EUROFRAME - European Forecasting Network

Economic Assessment of the Euro Area:
Forecasts and Policy Analysis

Autumn Report 2006

Special Policy Issue:

Macroeconomic Differentials and Adjustment in the Euro Area:
Stylised Facts and Policy Implicationa

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CONTENTS

EXECUTIVE SUMMARY

Euro Area growth has picked up in the first six months of the year, with GDP growing by 0.8 per cent in the first quarter (quarter-on-quarter) and 0.9 per cent in the second quarter. This represents a considerable improvement on the average growth of just 0.5 per cent in the second half of 2005. The upturn was expected six months ago, but has been somewhat stronger than anticipated. This revision is due to unexpectedly strong export and investment growth in the Euro Area which has been boosted by unusually prolonged period of strong world economic growth. We do not expect growth to accelerate further in the second half of the year and anticipate a deceleration in growth from the last quarter. Overall, Euro Area GDP growth is expected to be 2.6 per cent for 2006.

The forecasts for 2007 and 2008 depend on the following policy assumptions. We expect the ECB to raise interest rates to 3.5 per cent at the end of this year and to leave them unchanged from then. Fiscal policy, which is only slightly restrictive this year, will be tightened next year at a Euro Area level. We project further fiscal consolidation up to 2008, with deficits expected to reach 1.4 per cent of GDP in 2008. Other assumptions include the oil price remaining at around $68 per barrel up to 2008 and the dollar/euro exchange rate rising only marginally to 1.31 by the end of 2008.

We forecast more moderate growth in the Euro Area in 2007 and 2008 with GDP rising by around 2 per cent in both years. More restrictive budgetary policies in major Euro Area countries partly explain the softening next year. External factors will also play a role. The United States is forecast to grow by 3.5 per cent in 2006, but growth is expected to moderate to 2.6 per cent in 2007. Growth in Asia will also slowdown somewhat in 2007, particularly in China where growth is forecast to fall from 10.4 per cent in 2006 to 9.5 per cent in 2007. Globally, growth in 2008 is forecast to be at a similar level to 2007.

Summary of Key Forecast Indicators for the Euro Area

	2002	2003	2004	2005	2006	2007	2008
GDP	0.9	0.8	1.7	1.5	2.6	1.9	2.0
Inflation rate	2.3	2.1	2.1	2.2	2.4	2.3	2.0
Unemployment rate	8.2	8.7	8.8	8.6	7.9	7.6	7.5
Govt. balance as % of GDP	-2.6	-3.1	-2.8	-2.4	-1.9	-1.6	-1.4

Note: the inflation rate is the HICP measure and the unemployment rate is the EUROSTAT standardised rate.

Household consumption growth will slow down somewhat next year, mainly due to the negative impact of the VAT increase in Germany, but will experience a gradual recovery in 2008 supported by steady growth in real disposable incomes and continued employment growth. Government expenditure growth will slow reflecting the restrictive fiscal stance just noted. Private investment growth will slow due to less favourable demand prospects (both domestic and external) and higher interest rates.

Euro Area export growth will be restrained by the slowdown in export markets and exchange rates developments up to 2008. We expect export volume growth of 8 per cent this year before moderating to 5 per cent in the next two years. Import volumes will rise slightly more rapidly, leaving a small current account deficit at the Euro Area level, at below 1 per cent of GDP.

A modest level of capacity utilization, a high level of the exchange rate and the expected moderation in energy prices will help keep inflation in check up to 2008. Given our forecast for real GDP growth and slow growth in the potential labour force, the unemployment rate is expected to continue decreasing in the Euro Area, coming down to 7.5 per cent in 2008.

Given the forecast for a slowdown in the US and the possibility that the actual slowdown could be more severe, a detailed analysis of the impact of a softening in the US is included in the report. Using the NiGEM (NIESR) model, the impact of shocks to house prices and housing investment are estimated, and also the impact of a combined shock. The house price shock assumes that prices fall by 20 per cent.[1] The housing investment shock sees the ratio of this component of investment to GDP returning abruptly to its level in the 1990s.

Focusing on the results for the combined impact, US output growth would slow by 0.6 per cent in the first year and by 1.0 per cent in the second, while the US current account would improve by almost 1 per cent of GDP. Euro Area output growth would slow by 0.1 to 0.2 percentage points a year for 2 to 3 years, but output would then recover.

Additional analyses are also undertaken to explore the impacts of oil price shocks and changes in domestic demand in China. In the case of oil prices, a decrease of €10 per barrel, accompanied by OPEC spending the revenue at a pace similar to the last decade, is shown to produce limited effects. For example, the level of Euro Area GDP growth is increased by 0.18 per cent by the third year after the shock. In the case of changes of domestic demand in China, the impact of a 20 per cent fall in investment is simulated. The effects are also limited, with growth in euro area GDP being 0.24 per cent lower in the first year but only 0.06 per cent lower in the third year.

The report includes a chapter in which macroeconomic differentials and adjustment in the Euro Area are analysed with a view to drawing lessons and policy implications for the better functioning of EMU and Euro Area enlargement.

The following points are among the conclusions:

EMU was successfully achieved with very little economic disruption. However, so far there have been no major asymmetric shocks affecting individual economies within the EMU. As a result, the potential effects of the loss of policy options inherent in a single currency area have not yet been fully tested.

Divergent output growth experienced across the membership of the EMU is primarily due to differences in underlying trend growth rates. Divergence in inflation rates is also to a significant extent due to country specific factors.

Divergence in inflation rates has resulted in divergence in real interest rates experienced by households across the Euro area. While this has had differential effects on the housing market, these are probably limited in nature as the other drivers of the construction sector are more important in the longer term.

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[1] In the case of the house price shocks, the Priamo (Prometeia) is also used to simulate results.

Nonetheless, the experience to date of EMU suggests that some governments may need to adjust their policies to deal with potential housing market bubbles. The loss of the instrument of monetary policy could be offset by a more targeted approach using fiscal policy. However, this has not yet been the practice in EMU, even in countries such as Spain and Ireland, which are suffering from serious inflationary pressures in that sector. For the new member states membership of EMU in the future could precipitate housing market booms and it will be important to prepare the ground for an appropriate use of fiscal policy to manage any risks that such an eventuality might entail.

Because of structural differences in economies in the euro area there remains the possibility that supply side shocks could differentially affect one member economy, for example in the way that Finland was affected in 1989-90. Under such circumstances the discipline of EMU could slow adjustment to such a shock. If and when such shocks do occur increased reliance will have to be placed on promoting the rapid adaptation of the economies so affected.

1. OUTLOOK FOR THE EURO AREA

1.1 Overview

Global growth is expected to rise above 5 per cent this year and to taper off only gradually in the next two years. This would imply growth rates above 4.5 per cent for five years in a row. Since 1975 annual growth has exceeded this threshold on only five occasions but never for two years in a row. High growth rates in China and other emerging markets together with rising production shares of these countries explain most of the current strength.[1] Declining unemployment rates and improving public finance positions are forecast for most countries. Domestic inflation has picked up but core inflation rates remain remarkably low in view of the surge in crude oil and other commodity prices, particularly in Europe. Oil and commodity prices seem to have peaked in the summer. Monetary policies were tightened to control inflation in the current high growth environment. This policy cycle seems to have been completed in the Unites States but elsewhere official interest rates may show a further moderate rise in the near future.

Table 1.1:　　**Summary of Key Forecast Indicators for the Euro Area**

	2002	2003	2004	2005	2006	2007	2008
Output Growth Rate	0.9	0.8	1.7	1.5	2.6	1.9	2.0
Inflation Rate (Harmonised)	2.3	2.1	2.1	2.2	2.4	2.3	2.0
Unemployment Rate	8.2	8.7	8.8	8.6	7.9	7.6	7.5
Govt. balance as per cent of GDP	-2.6	-3.1	-2.8	-2.4	-1.9	-1.6	-1.4

Euro Area growth has picked up in the first six months of the year with GDP growing by 0.8 per cent in the first quarter and 0.9 per cent in the second quarter. This represents a considerable improvement on the average growth of just 0.5 per cent in the second half and of 0.4 per cent in the first half of 2005. Strong demand for European exports remains important, but a recovery in investment is also making a significant contribution to the growth performance. GDP growth is projected at 2.6 per cent in 2006, the fastest rate since the year 2000. More restrictive budgetary policies in major Euro Area countries partly explain the softening next year to an average growth of 1.9 per cent. Growth in the UK remains above the Euro Area average. The performance of the New Member States continues to be very strong with growth rates close to the world average. The United States is forecast to grow by 3.5 per cent in 2006, but to fall back to 2.6 per cent in 2007. Growth in Asia will also decelerate somewhat in 2007, particularly in China.

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[1] We measure shares on a PPP-basis, implying a relative weight for China of 15.4 per cent in 2005 against 3.4 per cent in 1980.

Table 1.2 compares the current EUROFRAME-EFN forecasts for GDP growth in major regions with the Spring forecasts. The outcome for world growth in the first half of 2006 was stronger than we anticipated six months ago. This reflects stronger growth both within the OECD (not least in the Euro Area), as well as outside the OECD (especially in China). While the 2007 outlook for North America is slightly weaker than expected in our previous forecast, this is more than offset by stronger growth in Asia, especially China.

Table 1.2: GDP Growth Forecasts in Autumn 2006 and Spring 2006

	World		NAFTA		Euro Area		China	
	Spring	Autumn	Spring	Autumn	Spring	Autumn	Spring	Autumn
2006	4.7	5.2	3.0	3.5	2.2	2.6	9.2	10.4
2007	4.4	4.7	3.1	2.6	2.0	1.9	8.2	9.5

Several risks surround the outlook and some of these issues are studied in more detail in the report. Oil markets remain unpredictable: prices could come down more quickly if the balance between supply and demand improves more rapidly or if political tensions lessen more than assumed. But, of course, an increase in geopolitical problems could easily have the opposite effect. Internal demand in Europe may prove to be stronger than forecast, in view of declining unemployment and sound profitability in combination with pent-up demand. Current account imbalances, in particular the huge current account deficit of the United States, could bring about a much steeper decline of the US dollar relative to what we assume (see Section 1.4). US housing investment and real US house prices may decline more rapidly than forecast, with the latter undermining the consumption outlook.

1.2
Global Outlook

1.2.1 KEY DEVELOPMENTS

Below we discuss some of the key developments in commodity and financial markets underlying our current forecast.

OIL PRICES

The spot price of Brent crude rose to new highs of nearly USD 80 per barrel in August. This price hike was not so much driven by strong demand but by increasing political turmoil in the Middle East and some other oil producing regions. Demand growth already started to moderate in 2005, in spite of the ongoing strong economic growth in the world (see Figure 1.2.1). Inventories also began to rise in the OECD countries during 2006, but this easing in the balance between supply and demand was not sufficient to neutralize the upward price pressure of increasing political tensions. Excess capacity is still lower than it used to be and consists mainly of sour crude, for which the current refining capacity for the production of high quality products is insufficient. This is illustrated by increasing price differentials for various grades of crude oil.

Figure 1.2.1:   World Oil Demand and Production
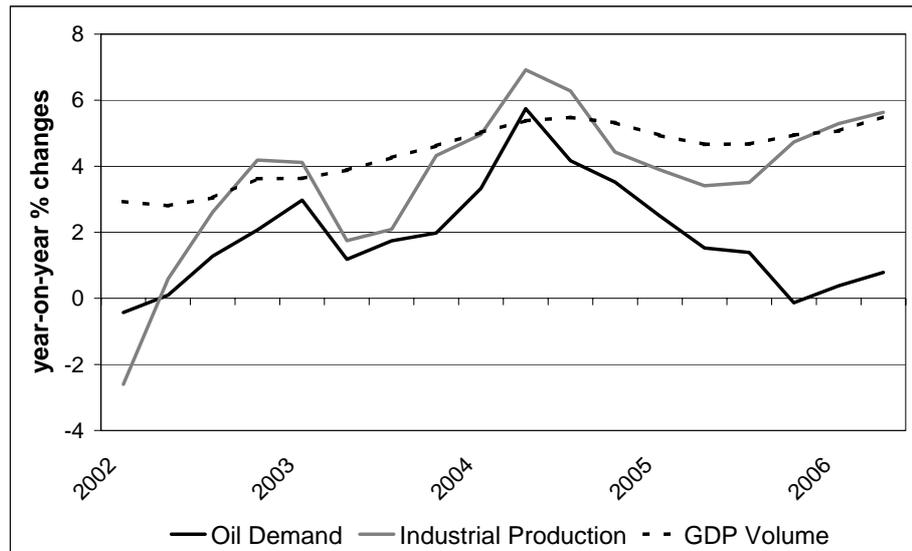
Sources:Oil Demand comes from the IEA Monthly Oil Reports, Industrial Production from the CPB and the volume of GDP from NIESR

Following the seasonal easing in US demand and less acute political tensions in the Middle East, crude oil prices declined again in September, for example as of September 25th Brent had fallen to $61.45. However, strong global growth will keep the markets tight, as further reductions in demand and increases in supply that are brought about through new investments take time to materialize. A price rise due to a major disturbance in supply (or to expectations) also remains a serious risk. On balance, we have opted to revise upwards our oil price forecast over the forecast horizon to around USD 68 per barrel for the average of Brent and Dubai.

Box 1.1: Demand and supply driven oil price shocks (An Analysis using NiGEM)

The real effects of oil price shocks depend upon real factors such as the oil intensity of production and output, the scale of trade with oil producers and the speed with which they spend their money. They also depend upon whether they are a demand induced or a supply driven shift in the oil price. The nominal effects depend on the same things as well as the speed of reaction of the wage price system and monetary policy responses. We analyse the effects of changes in oil prices using NiGEM. The model has been restructured over the last few years to take account of changes in OPEC and of greater global pressures on inflation. OPEC domestic demand depends upon export revenues and on OPEC net assets and is estimated, as is the OPEC import equation which error corrects on Domestic Demand with an effect from net assets. Although it fits well, there is some evidence[a] that OPEC import demand might be stronger now than we would anticipate given past relationships, and we have 'speeded up' OPEC imports in our forecast.

One 'risk' scenario to our forecast is that oil prices could fall, and in order to evaluate this we have undertaken a simulation of a $10 a barrel fall in oil prices. We assume that monetary policy makers will reduce interest rates in response to lower inflation, and as a result long term interest rates will fall, and equity prices will rise. All these factor contribute to stronger demand and lower inflation than in our baseline forecast, as we can see from the table. As we might expect the impacts on the US are more positive, as it uses more oil and trades less with oil producers than does the Euro Area. US wage and price

setters also display less inertia than those in Europe, and hence inflation reacts more quickly.

	US GDP	Euro Area GDP	US Inflation	Euro Area Inflation
Year 1	0.05	0.07	-0.19	-0.20
Year 2	0.17	0.13	-0.36	-0.25
Year 3	0.30	0.18	-0.31	-0.19

We can assume that the oil price rises we have seen over the last four years have been demand induced then the effects may have a similar pattern, but with the opposite sign, of those above. The negative output effects would perhaps be marginally smaller than a simple sign change would suggest, but the effects are essentially symmetric. We would only see a departure from symmetry if a country, such as Japan, were forced back into its liquidity trap by a fall in oil prices. It could not then cut interest rates to stabilise demand, and inflation would fall more than an inverted table would suggest. Of course, we could see a supply driven shock to oil prices emerge in the near future if political turmoil in the Gulf Region increases. We have undertaken an oil price shock that is accompanied by a reduction in both OPEC export capacity and in domestic demand. If OPEC output were to fall by 4 per cent, and hence imports fall by 7 per cent as oil prices rose, then the initial impacts on output in the Euro Area would be approximately double that suggested by inverting our table whilst the impact on the US would increase by about 80 per cent of that suggested by an inverted table. This change reflects trade patterns, as the Euro Area is more heavily dependent on OPEC than the US. (For the US OPEC represents two and a half per cent of exports and hence 0.3 per cent of GDP whilst for the Euro Area it is four per cent of exports and hence 0.8 per cent of GDP).

[a] AIECE, World Trade in 2005 and 2006, Brussels, November 2005

INTEREST RATES

In order to combat rising inflationary pressures, central banks have tightened monetary policy in all major countries. The Federal Open Market Committee (FOMC) raised the Federal Funds rate by 25 basis points at each of its meetings from June 2004, to reach 5.25 per cent in June 2006, a total of seventeen increases. This reflects a cumulative rise of 425 basis points. During its meetings in August and September, the FOMC kept its policy rate unchanged, indicating a pause or the end to its tightening. The ECB has raised rates by 100 basis points to 3.0 per cent, while in July the Bank of Japan ended its zero rate policy and raised its rate to 0.25 per cent. The Bank of England raised the Base Rate by 25 basis points in August to 4.75 per cent, the first rise in a year. Figure 1.2.2 plots our current projections against projections underlying our Spring forecast. We see some further increases in the Euro Area by 50 basis points in the near term, and a levelling off thereafter. These higher interest rates reflect the stronger production outlook and increasing inflationary expectations. The US slowdown is projected to put official rates on hold for now, followed by cuts starting in the second half of next year and bringing the Federal Funds rate close to 4.5 per cent at the end of 2008. All key interest rate assumptions underlying our forecast projections are reported in Annex Table 5.

Long-term interest rates have also risen slightly, but remain rather low in a historical perspective. There are a number of tentative explanations for the current low long-term interest rates, including high savings versus lagging

investments and the growing credibility of monetary policies. Figure 1.2.3 illustrates the revisions of our long-term interest rate projections since Spring. For the United States, a minor drop in the capital market rate is projected for 2007 and 2008, while the rate for the Euro Area is projected to be stable at around 4 per cent.

Figure 1.2.2:   3-Month Money Market Rates
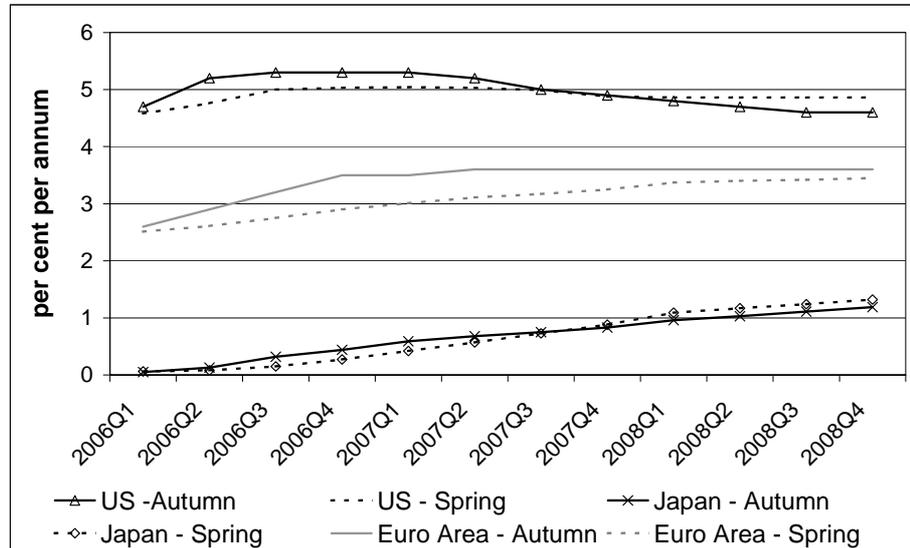
Figure 1.2.3:   10-year Government Bond Yields
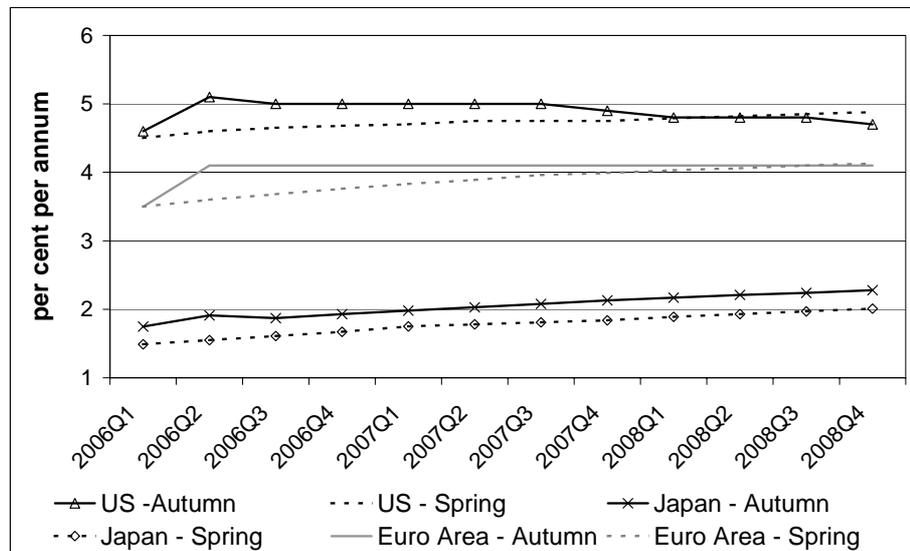
EXCHANGE RATES

The euro nominal effective exchange rate rose about 5 per cent since the end of 2005, if measured for the area as a whole versus the rest of the world. The effective appreciation for individual countries was less, because of the mitigating effects stemming from trade amongst these countries. The euro appreciated against the US dollar and the yen, but also against minor currencies that were hit by the financial turbulence in May-June, such as the Hungarian forint, the Turkish lira, the Icelandic krona and the South African rand. Some recovery of the yen is incorporated in our forecast, while the US dollar is seen

to depreciate further, albeit marginally. Figure 1.2.4 shows our current effective exchange rate projections.

Figure 1.2.4:   Effective Exchange Rates
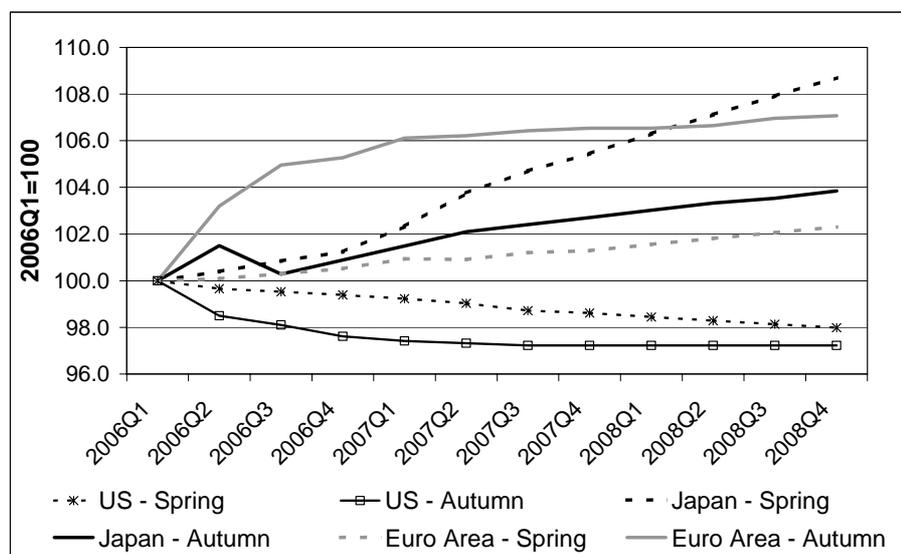
EQUITY PRICES

Equity markets experienced some turbulence in May and June but have mostly recovered since then. The downturn was the first major equity price drop since Spring 2003 when markets started to recover from the ICT collapse and bookkeeping scandals in the preceding years. Due to the recovery after mid-June, share prices in the United States and all Euro Area countries are currently higher than at the end of last year.

Interest rates and share prices are closely linked, in part because bonds and shares represent alternative asset choices for financial investors. Investors hold a portfolio of assets, and the mix of this portfolio differs across countries and may shift over time. A rising preference for equities over bonds would push share prices up and bond prices down, and hence bond yields would rise. Financial asset preferences are partly driven by risk aversion, with investors tending to favour bonds over equities as they become more risk averse. In the current situation investors seem to have a preference for equities as interest rates are expected to be stable or to rise only slightly.

1.2.2 EXTERNAL ENVIRONMENT

North America

The sharp acceleration of US GDP in the first quarter of 2006, which was linked to the reconstruction efforts after the hurricanes of August and September 2005, proved to be temporary. Growth slowed in the second quarter due to a slowing in the growth rate of domestic demand. There was a sharp drop in housing investment but also an easing in the growth rates of private consumption and business investment. Improvements in international trade were only marginal. From February, the monthly trade deficit of goods and services had decreased as exports outperformed imports. However, in July nominal exports were lower than in June, whereas imports of goods continued to increase. The core inflation rate has increased over the past months and was 2.8 per cent in August. This is, however, still relatively low when compared with previous situations of high commodity price increases and strong

economic growth. Nevertheless, it is still worrying according to the Fed chairman's "comfort zone" which ranges from 1 to 2 per cent.

We expect US growth to moderate over the forecast horizon and to decline from 3.4 per cent in 2006 to 2.5 per cent in 2007 and to 2.4 in 2008. The main reason for the lower growth is the fading contribution of the housing market. In the years 2003-2005 residential investment alone contributed almost half a percentage point a year to GDP growth, with residential investment as a proportion of GDP rising to 5.5 per cent from an average of 4.5 per cent in the previous decade. In addition, increasing house prices produced significant wealth effects on private consumption. Since the beginning of the year downward signals from the housing market have been increasing. New housing starts and new housing permits have been declining and in August these indices reached their lowest levels since the beginning of 2003. House prices are also decelerating. In the second quarter of 2006 the quarter on quarter growth rate of the OFHEO (Office of Federal Housing Enterprise Oversight) nationwide index showed growth of only 1.2 per cent, the lowest quarterly growth rate since the end of 1999. This deceleration in house prices continued through the summer according to monthly indicators.

We anticipate a gradual correction of both residential investment and house prices. Residential investment as share of GDP is expected to fall gradually towards the historical norm, but to remain above it in the forecasting period. House prices are expected to record slower nominal increases for several years, rather than a sharp drop of the nominal levels (see Figure 1.2.5). A different scenario is, however, discussed in Section 1.4 below. The slow increase in house prices implies weak growth in housing wealth. When combined with higher interest rates and reduced scope for house-equity releases, the softening on house prices will contribute to reducing real private consumption growth, as well as residential investments. In spite of these negatives, the relatively good condition of the labour market and the expected stabilisation of commodity prices will help to sustain real disposable income, thereby offsetting to some degree the negative impact on private consumption growth. High capacity utilization and strong gains in corporate profits will support business investment. However, we anticipate a moderation in investment growth in 2007 and 2008.

Inflationary pressures, fed by higher energy prices, have not yet begun to ease. In the first six months of the year, the rise in hourly compensation in the non-farm sector was only partly offset by an increase of productivity. As a result, labour cost per unit of output grew by 4.3 per cent, compared to just 2 per cent in 2005. This suggests that inflation measured by the private consumption deflator will be 3.2 per cent in both 2006 and 2007. Only in 2008 will the disinflationary effects of the downward economic cycle and stabilising commodity prices combine to produce an easing in inflation, with a rate of 2.1 per cent expected.

As regards the external imbalance, slowing domestic demand growth will restrain imports and the stability of the dollar and the effective exchange rate will allow exports to rise roughly in line with world trade. On balance, we expect the current account deficit to improve by less than one per cent of GDP in the forecast horizon.

Figure 1.2.5:   US House Price Growth (OFHEO Index)
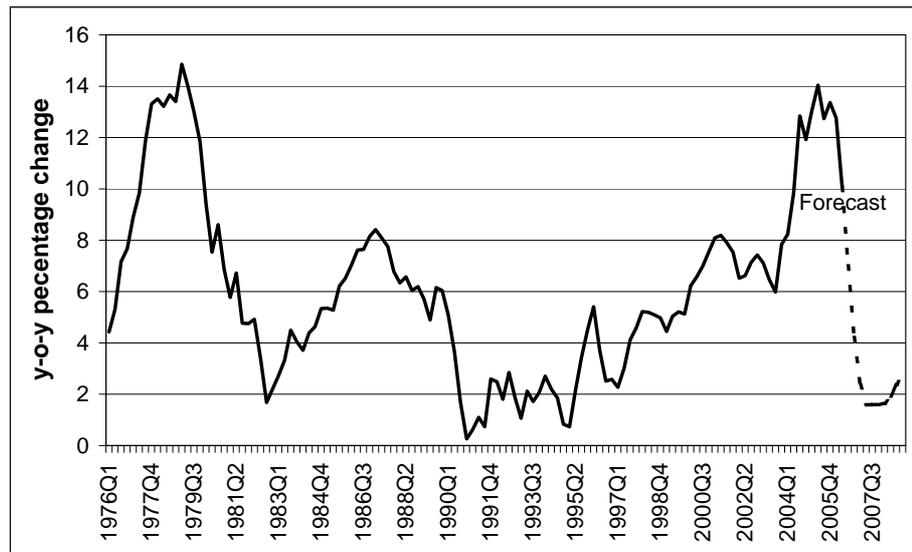
In Canada increasing employment, high growth of real disposable income and increasing household net worth continue to sustain private consumption and housing activity. However, the appreciation of the Canadian dollar has impacted negatively on exports. A deceleration of GDP growth in the second quarter was partially unexpected. It involved both domestic demand and exports, with exports having a negative quarterly growth rate for the second quarter in a row.

Both upside and downside risks characterise the evolution of the Canadian economy. The upside risks involve private consumption and housing prices, whereas the downside risks relate to a possible correction in US imbalances. We expect some deceleration of GDP growth over the forecasting period driven initially by a reduction in exports that subsequently results in slower domestic demand growth.

In Mexico, the appreciation of the peso, relatively low inflation and an increase in employment sustained domestic demand and facilitated stable quarterly GDP growth in the second quarter. However, the expected deceleration of US and Canadian domestic demand will imply a slowdown of export demand growth.

For the region as a whole we expect economic growth to slow down from 3.5 per cent in 2006 to 2.6 per cent in 2007 and 2008.

Asia

The Asian economies continue to expand at a fast pace although with some signs of moderation in the second quarter. Both domestic demand and external trade contributed to the result which is heavily influenced by the impressive growth of the Chinese economy, and also favoured by strong growth elsewhere around the globe. The signs of moderation come mainly from the slight slowdown of domestic demand in many countries, with the notable exception of China, and external demand is growing at a slower pace too.

The Chinese economy is ballooning (11.3 per cent the year-on-year GDP growth in the second quarter), with a record external surplus, a boom in investment and a good performance in other components of domestic

demand. As the investment growth, at over 30 per cent annual in the first six months, was seen as having an overheating potential the authorities have tried to cool down the expansion with both monetary restrictions and administrative measures. The monetary authorities raised the 1-year benchmark lending interest rate in two steps of 27 basis points (reaching 6.12 per cent) and increased the commercial bank reserve requirement. They also adopted a bundle of other measures to absorb liquidity, a very difficult task in a country running a huge current account surplus. Moreover, because of an increasing amount of unsold property and growing speculative activity in real estate (a quarter of the total investment was channelled there) the authorities are resolved to limit the expansion of investment in this sector with further administrative and lending regulations. In reality, the impact of the policy measures is likely to be moderate. Many factors such as poor financial and capital markets operate to limit their transmission and effectiveness, possibly resulting in just a small dent in growth in the short run. The impact of a different outcome on the outlook is discussed in Box 1.2 below.

In Japan private consumption and non-residential investment are maintaining a good pace of expansion, driven by higher real household income and high profitability. The slowdown in the second quarter resulted from a sharp contraction in residential and public investment, a correction in inventories, and a narrowing net trade surplus. The monetary authority did not raise the interest rate further after the first hike in July, given the uncertainty about the price evolution (a revision of the price index added some doubts about the dynamics of inflation) and also the moderation in the GDP expansion. The economies of South Korea, Hong Kong, Taiwan and India are performing well, taking advantage of the economic expansion in China, international demand for electronics and for IT-related services.

The short-term outlook for the Asian countries is quite positive even if a deceleration in the second half of this year is likely to occur. Monetary policy, and more generally economic policy in some countries, has been tightened, trying to deal with overheating sectors (mainly real-estate) and, at the same time, to cool down some inflationary pressures arising from increasing oil and commodity prices and also buoyant consumption. Oil and commodity prices are still very high. In addition, subsidies to retail prices, lower taxes and duties put in place by many governments to deal with high prices are very costly to maintain so high price levels and the ongoing reduction of subsidies are likely to dent purchasing power. External demand is expected to slow, driven by the forecast deceleration of the United States economy. On the other hand, we predict that Chinese economic growth will remain strong. Investment growth is likely to remain strong in the coming years, mainly in infrastructural facilities, capacity building and also investment related to the Olympic Games in 2008. The tighter commercial links among Asian countries and the consolidated role of China as an important importer will favour the exports of the countries of this region, offsetting, at least partially, the smaller contribution of US demand and weaker domestic demand. India will maintain a high pace of growth, increasing the share of manufacturing in the economy, although dependence on the agricultural sector will remain relatively high.

The performance of the Japanese economy in 2006 will be strong, given the first half of the year but some signals of weakening are arising in industrial production. The inflation rate is likely to rise but at a moderate pace, given that the recent increase has been mainly due to the surge in import prices (oil and commodities) and these are projected to stabilise over the forecast horizon. With inflation remaining modest, the speed of interest rate hikes will be limited

and monetary policy will remain stimulative over the forecast horizon. Fiscal policy in Japan is expected to remain restrictive, under the government plans of moving to a primary budget balance of around zero in 2010 from the current situation of a deficit of around 4 per cent of GDP. In the process of achieving fiscal balance, growth in public consumption and investment will have to be very much restrained, especially as the government wants to avoid substantial tax increases. Moreover the projected appreciation of the yen vis-à-vis the dollar and the US slow down could lower external demand, containing GDP growth in a range of 2 to 2.5 per cent.

Box 1.2: Domestic demand in China

Chinese growth has been strong for several years, with annual growth of around 10 per cent between 2003 and (projected) 2006, the strongest pace since the period up to 1996 when a realignment took place. However, it is not clear that the economy can be regarded as balanced, being heavily dependant on export growth and with up to 50 per cent of GDP going into investment. There are risks of a significant investment driven slowdown, especially if there are fears of a trade war with the US or of a significant, albeit temporary, loss of competitiveness because of a revaluation.

In order to evaluate the impacts of a Chinese slowdown using NiGEM we reduce investment by 20 per cent in 2007 but revert toward path thereafter. The simulation is of an endogenous shock so feedback mechanisms are in place and we report results for GDP in China, the US and the Euro Area below. We assume that the currency is allowed to float (down) and that interest rates target inflation. GDP growth would slow by 3 per cent, and imports would fall 20 per cent and then recover as domestic demand initially falls by 10 per cent. Floating the currency gives an immediate 4 per cent (real) devaluation which helps to absorb the shock. Fixing the exchange rate increases the shock to Chinese GDP by 1 per cent by removing immediate competitiveness effects, whilst the shock elsewhere is reduced. The impacts on the Euro Area and the US are not negligible, in part because China is a major market for both, but also because the decline in the exchange rate means Chinese exports become more competitive. Hence net exports in the US and in the Euro Area are reduced and growth slows by up to a quarter of a per cent in the first year.

Effects on GDP: Percentage Difference from Baseline

	China	US	Euro Area
2006	-3.14	-0.21	-0.24
2007	-1.23	0.00	-0.13
2008	-1.44	0.06	-0.06

Non Euro Area European Economies

The UK economy has been growing above its trend rate for the first half of this year, at between 0.7 and 0.8 per cent per quarter. The available data suggests this has continued into the third quarter. This is an improvement on the below trend growth of 2005, which was led by a sharp moderation in consumer spending growth. Robust job creation continued despite the slowdown of the UK economy in 2005, resulting in poor productivity growth. Annual average jobs growth in 2005 matched the 0.8 per cent expansion of the labour force. Behind this robust labour force growth is the recent strong migration to the UK economy. Since 2001, strong labour force growth and

weak business investment growth has meant that the capital to labour ratio in the UK has waned. The resurgence in economic growth this year has been driven partly by business investment, supported by strong profit growth, and this has allowed a partial correction to the capital-labour ratio.

The outlook for economic growth remains robust. Growth of 2.7 per cent per annum is forecast for 2006-2008. This above trend growth is supported by a more balanced economy, being less reliant on household consumption expenditure than in the recent past as gross fixed investment gathers momentum. The housing market in the UK has shown some signs of an increase in activity, although this is assumed to be temporary. The rate of house price growth is expected to be below that of incomes over the projection period, allowing real house prices to revert towards their long-run equilibrium. With the rate of jobs growth below that of the labour force, the unemployment rate is expected to continue to rise from 5.5 per cent this year to 5¾ per cent in 2007 and 2008. The loosening of the labour market seen recently will have helped to put some downward pressure on inflation, as will the appreciation of sterling in the first half of 2006. Nonetheless, annual inflation is above its target of 2 per cent, and is expected to remain there for the next three years.

The general government budget deficit is expected to improve to just below 3 per cent of GDP this year, due to more robust economic growth and the tax generating policies introduced in the last few fiscal plans. In 2008 we have assumed that government expenditure as a share of the economy begins to decline, which is necessary if the UK government is to meet its self-imposed fiscal rules. We expect the UK to meet the fiscal rules as set out in the Maastricht treaty with some room to spare in 2007 and 2008.

The rebound of the Swedish and Danish economies started earlier than the Euro Area. In both countries growth is still gaining more momentum from strengthening Euro Area demand. In Denmark strong growth of both private consumption and investment are now being added to by stronger exports. More robust economic activity together with tight labour market policies pushed the standardised unemployment rate below 4 per cent last summer, thereby raising fears of overheating. Growth is expected to remain strong in 2007-8 supported by fairly strong export demand.

In Sweden strong exports and investment is supported by brisk consumption. Public consumption was boosted in advance of the parliamentary elections held recently. As a result of the election, power shifted from the social democrats to a coalition led by moderate conservatives by a thin margin. The coalition has stressed the need to decrease taxation but major changes in economic policies will not be easy to implement in the forecast period. The slowing in export markets will lead to a gradual cooling of the strong export performance.

Russian GDP is growing strongly as a result of growth in private consumption and fixed investment. In the first half of 2006 GDP growth reached 6.5 per cent on an annual basis. Growth is largely driven by the trade and manufacturing sectors. Although the energy sector does not record significant growth any longer, high energy prices translate into high government revenues and lead to a surplus in the public budget. Higher prices as a consequence of higher demand for oil and gas have greatly contributed to the export performance. The economic expansion over the past years has been accompanied by excess liquidity and high inflation. Since its introduction in

2004, the government stabilization fund has helped to sterilize some of the effects of soaring oil revenues on the domestic economy. Because of weaker growth in the world economy, GDP growth will be slightly lower over the forecast horizon. Economic performance will depend heavily on the conditions for business investment. In particular, the government has to convince the business community that it will limit the influence of the state on the economy.

The economic performance in the New Member States of the EU (NMS) has been very strong in the first half of 2006, with weighted GDP expected to grow by as much as 5.8 per cent on an annual basis (weighted by 2000 GDP shares at PPPs). The acceleration in the rate of growth compared to 2005 is coming mainly from a much better performance of the Polish economy. Further growth in employment and real wages as well as indexation of pensions and a lowering of the savings rate led to robust household consumption growth. Also, investment demand gained momentum, where the engine is the companies' outlays apart from EU financed investments. Strong exports (to EU, as well as to Eastern European and developing countries) are the source of the positive net export contribution to GDP.

The Polish economy is expected to grow by about 5.2 per cent this year. Some slow down in the Polish economy in 2007-8 will result from a moderation in consumption and net exports. In 2006 robust growth is expected to continue in the Czech Republic, in Slovakia and in the Baltic States, based on very strong domestic demand and a positive net export contribution. In 2007-8 we forecast some slow down in the Czech Republic and also in Estonia and Latvia. The Hungarian economy is expected to grow at a moderate rate, due in part to fiscal adjustment and a restrictive monetary policy. Largely as a result of slower growth in both Poland and the Czech Republic in the coming years, we see weighted GDP in NMS growing by 5.0 per cent and 4.6 per cent in 2007 and in 2008 respectively.

Inflation in NMS has been relatively low in recent months, at levels below or in line with those in the Euro Area. Three countries, Estonia, Latvia and Slovakia, stand out with inflation above 4 per cent due to the combination of energy and administrative price hikes as well as an acceleration in food prices. The outlook for the rest of 2006 looks very favourable with an average inflation forecast of 2.4 per cent, in line with the forecast for the Euro Area. Low inflation can be mostly attributed to EU-wide deflation in non-energy industrial goods prices and is further strengthened across the NMS by appreciating currencies (in most countries) and an expansion in large-surface retail chains. Inflation is projected to rise somewhat in 2007 to 2.9 per cent and then to fall slightly to 2.8 per cent in 2008. HICP in Poland, the country with a close to 50 per cent weight in NMS, will remain one of the lowest-inflation economies, both in the region and within the EU due to continued deflation in tradable goods aided by currency appreciation and increasing competition in the retail sector. Slovenia will become the first NMS country to join the euro zone in January 2007, having met all three convergence criteria, with moderate inflation, low interest rates and a budget deficit within the limits of the Maastrict Treaty. The upturn in inflation in Hungary in 2007 will be caused by tax adjustments and should be temporary.

1.3 Euro Area detail

Euro Area growth has picked up in the first six months of the year, with GDP growing by 0.8 per cent in the first quarter (quarter-on-quarter) and 0.9 per cent in the second quarter, up from average growth of only 0.5 per cent in the second half of 2005. This has brought annual Euro Area GDP growth to 2.6

per cent instead of a mere 1.2 per cent a year earlier. The upturn was expected six months ago, but has been somewhat stronger than anticipated.

Both domestic and external demand have contributed to the acceleration in growth. Within domestic demand, investment has been the main engine for growth, contributing 0.9 percentage points to the 2.6 per cent annual GDP growth. Against the background of an improving situation in labour markets, growth in household consumption has strengthened on average in the first half of this year, although growth in the second quarter was dampened by another strong increase in energy prices. Government consumption also rose slightly faster when compared with the second half of last year. The most important factor behind the stronger GDP growth, however, has been an upturn in fixed investment which rose by 1.5 per cent on average in the first two quarters of 2006, compared to 0.8 per cent in the third and fourth quarters of last year. Investment in machinery and equipment has picked up reflecting rising capacity utilization, high profits and improved sales expectations. At the same time, available information on residential construction in the Euro Area countries suggests that housing investment has strengthened, although with fluctuations as a result of weather. The picture for the Euro Area is partly the result of a pick-up in Germany where the recession in construction that has been a drag on growth for many years[2] finally seems to have come to an end. Exports have risen substantially in the first six months of this year and grew considerably stronger than imports. As a result, net exports made a significant positive contribution to GDP growth, especially in the first quarter.

However, the acceleration of Euro Area growth is still modest after several years of subdued activity, particularly when compared to the expansion registered in 2000 when annual GDP growth peaked at 3.9 per cent for the year. We do not expect growth to accelerate further in the second half of the year and anticipate a deceleration in growth from the last quarter. This is in line with the Euro Growth indicator (see Box 1.3). European business surveys ceased to register improvements in August, with the deterioration being particularly marked in industry. More importantly, the forward looking components of the surveys, most noticeably in Germany, suggest a weaker outlook for the months ahead.

The less favourable outlook depicted by the latest business surveys is associated with a number of negative factors that are likely to affect Euro Area growth in the coming months. These include the prospect of a slowdown in the US economy and somewhat slower growth in other parts of the world, especially Asia, and also the rise of the real exchange rate. In addition, the past increase in the ECB's interest rates, the expected future rises in rates and a contractionary fiscal stance will dampen growth. The announced VAT rise in Germany from January 2007 may, however, lead to significant frontloading of consumption and housing investment in Germany into 2006 supporting growth towards the end of this year at the cost of next year. The frontloading of demand is expected to affect output in other countries in the Euro Area as well, especially those in which a substantial part of production is serving demand for big ticket items in Germany such as automobiles, as is the case for example in Austria[3].

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[2] See Gern and Meier (2006) (Annex Paper A1) for a discussion of the importance of residential construction in explaining the growth performance in individual countries available at http://www.euroframe.org/efn.

[3] The forward shift of Austrian manufacturing exports to Germany from 2007 to 2006, for example may amount to up to 2 per cent, resulting in a forward shift of total exports of about 0.5 per cent. The effect on GDP is estimated to be about 0.2 per cent.

The stronger than expected upturn in the first half of this year is the main reason for an upward revision of our Euro Area real GDP forecast for 2006 which now stands at 2.6 per cent compared to 2.2 per cent six months ago.[4] At a country level, growth has been revised upwards for almost all countries, except for France, where our forecast remains unchanged at 2.2 per cent. Concerning the pattern of intra Euro Area growth, there is a major change from previous years as the significant negative growth differential between Germany and the Euro Area average which had been a consistent feature of the Euro Area since its inception almost disappears in 2006, although this is probably a temporary phenomenon. France is expected to grow at around the Euro Area average, whereas growth in Italy and Portugal is expected to be below 2 per cent. All four countries are expected to be below the Euro Area average again next year and in 2008, partly because they remain in the process of tightening their fiscal policies in order to meet the European commitments on public deficits. At the same time, Ireland and Finland and to a lesser extent Spain and Greece continue to record relatively high growth rates. The forecast Finnish growth of almost 5 per cent this year, however, is exaggerated by the base effect from the production losses in the paper industry that had occurred in 2005.

Figure 1.3.2: Euro Area Output Growth
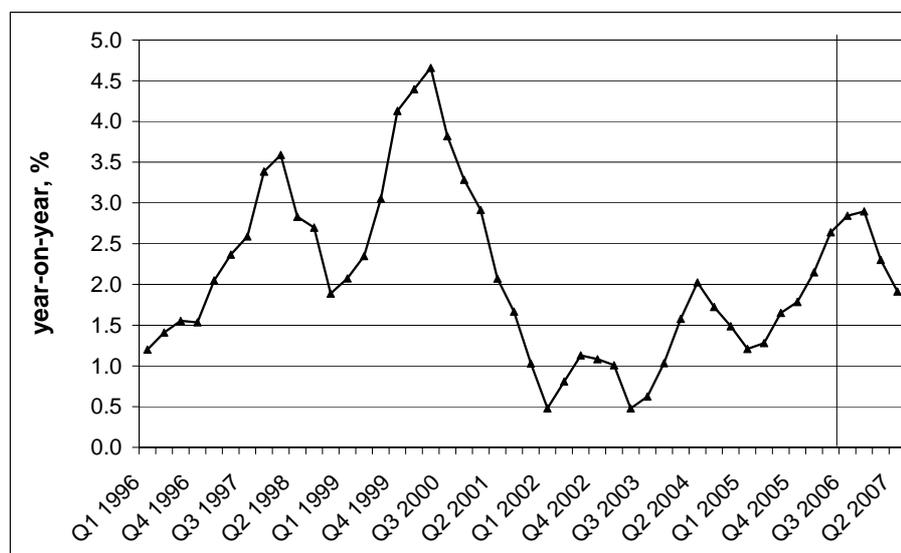
Source: Eurostat, EUROFRAME-EFN Autumn 2006 forecasts

Box 1.3: Short-term prospects for Euro Area GDP growth suggested by the Euro Growth indicator

On the basis of data available in early September, the Euro growth indicator prepared by EUROFRAME for the FTD forecasts year-on-year Euro Area GDP growth of 3.25 per cent in 2006 Q3, following estimated growth of 2.85 per cent growth in 2006 Q2 (2.65 per cent according to Eurostat figures released on 1 September). The indicator suggests that GDP growth will only slightly accelerate in 2006 Q3 in year-on-year terms before decelerating towards the end of the year. The main contributions to the rise in the indicator in 2006 Q3 remain business surveys, primarily in industry and to a lesser extent in the retail trade and construction sectors. The contributions of business

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[4] All GDP data and forecasts discussed in the text and reported in the tables are adjusted for working-day variation. Under the effect of fewer working days in 2006 as compared to 2005, the unadjusted numbers show German GDP growth of 2.2 per cent in 2006, as opposed to 2.4 per cent on an adjusted basis, and of 1.3 next year (as opposed to 1.4).

surveys to the indicator reached levels close to their 2000 peaks in July, following a one year recovery.

However, the indicator points to a deceleration of activity towards the end of the year. This reflects the end of the improvement in Euro Area business surveys in August, with opinions deteriorating for the first time in 14 months in the industrial sector. Most of the other components of the indicator also point to a deceleration in activity in the Euro Area: the ISM survey of US industry, which depicts the effects of the US economic developments on European growth, has been losing strength for roughly two years, reflecting the slowdown of the US economy. The past appreciation of the real euro/dollar exchange rate will also exert a negative influence on Euro Area GDP growth, with the main negative contribution to GDP growth coming from the tightening of monetary policy in the Euro Area over the last quarters, according to the indicator.

The forecasts for 2007 and 2008 depend on the following policy assumptions. We expect the ECB to raise interest rates to 3.5 per cent at the end of this year and to leave them unchanged from then (see Chapter 2, Section 1 on monetary policy). Fiscal policy which is only slightly restrictive this year will be tightened next year at a Euro Area level (see Chapter 2, Section 2). We project further fiscal consolidation up to 2008, with deficits expected to reach 1.4 per cent of GDP in 2008. Consolidation will be especially pronounced in Germany with the reduction in the structural deficit amounting to ¾ of a percentage point in 2007. We expect significant fiscal tightening also in Italy in 2007 and in 2008, bringing the government deficit below 3 per cent of GDP that year. For France, we expect a smaller tightening of fiscal policy, leaving the deficit below 3 per cent of GDP in the coming two years. All in all, monetary and fiscal policies will be tightened at the Euro Area level in the coming months.

Against this background we forecast more moderate growth in the Euro Area with GDP rising by around 2 per cent in both years (see Table 1.1). Domestic demand will rise slightly faster in both years (at around 2.1 per cent). Household consumption growth will slow down somewhat next year, mainly due to the negative impact of the VAT increase in Germany, but will experience a gradual recovery in 2008 supported by steady growth in real disposable incomes and continued employment growth. Government expenditure growth will slow reflecting an overall restrictive fiscal stance associated with European commitments. Private investment growth will progressively slow under the effect of less favourable demand prospects (both domestic and external) and higher interest rates.

Euro Area export growth will be restrained by the slowdown of export markets and exchange rates developments up to 2008. The high level of the euro exchange rate will allow countries to at best stabilise their market shares. This will be the case for Germany but other countries will continue losing competitiveness (Italy, Spain and France to a lesser extent). We expect export volume growth of 8 per cent this year before moderating to 5 per cent in the next two years, slightly less rapidly than Euro Area market growth.[5] Import volumes will rise slightly more rapidly, leaving a small current account deficit at the Euro Area level, at below 1 per cent of GDP, with Germany running a surplus higher than 3 per cent of GDP and Spain a deficit of 7 per cent of GDP.

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[5]It may be worth noting that there is currently increasing uncertainty with respect to the reliability of export and import data due to VAT fraud which may have substantially inflated recorded trade. Such effects have recently been visible especially in the UK, but may also be of significance in the Euro Area.

Table 1.1: Euro Area Forecast

	2002	2003	2004	2005	2006	2007	2008
Consumption	0.9	1.2	1.3	1.4	1.8	1.6	2.0
Private investment	-3.5	2.1	3.3	3.2	4.7	4.3	2.9
Government expenditure	2.3	1.7	0.8	1.4	2.3	1.4	1.5
Stockbuilding[a]	-0.2	0.2	0.4	0.2	0.1	-0.1	0.0
Total domestic demand	0.1	1.7	2.0	1.9	2.6	2.0	2.1
Export volumes	1.7	1.1	6.3	4.5	8.3	4.8	5.4
Import volumes	0.3	3.1	6.2	5.5	8.1	4.8	5.6
GDP	0.9	0.8	1.7	1.5	2.6	1.9	2.0
Average earnings	4.0	2.9	2.2	2.0	2.7	3.4	3.2
Harmonised consumer prices	2.3	2.1	2.1	2.2	2.4	2.3	2.0
Private consumption deflator	1.9	2.1	2.0	2.0	2.3	2.3	2.1
Real personal disposable income	1.5	0.9	1.4	0.8	1.1	2.0	1.9
Standardised Unemployment, %	8.2	8.7	8.8	8.6	7.9	7.6	7.5
Govt. balance as % of GDP	-2.6	-3.1	-2.8	-2.4	-1.9	-1.6	-1.4
Govt. debt as % of GDP	68.1	69.3	69.8	70.8	68.9	67.5	65.9
Current account as % of GDP	0.7	0.4	0.6	-0.3	-0.8	-0.6	-0.4

a change as a per cent of GDP

In contrast to other industrial countries consumer price inflation has not risen significantly in recent years at the Euro Area level despite the continued strong increase in the price of oil and other commodities. The inflation rate as measured by the Harmonized Index of Consumer Prices (HICP) has been fluctuating at levels between 2 and 2 ½ per cent during the past two and a half years (see Figure 1.3.2). With the energy component rising strongly, core inflation has slowed to 1.5 per cent. A modest level of capacity utilization, a high level of the exchange rate and the expected moderation in energy prices will help keep inflation in check up to 2008. We expect increases in real wages to pick up somewhat over the forecast horizon but for these increases to remain moderate.

Figure 1.3.2: Consumer price inflation in the Euro Area

a HICP excluding food and energy.
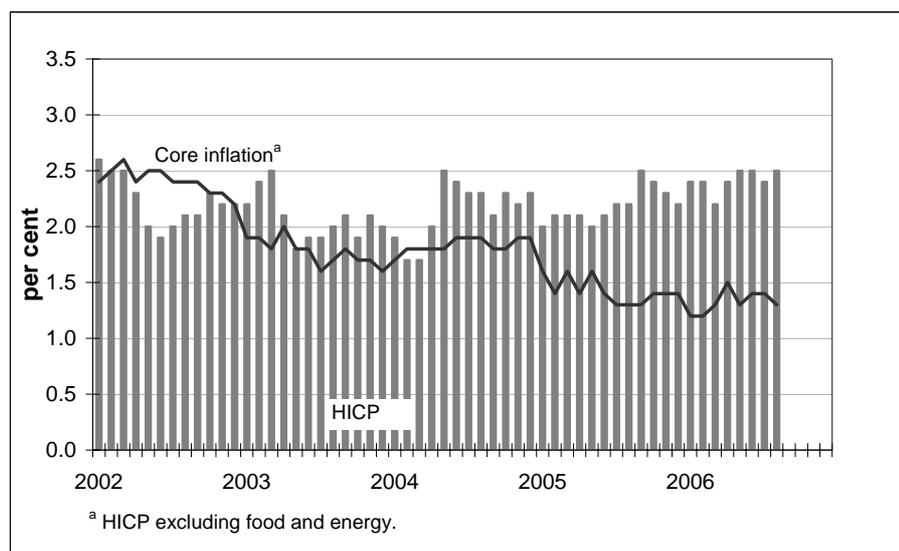
Source: Eurostat

The acceleration of growth up to the middle of 2006 has facilitated a fall in the unemployment rate, which reached 7.8 per cent in July 2006 compared to 8.6 per cent a year earlier. Given our forecast for real GDP growth and slow growth in the potential labour force, the unemployment rate is expected to continue decreasing at the Euro Area level, coming down to 7.5 per cent in 2008. Unemployment will remain higher than the average in Greece, France and Germany.

The persistent differences in growth dynamics, inflation rates and current account balances across countries that have been apparent in the Euro Area[6] are anticipated to remain in place over the forecast horizon, although there is some convergence expected with respect to inflation in 2007 and 2008. We do not expect major problems with respect to the financing of current account imbalances, at least in the short-term, although a drying up of capital inflows may, at some point, pose a risk to the outlook in countries running large deficits. In particular, the Spanish position could become more difficult in the event of a rapid cooling of the housing market. Other major downwards risks associated with our Euro Area forecasts are a sharper deceleration of US output together with a fall of the dollar (See Section 1.4).

The forecast is based on the following assumptions:

The oil price is projected to remain at around $68 per barrel up to 2008.

The exchange rate of the US$ to the euro is expected to remain almost unchanged, depreciating slightly from 1.28 in 2006 Q3 to 1.31 at the end of 2008.

The three-month interest rate in the Euro Area is projected to be 3.5 per cent at the end of 2006 and then to remain at 3.6 per cent until the end of 2008.

The forecasts are based on data available up to 14th September 2006. The assumptions for commodity prices, exchange rates and interest rates used in the forecast were constructed by consensus, as the average projections of the 10 EUROFRAME-EFN Institutes. These are broadly consistent with current financial market expectations and forward markets.

GERMANY

German economic growth has greatly improved since the second half of 2005. On a quarter-on-quarter basis, real GDP growth has accelerated to 0.7 per cent and 0.9 per cent in the first and second quarters of 2006, respectively, up from an average of 0.4 per cent in the preceding two quarters. The upturn in economic activity is mainly due to a recovery of domestic demand. Business investment has significantly accelerated and private consumption has begun to rebound after a prolonged period of stagnation. In addition, construction seems to have recovered after years of decline. Due to accelerating domestic demand, imports also rose at a stronger pace. As a consequence, the contribution of foreign trade to GDP growth has declined, despite a strong export performance. Unemployment has continued to decrease from the peak reached in early 2005. While the reduction during the last year was mainly caused by the Hartz IV labour market reforms and the impact it had on statistically reported unemployment, the improvement in output growth has increasingly led to employment growth in 2006. The public deficit is expected

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[6] The development and significance of macroeconomic differentials within the euro area is discussed in detail as a special topic of this report and a number of background papers are available on the EUROFRAME-EFN website: http://www.euroframe.org.

to fall below the level predicted in Spring, due to the strong economic recovery.

Our forecast for real GDP growth[7] is 2.4 per cent in 2006 and 1.4 per cent in 2007. The slower expected growth next year is partly due to a weaker external environment and the stronger euro exchange rate dampening export growth and to higher interest rates. The relatively pronounced deceleration compared to the rest of the Euro Area, however, is partly due to the impacts of fiscal policy. Major measures[8] include a rise in the regular rate of VAT by 3 percentage points and a hike in the insurance tax rate. In general, the additional tax revenues will be used to reduce the budget deficit, which is expected to fall to 1.9 per cent next year. About one third of the revenues are scheduled to finance a reduction of the rate of contribution to the unemployment insurance scheme by 2 percentage points. At the same time, however, contributions to the public pension scheme and the public health insurance schemes will be raised by a total of probably 0.8 percentage points, which is 0.2 percentage points more than had been expected in the Spring. As a result, total social security contribution rates will fall by only 1.2 percentage points.

Although the overall impact of the package on growth over the medium term has been found to be limited in simulations using the NiGEM model (see the EUROFRAME-EFN Spring Report for details), we expect a significant dampening of growth in 2007. In particular, private consumption which has been weak over the past years, will be negatively affected as CPI inflation will rise by 0.6 percentage points, restraining an improvement in the purchasing power of consumers that would otherwise have occurred as a result of a gradual pick up in wages. As the government has announced the tax increase already, we expect some frontloading of private consumption and residential investment from 2007 into 2006, raising the growth rate this year and depressing it next year. This effect accounts for approximately 0.4 per cent of the GDP growth difference between the years.

In 2008, a reform in corporate income taxation is planned in order to foster business investment and includes a reduction of the tax rate on corporate profits from about 39 to about 30 per cent, (see Box 2.2 in Chapter 2, Section 2). Many details are not yet clear and the reform is not embedded in the forecast. However, we do not expect a major impact on growth in 2008 mainly because, according to the current proposal, the reform will be implemented without worsening the budget as the tax base is planned to be broadened.

FRANCE

French GDP growth has accelerated in the first half of the year, growing by 0.5 per cent in the first quarter of 2006 and by 1.1 per cent in the second quarter. However, domestic demand excluding stockbuilding grew by 0.6 per cent in the first and 0.8 per cent in the second quarters of the year. GDP figures for the first half of the year are more in line with survey data than they were in the last quarter of 2005 when GDP growth looked surprisingly weak at a mere 0.2 per cent.

The industrial production index released for July points to a fall in industrial output that month (-1.3 per cent as compared to June), but 2.3 per cent growth

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[7] The figures refer to the growth rate adjusted for differences in the number of working days. It therefore differs from the unadjusted figures which are commonly used in Germany. Comparable unadjusted figures would be 0.2 and 0.1 percentage points higher this year and next, respectively and 0.3 percentage points lower in 2008.

[8] There is a large number of other measures both on the expenditure and the revenue sides bringing the reduction in the structural deficit to an estimated 0.8 per cent.

for the last three months over the same period last year. The automobile industry is the major component dragging down the index (-6.9 per cent in a year). The lack of survey data makes it difficult to assess short-term developments in August but on the basis of survey data available up to July OFCE's quarterly GDP growth indicator predicts a 0.6 per cent growth for the last two quarters of the year. This is in line with our forecast and would lead French GDP to grow at around 2.2 per cent in 2006, almost unchanged from our Spring forecast.

We expect French GDP to grow at around 2 per cent in the next two years at a similar pace to the Euro Area average. French GDP growth will moderate because of decelerating export growth. In particular, the slowdown in German GDP growth will negatively affect French exports. French exporters have been losing market share in the last few years and although some stabilisation could take place, the prospects for exchange rates will not allow French exports to gain market shares outside of the Euro Area. Net external trade's contribution to GDP growth is expected to remain negative.

Government expenditure will rise less rapidly than GDP (by around 1.2 per cent each year) and private domestic demand will remain the main engine for growth.

Inflation has remained subdued despite the rise in energy prices. The HICP rose by 2.1 per cent in August (compared to 2.4 per cent in the Euro Area) and we expect inflation to decelerate to 1.8 per cent in 2008. The combined effects of output growth and employment policies will help to bring the unemployment rate down from 9.5 per cent in 2005 to 8.8 per cent this year and to stabilise at 8.7 per cent over the forecast horizon.

Fiscal policy will be contractionary this year. Fiscal plans for 2007 will be announced by the government at the end of September, but we expect that public spending growth will remain very moderate and that, even accounting for already announced personal income tax cuts ahead of an electoral year, the fiscal stance will be broadly neutral leaving the government deficit at around 2.8 per cent of GDP. Fiscal policy is likely to be tightened in 2008, assuming the elections to be held next year will not bring major changes in terms of fiscal targets, and the deficit would come closer to 2.5 per cent of GDP.

ITALY

In the first half of 2006 GDP growth in Italy was above trend (1.6 per cent year-on-year), the highest since 2001, but still lower than the Euro Area average (2.4 per cent over the same period).

The recovery was driven mainly by exports with business investment and household consumption also contributing positively to GDP growth. However, growth was spread over all GDP components, which points to a stable improvement in prospects with respect to the recent past. Strong growth is expected to be supported by an improvement in labour market conditions, even accounting for some measurement effect due to the regularisation of formerly illegal immigrants. In the first half of the year, employment rose by 1 per cent on a year-on-year basis, mainly driven by developments in the services sector but with some improvement in the industry sector as well. The unemployment rate has fallen to 7.0 per cent, its lowest level in over 20 years.

Overall HICP inflation was 2.3 per cent in August (as in the average of the first eight months) and is almost stable since the beginning of this year. So far, the

increase in energy prices has been affecting Italian prices less than those in other European countries.

The latest information suggests that the recovery seems to be losing momentum, and that the peak of the cycle might be passed. Data on industrial production for July and survey measures, such as business confidence, imply that GDP growth may remain as strong in the third quarter as in the second quarter (0.5 per cent on a quarter-on-quarter basis) or slightly weaker, while the same data point towards a slowdown in the fourth quarter. The deceleration expected for the second half of this year is driven both by the slowing down in the international and European business cycles and by some fiscal tightening, following the first fiscal measures the new Government approved during the summer. Known as "Bersani Decree", it mainly aims to foster market liberalisation in some sheltered markets and therefore to encourage price competition, but it also contains some consolidation measures that are expected to exert a positive influence on the fiscal balance. Under this scenario, our forecast is for GDP to grow by 1.6 per cent in 2006. Both net exports and domestic demand are expected to make a positive contribution to GDP growth.

As far as 2007 is concerned, the two key variables in our assessment are the size of the international business cycle slowdown and, on the domestic side, the Budget Law that will be presented by the Government at the end of September, after the publication of this Report. We expect that the Government will be willing to reduce the fiscal deficit and debt in order to take advantage of the current economic recovery to consolidate fiscal balances. This will result in a restrictive fiscal policy for the next two years.

Under this outlook, we forecast GDP growth to slow markedly in the first quarter before gradually picking up at the end of the year, with growth averaging 1.3 per cent for 2007 as a whole. On average, the growth expected for 2006-2008 (1.4 per cent) is in line with the long run trend growth of the Italian economy and it represents a significant recovery phase from the stagnation of the previous three years. This signals that some adjustment of the Italian manufacturing sector is under way but the available information precludes stating that potential growth has actually increased.[9]

As the improvement of the fiscal balance this year has been due to both cyclical and random factors, the budget plans for 2007 still remain quite ambitious. Even if the 2007 budget is implemented strictly, it may require more than one year to be completely effective. For these reasons, at this stage we forecast that the Italian fiscal balance will be below 3 per cent in two years.

1.4 Risks from the US Housing Market

The large current account deficit in the US and the risk of a sudden adjustment remains one of the main risks to our forecast. In recent months some slowdown in the housing market in the US has been observed and in this section we consider the impact this potential adjustment mechanism would have on the US and also on the Euro Area.

1.4.1 US IMBALANCES AND THEIR CORRECTION THROUGH HOUSING MARKET ADJUSTMENT

Over the last decade or so the US has moved into a significant net debtor position, as we can see from Figure 1.4.1, and by the end of 2005 its debts

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[9] See Annex Paper A7 for an analysis of some structural fragility in the Italian economy, available at http://www.euroframe.org/efn.

represented 20 per cent of its GDP, whilst its current account deficit was in excess of 6 per cent of GDP. Our forecast does not involve any major shift in the US deficit, and hence we project that the US net asset position will continue to deteriorate. A negative net asset position of this scale is not at all unusual, and of itself it is quite sustainable. However, it is clear from the figure that the current account would normally have been associated with a more rapidly rising debtor position but positive asset revaluation effects have clearly outweighed negative liability revaluations. We cannot assume that these revaluation effects will continue indefinitely unless the dollar continues to fall at a constant rate. If the dollar were to stabilise and if the US current account stays around minus 6 per cent of GDP the net asset position will settle at around minus 120[10] per cent of GDP.[11] It is not clear that this level of debt would be sustainable for such a large economy as the US, and hence we need to ask how a more sustainable trajectory might be reached. In this section we look at the impacts of a housing market correction in the US and its impacts on the current account.

Figure 1.4.1:   The US External Position
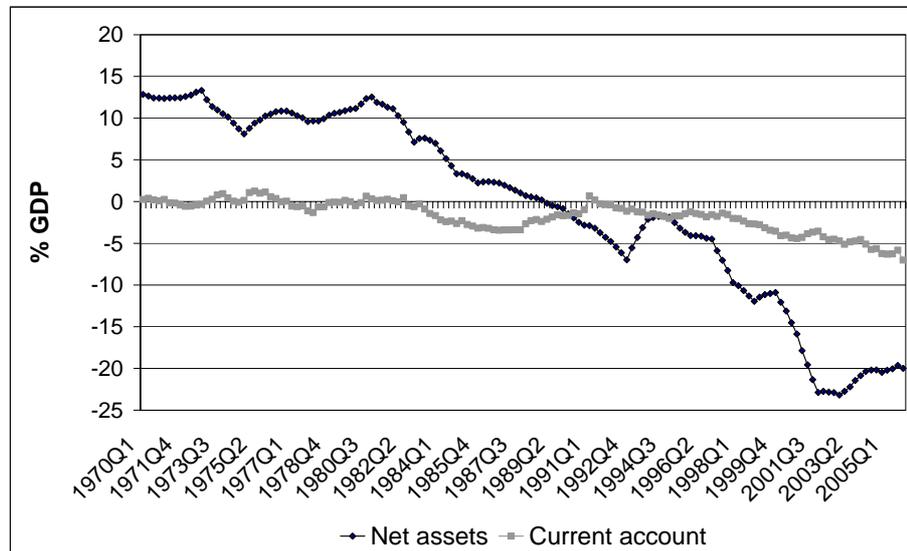
The US housing market has been strong in the last decade, and this is reflected both in the evolution of real house prices and of housing investment. Figure 1.4.2 plots the ratio of housing investment (in real terms) to real GDP, which has recently been at its highest level for more than 20 years. This is of course in part because real long term interest rates have been lower than at any time over the last 20 years[12], and our model equation indicates that this may have been a major factor behind high housing investment. If the strength of housing investment has been buoyed up by strong house prices, then a correction to the housing market could easily be associated with a return of housing investment to its historical proportion of GDP. Strong housing investment has increased demand in the US in the last 5 years, and if it were to

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[10] We would expect the relationship between the stock (S) and the flow (F) both as a proportion of nominal GDP (NY, growth ny) to be $S(t) = F(t) - ny(t)*S(t-1)$, and hence the stock is in equilibrium when it equals the flow divided nominal growth rate, assuming no net revaluation effects.

[11] Of course the cumulating negative net interest payments position would mean that the trade balance would have to improve to offset it, and if the net rate of return on assets were 4 per cent per annum then a trade deficit of 1.2 per cent of GDP would be necessary.

[12] Our long real rate is based on actual (or from 1997 forecast and actual) inflation over the holding period, and not on indexed bond markets. These two measures tend to move together.

weaken it would be clear that growth would slow noticeably, and the current account would improve.

Figure 1.4.2:   Housing Investment and the Long Real Rate

Figure 1.4.2:   Housing Investment and the Long Real Rate
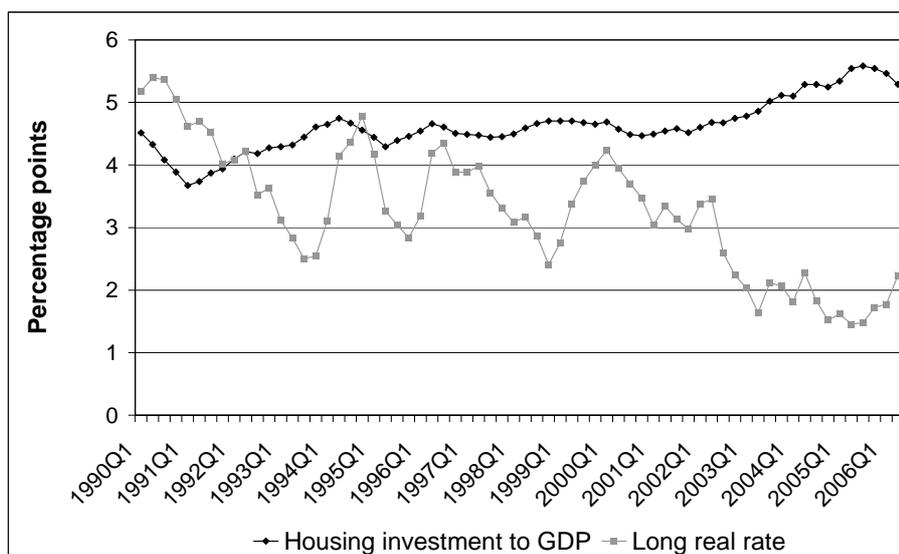
Low real interest rates may also have been a factor behind the evolution of real house prices in the last decade, although these may also have been associated with innovations in the mortgage market which have eased borrowing constraints. As we can see from Figure 1.4.3 real house prices haven rise by over 40 per cent over this period, and when compared to their longer term trend they may be overvalued by around 20 per cent.[13]

Figure 1.4.3:   Real House Prices
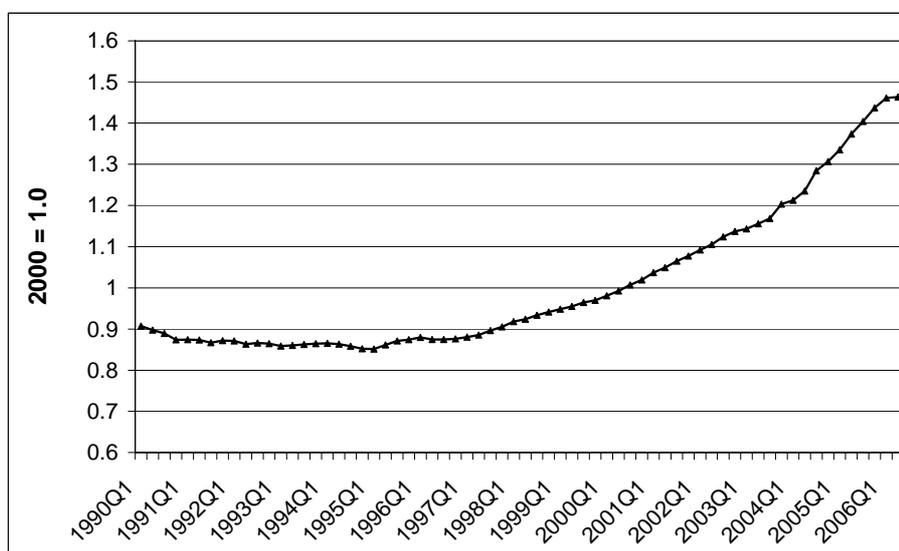
We have undertaken three simulations on our model NiGEM, the first on a correction of the level of housing investment, the second on a fall in 20 per cent (as compared to base) in house prices, and the third combining the two. We also compare the house price simulation to an identical change using the

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[13] See L'aggiustamento del prezzo delle abitazioni negli USA: un esercizio con il modello internazionale. Prometeia, Rapporto di Previsione, Ottobre 2006.

Prometeia model, Priamo. In order to ensure comparability of the results we utilise both models in backward mode with fixed exchange rates, which necessitates a fourth NiGEM simulation.

ADJUSTMENT THROUGH THE HOUSING MARKET

A fall in housing investment large enough to quickly reduce the housing investment to GDP ratio back to its 1990s average would slow GDP markedly. We shock the intercept of the equation by enough to endogenously induce the fall in the ratio of housing investment to GDP plotted in Figure 1.4.4, and as we can see within 2 years the investment ratio is back at its 1990s level.

Figure 1.4.4:   Real Housing Investment as a share of Real GDP
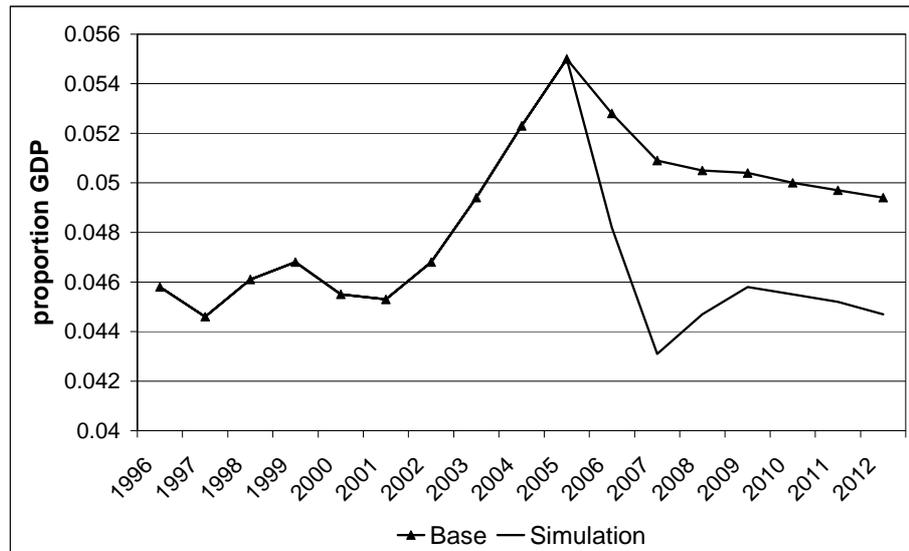
As a result of the fall in the ratio of housing investment to GDP growth would slow by 0.4 percentage points in the first year and by a further 0.2 in the second year and the structural current account will improve, as we can see in Figure 1.4.5 below. Our simulation is run with a policy feedback rule in place for interest rates and with rational expectations in financial markets and labour markets.

Figure 1.4.5:   The Impacts of a fall in Housing Investment on the US
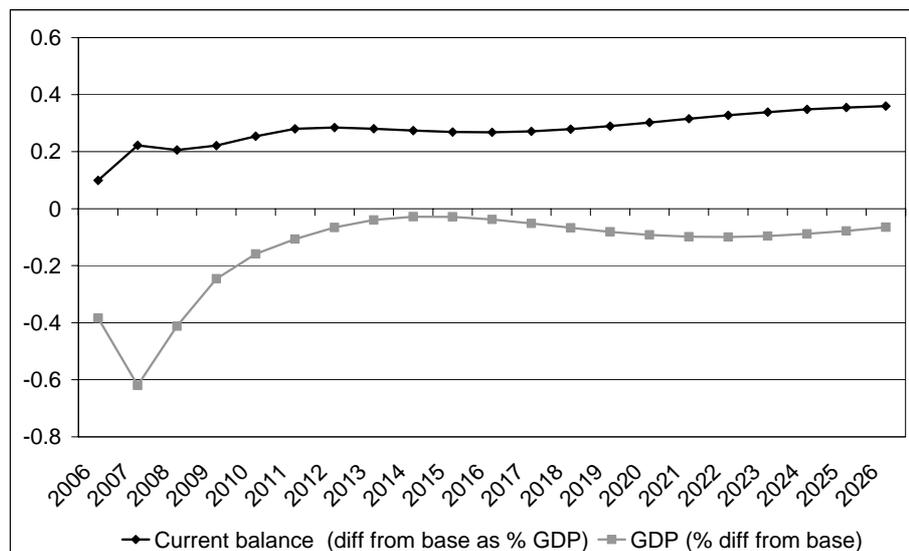
As demand will slow, the Fed is expected to reduce interest rates, and markets will 'jump' in anticipation. The nominal exchange rate falls by 0.8 percentage points immediately, and the long term interest rate will fall by 0.33 percentage points. In the medium term the long term real interest rate also falls by around 0.25 percentage points in the simulation, as housing investment is permanently lower. This raises business investment and helps push output back to baseline.

Housing market adjustment is likely to also come through lower house prices and we have simulated the potential impacts by reducing them by 20 per cent as compared to our baseline over 2 years, and leaving them permanently lower than they would have been. House prices feed into housing wealth, and this in turn affects the level of consumption[14], which falls relative to baseline by more than 3 per cent in two years. GDP growth slows sharply and output is almost 1.5 per cent lower than it would have been after two years. As demand will slow, the Fed is expected to reduce interest rates, and markets will 'jump' in anticipation, as a result the effective exchange rate falls by two per cent. This raises inflationary pressure, and in the very short run the Fed may raise rates to combat this. However, the lower level of demand means that interest rates are lower in the future and hence long term interest rates fall, and real long term rates fall by 0.7 percentage points. The reduction in domestic demand improves the current account permanently by about 0.7 per cent of GDP, and the impact of the lower real exchange rate on net exports along with the effects of lower long interest rates on investment help push output back toward baseline.

Figure 1.4.6:   The Impacts of a 20 Per Cent Fall in US House Prices
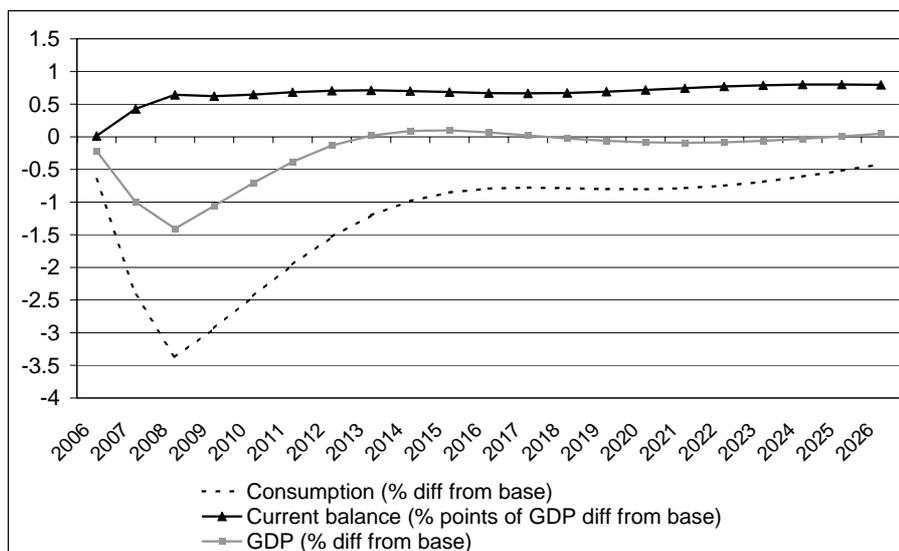
If we were to run our model in backward mode, with a fixed exchange rate some of the effects we observe would be different, and in particular the stabilising feedbacks from lower long term interest rates and the exchange rate would be absent. This would also allow us to compare our results to those of the Prometeia international model, Priamo, and we do this in Table 1.4.

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[14] The role of housing wealth in consumption is discussed in Barrell, R., and Davis, E.P., (2006) and in Al Eyd, A. Barrell, R, Davis, E.P., and Pomerantz, O., (2005). Housing wealth effects on the model are large and rapidly acting in the US, and are probably 5 times larger than the impacts of financial wealth.

The impacts on consumption in NiGEM in backward and forward mode are virtually the same, and somewhat higher than in Priamo, as we can see, whilst the GDP effects are higher in backward than in forward mode in NiGEM. The shock absorbers that come from the jumps in real exchange rate, long term real interest rates, equity prices and wealth all together reduce the impacts on output in the US by up to 0.5 percentage points in three years. The impacts on US GDP are larger in NiGEM than in Priamo in the same mode of operation, with US imports falling more in the latter model, which helps explain why the impacts on the Euro Area in Priamo are larger, as more of the shock is exported. In NiGEM the impacts on the Euro Area are especially small in the first year. Forward looking model runs give smaller effects after 3 years with lower real interest rates more than offsetting the impacts of the appreciation in the forward mode run. If we import NiGEM interest rates and exchange rates into Priamo then Euro Area output still fall more than in NiGEM initially, but it returns to base after 4 years.

The effects of the shock on the current balance depend in part on the revaluation effects on net assets and IPD flows. In the forward looking NiGEM simulation the US effective exchange rate falls by almost 3 per cent, and the IPD balance improves as a result. The effects of the fall in demand in the US on Euro Area output are larger in Priamo, and they suggest we need to be more cautious about events there than the NiGEM model would indicate.

Table 1.4: Impacts of a 20 Per Cent Change in US House Prices

	US Consumption	US GDP	US Current Balance	Euro Area GDP
NiGEM forward mode				
2006	-0.65	-0.22	0.01	-0.05
2007	-2.43	-1.00	0.43	-0.21
2008	-3.37	-1.41	0.64	-0.28
2009	-2.93	-1.06	0.62	-0.24

All except CBR % diff from base, CBR % points of GDP diff from base

	US Consumption	US GDP	US Current Balance	Euro Area GDP
NiGEM backward mode				
2006	-0.66	-0.41	0.13	-0.05
2007	-2.41	-1.47	0.40	-0.22
2008	-3.36	-1.93	0.43	-0.41
2009	-2.94	-1.48	0.33	-0.56

All except CBR % diff from base, CBR % points of GDP diff from base

	US Consumption	US GDP	US Current Balance	Euro Area GDP
Priamo				
2006	-0.93	-0.66	0.17	-0.17
2007	-1.58	-1.17	0.26	-0.36
2008	-1.72	-1.30	0.21	-0.49
2009	-1.59	-1.20	0.19	-0.56

All except CBR % diff from base, CBR % points of GDP diff from base

ADDING THE SHOCKS TOGETHER

We can add the NiGEM house price fall and the NiGEM decline in housing investment scenarios together in a third scenario and look at the impacts of a housing market slowdown in the US, and we do this in Figure 1.4.7. US output growth would slow by 0.6 per cent in the first year and by 1.0 per cent in the second, and the US current account would improve by almost 1 per cent of GDP, with the effects coming through quite quickly.

Euro Area output growth would slow by 0.1 to 0.2 percentage points a year for 2 to 3 years, but output would then recover. About a third of the short term improvement in the current account comes from revaluation effects on IPD flows, and the trade balance improves by about 0.6 per cent of GDP. The significantly higher level of US saving in this simulation is associated with lower long term interest rates, and Euro Area rates follow those in the US because there are few barriers to the mobility of capital in the model. As a result, in the longer term Euro Area output is marginally higher than it would otherwise have been. In the short term the euro appreciates by 4 per cent against all currencies and by around 6.5 per cent against the US dollar, and as a result Euro Area inflation falls by 0.3 to 0.4 per cent a year for 3 years.

Figure 1.4.7:   The Impacts of a Slowdown in the US Housing Market

- Euro Area GDP (% diff from base)
- US Current Account (% points GDP diff from base)
- US Long Real Rate (% points diff from base)
- US GDP (% points diff from base)
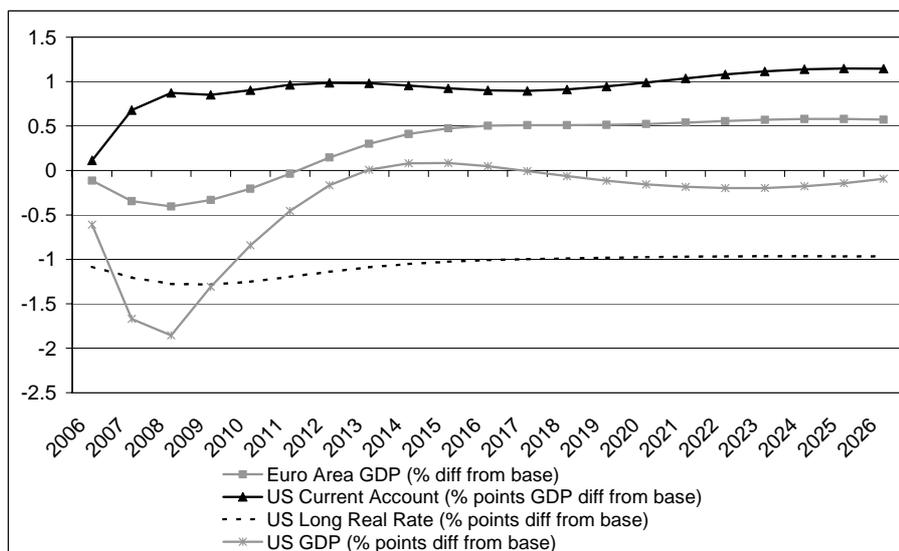
CONCLUSION

The US may need to adjust its current account by as much as 3 per cent of GDP in order that its net asset position remains above minus 60 per cent of GDP, and a more major adjustment of the housing market may be needed to effectuate this, or consumption may need to fall further.[15] If we scale up our shocks to achieve a 3 per cent of GDP improvement, then we would suspect US growth would slow by almost 2 per cent a year for 3 years, and the Euro

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[15] Adjustment through fiscal consolidation is also a possibility. A 1 per cent of GDP reduction in the government deficit in the US improves the current account by 0.5 per cent of GDP permanently if we use the same assumptions as in this section. However, if we assume consumers are forward looking and include changes in future tax liabilities in their consumption decision, then a fiscal consolidation in the model has no sustained impact on the current account, as Barrell and Holland (2006) discuss.

Area would experience slower growth of about a quarter of a per cent a year for the same period.

There are of course other ways for the US current account to adjust. Barrell and Holland (2006) discuss a change in the risk premium on US assets induced by a realisation that the scale of debt will in the future rise more than had been anticipated, and they suggest that a 30 per cent fall in the US dollar effective exchange rate would be needed to induce a 3 per cent of GDP correction in the current account by this route alone. Some of the improvement in the net asset position would come from revaluations of assets, given that many US assets are denominated in dollars. For instance in NiGEM a 5 per cent fall in the dollar effective rate is associated with a 5 per cent of GDP improvement in the net asset ratio. Gourinches and Rey (2005) and Al Eyd, Barrell, and Pomerantz (2005) suggest that up to 30 per cent of international adjustment of the current account and asset position for the dollar comes from these revaluation effects, and this is consistent with our results.

Adjustment would be slower through a risk premium related route, and if the US current account were to improve by 3 per cent of GDP US output growth would have to slow by 0.9 percentage points a year for 5 years (a cumulated 4.5 per cent fall) to accommodate a 3 per cent permanent improvement in the US current account. Although Euro Area real interest rates would fall in a 'risk premium induced' realignment, the euro would appreciate against the dollar by almost 40 per cent. The initial loss of competitiveness would be a major factor behind a sustained slowdown in growth of up to 0.3 percentage points a year for 3 years, and interest rates might become liquidity trapped. Whichever of these two adjustment mechanisms operates, growth will have to slow sharply in the US, and by a noticeable amount in the Euro Area.

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Gourinches, Pierre-Olivier and Helene Rey, 2005, "International Financial Adjustment,". NBER Working Paper 11155

FORECAST TABLES

Annex Table 1: Summary of Key Forecast Indicators for Euro Area[a]

	2002	2003	2004	2005	2006	2007	2008
Output Growth Rate	0.9	0.8	1.7	1.5	2.6	1.9	2.0
Inflation Rate	2.3	2.1	2.1	2.2	2.4	2.3	2.0
Unemployment Rate	8.2	8.7	8.8	8.6	7.9	7.6	7.5
Gov. Balance as % GDP	-2.6	-3.1	-2.8	-2.4	-1.9	-1.6	-1.4

a GDP data shown in the tables are adjusted for working-day variation.

Annex Table 2: Real GDP in Major Economies

	World	OECD	NAFTA	China	EU-25	Euro Area	USA	Japan	Germany	France	Italy	UK
	Annual percentage changes											
1996-2002	3.6	2.7	3.3	8.6	2.5	2.4	3.3	0.8	1.6	2.3	1.7	2.9
2003	4.1	2.0	2.4	10.0	1.3	0.8	2.5	1.8	-0.2	1.1	0.1	2.7
2004	5.3	3.3	3.9	10.1	2.2	1.7	3.9	2.3	0.8	2.0	0.9	3.3
2005	4.8	2.8	3.2	9.9	1.8	1.5	3.2	2.6	1.1	1.2	0.1	1.9
2006	5.2	3.1	3.5	10.4	2.8	2.6	3.4	2.6	2.4	2.2	1.6	2.7
2007	4.7	2.6	2.6	9.5	2.3	1.9	2.5	2.3	1.4	2.0	1.3	2.7
2008	4.6	2.6	2.6	8.8	2.3	2.0	2.4	2.4	1.6	2.0	1.3	2.7

Annex Table 3: Private Consumption Deflator in Major Economies

	OECD	NAFTA	China	EU	Euro Area	USA	Japan	Germany	France	Italy	UK
	Annual percentage changes										
1996-2002	2.1	2.5	1.5	1.9	1.9	1.8	-0.4	1.0	1.1	2.7	2.2
2003	1.8	2.2	1.2	2.1	2.1	2.0	-1.0	1.6	1.7	2.8	1.9
2004	2.1	2.7	3.9	1.9	2.0	2.6	-0.6	1.6	1.6	2.6	1.7
2005	2.1	2.9	1.9	2.1	2.0	2.9	-0.8	1.3	1.8	2.3	2.5
2006	2.4	3.1	1.7	2.3	2.3	3.2	-0.1	1.8	1.7	2.6	2.5
2007	2.5	3.1	3.0	2.4	2.3	3.2	0.1	2.5	1.8	2.4	2.5
2008	2.1	2.3	2.5	2.1	2.1	2.1	0.6	2.0	1.8	2.0	2.5

Annex Table 4: World Trade Volume and Prices

	World trade volume	World export prices in $	Oil price ($ per barrel)[a]
		Annual percentage changes	
1996-2002	6.5	-2.8	20.4
2003	5.1	9.0	27.8
2004	9.9	8.0	35.9
2005	7.0	3.8	51.8
2006	8.8	2.8	66.8
2007	6.4	3.7	67.6
2008	6.6	2.2	67.9

[a] Based on the unweighted average of the Brent, WTI (West Texas Intermediate) and Dubai oil prices.

Annex Table 5: Interest Rates

	Short-term interest rates				Long-term interest rates			
	USA	Japan	Euro Area	UK	USA	Japan	Euro Area	UK
2003	1.2	0.0	2.3	3.7	4.0	1.1	4.1	4.5
2004	1.6	0.0	2.1	4.6	4.3	1.5	4.1	4.9
2005	3.5	0.0	2.2	4.7	4.3	1.3	3.4	4.4
2006	5.1	0.2	3.1	4.8	4.9	1.9	3.9	4.5
2007	5.1	0.7	3.6	5.2	5.0	2.1	4.1	4.7
2008	4.7	1.1	3.6	5.0	4.8	2.2	4.1	4.8
2006Q1	4.7	0.1	2.6	4.5	4.6	1.7	3.5	4.2
2006Q2	5.2	0.1	2.9	4.6	5.1	1.9	4.1	4.6
2006Q3	5.3	0.3	3.2	4.8	5.0	1.9	4.1	4.6
2006Q4	5.3	0.4	3.5	5.1	5.0	1.9	4.1	4.7
2007Q1	5.3	0.6	3.5	5.2	5.0	2.0	4.1	4.7
2007Q2	5.2	0.7	3.6	5.3	5.0	2.0	4.1	4.7
2007Q3	5.0	0.8	3.6	5.2	5.0	2.1	4.1	4.8
2007Q4	4.9	0.8	3.6	5.1	4.9	2.1	4.1	4.8
2008Q1	4.8	1.0	3.6	5.1	4.8	2.2	4.1	4.8
2008Q2	4.7	1.0	3.6	5.0	4.8	2.2	4.1	4.8
2008Q3	4.6	1.1	3.6	5.0	4.8	2.2	4.1	4.8
2008Q4	4.6	1.2	3.6	5.0	4.7	2.3	4.1	4.8

Annex Table 6: Effective Exchange Rates

	USA	Japan	Euro Area	Germany	France	Italy	UK
			Annual percentage changes				
2003	-6.1	4.2	13.8	6.6	6.4	7.1	-2.7
2004	-4.4	3.7	5.5	2.3	2.3	2.7	5.3
2005	-2.7	-3.9	-1.0	-0.8	-0.3	-0.6	-1.5
2006	-1.1	-4.9	0.8	0.3	0.3	0.4	0.7
2007	-1.3	1.5	2.9	1.5	1.3	1.6	1.2
2008	-0.1	1.3	0.6	0.3	0.3	0.4	-0.5
2006Q1	-1.1	-0.1	0.1	0.0	0.1	0.0	-0.7
2006Q2	-1.5	1.5	3.2	1.5	1.4	1.8	1.5
2006Q3	-0.4	-1.2	1.7	0.8	0.6	0.9	1.9
2006Q4	-0.5	0.6	0.3	0.2	0.1	0.2	0.7
2007Q1	-0.2	0.6	0.8	0.5	0.4	0.4	-0.4
2007Q2	-0.1	0.6	0.1	0.1	0.1	0.1	-0.1
2007Q3	-0.1	0.3	0.2	0.1	0.1	0.2	-0.2
2007Q4	0.0	0.3	0.1	0.1	0.1	0.1	-0.1
2008Q1	0.0	0.3	0.0	0.0	0.0	0.1	-0.1
2008Q2	0.0	0.3	0.1	0.1	0.1	0.1	-0.1
2008Q3	0.0	0.2	0.3	0.2	0.2	0.2	-0.2
2008Q4	0.0	0.3	0.1	0.1	0.1	0.1	-0.1

Annex Table 7: Euro Area, Main Features of Forecast[a]

	2002	2003	2004	2005	2006	2007	2008
			Annual percentage changes				
Volumes							
Consumption	0.9	1.2	1.3	1.4	1.8	1.6	2.0
Private investment	-3.5	2.1	3.3	3.2	4.7	4.3	2.9
Government expenditure	2.3	1.7	0.8	1.4	2.3	1.4	1.5
Stockbuilding[b]	-0.2	0.2	0.4	0.2	0.1	-0.1	0.0
Total domestic demand	0.1	1.7	2.0	1.9	2.6	2.0	2.1
Export volumes	1.7	1.1	6.3	4.5	8.3	4.8	5.4
Import volumes	0.3	3.1	6.2	5.5	8.1	4.8	5.6
GDP	**0.9**	**0.8**	**1.7**	**1.5**	**2.6**	**1.9**	**2.0**
Average earnings	4.0	2.9	2.2	2.0	2.7	3.4	3.2
Harmonised consumer prices	2.3	2.1	2.1	2.2	2.4	2.3	2.0
Private consumption deflator	1.9	2.1	2.0	2.0	2.3	2.3	2.1
Real personal disposable income	1.5	0.9	1.4	0.8	1.1	2.0	1.9
				Levels			
Standardised unemployment %	8.2	8.7	8.8	8.6	7.9	7.6	7.5
Government financial balance[c]	-2.6	-3.1	-2.8	-2.4	-1.9	-1.6	-1.4
Government debt[c]	68.1	69.3	69.8	70.8	68.9	67.5	65.9
Current account[c]	0.7	0.4	0.6	-0.3	-0.8	-0.6	-0.4

a See footnote a of Annex table 1.
b Change as percentage of GDP.   cAs a percentage of GDP.

Annex Table 8: Real GDP in the European Union[a]

	2003	2004	2005	2006	2007	2008
	Annual percentage changes					
Austria	1.2	2.7	2.1	3.0	2.1	2.0
Belgium	0.9	2.4	1.5	2.7	2.5	2.6
Denmark	0.7	1.9	3.2	3.1	2.4	2.6
Finland	1.9	3.3	3.0	4.9	2.6	2.6
France	1.1	2.0	1.2	2.2	2.0	2.0
Germany	-0.2	0.8	1.1	2.4	1.4	1.6
Greece	4.8	4.7	3.7	3.7	3.2	3.1
Ireland	4.3	4.3	5.5	5.8	5.0	5.0
Italy	0.1	0.9	0.1	1.6	1.3	1.3
Netherlands	0.3	2.0	1.5	3.2	3.1	2.1
Portugal	-1.1	1.2	0.4	1.3	1.5	2.2
Spain	3.0	3.2	3.5	3.5	2.8	2.9
Sweden	1.8	3.3	2.7	4.4	3.0	3.1
United Kingdom	2.7	3.3	1.9	2.7	2.7	2.7
Poland	3.8	5.3	3.4	5.2	4.8	4.5
Hungary	3.4	4.8	4.4	4.4	3.1	3.1
Czech Republic	3.6	4.2	6.1	6.7	5.0	5.2
Estonia	6.7	7.8	9.8	9.5	7.7	6.3
Latvia	7.2	8.5	10.4	10.0	6.9	6.8
Lithuania	10.5	7.0	7.5	8.0	7.8	6.6
Slovak Republic	4.2	5.4	6.1	6.2	6.5	5.4
Slovenia	2.4	3.7	4.2	4.7	3.7	3.3
Euro Area	0.8	1.7	1.5	2.6	1.9	2.0
EU-15	1.1	2.0	1.6	2.6	2.1	2.2
NMS-10	4.1	5.1	4.7	5.8	5.0	4.6
EU-25	1.3	2.2	1.8	2.8	2.3	2.3

[a] GDP data shown in the tables are adjusted for working-day variation.

Annex Table 9: Harmonised Inflation in the European Union

	2003	2004	2005	2006	2007	2008
	Annual percentage changes					
Austria	1.3	1.9	2.1	1.9	1.9	1.8
Belgium	1.5	1.9	2.5	2.4	2.3	2.4
Denmark	2.0	0.9	1.7	2.2	2.6	2.2
Finland	1.3	0.1	0.8	1.8	1.6	1.6
France	2.2	2.3	1.9	2.2	2.0	1.8
Germany	1.0	1.8	1.9	2.0	2.6	2.0
Greece	3.4	3.0	3.5	3.4	3.0	2.9
Ireland	4.0	2.3	2.2	3.5	3.8	2.9
Italy	2.8	2.3	2.2	2.3	2.2	2.0
Netherlands	2.2	1.4	1.5	1.7	1.3	1.5
Portugal	3.3	2.5	2.1	2.7	2.3	2.2
Spain	3.1	3.1	3.4	3.7	2.9	2.6
Sweden	2.3	1.0	0.8	1.8	2.1	1.7
United Kingdom	1.4	1.3	2.1	2.3	2.3	2.1
Poland	0.7	3.6	2.2	1.3	2.1	2.5
Hungary	4.7	6.8	3.5	3.3	4.6	3.7
Czech Republic	-0.1	2.6	1.6	2.6	3.0	2.8
Estonia	1.4	3.0	4.1	4.6	5.0	3.3
Latvia	2.9	6.2	6.9	6.4	4.5	3.0
Lithuania	-1.1	1.2	2.7	3.3	3.2	2.5
Slovakia	8.5	7.4	2.8	4.5	3.4	2.8
Slovenia	5.7	3.7	2.5	2.2	2.3	2.7
Euro Area	2.1	2.1	2.2	2.4	2.3	2.0
EU-15	2.0	2.0	2.1	2.3	2.3	2.0
NMS-10	1.8	4.1	2.5	2.4	2.9	2.8
EU-25	1.9	2.1	2.2	2.3	2.4	2.1

Annex Table 10: Fiscal Balances in the EU-15[a]

	2003	2004	2005	2006	2007	2008
	% GDP					
Austria	-1.7	-1.2	-1.6	-1.6	-1.2	-0.9
Belgium	0.0	-0.1	-0.1	-0.3	-0.3	-0.4
Denmark	-0.1	1.7	3.9	3.1	3.1	2.1
Finland	2.3	1.9	2.4	3.0	2.8	3.2
France	-4.2	-3.7	-2.9	-2.8	-2.8	-2.4
Germany	-4.0	-3.7	-3.3	-2.4	-1.6	-1.4
Greece	-5.8	-6.8	-4.4	-2.9	-3.1	-3.1
Ireland	0.2	1.6	1.0	0.9	0.9	0.9
Italy	-3.5	-3.5	-4.1	-3.8	-3.3	-2.9
Netherlands	-3.2	-2.1	-0.3	0.2	0.2	0.1
Portugal	-3.0	-3.2	-6.0	-4.4	-3.7	-3.1
Spain	0.0	-0.2	1.1	0.9	0.8	0.5
Sweden	-0.2	1.6	2.7	2.3	2.2	2.3
United Kingdom	-3.3	-3.3	-3.1	-2.9	-2.6	-2.5
Euro Area	-3.1	-2.8	-2.4	-1.9	-1.6	-1.4
Eu-15	-2.9	-2.6	-2.2	-1.9	-1.6	-1.4

[a] We do not show fiscal balances for the NMS as the introduction of pension reforms distorts figures.

Annex Table 11: Standardised Unemployment Rate in the European Union

	2003	2004	2005	2006	2007	2008
	% Total labour force					
Austria	4.3	4.9	5.2	4.9	4.9	5.0
Belgium	8.2	8.4	8.4	8.6	8.3	8.1
Denmark	5.4	5.5	4.8	3.9	3.5	3.5
Finland	9.0	8.9	8.4	7.7	7.4	7.3
France	9.4	9.6	9.5	8.8	8.7	8.7
Germany	9.1	9.5	9.5	8.3	8.2	8.2
Greece	9.7	10.5	9.9	9.3	9.0	8.4
Ireland	4.7	4.5	4.4	4.3	4.4	4.3
Italy	8.4	8.0	7.7	7.2	7.4	7.4
Netherlands	3.7	4.6	4.7	3.9	3.3	3.1
Portugal	6.3	6.7	7.6	7.4	7.3	7.5
Spain	11.1	10.7	9.2	8.1	7.5	6.9
Sweden	5.6	6.3	6.7	6.2	5.8	5.3
United Kingdom	5.0	4.8	4.8	5.5	5.7	5.8
Poland	19.6	19.0	17.8	16.1	15.0	14.7
Hungary	5.9	6.1	7.2	7.4	8.0	7.5
Czech Republic	7.8	8.3	7.9	7.3	6.6	5.8
Estonia	10.0	9.7	7.9	4.8	4.1	3.7
Latvia	10.5	10.4	8.9	7.6	7.6	7.7
Lithuania	12.5	11.4	8.2	5.6	5.4	5.3
Slovakia	17.6	18.2	16.2	14.2	14.1	14.1
Slovenia	6.7	6.3	6.5	6.4	6.0	5.5
Euro Area	8.7	8.8	8.6	7.9	7.6	7.5
EU-15	7.9	8.0	7.9	7.3	7.2	7.1
NMS-10	14.7	14.5	13.5	12.3	11.5	11.2
EU-25	9.0	9.0	8.8	8.0	7.8	7.7

2. EUROPEAN POLICY MONITORING

2.1 Monetary Policy in the Euro Area

Monetary conditions in the Euro Area have deteriorated in recent months. The ECB's key interest rate (the minimum bid rate in the Eurosystem's main refinancing operations) was raised again in August and stands at 3 per cent. Money market rates (3-month EURIBOR) are also higher than in the spring of this year; by mid-September, the rate went up to 3.30 per cent. Apparently, further rate hikes by the ECB are currently expected by the market. In the past six months, the real short-term interest rate rose by roughly half a percentage point as the inflation rate, especially core inflation, has changed only marginally; however, the real rate is still below its long-term average. Bond yields have risen until the summer but dropped again recently. In mid-September, the yield for 10-year government bonds recently amounted to about 3.8 per cent which is about the same level as six months ago. In real terms, long-term rates are also below their long-term average independent of the inflation measure used (the core rate of inflation or inflationary expectations, approximated by the ten-year break-even inflation rate for bonds). The euro has appreciated against major world currencies, in particular vis-à-vis the Japanese yen, but also against the US-dollar. In real and effective terms (EER-42, CPI basis), the appreciation amounted about 3 per cent during the past six months. Therefore, the competitiveness of exporters in the Euro Area has deteriorated somewhat in this period.

The ECB also looks at the expansion of money and credit when analysing monetary conditions. Monetary aggregates continued to show strong growth. M3 growth has been persistently above 8 per cent during most of the year. Growth of the narrow aggregate M1 decelerated a little bit in recent months. Credits to the private sector increased by more than 10 per cent in the wake of the strong upswing in the Euro Area. All these developments have confirmed the judgement of the central bank that interest rates had to be raised.

The monetary conditions index (MCI) used here, which weights together short real rates, long rates and the real exchange rate, underlines the fact that the Euro Area economy gets less of an impulse from interest rates and the exchange rate (Figure 2.1.1). The index has deteriorated somewhat since the beginning of this year, after a period of about two years with improving conditions. In comparison, monetary conditions in the US have been deteriorating since the beginning of 2005 when the Fed started to raise the target for the Federal Funds rate. However, the movement is not so large as the strong increase of the key interest rate would suggest because inflation has accelerated quite strongly and long-term rates which are also included in the MCI presented here did not increase very much.

The ECB has indicated quite clearly that it will continue to raise key rates in the near future. Apart from the monetary analysis which shows strong growth of money and credit aggregates, the fact that inflation has persistently been above the target is a matter of concern for the ECB, even if the current

deviation can be explained by the surge of energy prices earlier this year. In addition, the forecasts for real GDP growth as well as for inflation have been continuously revised upwards in the course of this year. This is not only true for the Professional Forecasters but also for the ECB staff macroeconomic projections. While the mean for real GDP growth in 2006 was 1.9 per cent in December 2005, the recent figure reported in the September Monthly Bulletin is 2.5 per cent. As far as inflation in the current year is concerned, the rate for the HCIP went up from 2.1 per cent in December 2005 to 2.4 per cent in September 2006. In this respect and with the benefit of hindsight, the starting point of monetary tightening in December last year was not too early.

What is important for the assessment of future interest rate moves of the ECB is the outlook for 2007. Here, too, there have been upward revisions for both real GDP growth and the inflation rate. The mean of the projections for HICP inflation now stands at 2.4 per cent, so that inflation is expected to remain above the ECB's target for the eighth year in a row.

The high forecast for inflation is even more remarkable given that the ECB staff projection is run under the assumption that the three-month money market rate EURIBOR will be 3.9 per cent on average in 2007 which already implies a substantial tightening of monetary policy. In June this year, the ECB changed its procedure in terms of the projections. While it was assumed earlier that short-term interest rates would remain constant during the forecasting horizon, it is now assumed that rates move according to market expectations. Thus, the ECB followed the common practice of other central banks (e.g. the Bank of England or the Swedish Riksbank) in this respect. It also got rid of the often criticized inconsistency because for other variables (oil prices, long-term interest rates etc.) it had been assumed that they would change according to market forecasts. However, this change in the procedure has implications for the transparency of the central bank and is also a challenge for the communication policy. For example, if the inflation rate is above the target although interest rates go up (as it is the case for 2007), the ECB implicitly states that the assumed increase of interest rates is not sufficient for reaching the target. Therefore, one could conclude that the ECB intends to raise interest rates by more. While this conclusion does not follow "automatically", it would be necessary to explain a possible discrepancy to the public. For example, the ECB would have to make clear that transitory effects such as the increase of energy prices is responsible for the high inflation rate or in this case that part of the increase can be explained by a one-time effect like the VAT increase in Germany next year.

Our forecast for the ECB's policy in the near term is that key interest rates will be raised gradually to reach 3.5 per cent at the beginning of next year. This is roughly in line with market expectations. At this level, interest rates will be close to the neutral rate according to many estimates. The course of further tightening can also be derived from a forward looking Taylor rule (Box 2.1). This empirical reaction function can explain the ECB's behavior in the past quite well. However, it is not useful for longer-term horizons because the confidence bands become very wide.

Figure 2.1.1: **Monetary Conditions for the Euro Area and the US**

Monetary conditions for the Euro Area
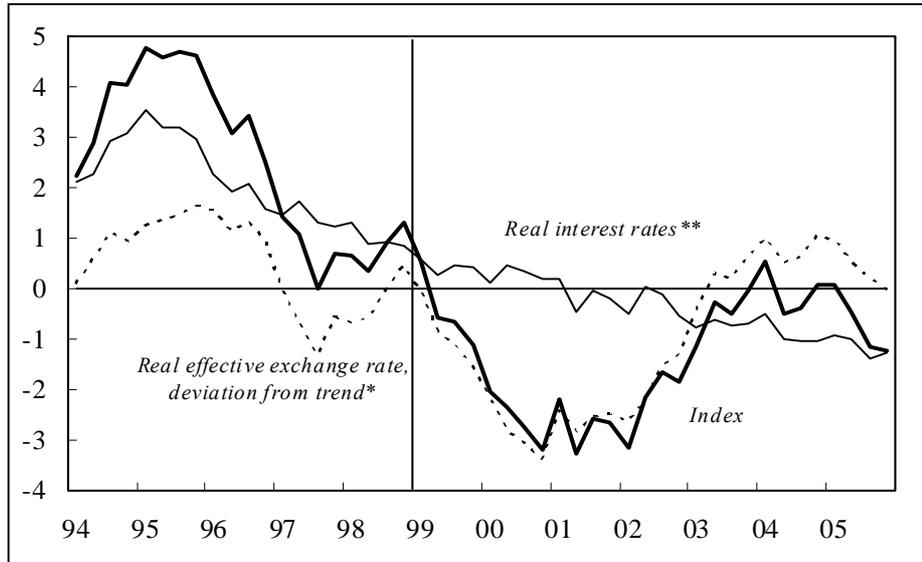
Monetary conditions for the US
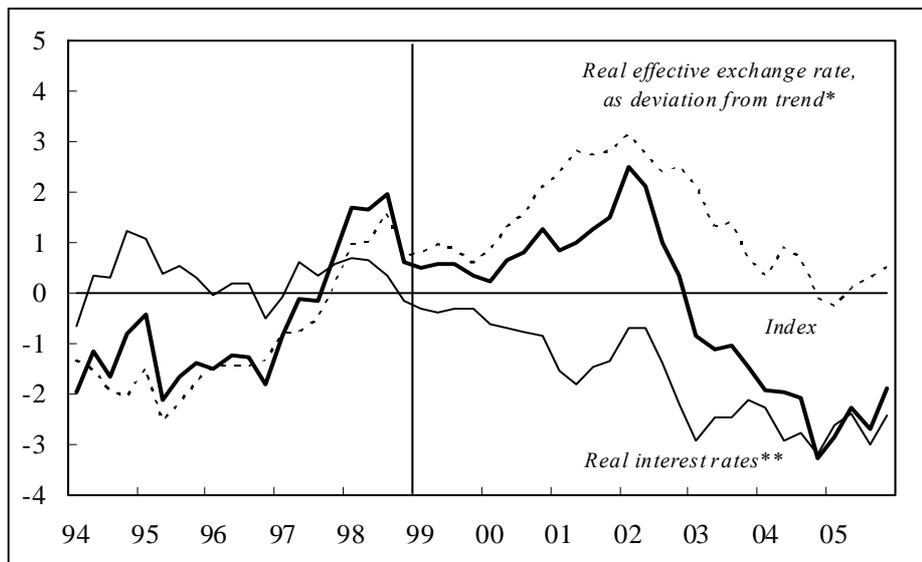
Notes: The index is calculated as: 1*Interest rate component+ 0.2*Exchange rate component.
*1991-2005 average; component weighted according to its weight in the index (0.2);
**Average of long-term and short-term interest rates less annual consumer price inflation
less smoothed GDP growth.
Sources: OECD, national sources, own estimates

Box 2.1: An Empirical Taylor Rule for the Euro Area Based on Real Time Data, IfW Kiel

The Taylor rule is one of the most frequently used methods to analyze monetary policy. It states that a central bank should raise interest rate i above the neutral rate i^* if inflation π exceeds the inflation target π^* or alternatively if the output gap is positive, i.e. when real GDP y exceeds potential output y^*. The Taylor interest rate is then determined by

(1) $$i_t^T = i_t^* + \beta_1 \cdot \left(\pi_t - \pi_t^* \right) + \beta_2 \cdot \left(y_t - y_t^* \right),$$

where β_1 and β_2 are the weights of both arguments. Often each of the weights is set equal to 0.5 following Taylor (1993). Since monetary unification in Europe started in 1999, there are now enough observations available to estimate those weights which can describe monetary policy of the ECB. The Taylor rule then can be also used to forecast monetary policy.

One main issue estimating β_1 and β_2 is that the neutral interest rate and potential output are not observable but have to be estimated. Growth theory suggests there is a direct relationship between potential output growth and the neutral rate. The real neutral interest rate $r_t^* = i_t^* - \pi_t$ should be strongly correlated with the growth rate of potential output $\widehat{y}_t^* = y_t^* - y_{t-1}^*$ or even be identical. Augmenting (1) by π_t as well as π_t^* and substituting $(i_t^* - \pi_t)$ by $\widehat{y}_t^*$ leads to:

(2) $\qquad i_t^T = \widehat{y}_t^* + \pi_t^* + \delta_1 \cdot (\pi_t - \pi_t^*) + \beta_2 \cdot (y_t - y_t^*)$,

with $\delta_1 = 1 + \beta_1$. Taking into account that central banks usually adjust interest rates only gradually to changes in output and inflation – Giannoni and Woodford (2005) provide theoretical reasons for this behavior of interest rate smoothing – and allowing a parameter value different from 1 for potential output growth, equation (2) can be modified to:

(3) $\qquad i_t = \alpha \cdot i_{t-1} + (1 - \alpha) \cdot [\gamma \cdot \widehat{y}_t^* + \pi_t^* + \delta_1 \cdot (\pi_t - \pi_t^*) + \beta_2 \cdot (y_t - y_t^*)]$,

where α represents the degree of interest rate stickiness, or – in other words – the degree of interest rate smoothing. Since the neutral rate was substituted, potential output remains as the only unobservable variable in (3).

One basic alternative for estimating potential output is to make use of univariate mechanical filter methods such as the Hodrick-Prescott filter. However, filter methods are well known to suffer in general from instability at the end of samples, which are naturally of special interest for policy makers. The instability arises because these methods calculate the trend as two-sided weighted averages of the underlying times series. In the case of potential output, the instability can be reduced by using forecasts for real GDP. If there is perfect foresight and no need of data revision occurs, the problem of instability vanishes completely. Estimating potential output for the Euro Area with the HP filter reveals that there is a substantial estimation uncertainty.

Neglecting problems of data revision, the size of methodological uncertainty[a], using the HP filter for potential output estimates can be quantified by comparing standard estimates with the recursive ones.[b] Figure 2.1.2 shows estimation results of potential output for the Euro Area since 1999 using both methods. Recursive estimates need to be revised significantly, up to 1.5 per cent, if further data become available. Simulating the situation of a central bank policy maker it is sensible to make use of the recursive estimation results for calculating the weights δ_1 and β_2 of equation (3).

To obtain more realistic estimation results one should take also into account the fact that central banks try to stabilize future inflation, since actual inflation is already fixed. Usually the scope of central banks should be one to two years. Here it is assumed that the ECB targets the expected inflation $E_t[\bar{\pi}]$ for the next year. The Survey of Professional Forecasters provide quarterly real-time data for these expectations since 1999.[c] Figure 2.1.3 indicates that since 2000 the expectations are almost permanently below actual inflation. One reason for the systematic forecast error is obviously the strong increase of oil prices during this period.

Estimation of equation (3) for the three-month money market rate gives the following results:

Table 2.2.1 Estimated parameters of equation (3)

Parameter	α	γ	δ1	β2
Estimated value	0.65	0.88	2.81	0.96
(t-value)	(10.41)	(24.91)	(4.05)	(4.11)

Tests show that the residuals are free of autocorrelation and based on the lagged interest rate term R2 is high with a value of 0.95. The coefficient γ is significantly lower than 1.

According to the estimation results, the three-month money market rate should increase to 4.3 per cent until early 2007. Thus the ECB would probably increase the minimum bid rate in the main refinancing operations to 4.0 per cent. But we expect the ECB to disregard the inflation effect of the increase of the VAT in Germany. If the inflation forecast for 2007 is lowered by 0.2 percentage points, the expected level of the three-month money market rate becomes 3.7 per cent. This is compatible with a key interest rate of 3.5 per cent.

Figure 2.1.2: Output Gap in the Euro Area 1998–2006[a]
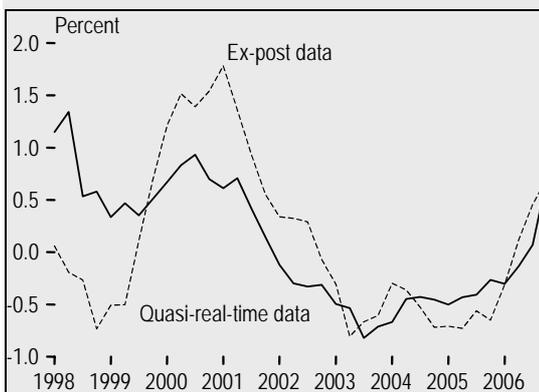
[a] Estimated with a Hodrick–Prescott filter.

Source: own calculations.

Figure 2.1.3: Inflation in the Euro Area 1998–2006[a]
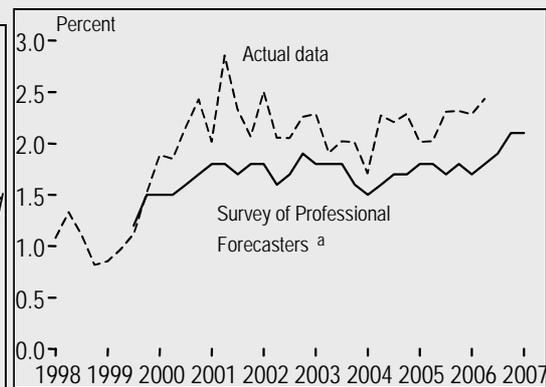
[a] Forecast for the following calendar year, shifted forward for two months .

Source: ECB.

a Clausen und Meier (2005) show that the methodological uncertainty is by far more important for the estimation uncertainty of potential output than of data

revisions. Orphanides and van Norden (2002) obtained the same result for US data. — b Recursive estimates make use only of the available data for every single data point, including forecasts, but excluding data which would be not available for a policy maker at that point of time. The estimated times series of potential output then contains of single estimates for every data point. — c These data are available at the webpage of the ECB.

2.2 Fiscal Policy in the Euro Area

The outlook for public finances has improved more rapidly than we anticipated in the Euro Area over the last few months. This results both from stronger than expected GDP growth and in most countries and from larger than expected improvement in non cyclical balances mainly in Germany and Italy. We expect the fiscal stance to remain slightly contractionary at the Euro Area level up to 2008, however with substantial differences among member states. In particular, we expect fiscal policy to be significantly restrictive in Germany and in Italy.

GROWTH PROSPECTS[1]

We expect Euro Area GDP to grow by 2.6 per cent this year and around 2.0 per cent in 2007 and 2008. GDP growth prospects have been revised upwards since our March forecasts (+0.4 percentage point up from 2 per cent for the area) in almost all Euro Area countries, generally by around 0.5 percentage point, except for France (unchanged at around 2.2 per cent).

2006 will be the first in the last six years that Euro Area GDP turns out to rise more rapidly in the current year than expected in the latest updates of the Stability Programmes (SP's). Last time this occurred was in late 2000, when the strength of growth in Europe was underestimated at 3.3 per cent instead of 3.9 per cent that actually turned out (see Table 2.2.1).

However we do not expect the recovery to be as large and long lasting as in the end of the 1990's. Our forecast for Euro Area GDP growth is indeed almost unchanged for 2007 (2 per cent) and points to similar numbers for 2008. For the two coming years, our GDP forecasts are indeed currently very similar with the latest updates of the SPs.

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[1] It should be noted that EUROFRAME-EFN figures are working-day adjusted. This implies in terms of German GDP growth, that they are all other things being equal 0.2 percentage higher this year and 0.1 higher next year than unadjusted annual figures which are forecast by the German government for instance.

**Table 2.2.1 Euro Area GDP growth and general government balances
according to the stability programmes**

	GDP growth assumptions (per cent)								Actual	General government balance (per cent of GDP)								Actual
	Stability Programmes									Stability Programmes								
	J99	J00	J01	J02	J03	J04	J05	J06		J99	J00	J01	J02	J03	J04	J05	J06	
98	2.8								2.7	-2.1	-1.9							-2.3
99	2.5	2.2							2.9	-1.7	-1.4	-1.2						-1.3
00	2.6	2.8	3.3						4.0	-1.5	-1.1	-0.7	-0.8					-1.0
01	2.6	2.5	3.1	1.7	1.5				1.9	-1.0	-0.8	-0.6	-1.2	-1.6				-1.8
02		2.5	2.9	1.9	1.0				1.0		-0.6	-0.3	-0.9	-2.2				-2.6
03		2.5	2.8	2.6	2.1	0.6			0.7		-0.2	0.0	-0.5	-1.8	-2.7			-3.1
04			2.8	2.6	2.6	1.9	2.0		1.8			0.4	0.1	-1.1	-2.4	-2.7		-2.8
05				2.6	2.6	2.5	2.3	1.4	1.4				0.3	-0.6	-1.8	-2.3	-2.6	-2.4
06					2.6	2.5	2.4	2.1	2.6[1]					-0.2	-1.3	-1.8	-2.4	-2.0[1]
07						2.5	2.4	2.0	1.9[1]						-0.9	-1.3	-1.9	-1.6[1]
08							2.4	2.2	2.0[1]							-1.0	-1.4	-1.4[1]
09								2.2	–								-0.9	–

1. EUROFRAME-EFN, Autumn 2006 Forecast.
Sources: EUROFRAME-EFN, Stability programmes, Eurostat, own calculations.

GOVERNMENT BALANCES

We expect the Euro Area government deficit to stand at around 2.0 per cent of GDP this year down from 2.4 per cent in 2005 and to decrease further at around 1.5 per cent of GDP in 2007 before stabilising at that level in 2008. These prospects show a more rapid improvement in 2006 than announced in the SP's, where the Euro Area deficit was expected to decrease from 2.6 per cent in 2005 to 2.4 per cent in 2006.

Government balance targets announced in the SP's will be met in almost all Euro Area countries this year, except in Italy where we expect a deficit of 3.8 per cent of GDP, slightly above the SP's target (3.5 per cent), and in Greece (2.9 per cent instead of 2.6 per cent).

However, in countries running deficits, deficits will be lower than we forecast six months ago partly because of higher growth, partly because of stronger fiscal tightening, and partly because tax revenues have been stronger than we would have anticipated given other factors.

The strongest improvements in terms of deficits are in Germany and Italy. We now expect the German deficit to fall significantly below 3 per cent this year, reaching 2.4 per cent of GDP instead of 2.9 per cent forecast six months ago (and 3.3 per cent in the latest update of the German SP). This is due partly to higher GDP growth (2.4 per cent instead of 2.2 per cent forecast six months ago) which has allowed for higher tax receipts and lower expenditures (especially unemployment allowances) and mainly to an improvement in the non cyclical balance. The later is stemming in part from earlier measures on the revenue side that have raised tax revenues more than expected and from lower expenditures on active labour market.

In Italy, higher than expected growth (1.6 per cent instead of 1.0 per cent forecast six months ago), will help to reduce the deficit more rapidly than we

expected (3.8 per cent[2] instead of 4.8 per cent in our forecast six months ago), together also with some improvement in the non cyclical balance.

We also expect higher GDP to help reduce the deficits in Portugal and Greece, with GDP expected to grow by 1.7 per cent this year in Portugal (1.3 per cent forecast last March) and by 3.7 (instead of 3.2 per cent) in Greece. This is likely to allow the Greek deficit to fall slightly below 3 per cent this year.

We expect fiscal deficits to be reduced further in 2007 and 2008 in countries where deficits were higher than 3 per cent of GDP in 2005. In Germany, tax increases together with continued low growth of government expenditure will contribute to reducing the deficit. The most important measure in terms of taxation will be the VAT increase in 2007, accompanied by measures on social contributions (see German developments in the forecast section). We expect the fiscal stance to be around 0.8 percentage points of GDP tighter, with 0.4 percentage points of this coming from the VAT tax package. Other measures are also expected to intentionally tighten fiscal policy and in addition revenues have been stronger than anticipated using model based forecasting equations. In 2008, fiscal policy will be less restrictive. A major reform of corporate taxation is planned (see Box 2.2) but is currently expected to have little effect on the deficit.

In Italy, the Budget Law will be presented by the Government at the end of September, after the publication of this report. We forecast that the Government is willing to reduce the government deficit and debt, seizing the opportunity of the current economic recovery to consolidate fiscal balances. This will result in a restrictive fiscal policy for the next two years and would bring the Italian deficit below 3 per cent of GDP but only in 2008. In fact, because the improvement of the fiscal balance this year has been mainly due to cyclical and random factors, including stronger then expected revenues especially from corporate taxation, the budget plans for 2007 still remain quite ambitious.

The French deficit will remain slightly below 3 per cent of GDP, with GDP forecasts remaining almost unchanged as compared to six months ago. As in Italy, the budget plans will be released by the French government at the end of September, ahead of an electoral year but we expect that the government will stick to existing plans which include very low increase in public spending and already announced cuts in income taxation. The fiscal stance would be slightly restrictive over the 2008 horizon, leaving the deficit below 3 per cent of GDP.

In countries running surpluses or close to zero government balances, the fiscal stance is expected to be neutral or expansionary (see Table 2.2.2).

In terms of fiscal measures, the issue of corporate taxation remains high on the agenda in the Euro Area. A number of countries are in the process of lowering domestic corporate taxation. New measures are planned or being under discussion for the coming years, like in Germany or Spain. This raises again the issue of tax competition in Europe. We focussed on this issue in the EUROFRAME-EFN report special topic in October 2005.

THE EXPECTED FISCAL STANCE

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[2] This does not take into account the recent judgement of the European Court of Justice concerning the reimbursement of VAT paid on cars owned by firms. This could increase the deficit by around 0.5 percentage points.

Table 2.2.2 shows measures of the fiscal stance for Euro Area countries, using trend output growth from NiGEM. Under the assumption of a trend growth of slightly below 2 per cent at the Euro Area level, the cyclical component of the Euro Area deficit will be improved by 0.3 percentage point this year. With a fiscal tightening close to 0.2 percentage points (a vanishing effect of one-off measures counterbalances slightly lower interest payments), government balances will improve by 0.5 per cent of GDP. Fiscal policy will also tighten by an average 0.3 per cent of GDP in 2007 and 2008. However, as in previous years this masks different patterns among member states.

A major issue of the current debate is of course whether it is appropriate to tighten fiscal policy so much in Germany at this stage. The announced rise in VAT, in particular, will put at risk the long expected recovery in domestic demand in Germany.

Table 2.2.2: GDP growth, fiscal balances in the EUROFRAME-EFN forecast and fiscal impulses

	2004	2005	2006	2007	2008
Real GDP growth, per cent					
Germany	0.8	1.1	2.4	1.4	1.6
France	2.0	1.2	2.2	2.0	2.0
Italy	0.9	0.1	1.6	1.3	1.3
Spain	3.2	3.5	3.5	2.8	2.9
The Netherlands	2.0	1.5	3.2	3.1	*2.1*
Belgium	2.4	1.5	2.7	2.5	2.6
Austria	2.7	2.1	3.0	2.1	2.0
Finland	3.3	3.0	4.9	2.6	2.6
Portugal	1.2	0.4	1.3	1.5	2.2
Greece	4.7	3.7	3.7	3.2	*3.1*
Ireland	4.3	5.5	5.8	5.0	*5.0*
Euro Area-11 [1]	**1.7**	**1.4**	**2.6**	**1.9**	**2.0**
General government balance, per cent of GDP					
Germany	-3.7	-3.3	-2.4	-1.6	-1.4
France	-3.7	-2.9	-2.8	-2.8	-2.4
Italy	-3.5	-4.1	-3.8	-3.3	-2.9
Spain	-0.2	1.1	0.9	0.8	0.5
The Netherlands	-2.1	-0.3	0.2	0.2	0.1
Belgium	-0.1	-0.1	-0.3	-0.3	-0.4
Austria	-1.2	-1.6	-1.6	-1.2	-0.9
Finland	1.9	2.4	3.0	2.8	3.2
Portugal	-3.2	-6.0	-4.4	-3.7	-3.1
Greece	-6.8	-4.4	-2.9	-3.1	-3.1
Ireland	1.6	1.0	0.9	0.9	0.9
Euro Area-11	-2.8	-2.4	-1.9	-1.6	-1.4
One-off measures, per cent of GDP					
Germany	0	0	0	0	0
France	0.1	0.5	0.0	0	0
Italy	1.3	0.5	0.3	0	0
Spain	-0.7	0	0	0	0
The Netherlands	0	0	0	0	0
Belgium	0.0	0.4	0.6	0	0
Austria	0	0	0	0	0
Finland	0	0	0	0	0
Portugal	2.3	0.2	0	0	0
Greece	0.0	0.0	0.6	0	0
Ireland	0.5	-0.4	-0.2	0	0
Euro Area-11	**0.2**	**0.2**	**0.1**	**0.0**	**0.0**

Fiscal impulse, under NiGEM trend output growth assumptions, per cent of GDP [2]

Germany	-0.3	-0.4	-0.5	-0.8	-0.2
France	-0.3	-0.7	-0.4	0.2	-0.4
Italy	-0.3	-0.2	-0.2	-1.1	-0.4
Spain	-0.2	-0.2	0.5	0.1	0.3
The Netherlands	-0.9	-1.7	0.2	0.5	0.1
Belgium	0.8	0.2	0.6	0.3	0.1
Austria	0.0	0.5	0.5	-0.5	-0.4
Finland	0.3	-0.4	0.3	0.1	-0.4
Portugal	0.5	0.6	-2.1	-0.7	-0.5
Greece	1.4	-2.0	-0.6	-0.2	0.0
Ireland	-1.0	0.1	0.3	-0.1	-0.1
Euro Area-11	**-0.2**	**-0.5**	**-0.2**	**-0.4**	**-0.2**

[1] Excluding Luxembourg. [2] Excluding one-off measures. Fiscal impulse here is the opposite of the change in the cyclically-adjusted primary balance, derived from EUROFRAME-EFN forecasts for GDP growth, fiscal balances and one-off measures, with trend output growth as in NiGEM

Sources: EUROFRAME-EFN Autumn 2006 forecast, Eurostat, own assumptions.

Box 2.2: Reform of Business Taxation in Germany, An Assessment by IfW Kiel

Taxes on capital income are relatively high in Germany. In particular, the marginal as well as the average effective tax rates on the return of investment in real capital are higher than in other EU countries (see Annual Report of the German Council of Economic Advisors 2005). The high tax rates dampen investment in machinery and equipment and reduce the attractiveness of Germany as a location of production. In addition, the German system of corporate income taxation is heavily distorting the decision on whether to distribute or retain profits.

In order to improve incentives for investment and the position of Germany in the international competition for capital, the German government has proposed to cut taxes on profits of corporations and non-corporations. According to the plan, the overall tax rate for corporate profits will be reduced from about 39 to about 30 per cent starting in 2008 (Table 2.2.3). As to dividends, the existing tax relief (only 50 per cent of the dividend is subject to taxation) will be abolished, while the marginal personal income tax rate, which currently is applied, will be substituted by a single rate of 30 per cent (Table 2.2.4). These measures would foster investment and increase the "tax competitiveness" of Germany, although there is no progress in terms of neutrality with respect to the decision on how to use profits.

However, in order to limit the negative impact on the tax revenues, the government wants to tax a part of the interest paid by firms on their debt. Details are not yet determined, but introducing the measures under discussion would reduce the positive effects resulting from the cut in tax rates. The overall effects would be marginal. The growth of potential output in Germany would not significantly be affected.

Table 2.2.3: Elements of the Proposed Reform of Taxes on Corporate Profits

		Status quo	Reform proposalb
1.	Corporation tax (per cent)		
	Nominal rate	25.00	12.50
	Effective rate	20.66	12.50
2.	"Gewerbesteuer"a (per cent)	17.36c	16.80c
3.	Solidarity surcharge (per cent)		
	Nominal rate	5.50	5.50
	Effective rate	1.14	0.69
4.	Overall rate	39.16	29.99

aThe tax base is the sum of profits, 50 per cent of interest paid on long-term debt and some deductables. — bChanges as to the deductability of interest paid by firms are neglected. — cAssuming that the differences between the bases of the "Gewerbesteuer" and the corporation tax sum up to zero; assuming a tax rate for the "Gewerbesteuer" levied by the local governments which is on average 420 per cent („Hebesatz") times 0.05 and 0.04 ("Messziffer") in the status quo and the reform proposal, respectively.

Table 2.2.4: Taxes on Profits of Corporations – Illustrative Calculation According to Status Quo and Reform Proposal of the Federal Government

	Status quo	Reform proposala
Profit	100	100
„Gewerbesteuer"b (local tax)	17.36	16.80
Base of the corporation tax	82.64	100
Corporation tax	20.66	12.50
Solidarity surcharge (5.5 per cent on the corporation tax)	1.14	0.69
Tax burden in case of retention	39.16	29.99
Net profit	60.84	70.01
Income tax in case of distribution		
Tax rate 42 per cent	12.78c	21.00d
Tax rate 15 per cent	4.56c	10.50d,e
Solidarity surcharge (5.5 per cent)		
Tax rate 42 per cent	0.70	1.16
Tax rate 15 per cent	0.25	0.58
Net income of the shareholder		
Tax rate 42 per cent	47.36	47.85
Tax rate 15 per cent	56.03	58.93
Tax burden of the shareholder		
Tax rate 42 per cent	52.64	52.15
Tax rate 15 per cent	43.97	41.07

aChanges as to the deductability of interest paid by firms are neglected. — bAssuming that the differences between the bases of the "Gewerbesteuer" and the corporation tax sum up to zero; assuming a tax rate for the "Gewerbesteuer" levied by the local governments which is on average 420 per cent („Hebesatz")times 0.05 and 0.04 ("Messziffer") in the status quo and the reform proposal, respectively. — cOnly 50 per cent of the dividend is taxed. — dWithholding tax on 100 per cent of the dividend: 30 per cent. — eAssuming that the withholding tax will be lowered according to the level of the personal marginal income tax rate.

SPECIAL POLICY TOPIC:

MACROECONOMIC DIFFERENTIALS AND ADJUSTMENT IN THE EURO AREA: STYLISED FACTS AND POLICY IMPLICATIONS

3. MACROECONOMIC DIFFERENTIALS AND ADJUSTMENT IN THE EURO AREA: STYLISED FACTS AND POLICY IMPLICATIONS[1]

3.1 Introduction

There has recently been increased research and policy interest in the divergent macroeconomic performance in the European Economic and Monetary Union (EMU)[2]. Understanding the underlying factors of macroeconomic differentials, the source and transmission of shocks and the adjustment process in the euro area is important to appropriate economic policy in the EMU.

In a monetary union, the single monetary policy can only address common shocks. To adjust to asymmetric shocks – country specific shocks or idiosyncratic effects of common shocks, member countries have to make recourse to remaining tools of economic policy. In theory, the adjustment to asymmetric shocks and return to equilibrium can take place through four channels[3]: a) market - driven price and output adjustment; b) policy induced fiscal adjustment; c) insurance against country-specific shocks through fiscal transfers and financial integration; d) labour mobility.

Temporary inflation and output growth differentials are likely in a common currency area since prices and output adjustment is required to absorb shocks. In the euro area, output growth and inflation differentials are also related to the ongoing catch - up process in some of the member countries. Persistent inflation differentials can have negative effects on incomes and investment and result in divergent competitiveness and monetary conditions in the participating countries. Furthermore, inappropriate use of national fiscal policy and real exchange rate adjustment can lead to poor macroeconomic performance.

[2] See for example, Ahearne and Pisani-Ferry (2006), Benalal et al (2006), Busetti et al (2006), European Commission (2006a), Honohan and Lane (2003), Mongelli and Vega (2006), Lane (2006).

[3] For an extensive discussion see Alesina et al (2001), De Grauwe (2003), Baldwin and Wyplosz (2004).

The objective of this paper is to analyse macroeconomic differentials and the adjustment in the euro area so far with the aim to draw lessons and policy implications for the better functioning of the EMU and euro area enlargement. The questions we address are the following: What do we know about macroeconomic differentials in the euro area? Are they temporary or persistent? What factors underline them? What is the likelihood of asymmetric shocks in the euro area and what are their main transmission channels? What policy issues related to the macroeconomic adjustment in the EMU are most important at this stage? What lessons can be learned from country-specific experience with macroeconomic adjustment under EMU?

The remainder of this study is organised as follows. In Section 2 we analyse the size, evolution, persistence and underlying factors of output growth and inflation differentials. Section 3 discusses the likelihood of asymmetric shocks and their transmission across the euro area countries. In particular, we analyse trade linkages, including intra- and extra-euro area trade, financial openness and the impact of equity price shocks on GDP, and business cycle synchronization. In Section 4 we discuss a number of policy issues related to the macroeconomic adjustment in EMU which have gained increased interest recently. We start with the role and effects of real interest rate and competitiveness differentials as adjustment channels. In relation to this, we address the risks associated with housing booms in some euro area countries. We discuss next policy issues related to fiscal adjustment and the impact of fiscal shocks in the euro area countries. Further, we summarise the experiences with macroeconomic adjustment under EMU in Italy and Finland. Finally, Section 5 summarises the main findings and draws policy implications for the EMU and the euro area enlargement.

3.2 Macroeconomic Differentials

While it is still too early to formally assess the benefits and costs of the EMU[4], the existing evidence suggests that since the adoption of the single currency, macroeconomic performance for the euro area as a whole has improved, in particular with respect to inflation and unemployment rates in comparison with the previous seven years. Furthermore, inflation and unemployment differentials have declined while output growth differentials have remained stable (see Table 1).

Output growth dispersion has remained stable throughout the period 1992-2005[5] with average annual real GDP growth rates persistently above the euro area in Ireland, Spain, Luxembourg, Austria and Finland and persistently below the euro area in Germany and Italy. Over the same period, five countries experienced positive inflation differentials with respect to the euro area – Greece, Spain, Ireland, Italy, and Portugal while in Belgium, Germany, France, Austria, and Finland inflation rates were below the euro area average. Unemployment rates were above the euro area average in Spain, France, Italy and Finland and lower than the euro area in Belgium, Germany, Luxembourg, Austria and Portugal.

[4] To properly assess the EMU impact on macroeconomic performance a counterfactual would need to be constructed, which is beyond the objectives of this paper. This is not an easy task in particular because it is difficult to separate the effect of EMU from global developments in trade and financial integration.

[5] The data for 2005 used throughout in this paper are the European Commission's estimates of April 2006 (European Commission, 2006b)

Table 1:   Macroeconomic differentials in the euro area

	Real GDP growth		GDP price deflator		Unemployment rate	
	1992-98	1999-05	1992-98	1999-05	1992-98	1999-05
Euro area	**1.8**	**1.9**	**2.6**	**1.8**	**10.1**	**8.5**
Belgium	0.0	0.1	-0.6	-0.1	-1.1	-0.7
Germany	-0.3	-0.6	-0.5	-1.1	-2.0	-0.1
Greece	0.0	2.4	7.3	1.8	-0.8	2.1
Spain	0.5	1.7	1.5	2.1	7.1	2.3
France	0.0	0.3	-1.2	-0.4	1.0	0.9
Ireland	5.4	4.6	1.0	2.1	2.3	-3.9
Italy	-0.5	-0.7	1.3	0.7	0.5	0.5
Luxembourg	1.8	2.9	-0.3	0.7	-7.4	-5.2
Netherlands	0.9	-0.2	-0.7	1.0	-4.4	-5.1
Austria	0.4	0.1	-0.9	-0.3	-6.1	-4.3
Portugal	0.6	-0.3	3.1	1.4	-3.9	-3.1
Finland	0.7	0.9	-0.3	-0.6	4.0	0.7
St. Deviation	1.6	1.6	2.4	1.1	4.2	2.8

Source: Own calculations based on the AMECO data base

In this section we examine stylized facts and underlying factors of output growth and inflation differentials in the euro area countries and discuss the extent to which they may be linked to adjustment under the EMU.

OUTPUT GROWTH DIFFERENTIALS

The dispersion of real GDP growth across the euro area countries measured by the unweighted standard deviation[6] has been fluctuating around a level of 2.0 percent since the beginning of the EMU in 1990. The output growth dispersion has declined in the group of small countries[7], while it has increased among the four largest euro area economies[8] (see Chart 1).

Output growth differentials have been persistent since 1994 as suggested by the correlation coefficients of real GDP growth differentials (Table 2). This evidence suggests that the single currency has not made output growth differentials more persistent than they were previously.

[6] This measure of dispersion gives equal importance to the Euro area countries. This is convenient to our analysis of stylized facts. An alternative dispersion measure, the weighted standard deviation may be misleading because, given the high weights in terms of GDP of the four largest countries, it is similar to the unweighted standard deviation for these countries.

[7] Belgium, Greece, Ireland, Luxembourg, the Netherlands, Austria, Portugal, and Finland

[8] Germany, France, Italy and Spain

Chart 1:   The dispersion of real GDP growth across the euro area, big and small countries, 1990-2005
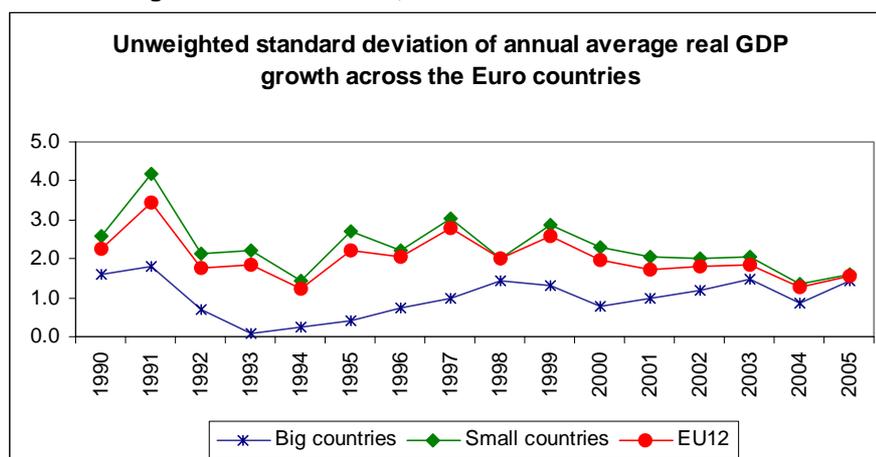
Source: Own calculations based on the AMECO data base

Table 2: Correlation coefficients of real GDP growth differentials: 1992-1998

	1992	1993	1994	1995	1996	1997	1998
1992	1.00						
1993	0.41	1.00					
1994	0.08	0.70	1.00				
1995	0.21	0.27	0.61	1.00			
1996	0.08	0.34	0.64	0.92	1.00		
1997	0.02	0.57	0.80	0.84	0.88	1.00	
1998	0.10	0.66	0.64	0.67	0.81	0.89	1.00

1999-2005

	1999	2000	2001	2002	2003	2004	2005
1999	1.00						
2000	0.96	1.00					
2001	0.66	0.65	1.00				
2002	0.83	0.88	0.85	1.00			
2003	0.53	0.6	0.77	0.88	1.00		
2004	0.64	0.73	0.67	0.9	0.93	1	
2005	0.79	0.82	0.75	0.92	0.89	0.93	1

Source: Own calculations based on the AMECO data base

THE ROLE OF TREND AND CYCLICAL COMPONENTS

The analysis of output growth differentials suggests that they are driven by differences in the trend GDP growth rates while cyclical components of the output growth rates have become more synchronised in the euro area.

Chart 2 shows the unweighted standard deviations of real GDP growth, trend GDP growth and output gap across the euro area countries over 1990-2005[9]. While the cyclical component of output growth has driven the dispersion of real GDP in Stage One of EMU, since 1995, the dispersion of trend GDP growth has been higher than the dispersion of the cyclical component.

Chart 2: The dispersion of real GDP growth, trend GDP growth and output gap across the euro area, 1990-2005
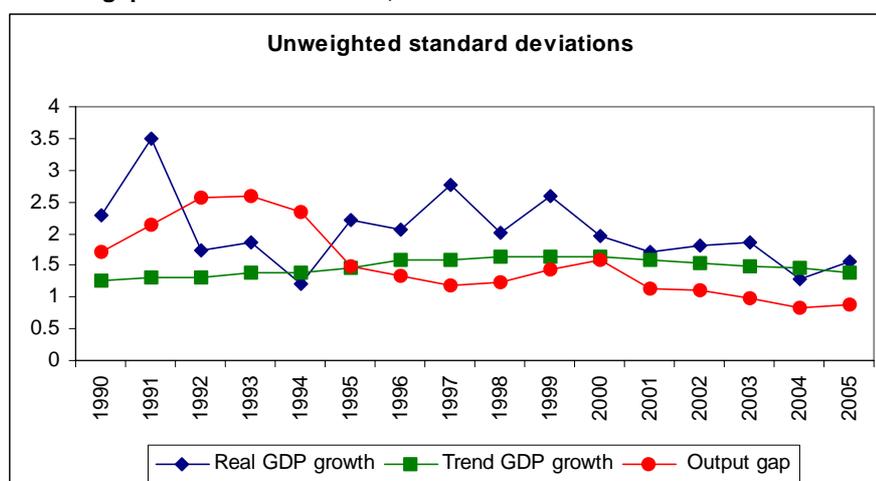
Source: Own calculations based on the AMECO data base

Further, as shown in Charts 3 and 4, over the period 1990-2005, in the euro area countries, real GDP growth differentials were highly correlated with trend growth differentials. The correlation coefficients were 0.98 over the period 1990-1998 and 0.99 over the period 1999-2005.   In particular, positive deviations from the euro area real GDP growth were associated with positive deviations from the euro area trend growth in Ireland, Luxembourg, Greece and Spain while in the cases of Germany and Italy, negative real GDP growth differentials were mirrored by negative trend growth differentials.

Since 1994 the trend GDP growth dispersion in the four largest countries (EU-4) has increased steadily while the dispersion in the case of the small countries (EU-8) has declined since 2000 (Chart 5). This evidence suggests that the increasing dispersion of real GDP growth in the four largest euro area countries reflects increasing differentials in their trend growth.

Trend growth has declined in Germany and Italy since the beginning of the 1990s while in Spain it has increased since 1993 (Chart 6). In the group of small economies, Ireland stands out for its performance. As shown in Chart 7, in Ireland, the trend output growth picked in 1997 stagnated in 1998 and has declined afterwards. Trend output growth has declined since 1997 in Portugal. In contrast, trend output growth has picked up in Greece since 1997.

[9] The data on trend GDP and output gap are taken from the AMECO data base

That output growth differentials are in line with trend growth differentials suggests that they are sustainable over time and they can persist without the need for adjustment.

Chart 3:   Real GDP growth, 1990-2005: deviation from the euro area average (percentage points)
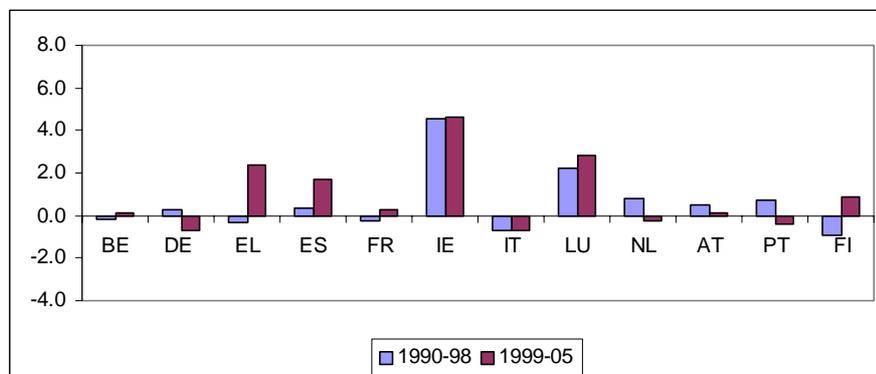
Source: Own calculations based on the AMECO data base

Chart 4: Trend GDP growth, 1990-2005: deviation from the euro area average (percentage points)
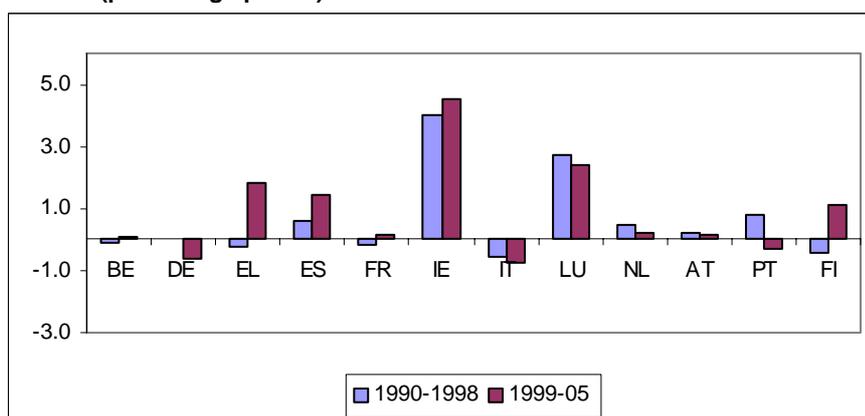
Source: Own calculations based on the AMECO data base

Chart 5:   The dispersion of trend GDP growth across the euro area, 1990-2005
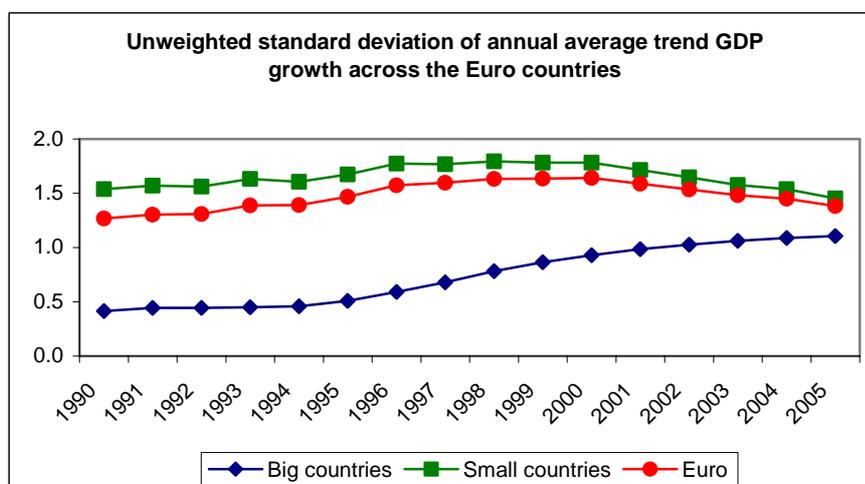
Source: Own calculations based on the AMECO data base

Chart 6: Trend GDP growth in EU-4, 1990-2005

Trend output growth in EU-4
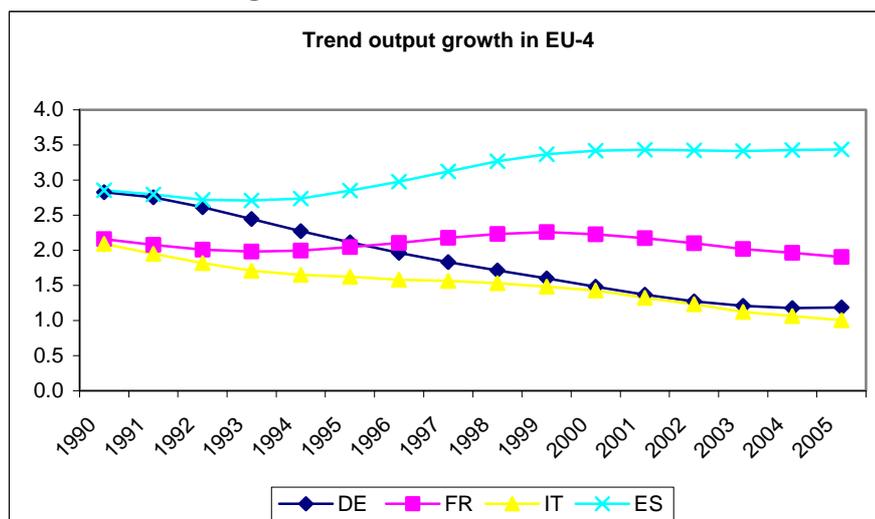
Source: Own calculations based on the AMECO data base

Chart 7: Trend GDP growth in EU-8, 1990-2005

Trend output growth in EU-8
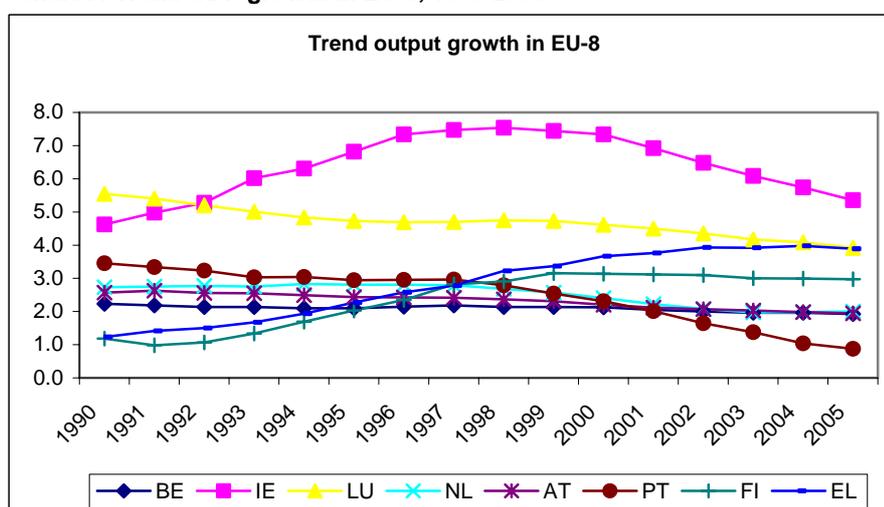
Source: Own calculations based on the AMECO data base

DEMOGRAPHIC CHANGE AND OUTPUT GROWTH DIFFERENTIALS

Demographic changes can affect real GDP through changes in population growth rates and working age population. To the extent that demographic developments vary across the euro area countries they can account for output growth differentials.

To understand the role of demographic changes on output growth differentials we first decompose real GDP growth- ΔGDP - into the contributions of the real GDP per capita growth - $\Delta\left(\dfrac{GDP}{POP}\right)$ and population growth ΔPOP :

$$\Delta GDP = \Delta\left(\frac{GDP}{POP}\right) + \Delta POP$$

As shown in Chart 8, over the period 1999-2005, real GDP per capita growth had the largest contribution to real GDP growth across euro area countries. Ireland, Spain and Luxembourg, stand out for their high population growth rates[10].

Chart 8: Decomposition of real GDP growth
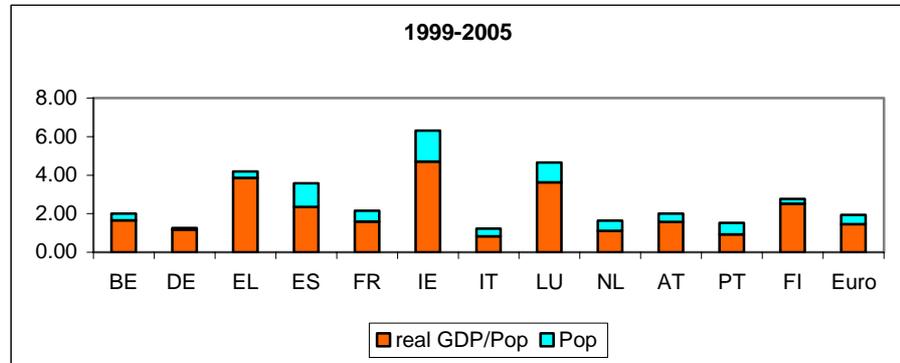
Source: Own calculations based on the AMECO data base

GDP per capita growth can be further decomposed[11] in the contributions of the growth rates of working age ratio in total population $\Delta\left(\dfrac{15-64POP}{POP}\right)$, labour force ratio in total working age population (activity rate) $\Delta\left(\dfrac{L}{15-64POP}\right)$, employment ratio in total labour force $\Delta\left(\dfrac{EMP}{L}\right)$ and labour productivity $\Delta\left(\dfrac{GDP}{EMP}\right)$:

$$\Delta\left(\frac{GDP}{POP}\right) = \Delta\left(\frac{15-64POP}{POP}\right) + \Delta\left(\frac{L}{15-64POP}\right) + \Delta\left(\frac{EMP}{L}\right) + \Delta\left(\frac{GDP}{EMP}\right)$$

Labour productivity growth differentials have driven to a large extent real GDP per capita growth differentials in the euro area (Charts 9 and 10).   In particular, over the period 1999-2005, labour productivity growth was above the euro area average in Greece, Ireland, Germany, Austria, Finland, the Netherlands, Belgium, and France while in Spain, Italy and Portugal it was below the euro area average.

This evidence suggests that divergent output growth in the euro area countries reflects primarily differences in supply conditions such as differences in demographic trends, activity and employment rates and long term productivity growth.

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[10] Immigration has contributed to population growth in these countries

[11] Fitz Gerald (2006) uses this decomposition in the context of the convergence in Greece, Ireland, Portugal, and Spain

Chart 9: The decomposition of real GDP per capita growth (percent)
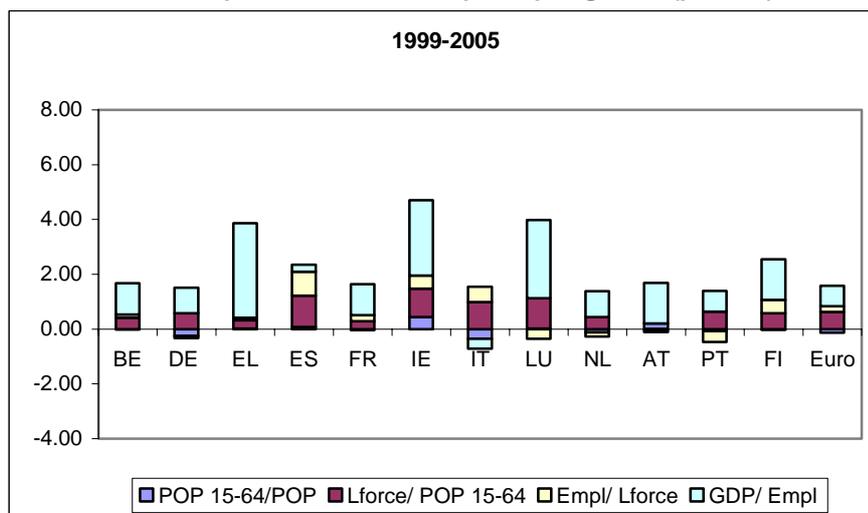
Source: Own calculations based on the AMECO data base

Chart 10:   Labour productivity growth, 1999-2005; deviation from the euro area average (percentage points)
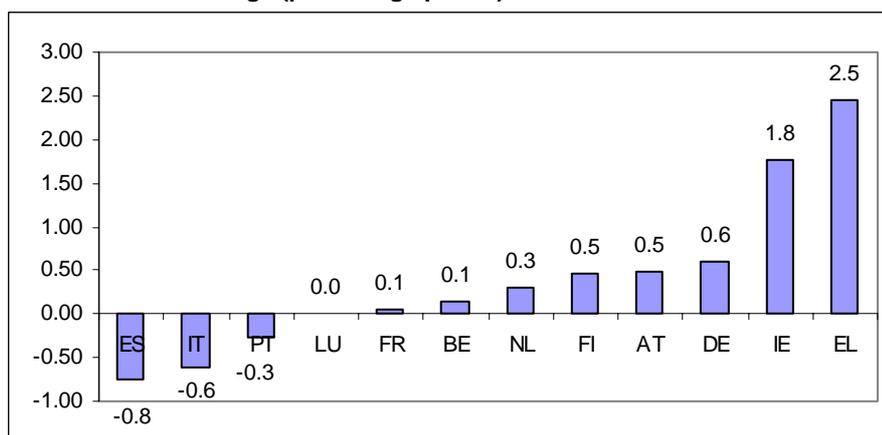
Source: Own calculations based on the AMECO data base

THE ROLE OF DEMAND COMPONENTS

On average, real GDP growth in the euro area since the beginning of Stage Three of EMU has been driven by domestic demand with net exports contributing only marginally. The contribution of demand components to changes in real GDP has varied markedly across the euro area countries.

While in Ireland, Luxembourg, Netherlands and Finland, real GDP growth has been driven both by domestic demand and net exports, in Greece, Spain, France, Italy and Portugal, domestic demand has been the main growth driving force with negative contribution from net exports. Growth in Germany has been driven mainly by net exports while domestic demand has lagged behind (Chart 11).

Chart 11:   The Contribution of demand components to changes in real GDP, 1999-2005 (percent)
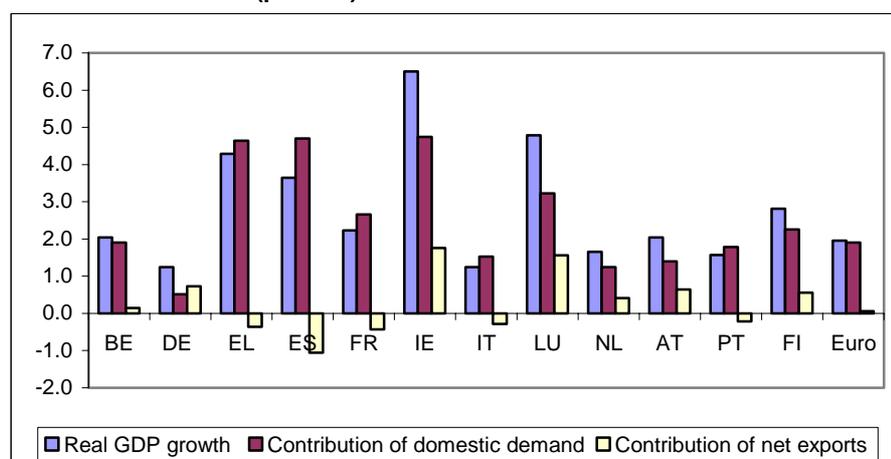
Source: Own calculations based on the AMECO data base

THE ROLE OF RESIDENTIAL INVESTMENT ON GROWTH DIFFERENTIALS

Gern and Meier (2006)[12] investigate the role of differences in residential construction activity in explaining growth differentials across the euro area countries. Special emphasis is given to the importance of demographic developments in explaining diverging trends in housing investment given that swings in housing investment in Germany over the recent two decades have been associated with pronounced changes in population growth.

The paper first analyses residential investment growth over the past 40 years for the eight largest euro area countries and for the euro area as a whole.[13] The results suggest that, although there is some co-movement in national data for residential investment especially during recessionary phases (in terms of aggregate output) such as in the mid 1970s, the early 1980s and early 1990s, there are substantial differences across countries.

In particular, a substantial part of the GDP growth differential between Germany and the rest of the euro area is due to the strong differences in residential investment growth which has been declining in Germany since the end of the 90s while expanding swiftly in the rest of the euro area. Inspection of demographic trends reveals that in Germany changes in population growth have been pronounced in the past two decades and demographic developments have differed markedly from those in the rest of the euro area.

Further, the paper uses econometric techniques to analyse the housing investment in Germany and in the euro area. The models for Germany and the rest of the euro area estimate residential investment as a function of the existing level of housing stock, real income, the user cost of capital (proxied by the real interest rate) and population growth. The obtained estimates confirm a significant impact of population growth on residential construction in both cases.

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[12] See Annex A1

[13] The euro area data used in this analysis have been constructed from national data that due to data limitations are confined to the 8 largest euro area economies Germany, France, Italy, Spain, the Netherlands, Belgium, Austria and Finland. These countries account for around 95 percent of the euro area.

In order to quantify the importance that demographic developments have through the channel of residential investment as an explanation of the growth differential between Germany and the rest of the euro area, a simulation of economic activity in the two regions is carried out assuming identical demographic trends. The results indicate that the profile of housing investment in Germany would have been significantly altered and much less different from that in the rest of the euro area. However, while the effect of differences in population growth is significant, differences in demographic developments are found to account for only 10-20 percent of the growth differential between Germany and the rest of the euro area that has been observed in recent years. Therefore, demographics is only a partial explanation of differences in intra-euro area growth dynamics and other factors will have to be taken into account.

Walterskirchen (2006)[14] provides empirical evidence on the effects of residential investment and consumption on growth differentials across EU countries over the period 1995-2005. He argues that these growth differentials can be attributed largely to the development of residential property prices and the responsiveness of consumption and residential building to house price changes. Specifically, rising real house prices in the UK, Ireland, the Scandinavian countries and Spain accelerated residential building and stimulated private consumption through wealth effects. Mortgage borrowing has grown radically in these countries, and the saving ratios of private households have declined. His cross-country analysis finds that an increase of house prices by 1 percent raised GDP growth by 0.15 percentage points.

In contrast, in continental Europe, the stimulus of soaring house prices was lacking in the 1995-2005 period, with the exception of the Netherlands and in recent years France. The house prices outlook seems to be brighter for continental Europe. However, in countries with high house prices there is a substantial risk of falling prices in the future with negative effects on consumption and residential building.

In market-based financial systems such as in Great Britain and Northern Europe, reactions to house prices and interest rate changes are clearly stronger than in bank-based systems such as in continental Europe.

Despite the success achieved on a medium term basis by many countries with flexible residential property markets and market-based financial systems, a long-term growth strategy should not be based on these instruments, for soaring property prices tend to be followed by a downturn.

SUMMARY

Output growth differentials across the euro area countries have been stable and fairly persistent since Stage One of the EMU. While the dispersion of real GDP growth in the small countries has declined, in the four largest euro area economies it has increased since 1993. The analysis of output growth differentials suggests that they were driven by differences in the trend growth while the cyclical components of the output growth rates have become more synchronized. Output growth higher than the Euro area in Ireland, Greece, Spain and Luxembourg, reflect higher trend growth rates while lower output growth in Germany, Italy and Portugal reflect declining trend growth rates. Thus, divergent trend growth in the four largest euro area economies is likely to explain their increasing dispersion of real GDP growth.

[14] See Annex A2

This implies that output growth differentials are sustainable and there is no need for country specific adjustment.

Real GDP growth for the euro area aggregate has been driven mainly by the growth of per capita real GDP. However, the contribution of population growth was relatively large in the cases of Ireland, Spain, and Luxembourg. Further, real GDP per capita differentials were driven by labour productivity growth differentials.

This evidence suggests that divergent output growth in the euro area countries reflects mainly differences in supply conditions such as differences in demographic developments, employment rates, and long term labour productivity growth.

The single currency may have an impact on output growth differentials through the housing channel of the common monetary policy transmission. Residential investment differentials explain partly growth differentials across the euro area countries. In particular, a substantial part of the growth differential between Germany and the rest of the euro area can be explained by the marked differences in residential investment growth. Further, the case of Germany illustrates that demographic trends play an important role in explaining diverging trends in housing investment differentials.

3.2.2 INFLATION DIFFERENTIALS

Changes in relative prices are necessary to absorb country specific shocks in a monetary union resulting in inflation differentials across the participating countries. In the euro area, inflation differentials are also related to country specific characteristics such as sectoral specialisation, trade openness and trade composition, national economic policies, in particular fiscal and wage policies[15].

To what extent do inflation differentials matter? The answer to this question requires understanding the persistence and underlying factors of diverging country inflation rates from the euro area average. Temporary inflation divergence related to transitory shocks and the convergence process may be necessary in a monetary union. Within the euro area, such inflation differentials may be driven by several factors including the price level convergence for tradable goods and services (due to increased market integration and cross border price transparency) and non-tradable goods and services (the Balassa-Samuelson effect, due to faster productivity growth in the tradable goods sector) (ECB, 2005). In contrast, persistent inflation differentials due to a slow adjustment and misaligned national policies should raise a warning flag.

Persistent deviations from the euro area average have a direct impact on fixed nominal incomes, real returns on savings and investment and wage setting (Honohan and Lane, 2003). An important direct consequence of persistent inflation differentials is persistent disparities in real interest rates which may be amplified by cyclical factors (Busetti et al, 2006). In addition to changes in the price level, inflation volatility raises price level uncertainty and has negative effects by raising risk premia, hedging costs and unanticipated redistribution of wealth and can thus hamper growth (Rother, 2004).

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[15] For a detailed analysis see Honohan and Lane (2003), Altissimo et al (2005) and Lane (2006)

Chart 12: Inflation dispersion, 1990-2005
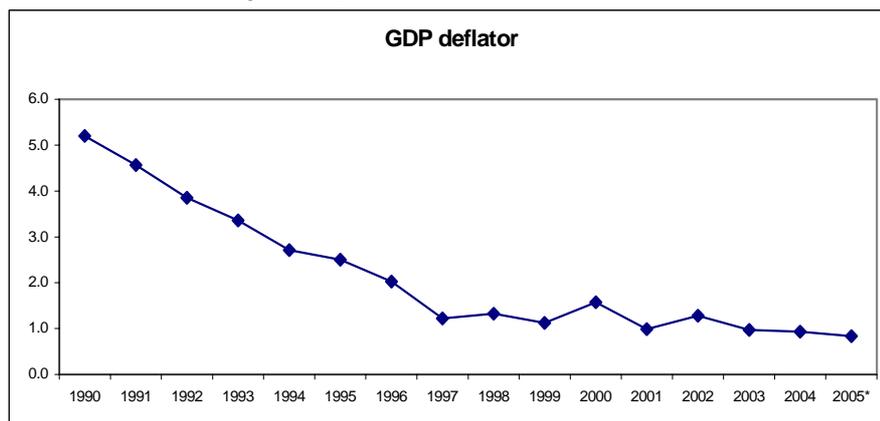
GDP deflator

Source: Own calculations based on the AMECO database

Chart 12 shows that inflation differentials across euro area countries measured with the unweighted standard deviation of the GDP deflator have declined significantly over the period 1990-1997 and stabilized afterwards. This suggests that the EMU has had a beneficial effect on the macroeconomic stability in particular in countries which had high inflation rates.

Looking at different inflation measures, Chart 13 shows that import price differentials were more pronounced than the GDP deflator and the private final consumption expenditure deflator. This points to the impact of different trade patterns, in particular different intra- and extra-euro import patterns in the euro area countries.

Over the period 1999-2005 positive inflation deviations from the euro area average have persisted in Ireland, Greece, Spain, Portugal, while negative inflation differentials have persisted in Germany and Austria (Table 3).

Chart 13: Inflation dispersion, 1990-2005
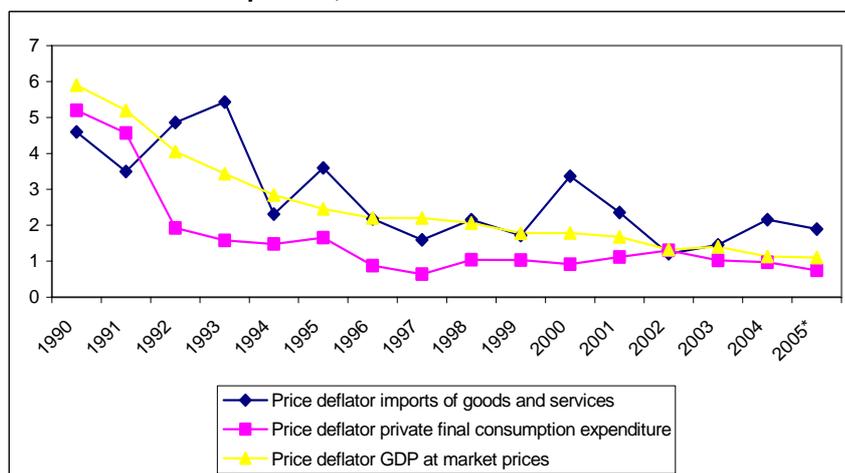
Source: Own calculations based on the AMECO database

Table 3: Inflation rate (HICP), 1999-2005: deviation from the euro area average

	1999-05	1999	2000	2001	2002	2003	2004	2005
Euro area	**2.0**	**1.1**	**2.1**	**2.4**	**2.3**	**2.1**	**2.1**	**2.2**
BE	-0.1	0.0	0.6	0.0	-0.7	-0.6	-0.2	0.3
DE	-0.6	-0.5	-0.7	-0.5	-0.9	-1.1	-0.3	-0.3
EL	1.2	1	0.8	1.3	1.6	1.3	0.9	1.3
ES	1.1	1.1	1.4	0.4	1.3	1.0	1.0	1.2
FR	-0.3	-0.5	-0.3	-0.6	-0.4	0.1	0.2	-0.3
IE	1.5	1.4	3.2	1.6	2.4	1.9	0.2	0.0
IT	0.3	0.6	0.5	-0.1	0.3	0.7	0.2	0.0
LU	0.6	-0.1	1.7	0	-0.2	0.4	1.1	1.6
NL	0.6	0.9	0.2	2.7	1.6	0.1	-0.7	-0.7
AT	-0.3	-0.6	-0.1	-0.1	-0.6	-0.8	-0.1	-0.1
PT	1.0	1.1	0.7	2.0	1.4	1.2	0.4	-0.1
FI	-0.4	0.2	0.9	0.3	-0.3	-0.8	-2.0	-1.4
St. Dev.	0.7	0.7	1.0	1.1	1.1	1.0	0.8	0.9

Source: Own calculations based on the AMECO database

FACTORS UNDERLYING INFLATION DIFFERENTIALS IN THE EURO AREA

Conventional theory of inflation divergence within currency union points to asymmetric demand shocks and productivity growth differentials in the traded sectors as explanatory factors. Inflation differentials in the euro area can be explained by a combination of factors that can be grouped in three categories (ECB, 2005): a) transitory factors related to the convergence process; b) long-lasting permanent structural differences; c) policy induced factors.

Factors related to the convergence process include the convergence of nominal interest rates within the euro area; price level convergence for tradable goods due to market integration and cross-border price transparency; price level convergence for non tradable goods and services. Structural differences refer to differences in trade openness, the composition of international trade, trade links with non-euro area countries; wage and price setting rigidities. Policy induced factors include pro-cyclical effects of national fiscal policies; effects of national wage bargaining agreements; different transmission mechanisms of the common monetary policy.

Euro area inflation differentials can be decomposed using an inflation accounting methodology.[16] We analyse the following decompositions of inflation deviations from the euro area average: a) the final demand deflator differentials decomposed into contributions of domestic costs and import cost differentials; b) unit labour costs differentials decomposed into differentials due to compensation per employee and labour productivity.

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[16] See also ECB (2003)

The decomposition of the final demand deflator deviations from the euro area average is shown in Chart 14. Over the period 1999-2005, domestic costs were the main driving factor of inflation differentials in Germany, Greece, Spain, Ireland, Netherlands, and Portugal, while import costs predominated in Belgium, France, Italy, Austria and Finland.

The decomposition of unit labour costs differentials is shown in Chart 15. On average, the dynamics of the compensation per employee was more important than labour productivity growth. In particular, higher than average unit labour costs were driven by compensation per employee in Greece, Ireland, Luxembourg, Netherlands, Portugal. Compensation per employee and labour productivity were equally important in Finland.

In Italy higher than average compensation per employee growth was associated with lower than average productivity growth[17]. In Germany and Austria lower than average unit labour costs were due to lower than average compensation per employee growth despite better than average labour productivity growth.

Chart 14:   Final demand deflator, 1999-2005, deviation from the euro area average: The contribution of domestic costs and import costs (percentage points)
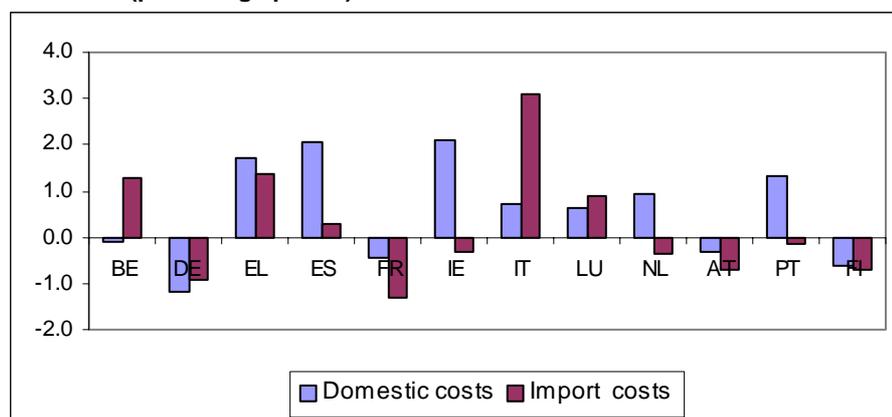
Source: Own calculations based on the AMECO database

Chart 15:   Unit labour costs, 1999-2005, deviation from the euro area average: The contribution of the compensation per employee and inverse labour productivity (percentage points)
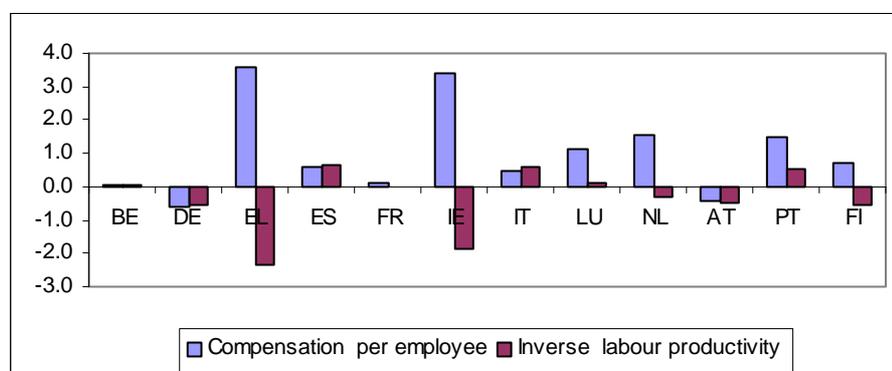
Source: Own calculations based on the AMECO database

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[17] For a detailed analysis in the case of Italy, see Burattoni, Ferrari, and Tomasini (2006), Annex A6 to this paper

SUMMARY

Inflation differentials across euro area countries have been declining. Positive inflation deviations from the euro area have persisted in Ireland, Greece, Spain, Portugal, In contrast, Germany, and Austria experienced persistent negative inflation deviations from the euro area average.

Our analysis of factors underlying these inflation differentials suggests that they were driven by country specific factors. Domestic costs were the main driving factor of inflation differentials in Germany, Greece, Spain, Ireland, the Netherlands, and Portugal, while import costs predominated in Belgium, France, Italy, Austria and Finland. With respect to unit labour costs differentials, on average the dynamics of the compensation per employee was more important than labour productivity growth. Specifically, higher than average unit labour costs growth were driven by compensation per employee growth in Greece, Ireland, Luxembourg, Netherlands and Portugal. In contrast, in Germany and Austria, lower than average unit labour costs growth were due to lower than average compensation per employee growth despite better than average labour productivity growth.

To the extent that inflation differentials in the euro area are temporary and reflect a transitory and necessary adjustment of relative prices in response to asymmetric demand shocks and productivity differentials in the traded sector, they are part of the macroeconomic adjustment and they are expected. The common monetary policy has as an objective the price stability for the euro area aggregate and cannot address regional inflation differentials. However, persistent inflation deviations from the euro area average have negative effects on the consumer and investment climate including foreign direct investment. In particular, inflation differentials have a strong and direct impact on fixed nominal incomes, real returns on savings and investment and wage settings.

3.3 Macroeconomic Linkages and Transmission of Shocks

In the EMU, the ECB pursues price stability for the euro area as a whole and consequently member countries have to use the remaining tools of economic policy to adjust to asymmetric shocks. Understanding the nature of external shocks and their transmission channels is essential to deciding on the appropriate policy instruments. To asses the likelihood and transmission of asymmetric external shocks to the euro area countries we analyse trade and financial linkages and business cycle synchronisation.

3.3.1 TRADE LINKAGES

The analysis of trade integration patterns is important for assessing the transmission of shocks in the euro area for at least three reasons.

First, trade integration between similar and open economies reduces the cost of losing flexibility over the exchange rate. As shown by McKinnon (1963), in theory, this follows from the equalization of prices[18] of most traded goods when expressed in the same currency as a result of increased competition. In this case, exchange rate changes will have relatively small effects.

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[18] The law of one price

Second, the higher the degree of trade openness, the higher the benefits from adopting a common currency as a result of reduction of transaction costs. Third, increased trade integration fosters the transmission of common shocks across countries and the synchronisation of business cycles[19].

In the context of exposure to and transmission of shocks to the euro area economies it is important to distinguish between intra- and extra-euro area trade patterns. Table 4 shows that over the period 1999-2005, for the euro area aggregate, intra-euro area trade openness was 27.8 percent of GDP, slightly lower than extra-euro area trade openness, 28.4 percent of GDP. Intra-euro area trade openness was the highest in Belgium, Luxembourg and the Netherlands and the lowest in Greece, Finland and Italy. Extra-euro area trade openness was the highest in Ireland, Belgium, the Netherlands and Finland and the lowest in Greece, Luxembourg and Portugal.

Significantly, compared with the period 1990-1998, extra-euro trade openness has increased by 6.7 percentage points, relatively more than the intra-euro area openness increase by 4.7 percentage points.

These stylized facts are in line with Micco et al. (2003) who find that, after controlling for other factors, euro area membership has had a higher effect on extra-euro area trade, ranging from 8 to 16 percent, while for bilateral intra-euro area trade the EMU effect has been smaller, ranging from 4 to 10 percent[20]. Since the adoption of the single currency, with the exception of Belgium and Spain, extra-euro area has increased to a larger extent in comparison with the intra-euro area trade. Extra-euro area trade is important in particular in the cases of Ireland, with average extra-euro area trade 74 percent of GDP compared to 35.5 percent intra-euro area trade, while in Finland the shares are 40.7 percent compared with 19.9 percent respectively.

The extent of extra-euro area trade has implications for the exposure to external shocks and the volatility of the nominal effective exchange rate. Kaitila (2006)[21] provides a detailed analysis of extra-euro area trade flows over the 1990-2005. We discuss below a summary of this analysis, in particular, euro area aggregate flows and trade linkages with the United Kingdom (UK), United States (US), Switzerland, Japan, China, Russia and India.

The euro area's largest trading partner is the UK followed by the US, China, Switzerland and Japan. Imports from the UK as a share of total extra-euro area imports amounted to an average of 13.7 percent over the period 1999-2005, which is 2.6 percent lower than the average for the 1993-1998 period. Exports to the UK as a share of total extra -euro area exports were 18.3 percent on average over the period 1999-2005, similar to the average of 18.7 percent for 1993-1998 period. Relative to total imports and exports, the UK is a major trade partner for Ireland and accounts for large trade shares, albeit declining, in the cases of Belgium, France and the Netherlands.

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[19] For recent empirical evidence see Canova and Marrinan (1998), Frankel and Rose (1998), Baxter and Kouparitsas (2003), Imbs (2004)

[20] Baldwin (2006) estimates that the euro has boosted the intra-euro area trade by 5-10 percent

[21] See Annex A3

Table 4: Trade (exports and imports of goods) as percent of GDP, 1999-05

	Intra-euro area	Extra-euro area
Euro	**27.8**	**28.4**
Belgium	97.6	61.3
Germany	23.6	32.1
Greece	14.1	16.3
Spain	24.3	18.5
France	21.9	20.9
Ireland	35.5	74.0
Italy	19.3	21.3
Luxembourg	70.6	16.6
Netherlands	52.9	46.1
Austria	41.0	29.7
Portugal	34.1	16.6
Finland	19.9	40.7

Source: Own calculations based on the OECD International Trade data base

The US is an important trade partner for Ireland and a major import source for the Netherlands as well as a major export destination for Germany and Italy. While the share of the US in the total imports of Euro area countries has been decreasing, the share of exports to the US has increased markedly in the case of Ireland.

Switzerland is a main import partner as well as a main export destination for Germany, Italy and Austria. The shares of exports to Switzerland as a percentage of total exports have increased in particular in Italy and Ireland.

The share of imports from Japan as a percentage of total imports has declined over the period for the majority of the euro area countries; the share of exports to Japan as a percentage of total exports has remained fairly constant during the Stage Three of EMU, although the latter has declined in comparison with the 1993-1998 period.

China (including Hong Kong), Russia and India are also major trading partners for the euro area accounting on average over the period 1999-2005 for 13.6 percent of extra-euro area imports and 7.8 percent of extra-euro exports. In particular, the importance of China has increased markedly over the last decade. The share of imports from China as a percentage of total Euro area imports has increased from 2.3 percent in 1995 to 5.6 percent in 2005.

Germany is the largest euro area importer from China, accounting for 32 percent of total Euro area imports in 2005 followed by France and the Netherlands with China representing 16 percent of their total imports. Relative to GDP, imports from China are the largest in the cases of the Netherlands, Belgium and Ireland. The share of exports to China as a percentage of total exports is the largest in Finland, followed by Germany, Italy and France. Exports to China as a percent of GDP are the highest in Belgium, Finland, and Germany.

Russia accounts for 3 percent of euro area imports and just less than 2 percent of the euro area exports in 2005. Germany is the largest euro area import partner for Russia accounting for 30 percent of euro area imports from Russia followed by Italy, the Netherlands, and France. The share of imports from Russia as a percentage of total imports is the highest in Finland, 14 percent followed by Germany with 4 percent. Germany is the largest euro area exporter to Russia with 41 percent of euro area exports.

The share of exports to Russia as a percentage of total exports is the highest in Finland (11 percent in 2005) followed by Germany, Italy and Greece (2 percent in their total exports).

The contribution of India in the euro area trade is relatively less important, India is responsible for 0.6 percent of euro area imports and exports. The largest euro area importers from India are Germany, Belgium, Italy and France accounting for 72 percent of the euro area imports from India. The largest euro area exporter to India is Belgium accounting for 34 percent of euro area exports to India followed by Germany with 28 percent of the euro area exports to India. The share of exports to India as a percentage of total exports is the highest in Belgium, 2 percent in 2005.

SUMMARY

Since the adoption of the single currency both intra- and extra-euro area trade have increased. Increased trade among the Euro countries fosters the transmission of country specific shocks and contributes to the co-movement of their economic activity. The extent of extra-euro area trade has implications for the exposure to shocks originating outside the euro area and volatility of the euro nominal effective exchange rate.

External shocks originating in the largest trading partners of the euro area, namely, the UK, US, China, Switzerland and Japan can have asymmetric effects in the Euro area countries. The UK is a major trade partner for Ireland and accounts for large trade shares in the cases of Belgium, France and the Netherlands. The US is a major partner for Ireland and a major import source for the Netherlands as well as a major export destination for Germany and Italy. A possible sharp depreciation in the US dollar might negatively affect Ireland, Germany and Italy. The importance of China as a trading partner for the euro area has increased markedly over the last decade. Germany is the largest euro area importer from China followed by France and the Netherlands. Relative to GDP, imports from China are the largest in the Netherlands, Belgium and Ireland. The share of China as a percentage of total exports is the largest in Finland, followed by Germany, Italy and France. Exports to China as a percent of GDP are the highest in Belgium, Finland and Germany.

3.3.2   FINANCIAL LINKAGES

Financial integration can act as an adjustment mechanism to country – specific shocks by smoothening consumption over time through cross-border portfolio diversification (Kalemli-Ozcan et al, 2001). Furthermore, financial integration plays an important role in the transmission of the common monetary policy. Consumption growth rates in the euro area are less correlated than GDP growth rates suggesting that the level of risk sharing in the Euro area is low (Adjaoute and Danthine, 2003 and 2004). However, recent evidence suggests that the adoption of the euro has fostered financial integration among the euro area member countries (Baele et al, 2004; Lane, 2006). Using various price-based and news-based measures, Baele et al., (2004) find that the degree of integration differs across various Euro area markets, money and government bond markets are highly integrated, corporate bond and banking markets are quite well integrated while equity markets are the least integrated.

Furthermore, while the euro has fostered financial markets integration, a contemporaneous increase in global financial linkages outside the euro area may have contributed as well (Lane and Wälti, 2006).

Berben et al (2006) analyse the relationship between wealth gains and losses on actual and planned savings in the Netherlands and find that households' responsiveness to equity shocks is asymmetric with a stronger reaction to capital losses in comparison to capital gains. This asymmetric reaction is likely to influence the marginal propensity to consume out of wealth.

Al-Eyd, Barrell and Holland (2006)[21] analyse and discuss the impact of a series of equity price shocks at the individual country and global levels using the NiGEM model. They first simulate the impact on GDP of an exogenous 10percent increase in equity prices that is sustained over two years. The transmission of equity price shocks comes directly through asset price channels and indirectly through trade effects, where the magnitude of these disturbances depends on the degree of domestic stock market capitalization, the proportion of equities owned abroad, and the short and long run wealth effects in consumption and investment.

One would expect the multiplier effects to be muted in countries where financial market liberalisation is less advanced, the marginal propensity to consume out of wealth is small and domestic stock market capitalization is low. Conversely, one would expect to find large multipliers in countries with advanced financial systems, a larger propensity to consume out of wealth, strong dynamic wealth effects, and significant stock market capitalization

For the single country equity price shocks, the impact on GDP strengthens successively over the first three years. The evidence of short-run impacts of wealth on consumption is weak in all euro area economies. There is stronger evidence of long run wealth effects – the delayed impact of the shock is pronounced in all of the euro area countries with the exception of the Netherlands and Ireland where the impact on GDP is largest in the second year. The actual pattern of adjustment in each country depends on the particular dynamics of consumption, asset accumulation and supply. Single country equity price shocks that persist for only two years have little impact on the domestic economy, as wealth effects on consumption are small and some equities are owned by foreigners.

Coordinated equity price movements are likely to have much larger effects, and in recent years equity market shocks have exhibited a high level of cross-country correlation. A common global rise in equity prices of 10percent, sustained for two years is further simulated.

Multipliers tend to rise with openness, measured as the share of total trade to GDP, in response to a global shock. Financial openness and integration also has a positive impact on the multipliers. Trade exposure to countries outside the euro area is particularly important, reflecting the fact that equity price impacts in countries such as the US and the UK tend to be higher than they are in the larger euro area economies. As the export exposure outside the euro area rises, the GDP multiplier also tends to rise. Investment in the US tends to speed up when real equity prices rise – there is little evidence that the same holds true in EU economies. Those countries that conduct high levels of trade with the US, such as Ireland, tend to have higher multipliers.

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[21] see Annex A4

Chart 16 shows the impact on GDP after one year in response to a global equity price shock plotted against the export exposure outside the euro area. The Chart indicates that as exposure rises, the multiplier tends to rise as well.

Chart 17 shows the importance of global spillover effects for euro area countries. The GDP multipliers in the first year are displayed for both the world and single country equity price shocks, and it can be clearly seen that the output effects determined through trade channels are considerably greater than those transmitted through domestic wealth channels.

Chart 16:   **World equity shock multipliers and global export exposure**
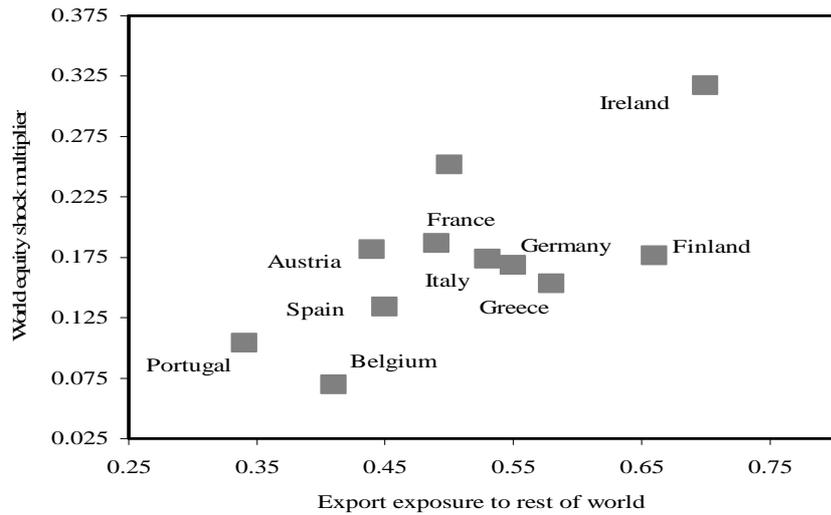
Source: Al-Eyd, Barrell and Holland (2006)

Chart 17:   **World versus single country equity price multipliers**
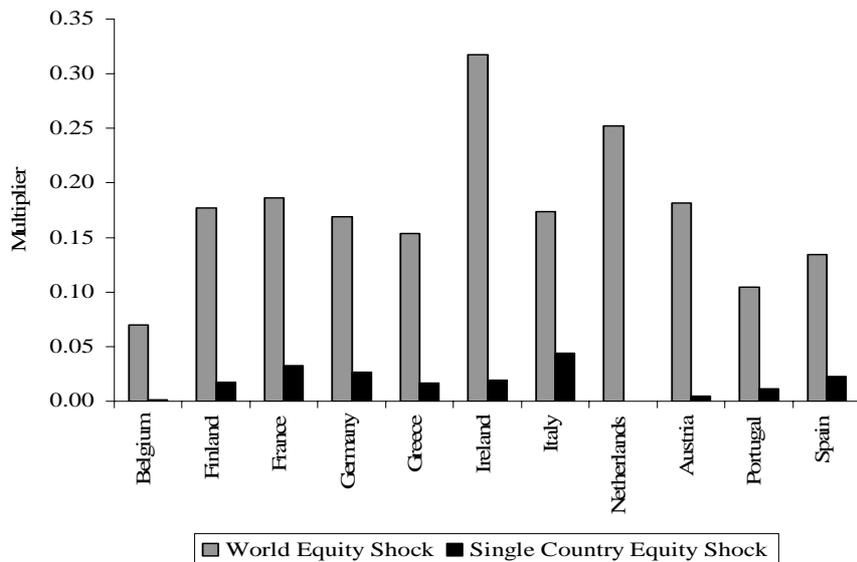
Source: Al-Eyd, Barrell and Holland (2006)

SUMMARY

Financial market openness is clearly a factor behind the propagation of shocks. Integrated economies are more exposed to spillovers from external shocks, while they return to equilibrium more quickly in response to domestic shocks. Research on the determinants of consumption suggests that the impact of changes in wealth on consumption levels in the euro area is small, at least in the short-term. Therefore, the impact of any shock to equity prices is likely to be small.

It has also been shown that when euro area equity markets are shocked the effects are small. A global shock however has a more noticeable impact. Spillovers from global equity price shocks account for 80 to 90 percent of the impacts of a global shock in the euro area.

Recent research points to an asymmetric responsiveness of households to equity shocks, with a stronger reaction to capital losses in comparison to capital gains. This asymmetry is likely to influence the marginal propensity to consume out of wealth.

3.3.3 BUSINESS CYCLE SYNCHRONIZATION

Business cycle synchronisation is taken as an indication of a low probability of asymmetric shocks and a low cost of losing independence over monetary and exchange rate policies (Frankel and Rose, 1998; Alesina et al., 2002; Artis et al., 2003).

Business cycle synchronization across countries over a given period can be measured by cross-country correlations of actual real GDP growth rates or output gaps. Benalal et al (2006) analyse the business cycle synchronisation across the euro area countries since early 1970s until 2004 using both annual and quarterly data. They find that the co-movement of economic activity between the Euro area countries has increased in particular since the early 1990s. The results are not sensitive to the data frequency and they hold for both big and small countries. The group of the largest countries (Germany, France, Italy and Spain) are more correlated in comparison with the group of the small countries. Belgium and France had the highest business cycle correlations with the rest of the euro area countries, while Greece, Ireland and Finland were the least correlated. Furthermore, with the exception of Luxembourg, in all countries, the average business cycle correlations with the rest of the euro area have increased. In this respect, the performance of Ireland stands out. In order to distinguish the effects of European economic integration and EMU in particular on business cycle synchronisation from the impact of global trends such as the increasing world trade between industrialised countries, the authors look at the degree of the co-movement of economic activity for 12 non-euro OECD countries[22] They find that this has not changed significantly since the 1980s and suggest that the increased business cycle synchronisation across the euro area countries may be a result of increased EU integration and the single currency. However, several caveats to this analysis should be kept in mind. For instance, no formal tests of statistical significance have been carried out.

[22] Australia, Canada, Denmark, Iceland, Japan, Mexico, New Zealand, Norway, Sweden, Switzerland, United Kingdom, and the United States.

Furthermore, the group of 12 OECD countries used as a benchmark may not be fully representative for global developments.

Boewer and Guillemineau (2006) take a step further in the analysis of business cycle synchronisation across Euro area countries and uncover their key determinants. Using data over the period 1980-2004 they find that bilateral business cycle correlations have increased significantly. This increased business cycle synchronisations appears strong in particular following the adoption of the single currency. The extreme-bounds analysis is applied to test the robustness of a large range of determinants including trade integration, structural and policy variables. The results indicate that bilateral trade has been a major driving factor of business cycle synchronisation in the Euro area through out the whole period and in particular before the adoption of the single currency. In particular, intra-industry trade between Euro area countries has increased in Stage Three of EMU. Furthermore, differences in industrial and financial sector structures have been significant determinants of business cycle correlation during the completion of the Single Market.

Trade specialisation and short-term interest rate differentials are found robust determinants of business cycle correlation throughout the whole analysed period. Other factors including bilateral bank flows, economic sectoral specialisation, nominal exchange rate volatility and labour market flexibility come out as not robust. The authors point out that monetary integration has fostered intra-industry trade between Euro area countries and argue that this finding supports the endogeneity of optimum currency areas suggested by Frankel and Rose (1998).

Massman and Mitchell (2004) analyse the relationship between the business cycles of the 12 euro area countries, by using 40 years of monthly industrial production data. They focus on eight parametric and nonparametric univariate measures of the "classical" and "growth" cycles. The investigation whether euro area business cycles have converged is based on a descriptive analysis of the distribution of bivariate correlation coefficients between the 12 countries' business cycles. The authors propose a statistical test for convergence based on the estimation of a dynamic heterogeneous panel data model. Their results indicate that the properties of the business cycles depend on how the business cycle is measured, in line with the findings of Canova (1998). However, the examination of convergence between euro area business cycles indicates that there are substantive similarities across alternative measures of the business cycle. The euro area has been characterised by periods of convergence, associated with a rising mean correlation, a falling variance and with limited intra-distributional movement, and periods of divergence in the last 40 years. This fact is supported by the clearly negative relationship between the mean correlation coefficient and the variance of the correlation coefficients.

Furthermore, Massman and Mitchell (2004) offer a tentative, and preliminary, interpretation of these facts that is consistent with Artis and Zhang's (1997) view that business cycles synchronisation is positively related to monetary integration, specifically the degree of exchange-rate rigidity. Moreover, despite the volatility over the last 20 years, statistical tests indicate that the long-run trend over the last 20 years is one of rising correlations between euro area business cycles although there is at best weak evidence for divergence when attention is confirmed to just the last 10 years. However, it is too early to tell whether these recent tendencies will continue, and both the descriptive analysis and the statistical tests for convergence suggest that the

emergence of a common euro area business cycle has been far from smooth and stable.

Lemoine (2006)[23]estimates an extended version of a bivariate Stochastic Cyclical Convergence Model (SCCM) developed by Ruenstler (2004) using an iterative Kalman Filter for measuring the convergence of business cycles between euro area countries and the euro area aggregate. The model combines unobserved component models with time-varying parameter models. The convergence between the two cycles is characterised by two time-varying parameters, the phase-shift and a weight, which is related to the phase-adjusted correlation. SCCM models are applied to the GDP of euro area countries, relative to the rest of the Euro area, over the period 1963:1 to 2002:4. His main results are twofold. Firstly, the cycles of the euro area have synchronised: their time-varying phases have generally converged toward low values (between -2 and 2 quarters) before the launch of the euro. Concerning the time varying-weights, results are more ambiguous. Germany, France and Belgium have converged toward the euro area cycle since 1980.

The convergence is more recent for Italy, Spain, the Netherlands, Austria and Portugal. Despite the launch of the euro in 1999, Finland, Greece and Ireland have still not converged. Thus, in terms of business cycle convergence, being in a monetary union might raise problems especially for the third group, which represents 5.8 percent of the euro area GDP.

Economic integration is likely to have a stronger effect at regional level than at national level. This stronger effect can be expected because regions trade relatively more than countries and specialisation at regional level is higher than at national level (Krugman, 1993, Fatás, 1997). Thus, fluctuations of economic activity at regional level are expected to be more important than at national level which raises the question about the extent of synchronisation of regional business cycles. Barrios and de Lucio (2003) argue that the dynamics of regional business cycles may condition the adjustment of national economies to economic integration.

Tondl and Traistaru-Siedschlag (2006)[24] provide empirical evidence about patterns and key determinants of growth cycle determinants across euro area regions. Using a panel data of 208 EU-15 regions over the period 1989-2002 they estimate a system of four simultaneous equations to analyse the impact of regional trade integration, specialization and exchange rate volatility on correlations of regional growth cycles with the euro area. Their results suggest that deeper trade integration with the euro area had a strong direct positive effect on the synchronisation of regional growth cycles with the euro area. Industrial specialisation and exchange rate volatility were sources of cyclical divergence. Industrial specialisation had however an indirect positive effect on growth cycles synchronisation via its positive effect on trade integration, while exchange rate volatility had an indirect additional negative effect on growth cycle correlations by reducing trade integration. Industrial specialisation had an indirect negative effect on growth cycle correlations by increasing the exchange rate volatility. The direct impact of trade integration on growth cycle correlations was stronger in the pre-EMU sub-period, while in the EMU sub-period, the negative direct effects of industrial specialisation and exchange rate volatility were stronger than in the pre-EMU sub-period. A distinct result is the positive and significant relationship between exchange rate volatility and

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[23] See Annex A5

[24] See Annex A6

growth cycle correlations in the pre-EMU sub-period, suggesting that over this period, country-specific exchange rate fluctuations acted as shock absorbers.

The above results suggest a number of relevant policy implications for the EMU and euro area enlargement. First and foremost, promoting trade integration with the euro area is likely to foster regional growth cycle convergence and thus to lower the probability of regions' exposure to asymmetric shocks.

Real income convergence with the euro area average is expected to increase trade integration and at the same time affect the pattern of industrial specialisation towards more similarity which in turn will increase the regional growth cycles convergence with the euro area.

3.4 Macroeconomic Adjustment in the Euro Area: Selected Policy Issues and Country Experiences

In this section we discuss policy issues related to the macroeconomic adjustment in the Euro area which have attracted attention recently in both academic and policy making communities. We start with the adjustment triggered by inflation and output differentials. In relation to this, we discuss risks and policy issues in managing the housing sector in the euro area. Second, we ask how efficient is fiscal adjustment in a monetary union and analyse the impact of fiscal shocks on the euro area countries. Third, we discuss the macroeconomic adjustment under EMU in Italy and Finland.

3.4.1 PRICE AND OUTPUT ADJUSTMENT

A smooth and fast correction of imbalances in a monetary union depends to a large extent on the efficiency and speed of wage and price adjustment. Flexible wages and prices can trigger macroeconomic adjustment through two channels: the real interest rates channel and the competitiveness channel. The real interest channel affects domestic demand: inflation higher (lower) than euro area inflation results in lower (higher) real interest rates which may foster (depress) domestic demand. The competitiveness channel affects the external demand through competitiveness gains (losses) in countries with inflation lower (higher) than the euro area.

In reality, well-documented rigidities in labour and product markets[25] influence negatively the growth performance in the euro area. Furthermore, the interaction between the real exchange rate adjustment and the real interest rate developments in the euro area might lead to poor macroeconomic performance (overheating or overcooling)[26]

THE REAL INTEREST RATE CHANNEL

Real short term interest rates over 1999-2005 ranged from –0.5 percent in Ireland to 1.7 percent in Germany. Deviations of real short term interest rates from the euro area average have been negative in six countries including Ireland, Spain, Portugal, Luxembourg, the Netherlands, and Italy while they were positive in Belgium, Greece, France, Austria, Finland and Germany (Chart 18).

[25] See for example Nicoletti and Scarpetta (2005)

[26] See Deroose et al (2004) for a model-based analysis of adjustment to competitiveness and demand shocks in the Euro area.

Chart 19 shows a negative but weak correlation between short-term real interest rate differentials and domestic demand growth. While this evidence is indicative only[27] it suggests that real short term interest rate below the euro average in particular in Ireland, Spain, and Luxembourg might have contributed to domestic demand growth in these countries, while in Germany, Austria, France, Finland and Belgium, real short term interest rates might have depressed domestic demand.

Chart 18: Real short term interest rate, 1999-2005: deviation from the euro area average (percentage points)
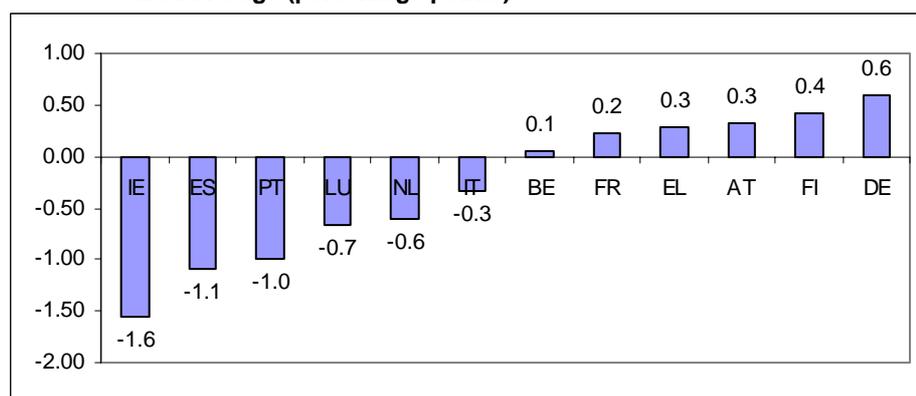
Source: Own calculations based on the AMECO database

Chart 19: Real short term interest rate differentials and domestic demand, 1999-2005
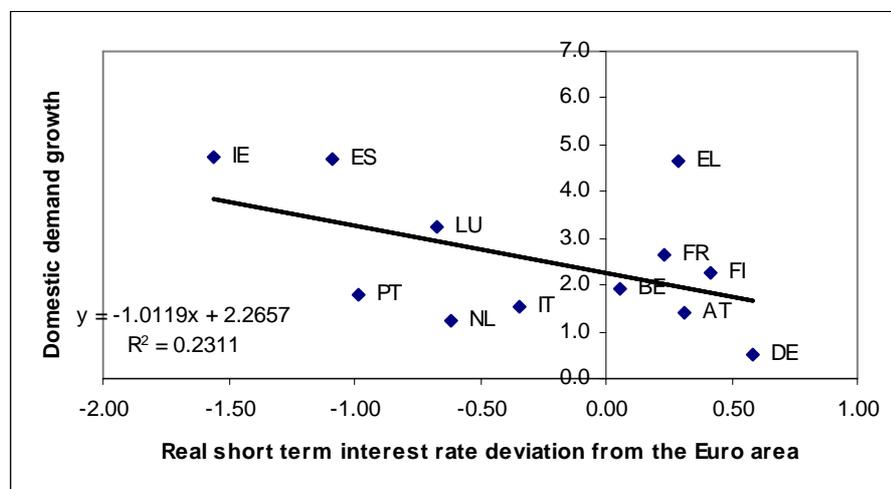
Source: Own calculations based on the AMECO database

Average annual dispersion of real long term interest rates over 1999-2005 has been 0.9 percent, lower than 1.2 percent for real short term interest rates. The highest dispersion of real long term interest rates was experienced in 2002 and has declined afterwards. Average annual real long term interest rates over 1999-2005 ranged from 1.0 percent in Ireland to 3.0 percent in Germany.

They have been below the euro area average in seven countries: Ireland, Spain, Portugal, Greece, Luxembourg, Netherlands, and Italy and slightly

[27]A formal econometric analysis would require longer time series

above the euro area average in Belgium, France, Austria, Germany, and Finland (Chart 20).

Chart 20:   Real long term interest rate, 1999-2005: deviation from the euro area average (percentage points)
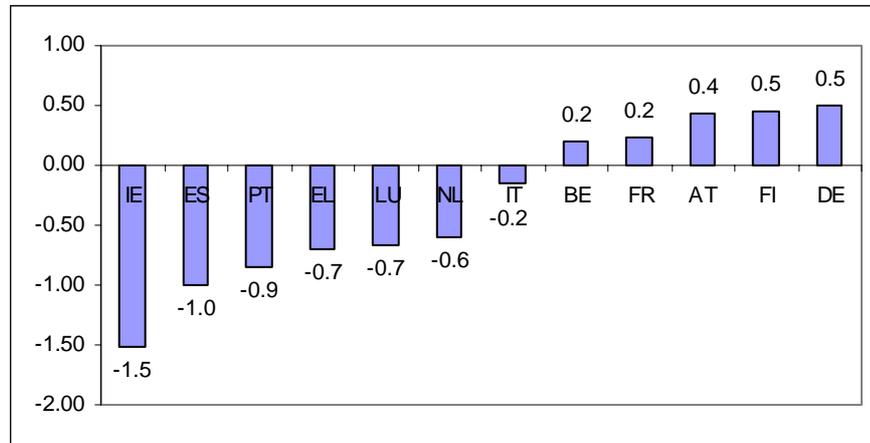
Source: Own calculations based on the AMECO database

MANAGING THE HOUSING SECTOR IN THE EURO AREA

As discussed above, there has been significant divergence in real interest rates facing households. For those living in countries experiencing an above average rate of inflation in consumer prices (and hence in wage rates) the expected future cost of borrowing is lower than in countries experiencing below average inflation rates. This reduction in financing costs, in turn, reduces the user cost of home-ownership encouraging higher investment (although, as indicated above, a number of other factors are also crucial in determining the level of investment in housing). It is no surprise that the rate of activity in investment in housing is well above the EU average in Spain and Ireland which are experiencing above average inflation while it is below average in Germany which is experiencing below average inflation. In turn the rising cost of accommodation can add to inflationary pressures by affecting the supply of labour (Duffy and Fitz Gerald, 2005).

Over the last thirty years the housing market has been a source of significant economic instability on at least one occasion in each of quite a wide range of OECD economies. When housing bubbles have burst they have caused substantial damage to the affected economy. As a result, they are a cause for concern for economic policy makers. On some occasions when housing bubbles have burst they have also been associated with significant disruption to the domestic financial system (e.g. in the mid-west of the US in the mid 1980s and Scandinavia, 1989/1990). When this has happened it has greatly aggravated the already serious macro-economic effects in the region.

The analysis carried out in OECD (2005), indicates that when housing bubbles have occurred they have been essentially idiosyncratic in nature – they have generally not occurred simultaneously across major regions of the OECD. The analysis in Himmelberg et al (2005) also indicates that in the US there has not been a "US housing bubble" but rather a series of local bubbles in individual cities or regions at different times over the last quarter of a century.

There is no evidence that housing bubbles have become any more frequent over time and it is also interesting that, even with monetary union in

the US, there has not been any obvious tendency for a "convergence" of bubbles across the US.

This idiosyncratic pattern reflects the fact that the drivers of housing prices are varied in nature and they include significant local or regional variables. Himmelberg et al. (2005) refer to the role of "superstar cities" where local circumstances can result in a prolonged period of higher than average growth in house prices.

OECD (2005) and ECB (2006) analyse the role of "fundamentals" in determining house prices. This research, and the research on individual EU economies (e.g. Duffy, 2002; Murphy, 2006 on Ireland and European Commission, 2005), all indicate that while interest rates do affect house price inflation, it is only one of a range of driving variables. In the longer-term income growth and demographic change are probably more important drivers of changes in relative prices.

Table 5:   Dwellings per 1000 inhabitants

Country	1997	2002
Denmark	466.0	472.0
France	483.5	503.0
Germany	452.0	472.0
Hungary	394.0	
Ireland	322.0	384.1
Netherlands	414.0	417.7
Poland	300.4	307.7
Portugal	470.0	502.0
Spain		510.0*
UK	424.5	432.6

* data are for 2001.
Source: http://www.unece.org/hlm/prgm/hsstat/Bulletin_04.htm.

An important variable affecting the demand for dwellings is the existing stock of dwellings relative to the population. Table 5 shows the Charts for a number of EU countries for 1997, immediately before EMU began, and also for 2002. For most of the existing EU countries in 1997 the stock of dwellings was relatively high relative to the population and had not changed much. This suggested that in terms of demographic factors these countries were close to their equilibrium stock. However, for Ireland the stock was substantially lower than that of the other EU countries. With similar preferences and income levels it is not surprising that Ireland has seen a housing boom in recent years as the stock is adjusted closer to the level of other EU states. However, what is also striking about the data is that for two of the new member states – Poland and Hungary – their stocks of dwelling are also low. This would suggest that in the face of financial liberalisation and rising incomes they could see a similar boom to that currently being experienced in Spain and Ireland. If they were to join EMU, with low real interest rates the boom could be even more dramatic. Of course many other factors will drive the housing markets in these countries in the coming decade but the underlying demographic forces certainly suggest upward pressure on prices.

Chavin and Le Bayon (2005) considered the housing markets in Spain, France, the UK and the US. Their conclusion was that of those four countries

only in Spain was there a risk of a housing bubble. Cameron, et al (2006) reach similar conclusions for the UK. In the EFN Spring 2006 report we considered the exposure of the Irish and Spanish economies to shocks. It was suggested in that report that in the case of both economies there was a risk of a housing bubble. Since then house prices have continued to rise in those two economies and the building construction sector has continued to increase its share of economic activity putting pressure on the tradable sector in both economies. Rae and van den Noord (2006), looking at the Irish economy suggest that house prices are now significantly above their equilibrium level. This pressure on the tradable sector is reflected in the gradual loss of competitiveness and rising balance of payments deficit.

While EMU may not make housing bubbles any more likely, the restriction on the use of the interest rate to manage the domestic housing market could increase risks from housing shocks for individual economies.

Even though the potential response of the housing market to interest rate changes is limited (though significant) for interest rate changes of one or one and a half percentage points (OECD, 2005; Rae and van den Noord, 2006) outside of EMU individual countries in the past have experienced significantly larger changes in interest rates, using such changes to manage their housing markets. However, this is no longer possible under EMU. There are, therefore, concerns, that the authorities in individual countries such as Ireland and Spain may be handicapped in managing potential risks to their economic stability arising from housing market developments.

Within the euro area the risks to the financial sector from any potential, housing bubble will depend on the extent of the regional banking system's exposure to the regional economy and its exposure within that economy to the housing (property) sector. Because of the fact that housing bubbles are essentially regional in nature the more geographically diversified the financial system is the more robust it will be in the face of shocks. However, it will be important for the regulatory authorities in stress testing their financial systems to take account of both the regional diversity of a bank's loan portfolio and also to take account of the possible wider economic consequences of a housing bubble. In particular, when housing bubbles burst they tend to be associated with much wider macro-economic disruption which is likely to affect employment and output levels.

The experience of the past both in the US and in Europe indicates that there is little danger of a euro-wide housing bubble posing problems for policy makers. However, regional booms can and are happening and past experience indicates that they can end suddenly with serious implications for the regional economy affected. In addition, serious problems in the housing market can affect the regional financial sector where problems of bad debt occur. Prior to EMU member states had the opportunity to manage the domestic housing market through monetary policy. However, under EMU monetary policy is targeted at the euro area inflation rate and, because of the idiosyncratic nature of the housing sector across the Euro zone, the stance of monetary policy will only help control housing bubbles by accident.

Under these circumstances the best instrument available to governments to manage regional housing markets is fiscal policy. Through suitably targeted tax instruments the authorities can change the cost of housing services faced by households, influencing their investment behaviour. Using this instrument effectively may prove politically difficult, partly because of its political novelty.

However, as housing bubbles are as likely to happen in the future as in the past, it will be important for governments to develop an understanding of

the potential dangers of shocks in the housing sector to the wider economy and of the implications of EMU for how the housing market must be managed.

A second important implication for policy is the need for the regulatory authorities to take appropriate measures to safeguard their domestic financial sectors. In stress testing the financial system they need to take account of the likelihood that macro-economic shocks may affect all economies within the EMU. Such shocks, whether or not they are combined, with a rise in real interest rates, may seriously affect the housing sector. While shocks to the housing sector are most unlikely to be generalised across the euro area, they may affect a number of regional economies simultaneously, such as in Scandinavia or the UK and Ireland. Under these circumstances the robustness of individual bank's loan portfolio needs to be tested against shocks simultaneously affecting a number of the markets in which the banks trade. Finally, there are instruments, such as securitisation, which can significantly reduce the exposure of the financial system to local shocks to the housing market.

THE COMPETITIVENESS CHANNEL

Inflation higher than the euro area average results in the real exchange rate appreciation and thus competitiveness loss leading to a reduction of external demand. Inflation lower than the euro area average leads to real exchange rate depreciation and competitiveness gains resulting in an increase in the external demand.

Over the period 1999-2005, in particular, Germany, Austria, France and Belgium-Luxembourg and Greece have experienced real exchange rate depreciation while Ireland, Finland, Spain, the Netherlands, Portugal and Italy have appreciated in real terms. Competitiveness gains have led to export growth in particular in Germany, Austria and Belgium-Luxembourg while competitiveness loss have affected negatively export growth in Italy, Portugal and Spain. Significantly, in Ireland, Finland, and the Netherlands export growth has remained above the euro area average despite their real exchange rate appreciation (Chart 21).

These divergent developments in export growth performance may be explained by the product composition of exports. Due to their specialisation in low-tech products, which are sensitive to price competitiveness, Italy, Portugal and Spain have been affected by export competition from low cost countries, in particular China. Burattoni, Ferrari and Tomasini (2006)[28] bring evidence from Italy illustrating this point.

Chart 21:   Real effective exchange rates (REER)* versus EU-12 and export growth differentials, 2000-2005
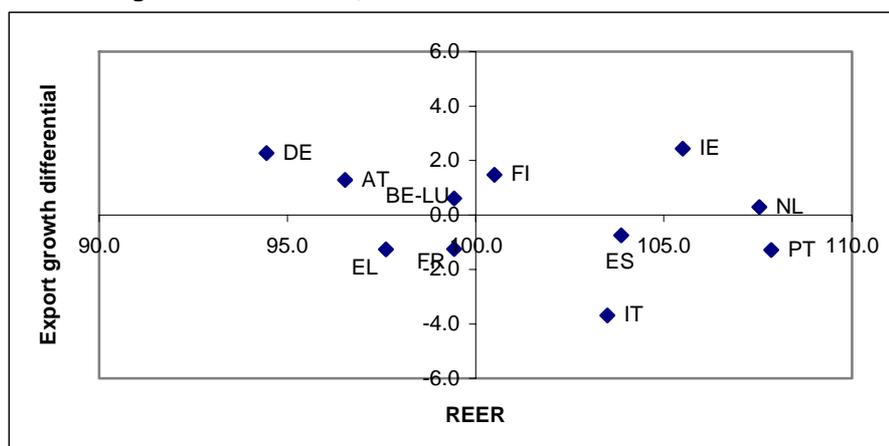
* calculated on the basis of unit labour cost in total economy (ULCE)
Source: Own calculations based on the AMECO database

SUMMARY

In a monetary union price and output differentials trigger adjustment through two channels: the real interest rate and competitiveness. In the euro area countries, real interest rates and real exchange rates developments had uneven effects on domestic and external demand. In particular, in countries with positive output growth differentials, such as Ireland and Spain, low real interest rates might have added to domestic demand pressure while higher than the euro area real interest rates might have further depressed domestic demand in countries with output growth below the euro area average, in particular Germany and Austria. However, this evidence is weak and should be taken as indicative.

Further, divergent real interest rates are reflected in divergent future costs of borrowing faced by households in the euro area countries. While housing prices are also driven by other country/region specific factors such as the existing stock of dwellings and demographic changes, housing markets can be a source of economic instability and can affect the regional financial sector where problems of bad debt occur.

Real exchange rate adjustment has led to changes in external demand and export performance in the euro area countries. Competitiveness gains have led to export growth in particular in Germany, Austria and Belgium-Luxembourg while competitiveness losses have affected negatively export growth in Italy, Portugal and Spain. Significantly, in Ireland, Finland, and the Netherlands export growth has remained above the euro area average despite their real exchange rate appreciation. The case of Italy, illustrates that differences in the product composition of exports may explain these divergent developments in export growth performance.

[28] See Annex A7

3.4.2   FISCAL ADJUSTMENT

Given the lack of national monetary and exchange rate instruments in a monetary union, fiscal policy may be a key policy instrument in adjusting to macroeconomic shocks in the euro area (Calmfors, 2003, Mathieu and Sterdyniak, 2004, Wren-Lewis, 2000, 2002). However, in the case of small open economies the effectiveness of discretionary fiscal policy is limited due to import leakage (Hoeller et al, 2004).

Colciago et al (2006) use a two-country New Keynesian DGE model with non-Ricardian consumers and a home bias in the composition of national consumption bundles to assess the role of national fiscal policies within a monetary union.

They find that fiscal policy can be successful for macroeconomic stabilisation in a monetary union, in particular when combining elements of both government expenditure and taxation in the automatic stabilisers. However, in some cases conflicting views among national policy makers may emerge. Furthermore their results suggest that there may be redistributive effects in terms of consumer welfare.

Recent research on fiscal adjustment (Perotti et al, 1998; von Hagen and Strauch, 2001; von Hagen, Strauch and Hughes Hallet, 2002) shows that the quality of fiscal adjustment is related to the relative contribution of different budgetary items to the adjustment effort. A fiscal consolidation is considered successful if the reduction in the budget deficit lasts for a number of years. Successful consolidations are fiscal adjustments based on expenditure cuts rather than increased revenues.

Briotti (2004) finds that the composition of budget consolidation policies implemented by EU countries between 1991 and 2002 have had an effect on the durability of fiscal consolidation. Countries which relied more than others on revenue-based adjustment suffered the largest consolidation setbacks since 2000.

The extent of the consolidation is also relevant, as countries which implemented more limited and delayed consolidation have suffered from significant budget worsening in more recent years. In relation to the cycle, fiscal policies show a clear bias in the period under examination. The analysis shows that fiscal policies were more pro-cyclical in high deficit countries than in low-deficit countries and in large countries than in small countries. In the first case, the risk of exceeding the fiscal reference values in bad times might have prompted pro-cyclical consolidation in countries with serious fiscal imbalances. In the second case, the worse budget positions recorded by larger countries might again explain why consolidation resumed in bad times. The analysis reveals that the pro-cyclical policies were those dominated by revenue-based adjustments. This may have accentuated the distortionary effects of tax increases.

Al-Eyd, Barrell and Holland (2006)[29] use the NiGEM model and examine the impact of an expansionary fiscal policy in each of the euro area countries. The results are compared to a simulation where all euro area economies raise government spending at the same time. Government consumption expenditure is raised by 1 percent of GDP for 2 years. Short-term interest rates are held fixed for 2 years so that this fiscal expansion is not immediately offset by a monetary tightening. If interest rates are increased from year three, then the

[29] See Annex A4

long rate will increase in the first year of the shock and bond prices will fall. Since equity prices are the discounted present value of future profits, an increase in activity will raise profits and hence share prices may rise in the short term. This however, is offset by the negative impact of higher long rates, and in the second year of the shock equity prices in the euro area tend to fall. The exchange rate will appreciate immediately in anticipation of expected future rises in interest rates.

With a small number of exceptions, this impact peaks after 2 years. As unemployment falls and capacity utilization increases, wages increase and inflation picks up. The peak in inflation typically lags behind the peak in the output response due to a gradual adjustment reflecting economic rigidities.

In the single country shocks the interest rate response is small, particularly for the smaller euro area countries, as the small rise in inflation exhibited by these countries has little impact on the ECB target for the euro area as a whole. The exchange rate strengthens in the first quarter of the simulation in anticipation of the interest rate rise. Export prices rise relative to import prices, and there is a deterioration in net trade, which partially offsets the increase in output. In the long run, GDP, unemployment and inflation return to their baseline values.

As shown in Chart 22 the fiscal multipliers are highly correlated with the import penetration ratios (imports relative to total final expenditure). Import penetration indicates the extent to which a rise in domestic demand will be offset by import leakages. This can be seen clearly for the very open economies including Belgium, and Ireland.

Chart 22: Fiscal multipliers and import penetration
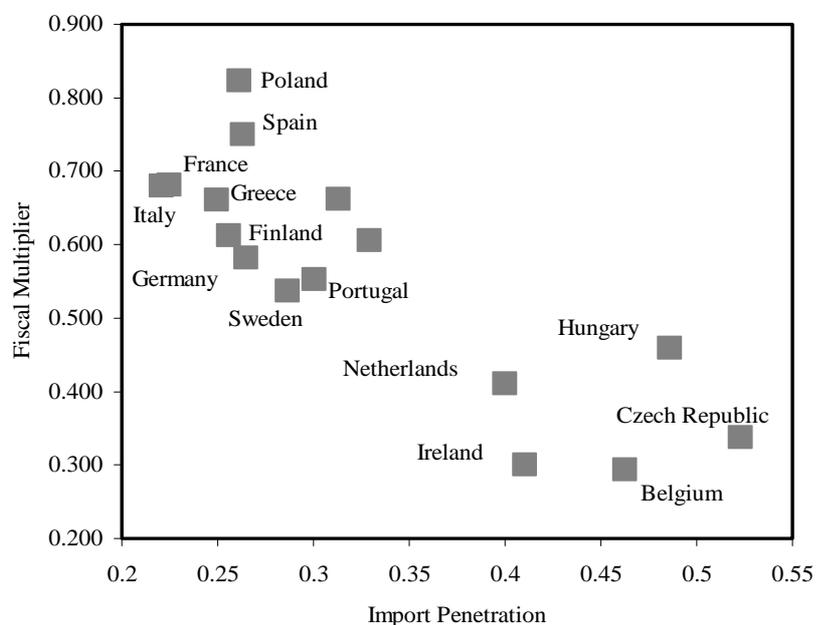
Source: Al-Eyd, Barrell and Holland (2006)

The fiscal multipliers do not exhibit a strong correlation with equity market indicators, but the results illustrate how differences in the structure of financial markets in the euro area economies affect their response to domestic demand shocks. The more financially open the economy (as measured by the

ratio of foreign liabilities to GDP) the lower is the multiplier. This confirms the suggestion by Barrell and Gottschalk (2004) that increasing openness has reduced the volatility of cycles in the major economies. Financial openness acts as an automatic stabilizer in the same way as import leakages – the greater the stock of foreign liabilities, the more assets and income flows leak abroad when the economy expands.

The euro area economies exhibit a stronger response to an area-wide fiscal expansion relative to a unilateral expansion. The major impact of this comes through trade, but some will come through cross holdings of equities and other financial assets. The correlation of the multipliers in response to an Area-wide shock with the ratio of foreign liabilities to GDP is somewhat lower in this more general shock, but still indicates a close relationship.

The equity price response is more significant in response to an Area-wide shock, as the impact on euro area interest rates is more pronounced.

Chart 23 shows the size of the multiplier in each country in response to a Euro area-wide fiscal expansion relative to unilateral fiscal expansion. This can be thought as a measure of spillovers from the rest of the euro area, where a figure greater than 1 indicates that the multiplier is larger in response to the Area-wide shock. In the first two years of the shock, the Euro area-wide multipliers relative to the unilateral multipliers are highly correlated with the openness of the economy, measured as total trade relative to GDP. The more open economies benefit more from spillovers in the form of stronger export demand from the other expanding euro area countries.

Those that conduct a higher share of trade within the euro area begin to reap additional benefits in the second and third years of the shock. In addition, exchange rate shifts have less impact on their competitiveness as compared to those with low trade intensity within the euro area.

The euro area shock has a more significant negative impact on financial wealth than the unilateral shocks, as higher long rates reduce both bond prices and equity prices. The larger the short-run impact of wealth on consumption, the lower the demand spillovers in response to an area-wide shock. Spillovers are also strongly correlated with financial openness.

Chart 23:   Euro area-wide multiplier relative to unilateral multiplier
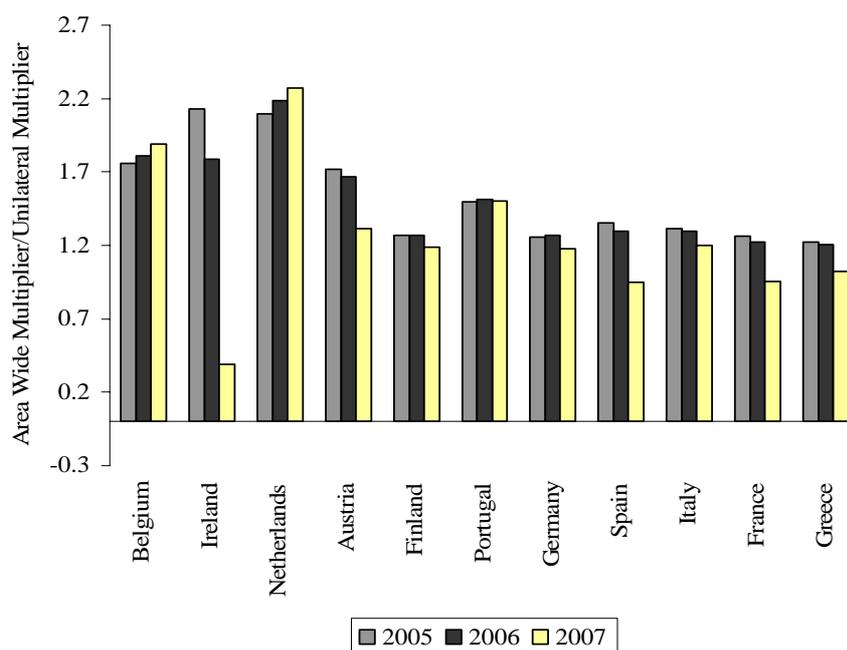
Source: Al-Eyd, Barrell and Holland (2006)

SUMMARY

Existing research suggests that discretionary fiscal policy is more effective in large countries while, due to import leakages, it is limited in small open economies. Openness to foreign financial markets, as measured by the ratio of foreign liabilities to GDP, also reduces the scale of the multiplier as assets and income flows leak abroad when the economy expands. Revenue-based fiscal consolidations appear more likely to be pro-cyclical in comparison with expenditure-based budget adjustments.

3.4.3   MACROECONOMIC ADJUSTMENT IN SELECTED EURO AREA COUNTRIES

ITALY

Burattoni, Ferrari and Tomasini (2006) present a detailed analysis of the macroeconomic adjustment experience in Italy[30]

The experience of Italy is interesting for several reasons. First of all, the exposure of its manufacturing is high compared to other European countries. With the exception of Germany, the share of the manufacturing value added in GDP is higher in Italy than in most of the euro area countries. In addition, Italy has always been an export-led economy, and the exchange rate policy has been extensively used in the past in order to restore losses in competitiveness. So, the new exchange rate regime might have affected Italy more than other economies. Second, as far as the oil price and the cash changeover shocks are concerned, the Italian experience can be interesting because Italy is supposed

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[30] See Annex A7

to have an inflationary bias. Third, due to the high public debt, the room for discretionary fiscal policy has been limited.

The shocks that hit the European economies within the EMU were more costly for Italy because they affected some already existing vulnerabilities and some peculiarities of the Italian economy: prices and exports were influenced, in a context in which the exchange rate was no longer an instrument to maintain price competitiveness and the fiscal policy was strictly constrained. The interest rates at the historical minimum levels were not sufficient to counterbalance these negative impulses. The unsatisfactory growth over the last six years in Italy raises the question about how to restore competitiveness and to foster GDP growth.

As far as price competitiveness is concerned, negative gaps with respect to unit labour costs, consumer prices and export prices are still present. Nevertheless, there are clear signs of improvement: the consequences of the cash changeover, even if larger in Italy than elsewhere in the euro area, are now over; the oil price shock has been affecting prices in Italy less than in the other countries; the productivity slowdown seems to have come to an end. In fact, the outstanding increase of employment reflecting the rising share of flexible jobs and the regularisation policies for immigrant workers is probably over. But the structural problems, that are still present and that can keep productivity growth subdued also in the future, cannot be forgotten: the insufficient use of information and communication technology coupled with small firm size and inadequate human capital, the insufficient competition in many sheltered sectors that increase the costs of firms more exposed to international competition. As far as product competitiveness is concerned, we found that the geographical specialization of Italian exports does not seem very relevant to explain the weakness of Italian exports. It is in the sectoral specialisation that the Italian pattern appears less favourable than the German and French ones, because it is more concentrated on low-tech sectors and particularly on traditional sectors and consequently more exposed to competition from low wage countries. In addition, global trade is growing faster for products where Italian exports are less specialised.

Even in this respect, there are signs of improvement: a corporate restructuring is taking place, with the disappearance of less competitive companies (usually very small). At the same time the production of traditional goods is moving to higher quality goods and firms are relocating part of their production abroad where the costs are lower. However, the outsourcing process remains modest compared with the main European countries, even if in the last few years it has been increasing.

Notwithstanding the recognized signs of improvement, in order to reduce the real costs of the adjustment process that the shocks and the new economic policy setting have required, some microeconomic measures could be useful. More market liberalization would reduce the mark-ups in sheltered markets and then reduce prices for households and costs for firms. In addition, more competition would encourage innovation and investment in research and development, and then increase the opportunities for employment and productivity growth. In this regard, liberalization initiatives undertaken by the Italian government in recent years may go in the right direction, although much more remains to be done.

FINLAND

Kotilainen (2006) analyses the macroeconomic performance and adjustment in the EMU[31]. Finland has performed well as a member of the euro area since its foundation in 1999. This is a good achievement for a small peripheral country where production and export structures as well as their developments differ significantly from the euro area average. Finland has strictly obeyed the rules originally set at the Maastricht conference. These concern inflation, interest rates, public sector balance and general government gross debt. Successful economic development realized after the severe depression of the early 1990s helped achieve adherence to the Maastricht criteria. Finland has, however, also taken active policy measures to fulfill the criteria.

Finland has profited from the microeconomic benefits of the euro, like reduced costs of foreign exchange, elimination of foreign exchange risk between euro countries. Lower interest rates have had a positive effect on investments. Joining the euro has allowed Finland adopt the credibility of monetary policy pursued by the European Central Bank, thus creating a more stable macroeconomic platform. Achieving the same credibility for the domestic central bank would have been problematic. Credibility of monetary policy is important especially in times of international and domestic crises.

The domestic and the relevant international environments have been rather stable during the euro period. The Russian currency crises during the euro preparation period in 1998 and the ICT crises in 2001 have been the major crises. The former negatively affected exports to Russia and some other countries that were affected by the crisis. The ICT crisis strongly affected exports of electronics industry in 2001. Wage agreements have also been moderate so that international competitiveness has been maintained. The good macroeconomic situation in terms of export growth of especially electronics industry, high current account surplus, low inflation and good public sector balances have given a good starting point for stable economic development. In fact there has not been any severe test for the EMU membership in Finland.

Finland's production structure is rather different to that of the euro area aggregate. The shares of transport and communication, paper industry and of the electronics industry are clearly higher in Finland than in the euro area average. Also the country's composition of exports differs notably from that of the euro area aggregate. These differences can be a source of asymmetric shocks. Therefore policies pursued within the EMU may not be at times the most appropriate or accommodating for Finland.

Observed business cycle development has also been different from that of the euro area aggregate. The correlation of GDP growth between Finland and the euro area has been relatively low. While the GDP volatility has been higher than the euro area average, GDP growth has also been higher. The strong trend growth of GDP thus helped in this respect.

As a member of the euro area, Finnish interest rates have been lower than the Taylor rule would indicate. Interest rates without EMU would undoubtedly have been somewhat higher. General inflation has not been a problem but housing prices have been rising very fast.

The key adjustment mechanism, labour market adjustment and fiscal policy have been working in a responsible way. Good public finances have enabled tax cuts, which in turn have helped obtain moderate wage increases. At

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[31] See Annex A8

the macro level the Finnish centralised wage negotiation system and corporatist practices can respond to big macro level developments appropriately. The problem in the Finnish labour market is that micro level stickiness of wages is very high, especially real wage rigidity. This can be a problem in responding to firm and sector specific shocks.

In Finland the probability of asymmetric shocks is higher than average in the euro area. This creates challenges for the adjustment mechanism. Public sector finances must be sound to enable necessary fiscal policy measures, firm level labour market flexibility should be increased, regional and vocational mobility of labour should also be increased. Maintaining high trend growth of the economy is, however, the most important thing, as it allows larger scope for manoeuvring with respect to the adjustment mechanisms.

3.5 Summary and Policy Implications

EMU was achieved successfully with very little economic disruption. However, so far there have been no major asymmetric shocks affecting individual economies within the EMU. As a result, the potential effects of the loss of policy options inherent in a common currency area have not yet been fully tested.

Divergent output growth experienced across the membership of the EMU is primarily due to differences in underlying trend growth rates. In some cases, such as Italy and Portugal, serious problems have arisen as a result of enhanced competition from outside the EU. While EMU precludes a quick fix in terms of a nominal exchange rate change, it is unlikely that such a quick fix could solve the more deep-seated structural problems in such economies. Under EMU solutions must be found through policies promoting structural change and adaptation.

Restoring competitiveness in Italy would mainly require changing patterns of industrial product specialisation. Further, the reduction of relative prices (both of labour and of goods) can help, especially if they come from a market liberalisation process aimed at reducing mark-ups in sheltered sectors and therefore prices for households and costs for firms. While necessary, these structural changes may entail costs in terms of GDP loss. Using fiscal policy to counterbalance these costs is constrained by the high public debt in Italy.

The experience of Finland demonstrates that the elimination of the exchange risk, reduction of transaction costs, lower interest rate, credibility gains and their positive effects on investment, in combination with fiscal consolidation and efficient labour markets can outweigh the cost of foregoing monetary policy independence.

This has been true for some other members including Ireland and Spain. However, for Germany, in particular, there has been no benefit from any reduction in risk premia.

Divergence in inflation rates is also to a significant extent due to country specific factors. This has resulted in divergence in real interest rates experienced by households across the Euro area. While this has had differential effects on the housing market, these are probably limited in nature as the other drivers of the construction sector are more important in the longer term.

Nonetheless, the experience to date of EMU suggests that some governments may need to adjust their policies to deal with potential housing market bubbles. The loss of the instrument of monetary policy could be offset by a more targeted approach using fiscal policy. However, this has not yet been the practise in EMU, even in countries such as Spain and Ireland, which are suffering from serious inflationary pressures in that sector. For the new member states membership of EMU in the future could precipitate housing market booms and it will be important to prepare the ground for an appropriate use of fiscal policy to manage any risks that such an eventuality might entail.

Financial integration can act as an adjustment mechanism to country-specific shocks by smoothening consumption over time through cross-border portfolio diversification. Furthermore financial integration plays an important role in the transmission of the common monetary policy. Financial market openness is clearly a factor behind the propagation of shocks. Integrated economies are more exposed to spillovers from external shocks, while they return to equilibrium more quickly in response to domestic shocks.

Research on the determinants of consumption suggests that the impact of changes in wealth on consumption levels in the euro area is small, at lest in the short term. There is stronger evidence of long run wealth effects. Further, households tend to react stronger to capital losses in comparison to capital gains. This asymmetric reaction is likely to influence the marginal propensity to consume out of wealth. Single country equity price shocks have little impact on the domestic economy as wealth effects on consumption are small and some equities are owned by foreigners. Consequently, the impact of any shock to equity prices is likely to be small. It has been shown that when euro area equity markets are shocked the effects are small. A global shock however has a more noticeable impact.

Recent research suggests that EMU has fostered intra-industry trade and there has been some, albeit limited, convergence in terms of the economic cycle. These developments have, if anything, enhanced the effectiveness of ECB monetary policy.

Because of structural differences in economies in the euro area there remains the possibility that supply side shocks could differentially affect one member economy, for example in the way that Finland was affected in 1989-90. Under such circumstances the discipline of EMU could slow adjustment to such a shock. If and when such shocks do occur increased reliance will have to be placed on promoting the flexibility of the economies so affected.

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