modern Reconsideration of the Theory of Optimal Currency Areas
http://ec.europa.eu/economy_finance/publications/publication_summary12231_en.htm

EUROPEAN ECONOMY. ECONOMIC PAPERS. No. 309.
Stefan Gerlach (Institute for Monetary and Financial Stability, University of Frankfurt and CEPR) and Mathias Hoffman (Institute for Empirical Research in Economics, University of Zurich)
The Impact of the Euro on International Stability and Volatility
http://ec.europa.eu/economy_finance/publications/publication_summary12271_en.htm

3. Regular publications

Euro area GDP indicator (Indicator-based forecast of quarterly GDP growth in the euro area)
http://ec.europa.eu/economy_finance/db_indicators/db_indicators9239_en.htm

Business and Consumer Surveys (harmonised surveys for different sectors of the economies in the European Union (EU) and the applicant countries)
http://ec.europa.eu/economy_finance/db_indicators/db_indicators8650_en.htm

Business Climate Indicator for the euro area (monthly indicator designed to deliver a clear and early assessment of the cyclical situation)
http://ec.europa.eu/economy_finance/db_indicators/db_indicators8650_en.htm

Key indicators for the euro area (presents the most relevant economic statistics concerning the euro area)
http://ec.europa.eu/economy_finance/db_indicators/db_indicators9237_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://ec.europa.eu/economy_finance/publications/publ_list2607.htm

Price and Cost Competitiveness
http://ec.europa.eu/economy_finance/db_indicators/db_indicators8642_en.htm

V. Key indicators for the euro area

1 Output		2005	2006	2007	Aug-07	Sept-07	Oct-07	Nov-07	Dec-07	Jan-08
Industrial confidence [1.1]	Balance	-7.2	2.2	4.4	4.7	2.6	1.7	2.6	1.6	1.2
Industrial production [1.2]	mom % ch	1.4	4.0	3.5	1.2	-0.9	0.6	-0.4	-0.2	--
		2005	2006	2007	06Q3	06Q4	07Q1	07Q2	07Q3	07Q4
Gross domestic product [1.3]	qoq. % ch	1.5	2.8	2.7	0.6	0.8	0.8	0.3	0.8	0.4
2 Private consumption		2005	2006	2007	Aug-07	Sept-07	Oct-07	Nov-07	Dec-07	Jan-08
Consumer confidence [2.1]	Balance	-13.9	-9.1	-4.9	-3.9	-5.7	-6.2	-8.1	-8.7	-11.5
Retail sales [2.2]	mom % ch	1.2	2.1	0.8	0.0	0.2	-0.6	-0.6	-0.2	--
		2005	2006	2007	06Q3	06Q4	07Q1	07Q2	07Q3	07Q4
Private consumption [2.3]	qoq. % ch	1.6	1.9	--	0.5	0.5	0.0	0.6	0.5	--
3 Investment		2005	2006	2007	06Q3	06Q4	07Q1	07Q2	07Q3	07Q4
Capacity utilization [3.1]	%	81.3	83.0	84.2	83.6	83.9	84.4	84.8	84.1	84.0
Gross fixed capital formation [3.2]	qoq. % ch	2.8	5.2	--	0.7	1.6	1.8	-0.1	1.2	--
Change in stocks [3.3]	% of GDP	0.1	0.3	--	0.5	0.0	0.5	0.2	0.4	--
4 Labour market		2005	2006	2007	Aug-07	Sept-07	Oct-07	Nov-07	Dec-07	Jan-08
Unemployment [4.1]	%	8.9	8.3	7.4	7.4	7.3	7.3	7.2	7.2	--
		2005	2006	2007	06Q3	06Q4	07Q1	07Q2	07Q3	07Q4
Employment [4.2]	yoy % ch	0.9	1.5	--	1.6	1.6	1.8	1.8	1.9	--
Shortage of labour [4.3]	%	2.3	3.8	6.2	4.4	5.0	5.1	6.0	6.5	7.2
Wages [4.4]	yoy % ch	2.6	2.6	--	2.6	2.3	2.4	2.5	2.6	--
5 International transactions		2005	2006	2007	Aug-07	Sept-07	Oct-07	Nov-07	Dec-07	Jan-08
Export order books [5.1]	Balance	-15.6	-1.1	3.5	4.0	3.1	1.7	1.0	1.2	-1.7
World trade [5.2]	Index	158.5	173.4	185.0	189.6	185.5	190.0	188.6	187.1	--
Exports of goods [5.3]	Bn. EUR	1240.5	1386.8	1501.4	128.4	126.8	128.3	127.3	124.1	--
Imports of goods [5.4]	Bn. EUR	1225.2	1395.0	1470.8	125.0	123.5	126.0	125.4	126.2	--
Trade balance [5.5]	Bn. EUR	14.8	-9.3	28.3	3.5	3.4	2.2	2.0	-2.1	--
		2005	2006	2007	06Q3	06Q4	07Q1	07Q2	07Q3	07Q4
Exports of goods and services [5.6]	qoq. % ch	4.5	7.7	--	1.1	3.0	0.8	0.9	2.2	--
Imports of goods and services [5.7]	qoq. % ch	5.2	7.5	--	1.7	1.7	1.2	0.3	2.6	--
		2005	2006	2007	Aug-07	Sept-07	Oct-07	Nov-07	Dec-07	Jan-08
Current account balance [5.8]	Bn. EUR	7.1	-13.7	14.9	3.2	0.6	3.1	2.3	-10.3	--
Direct investment (net) [5.9]	Bn. EUR	-208.8	-136.5	-108.3	0.3	-37.4	21.3	10.6	-21.0	--
Portfolio investment (net) [5.10]	Bn. EUR	141.3	276.3	232.5	1.9	48.9	-56.1	8.7	1.5	--
6 Prices		2005	2006	2007	Aug-07	Sept-07	Oct-07	Nov-07	Dec-07	Jan-08
HICP [6.1]	yoy % ch	2.2	2.2	2.1	1.7	2.1	2.6	3.1	3.1	3.2
Core HICP [6.2]	yoy % ch	1.5	1.5	2.0	2.0	2.0	2.1	2.3	2.3	--
Producer prices [6.3]	yoy % ch	3.5	4.4	2.6	1.8	2.7	3.3	4.3	4.4	--
Import prices [6.4]	Index	104.8	112.9	--	115.1	116.1	116.1	117.9	--	--
7 Monetary and financial indicators		2005	2006	2007	Aug-07	Sept-07	Oct-07	Nov-07	Dec-07	Jan-08
Interest rate (3 months) [7.1]	% p.a.	2.1	2.9	3.9	4.5	4.7	4.7	4.6	4.8	4.5
Bond yield (10 years) [7.2]	% p.a.	3.4	3.8	4.2	4.3	4.2	4.3	4.1	4.3	4.0
ECB repo rate [7.3]	% p.a.	2.0	2.8	3.8	4.0	4.0	4.0	4.0	4.0	4.0
Stock markets [7.4]	Index	3207.1	3793.3	4316.4	4220.6	4284.4	4430.8	4314.9	4386.4	4025.8
M3 [7.5]	yoy % ch	7.4	8.5	11.1	11.5	11.3	12.3	12.4	11.6	11.5
Credit to private sector (loans) [7.6]	yoy % ch	8.1	11.0	10.8	11.2	11.0	11.3	11.1	11.2	11.1
Exchange rate USD/EUR [7.7]	Value	1.24	1.26	1.37	1.36	1.39	1.42	1.47	1.46	1.47
Nominal effective exchange rate [7.8]	Index	109.0	110.9	115.7	115.5	116.4	117.5	119.4	119.9	120.6

Number	Indicator	Note	Source
1	**Output**		
1.1	Industrial confidence indicator	Industry survey, average of balances to replies on production expectations, order books, and stocks (the latter with inverted sign)	ECFIN
1.2	Industrial production	Volume, excluding construction, wda	Eurostat
1.3	Gross domestic product	Volume (1995), seasonally adjusted	Eurostat
2	**Private consumption**		
2.1	Consumer confidence indicator	Consumer survey, average of balances to replies on four questions (financial and economic situation, unemployment, savings over next 12 months)	ECFIN
2.2	Retail sales	Volume, excluding motor vehicles, wda	Eurostat
2.3	Private consumption	Volume (1995 prices), seasonally adjusted	Eurostat
3	**Investment**		
3.1	Capacity utilisation	In percent of full capacity, manufacturing, seasonally adjusted, survey data (collected in each January, April, July and October).	ECFIN
3.2	Gross fixed capital formation	Volume (1995 prices), seasonally adjusted	Eurostat
3.3	Change in stocks	In percent of GDP, volume (1995 prices), seasonally adjusted	Eurostat
4	**Labour market**		
4.1	Unemployment	In percent of total workforce, ILO definition, seasonally adjusted	Eurostat
4.2	Employment	Total employment, domestic concept, seasonally and working day adjusted	Eurostat
4.3	Shortage of labour	Percent of firms in the manufacturing sector reporting a shortage of labour (unfilled job openings) as a constraint to production, seasonally adjusted	ECFIN
4.4	Wages	Wages and salaries. Labour cost index, industry and services (excluding public administration), nominal, working day adjusted	ECFIN
5	**International transactions**		
5.1	Export order books	Industry survey; balance of positive and negative replies, seasonally adjusted	ECFIN
5.2	World trade	Volume, 1998=100, seasonally adjusted	CPB
5.3	Exports of goods	Bn. EUR, excluding intra euro-area trade, fob	Eurostat
5.4	Imports of goods	Bn. EUR, excluding intra euro-area trade, cif	Eurostat
5.5	Trade balance	Bn. EUR, excluding intra euro-area trade, fob-cif	Eurostat
5.6	Exports of goods and services	Volume (1995 prices), including intra euro-area trade, seasonally adjusted	Eurostat
5.7	Imports of goods and services	Volume (1995 prices), including intra euro-area trade, seasonally adjusted	Eurostat
5.8	Current account balance	Bn. EUR, excluding intra euro-area transactions; before 1997 partly estimated	ECB
5.9	Direct investment	(net) Bn. EUR, excluding intra euro-area transactions	ECB
5.10	Portfolio investment	(net) Bn. EUR, excluding intra euro-area transactions	ECB
6	**Prices**		
6.1	HICP	Harmonised index of consumer prices	Eurostat
6.2	Core HICP	Harmonised index of consumer prices, excluding energy and unprocessed food	Eurostat
6.3	Producer prices	Without construction	Eurostat
6.4	Import prices	Import unit value index for goods, 2000=100	Eurostat
7	**Monetary and financial indicators**		
7.1	Interest rate	Percent p.a., 3-month interbank money market rate, period averages	Ecowin
7.2	Bond yield	Percent p.a., 10-year government bond yields, lowest level prevailing in the euro area, period averages	Ecowin
7.3	ECB repo rate	Percent p.a., minimum bid rate of the ECB, end of period	Ecowin
7.4	Stock markets	DJ Euro STOXX50 index, period averages	Ecowin
7.5	M3	Seasonally adjusted moving average moving average (3 last months)	ECB
7.6	Credit to private sector (loans)	MFI loans to euro-area residents excluding MFIs and general government, monthly values: month end values, annual values: annual averages	ECB

7.7	Exchange rate USD/EUR	Period averages	ECB
7.8	Nominal effective exchange rate	Against 13 other industrialised countries, double export weighted, 1995 = 100, increase (decrease): appreciation (depreciation)	ECFIN

Contributors to this issue are:

Recent economic developments and short-term prospects	*L. González and J. In't Veld*
The Great Moderation in the euro area: what role have economic policies played?	*L. González and E. Ruscher*
Recent labour market reforms in the euro area: characteristics and estimated impact	*A. Arpaia and F. Pierini*
Member States' differences in the transmission of recent inflation shocks	*H. Cigan and P. Iversen*
Focus – Economic and monetary integration in East Asia: Are there lessons to be learned from Europe's experience?	*M. Bertoldi and C. Gaye*

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