

# The Competitiveness Challenge: EU Member States in International Trade

Given the increasing internationalization of trade, it is imperative for any country to ensure that its economy remains competitive. This study sheds light on trends in competitiveness in the EU Member States as made evident in an analysis of various indicators. Having lost their exchange rate autonomy by adopting the euro, the euro area countries face an additional constraint on national economic policy-making in the pursuit of competitiveness. In recent years, diverging unit labor cost developments have left their mark on competitiveness trends in individual euro area countries. Changes in competitiveness should not be interpreted in isolation, but rather against the background of a country's level of economic development, as evidenced in particular by the EU Member States in Central, Eastern and Southeastern Europe. For instance, long-term catching-up processes and equilibrium price adjustments have a major impact on price competitiveness indicators. The countries of this region managed to tap their potential for catching up and succeeded in withstanding international competition especially by raising product quality.

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## 1 Introduction

A country's economic outlook is closely related to its competitiveness. Hence, it is not surprising that new data on a country's competitive position in the world are on the radar of both the media and policymakers<sup>2, 3</sup>. Growing international trade integration raises the importance of competitiveness indicators even further. In the 1990s, world trade expanded more than twice as fast as real economic output. More and more goods and services are becoming tradable, and ever more companies and countries are opening up to foreign trade.

The principle of the international division of labor, which in a competitive environment leads to efficiency gains if every country makes use of its comparative advantages, lies at the heart of the importance of trade for

growth. This helps raise a country's per capita income. International trade moreover helps spread technological progress faster, which in turn has a positive impact on potential output growth. The European Commission (2005) concludes that about 20% of the rise in living standards in EU Member States over the past 50 years is attributable to the opening up of the world economy. Similarly, other empirical studies (e.g. Frankel and Romer, 1999) corroborate the positive link between foreign trade and economic growth. This link is particularly relevant for the euro area given its high degree of openness. In the euro area, exports account for around 33% of GDP (United States: 8%, Japan: 14%).

Several factors influence a country's competitiveness: exchange rate

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<sup>2</sup> The European Council, for example, expressed its aim to turn the EU into the world's most competitive region by 2010. The corresponding strategy has since played a prominent role within the EU's political debate.

<sup>3</sup> The concept of competitiveness has, however, also been criticized (see among others Krugman, 1994).

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developments and the inflation differential vis-à-vis its main trading partners, with the latter largely depending on the relative development of unit labor costs (ULC), notably for tradable goods; the country's sectoral and regional trade structures, which determine whether its export activities are focused on more or less dynamic industries and regions; and finally, a number of location factors which have an impact on the country's attractiveness as an investment and business location. Depending on the nature of a country's locational disadvantages, the media are often quick to urge central banks, social partners and governments to promote competitiveness in a systematic way. In particular, they tend to call for short-term solutions like adjusting exchange rates or subsidizing crucial production factors, such as energy prices, rather than encouraging decision makers to uncover the structural causes of these deficits, which concern wage-setting processes, trade structures, research and education systems as well as the business and investment climate.

This study sheds light on the EU Member States' competitiveness in the past 10 to 15 years. Using a number of different measures described in section 2, we examine in section 3 which countries have gained or lost competitiveness in recent years. Subsequently, we analyze the role of exchange rate movements, wage policies, growth dynamics as well as sectoral and regional trade structures for the development of competitiveness.

Here, we focus in particular on the euro area countries as well as on the specific challenges for EU Member States in Central, Eastern and South-eastern Europe (CESEE).

## 2 Indicators of Competitiveness

The wide range of determinants and interpretations of competitiveness implies that it can be measured in many different ways. Basically there are two complementary approaches to gauge a country's competitiveness. The *result-oriented approach* focuses on the past performance of a country in international competition based on indicators, such as export growth, the market share in the global economy, the real exchange rate, real per capita income, the current account balance as well as the country's presence in high-technology sectors and comparative advantages. While these indicators capture a country's current and past performance in international competition, they do not lend themselves to forecasting future developments and often do not point to the sources of competitiveness. As a case in point, increased export growth might result exclusively from a global economic boom, rather than from improved competitiveness.

*Determinant-oriented approaches*, by contrast, assume that there is a correlation between specific determinants and a country's competitiveness. Such determinants include the costs for the production factors labor and capital, technology, the infrastructure and the business environ-

ment as well as other location characteristics.<sup>4</sup> So if determinants of competitiveness change, it is possible under this approach to draw conclusions about the future development of competitiveness. In other words, the determinant-oriented approach also has a predictive side to it.<sup>5</sup>

This study presents an analysis of the development of competitiveness of the 27 EU Member States over the past few years. We focus on the result-oriented approach for reasons of data availability for the greatest possible number of countries. In subsections 2.1 to 2.5, we describe the characteristics of the most important indicators. In section 3, we analyze these indicators in greater detail for the individual countries.

## 2.1 Effective Exchange Rates Based on Different Deflators

In the short run, a country's competitiveness is mainly driven by price and cost factors, which have an internal and an external component. The internal component is determined primarily by the development of factor costs. Wage and productivity growth rates, covered by the concept of unit labor costs, are particularly significant in this context. As wage policy – contrary to the decentralized price-

setting behavior of businesses – is highly centralized in some countries, it plays a prominent role in the media. The more tightly a country's exchange rate is pegged to the currencies of its main trading partners, which entails that it can no longer be used to support competitiveness, the more wage policy turns into a political issue. This is true for the euro area countries but also for some other EU Member States.

The external component of price and cost competitiveness is measured by the exchange rate. While the news media often refer to bilateral exchange rates, e.g. the euro vis-à-vis the U.S. dollar, the concept of the *effective exchange rate* (EER), i.e. the bilateral exchange rates of a country vis-à-vis its main trading partners weighted according to their respective shares in foreign trade, represents a much more meaningful indicator.

So as to combine price, cost, and exchange rate information in a single indicator, the *nominal effective exchange rate* (NEER) is adjusted for a measure of relative prices and costs, which results in the *real effective exchange rate* (REER). The REER takes into account that it is not only the external value of its currency that determines a country's price competitiveness in

<sup>4</sup> The determinant-oriented approach also covers synthetic indicators of competitiveness, which are regularly published as country ratings by several international bodies, including the World Economic Forum, the International Institute for Management Development, the International Finance Corporation and the Bertelsmann Stiftung. Synthetic indicators are constructed as composite indices by combining and weighting a wide range of performance indicators. Data series used include macroeconomic data (growth prospects, price levels, tax ratios, employment rates, R&D ratios, etc.) as well as (soft) location factors (taxation, job protection regulations, administrative burden for business start-ups, wage-setting processes, infrastructure, qualification of labor, etc.). Variables are often selected ad hoc and without any firm theoretical or empirical foundation. For a discussion of advantages and disadvantages of different location rankings, see e.g. Heilemann et al. (2006) and Gundel and van Suntum (2007).

<sup>5</sup> The European Commission offers an alternative approach to evaluate a country's competitiveness: it holds a quarterly survey of around 20,000 industrial companies, in which they have to assess their own competitiveness within and outside the euro area. The European Central Bank (ECB, 2003) shows, however, that the survey indicator for competitiveness outside the EU is causally determined by the euro area's real effective exchange rate (REER). In the medium term, the exchange rate thus seems to play a decisive role in rating one's own competitiveness.

foreign trade, but also the inflation differential vis-à-vis its main trading partners. In order to calculate the REER, we can use different deflators (see ECB, 2003).<sup>6</sup> The consumer price index (CPI) is most commonly used owing to high data availability and quality. As this inflation measure also includes groups of nontradable goods, its information value might be limited, particularly in the case of catching-up economies, where the prices of tradable and nontradable goods often exhibit divergent trends. In addition, changes in indirect taxation and export subsidies can distort the CPI. The same disadvantages apply to the GDP deflator, which, moreover, tends to undergo frequent revisions. The producer price index (PPI) comprises primarily tradable goods which are exposed to international competition. Yet, if exporters trying to keep their prices stable in the export market currencies absorb short-term fluctuations in production costs and/or exchange rates by reducing profit margins (pricing-to-market strategy), the PPI no longer reflects real costs and therefore distorts the competitiveness picture. To capture the cost side, it is better to use ULC growth as deflator, although this measure does not consider the costs of capital, of imported raw materials and of energy.

In light of the advantages and disadvantages of the various REER approaches, the ECB publishes price

and cost competitiveness indicators of the euro area on the basis of different deflators (Buldorini et al., 2002). In addition to the 14 non-euro area Member States of the EU, the ECB includes the 10 (EER-24) and 30 (EER-44) most important trading partners outside the EU. As chart 1 shows, these indicators (for EER-24) are highly synchronized in the euro area aggregate. Even the NEER mirrors the REER measures, as inflation in the euro area and its main trading partner countries has developed along similar lines.<sup>7</sup>

Within the euro area, exchange rate fluctuations are a thing of the past. Yet, domestic producers are still exposed to competition within the euro area, both when trading directly with other euro area countries and when trading in third markets. Although indicators of national competitiveness have become insignificant for monetary policymaking within the euro area, they are still important yardsticks for income and structural policymaking, two areas which have remained national responsibilities. Since the beginning of 2007, the ECB has therefore been publishing *Harmonised Competitiveness Indicators* (HCIs) for individual euro area countries.<sup>8</sup> The group of trading partners includes the 44 external export markets comprised in EER-44 and the other euro area countries. For the time being, these indicators are only available on the basis of the Harmo-

<sup>6</sup> For more information on the availability of indicators of price and cost competitiveness in Austria and a comprehensive comparison of the advantages and disadvantages of different approaches, see Köhler-Töglhofer et al. (2006).

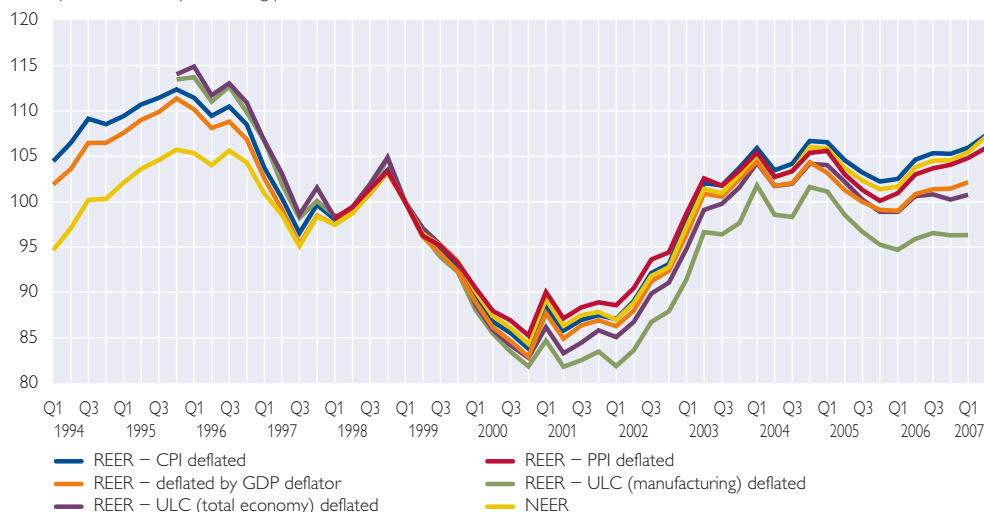
<sup>7</sup> Ca'Zorzi and Schnatz (2007) analyzed whether the different indicators published by the ECB could be used to forecast export developments in the euro area. They conclude that none of the indicators consistently outperforms the others in all selected criteria.

<sup>8</sup> In the past, the national central banks (NCBs) published similar measures based on a broadly harmonized methodology. For further details on the Austrian indicator calculated by the OeNB in cooperation with the Austrian Institute of Economic Research (WIFO), see Köhler-Töglhofer et al. (2006).

Chart 1

**ECB: Real and Nominal Effective Exchange Rates**

Index (1999 Q1 = 100), 24 trading partner countries



Source: ECB.

nised Index of Consumer Prices (HICP) (ECB, 2007a).

Other international organizations also regularly publish data on price and cost competitiveness. The Bank for International Settlements (BIS) provides monthly CPI-based data for all EU Member States (except Cyprus, Luxembourg and Malta) as well as PPI-based data for 13 EU Member States. The data for the individual euro area countries also reflect competition within the monetary union. Up until the beginning of 2006, ULC-deflated series were available for 14 EU Member States. In section 3, we analyze these data at greater length. The Organisation for Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF) likewise offer monthly CPI-based data for many EU Member States. In addition,

the IMF offers ULC-based data for selected countries.

**2.2 Terms of Trade**

The *terms of trade (ToT)* – defined as the ratio of export to import price indices – measure the *price competitiveness* of a country. If the ToT rise, a country can import more goods while keeping its exports at an unchanged level. In other words, ToT fluctuations exert an impact on real income. Many factors, including a country’s exchange rate developments or exogenous factors like higher oil prices, influence the ToT.<sup>9</sup> Country-specific factors, such as the development of ULC or the price-setting behavior of businesses, impact on the ToT as well. Higher export prices – and thus more favorable ToT – may, however, also be attributable to improvements in product quality or reputation.

<sup>9</sup> As export and import deflators are expressed in the domestic currency, a direct link between the import deflator and exchange rate movements can be assumed.

### 2.3 Balance of Trade

The *balance of trade*, which reflects export and import growth, is one of the most commonly used national competitiveness indicators. For the members of a monetary union, the external trade balance is of particular importance as they can no longer use their exchange rates to adjust for any imbalances. Although the balance of trade might develop favorably even in times of an economic slowdown given low import growth – in which case we would not be able to draw any conclusions about competitiveness – balance of trade development is still useful for assessing the competitive position of a country when combined with other indicators (such as ULC development).

### 2.4 Market Shares

The development of a country's *market share* in its most important export markets is a clearer gauge of competitiveness. Whether or not a country loses market share or manages to withstand international competition in the medium and long term depends largely on its price competitiveness but also very much on structural factors. Here, a country's exposure to competition from emerging economies in the manufacturing of export goods against the backdrop of global demand dynamics plays a key role. Yet, what is equally important is how fast a country can react to changes in demand, whether its exports target growth markets, whether it improves product quality and whether its manufacturing sector is switching from simple labor-intensive to more sophisticated capital-intensive products. All these factors are especially important in the euro area countries and in countries whose currencies are pegged to the euro.

We have to bear in mind though that a high market share could also result from subsidization or other price distortions.

### 2.5 Foreign Direct Investment

Moreover, changes in market shares may also be traceable to *foreign direct investment* (FDI), which serves as an indicator of a country's integration in international trade and its attractiveness as a business location. Initially, FDI can have positive effects on the investing country's competitiveness, notably in the case of vertical investment, which is aimed at realizing cost advantages (as opposed to horizontal investment, which is aimed at opening up new markets). So, by shifting parts of its production abroad and by importing intermediate products, the investing country can reduce costs and consequently step up its competitiveness. In addition, FDI can improve the host countries' competitiveness thanks to positive technology- and productivity-related effects, which are eventually bound to be echoed in rising exports.

## 3 Competitiveness in the EU – Key Aspects

In this section we analyze the development of the EU Member States' competitiveness, using the measures described in section 2; subsequently, we discuss a few specific issues. Our main focus lies on the challenges for member countries of a single currency area as well as on the specific situation of countries catching up economically.

### 3.1 External Components of Competitiveness Trends in EU Member States

Initially, we analyze how competitiveness has developed in the indi-

vidual EU Member States since the mid-1990s by examining REER data released by the BIS.<sup>10</sup> As described in subsection 2.1, the BIS publishes CPI-based REER data for almost all EU Member States. The currency basket comprises 52 countries, which together account for more than 90% of world trade. The index is standardized in such a way that the year 2000 corresponds to a value of 100. For the sake of international comparability, the CPI-based REER is used for the entire group of countries, even though it is not the indicator of choice for the EU Member States in Central, Eastern and Southeastern Europe, given that the currencies of economies in transition tend to be undervalued initially. In the course of the catching-up process, the exchange rate approaches the equilibrium exchange rate, while the real equilibrium exchange rate might still be on an upward trend.

Charts 2a to 2e cluster the countries in five subgroups. Each chart also includes the REER of the euro area. The euro area series, however, do *not* represent the weighted average of the national series of euro area countries. As to the euro area as a whole, the set of trading partners covers exclusively countries outside the monetary union. In the case of individual euro area countries, the indicators also account for competition within the euro area.

Up until mid-1997, competitiveness within the euro area improved markedly. In this period, the currencies of the two main trading partners of the then still hypothetical currency area – the U.S. dollar and the pound sterling – were depreciating. In the

third quarter of 1997, the economic crisis in Asia triggered a massive depreciation of Asian currencies of up to 40%. Despite the relatively small weight Asian countries have in international trade, the flagging Asian currencies led to a noticeable drop in the competitiveness of the euro area countries. Between the end of 1998 and the end of 2000, the euro area countries clearly caught up again, as the euro depreciated against the major currencies. Next came a phase during which the euro area's competitiveness decreased again in conjunction with the euro's appreciation. Yet, as the euro area experienced less pronounced price and wage increases than its main trading partners, the negative effects of a stronger euro could partly be absorbed. Since the beginning of 2004, the REER has remained broadly stable.

The country subgroups 1 and 2 shown in charts 2a and 2b comprise 11 euro area countries plus Denmark that fits in nicely with the others given its fixed exchange rate policy within the framework of the European exchange rate mechanism II (ERM II). While the REER developed quite similarly in all 11 euro area countries, the dynamics of recent years differ between subgroup 1 and subgroup 2. Both subgroups have in common that their REER was on a steady decrease in the second half of the 1990s, which was also true for the euro area as a whole. This trend is much more pronounced in the countries in chart 2a, whose competitiveness increased strongly, above all in the first few years of the single monetary policy, when the euro depreciated markedly. Some of the countries

<sup>10</sup> The indicator used here has been available since 1994. Series for Cyprus, Luxembourg and Malta are not available.

in chart 2b started from a more favorable level though: While all countries of chart 2a, except Finland, had overcome the 1992–93 crisis of the European Monetary System (EMS) without massive depreciations, Italy, Portugal and Spain devalued their currencies markedly in the wake of this crisis, subsequently gaining a short-term competitive edge. Greece, which became a member of the euro area only in 2001, devalued its currency several times in the 1990s.

During the euro's rally between mid-2002 and 2005, the REER also went up in all countries. While the REER increased to a lesser extent than the NEER in subgroup 1, subgroup 2 experienced a much greater loss in competitiveness. Ireland's development is particularly striking as its REER has risen sharply since the year 2000. Inflation has remained at a relatively high level in all countries in recent years, which – as discussed in further detail in subsection 3.2 – is mainly attributable to ULC dynamics. Subgroup 2 has thus suffered competitiveness losses against subgroup 1 in recent years. In subsection 3.2, we look at the issue of preserving competitiveness and at the significance of wage policy within a single currency area.

Charts 2c and 2d comprise those CESEE EU Member States that have not yet introduced the euro. As already mentioned, the CPI-based

REER does not particularly lend itself to analyzing the competitiveness of catching-up economies. In the case of these countries, the increase of a CPI-based REER is generally overestimated compared with that of a PPI-based or ULC-based REER. As the CPI-based exchange rate includes tradable and nontradable goods and services, the Balassa-Samuelson effect<sup>11</sup> is ignored. Moreover, the CPI-based REER also considers adjustments of regulated prices, which is particularly relevant when the catching-up process is accompanied by gradual price deregulation. Differing deflators notwithstanding, REERs tend to move in the same direction.<sup>12</sup>

It is evident from charts 2c and 2d that the currencies of the country subgroups 3 and 4 experienced a strong real effective appreciation in the period under review, which can be attributed to the fact that these currencies had been substantially undervalued at the beginning of the transformation process. In the second half of the 1990s, the currencies of most of these countries tended to appreciate in real terms,<sup>13</sup> which is largely ascribable to price level adjustments but also to higher capital inflows. In the Baltic states (chart 2c) the REER has largely remained stable since 2000.

This development results partly from these countries' euro peg (and the euro's gain against the U.S. dol-

<sup>11</sup> *Catching-up economies usually experience significantly higher productivity growth in the tradable goods sector than in the closed services sector. If productivity growth determines wages in the open sector and wages of both sectors converge due to workforce mobility, ULC grow faster in the services sector, in turn driving up service price inflation in catching-up economies therefore tends to be higher than in more advanced countries. This is referred to as the Balassa-Samuelson effect.*

<sup>12</sup> *See e.g. Belovič (2005) for Slovakia, the IMF (2006) for Romania, and Burgess et al. (2004) for the Baltic states. In Lithuania, CPI-based and PPI-based REERs develop in sync, provided that oil prices are not taken into account as the energy sector is very important for Lithuanian foreign trade.*

<sup>13</sup> *The currencies of Bulgaria and Romania started to appreciate only in the wake of the 1996–97 currency crisis and the ensuing massive real depreciation.*

Chart 2a

**Comparison of Real Effective Exchange Rates**

CPI-based, broad index: 52 trading partner countries

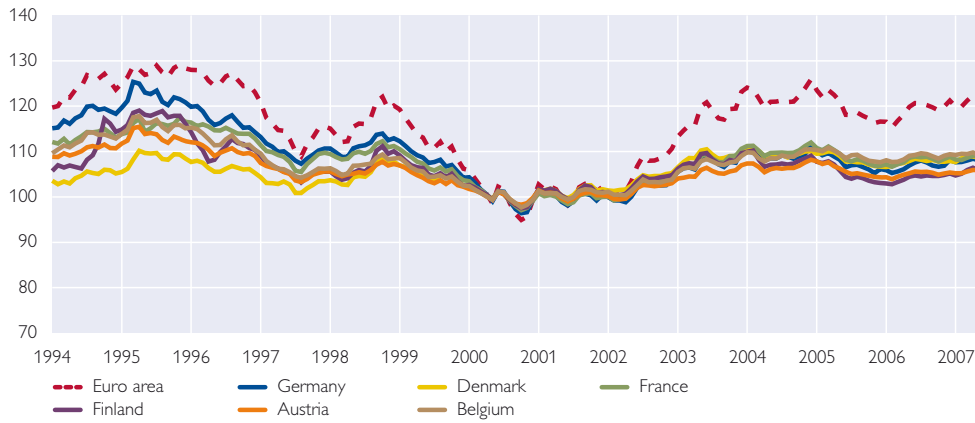


Chart 2b

CPI-based, broad index: 52 trading partner countries

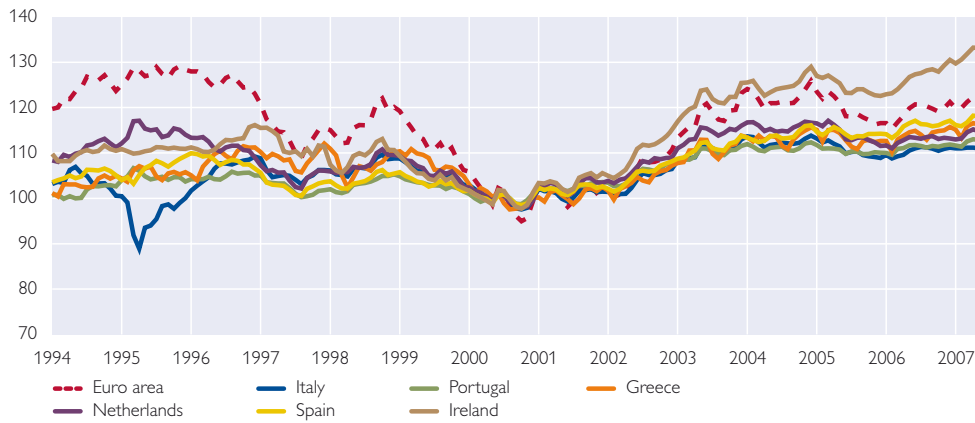
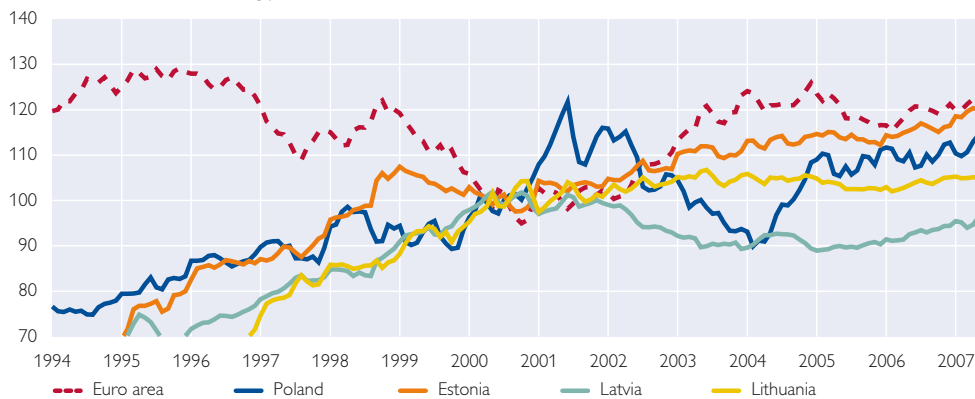


Chart 2c

CPI-based, broad index: 52 trading partner countries



Source: BIS.

Chart 2d

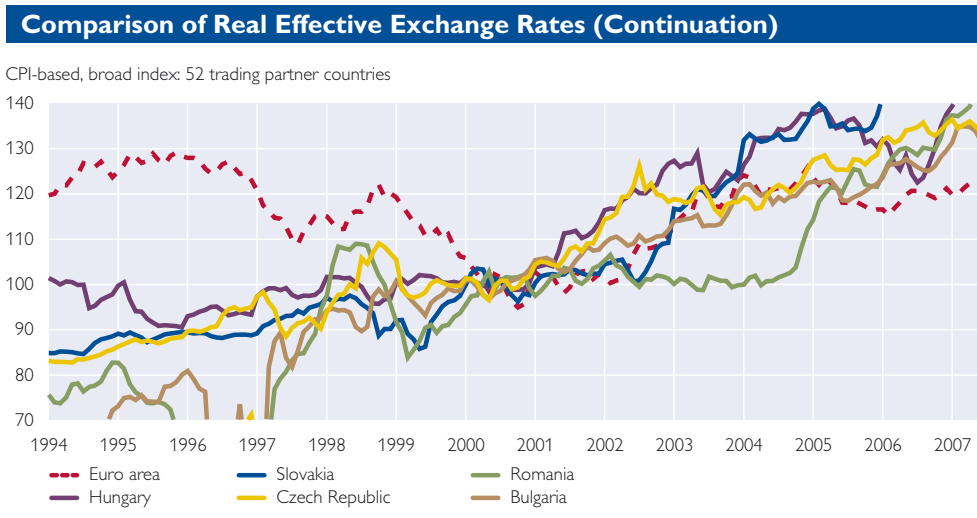
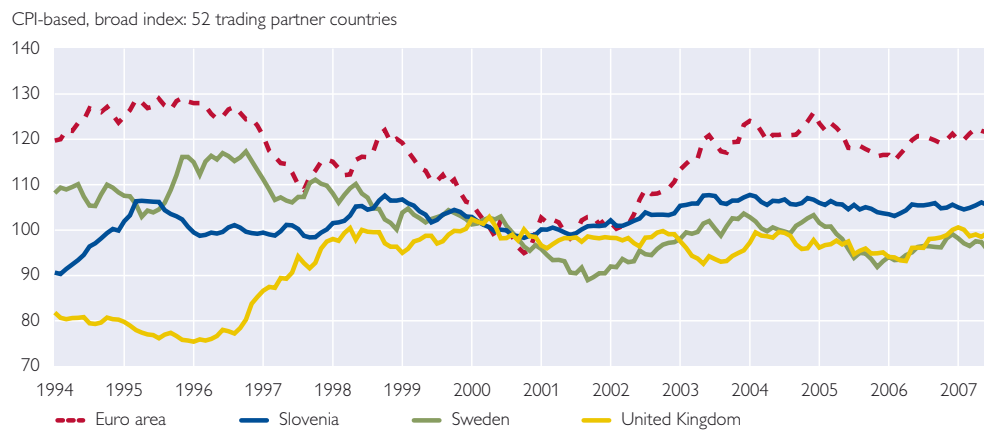


Chart 2e



Source: BIS.

lar), partly from the relatively moderate price increases in the first years of the decade (Estonia, Lithuania). Following a substantial depreciation of the zloty in 2003 as a consequence of falling real interest rates and uncertainties about the country's fiscal policy stance, Poland's exchange rate has remained stable since 2005. In the countries of subgroup 4 (chart 2d), the appreciation trend of the CPI-based REER continued. The Romanian leu only started to appreciate in real terms from mid-2004 onwards, when Romania adopted a

more flexible exchange rate regime and liberalized capital movements in 2005, which also had an impact on the country's competitiveness; in this respect the comparatively high increase in ULC is also worth mentioning.

Chart 2e shows the two EU Member States Sweden and the United Kingdom, neither of which has introduced the euro or has pegged its currency to the euro within ERM II. Following the EMS crisis, the United Kingdom also started off with a competitive advantage, which diminished

gradually during the second half of the 1990s. As the REER has stabilized since then, the U.K. has a competitive edge over the euro area. The main reason is that the pound sterling has remained relatively stable against the U.S. dollar since 2002, when the euro again appreciated against the U.S. currency. Sweden's economy is well positioned, too: it is the only EU Member State in which the current REER lies below the 1994 level. In addition, chart 2e plots the development of the REER in Slovenia, which joined the euro area at the beginning of 2007. In the period under review, Slovenia's REER remained relatively stable.<sup>14</sup>

As already discussed in section 2, other price and cost performance indicators likewise provide information about the development of competitiveness in the EU-27. We hence continue to briefly present the development of the ToT, and deal with ULC developments in subsection 3.2.

The ToT of the euro area and of the aggregated EU-27 have deteriorated since the beginning of Economic and Monetary Union (EMU), yet with marked differences from country to country. While in Germany, for example, the ToT improved on average between 2002 and 2006, France, Italy and Portugal suffered significant losses. The CESEE EU Member States, by and large, managed to improve their ToT. As already discussed, many factors may have an impact on the ToT. Germany's higher ToT might be attributable to quality improvements of its export goods,

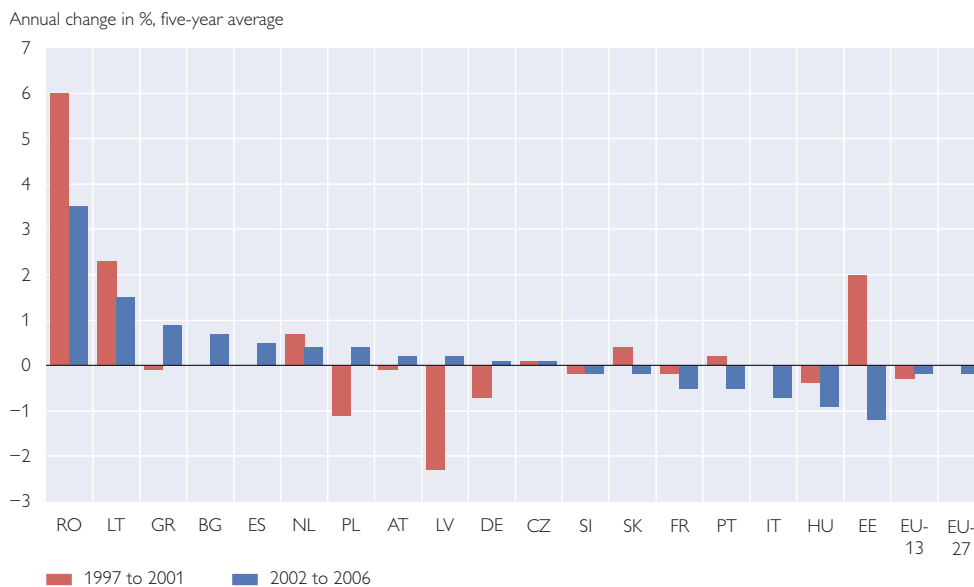
which went hand in hand with higher export prices (despite decreasing or only slightly increasing ULC in the industrial sector). France, Italy and also Portugal apparently felt the impact of the introduction of the euro, which had brought an end to exchange rate targeting. This put a stop to their relatively high export prices and their ToT deteriorated. In France, for instance, ULC picked up relatively sharply in manufacturing, while export price growth was significantly weaker or even negative during the period under review.

In CESEE, the ToT generally increased over the past ten years owing to exchange rate developments (lower import prices resulting from currency appreciations) and structural changes in these economies. At the beginning of the transformation, exports were characterized by fairly poor quality and relatively low value added. As the economies were catching up and implemented fundamental structural changes, both quality and value added improved, which in turn lifted export prices. In this context, robust FDI inflows to these countries played a crucial role as they had a positive effect on export structures. Let us also briefly refer to the ToT against the backdrop of ULC developments. In Romania, for example, ULC in manufacturing rose sharply as did export prices and the ToT. Yet, the improved ToT notwithstanding, this development possibly points to a loss in competitiveness, which is also mirrored in the country's trade balance (see also subsection 3.3).

<sup>14</sup> In the case of Slovenia, the REER seems to be generally in line with fundamentals (IMF, 2005). Moreover, Slovenia started from a relatively high GDP per capita level and its catching-up process was more gradual than in most other transition economies.

Chart 3

**Terms of Trade in CESEE EU Member States  
and in Selected Euro Area Countries**



Source: European Commission.

**3.2 Wage Policies Are Central to Preserving Competitiveness within a Monetary Union**

When it comes to preserving or regaining competitiveness, the members of a monetary union face a stiff challenge in conducting their national economic policies given the loss of exchange rate autonomy. It is thus particularly important to observe indicators of competitiveness. Losses in competitiveness might point to structural rigidities in the wage- and price-setting mechanisms or to a lack of competition.

As bilateral exchange rates are irrevocably fixed within a monetary union, inflation differentials play a crucial role for country-specific REER developments. Angeloni and Ehrmann (2004) show that although inflation dispersion decreased mark-

edly within the euro area in the 1990s, equaling approximately the level observed in the U.S.A. (14 Metropolitan Statistical Areas), it is still significantly higher than within Germany, Spain or Italy.

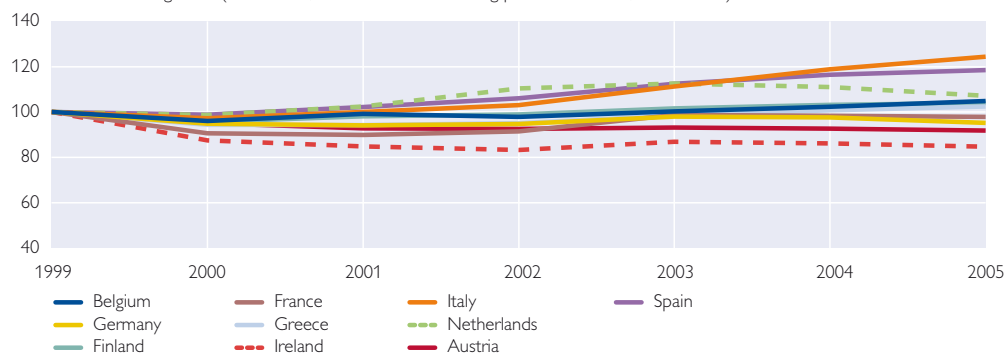
Whether or not high inflation countries are less competitive within a monetary union depends on the origins of the price increases. Inflation differentials that result for example from the Balassa-Samuelson effect and are thus an equilibrium phenomenon, do not necessarily diminish competitiveness. Similarly, price level convergence induced by intensified intra-euro area competition might also generate inflation differentials.<sup>15</sup> Also, high inflation rates might be a normal and necessary response to an overheated economy, with a tight labor market quickly driving up wages.

<sup>15</sup> Fischer (2007) explicitly analyzes whether developments in the competitiveness of the euro area countries can be attributed to equilibrium phenomena.

Chart 4

### Unit Labor Costs and Competitiveness in Euro Area Countries

Real effective exchange rate (ULC-based, narrow index: 26 trading partner countries; 1999 = 100)



Source: National central banks.

Yet, if high wage growth is a permanent phenomenon that is not linked to the business cycle, the concomitant loss in competitiveness directly impacts on economic growth and employment. Arpaia and Pichelmann (2007) show, for example, that in some euro area countries the cyclical reaction of ULC is more pronounced if the economy expands above the growth rate of potential output. The services sector is the main source for this asymmetry, as it is less exposed to the regulating forces of international markets. Different elasticities depending on the position in the economic cycle can delay ULC adjustments and aggravate cyclical fluctuations.

Angeloni and Ehrmann (2004) show that inflation differentials are highly persistent in the euro area. As the single monetary policy cannot act on inflation developments in individual euro area countries, the economic policy areas still managed nationally, first and foremost structural and wage

policies, are key to counteracting any loss in competitiveness. This adjustment process can be time-consuming and painful.

Chart 4 highlights the development of the REER deflated by ULC in manufacturing in ten euro area countries from 1999, the start of EMU, to 2005.<sup>16</sup> Since 2000, some euro area countries have suffered continuous losses in competitiveness (see also chart 2), above all Italy, Spain and Greece. The inflation rates of these countries, which are above the euro area average, may thus be attributed to dynamic ULC developments.

Chart 5 sheds more light on the underlying causes and displays growth differentials of the HICP, wages and productivity in selected euro area countries against the euro area average between 1999 and 2006. It is evident that Spain's and Italy's high ULC growth is primarily the result of negative productivity dynamics, whereas in Greece – despite its weak economy –

<sup>16</sup> At the beginning of 2006, the BIS ceased to publish the ULC-based REER series, which, for Portugal, were available only up to 1998.

this factor is amplified further by extremely dynamic wage growth.<sup>17</sup>

Although the Netherlands, Germany and France posted substantial losses in competitiveness (as the euro appreciated sharply vis-à-vis the U.S. dollar until 2003), they managed to offset some of these losses later on. Particularly the Netherlands had to radically alter their wage policies to reverse the downward trend. This group of countries is characterized by wage moderation, and Germany and the Netherlands recently even registered a decline in ULC. Like Austria, Germany benefited from EU enlargement, as it facilitated cost reduction by outsourcing production steps to CESEE EU Member States. The fact that Austria's competitiveness has continuously picked up since the start of EMU is mainly the result of its highly positive productivity growth differential vis-à-vis the euro area.

Ireland presents an interesting picture: In ULC terms, the country's competitiveness developed favorably; this, however, seems to contradict the massive losses in competitiveness evident from chart 2b. We should bear in mind though that chart 4 merely shows the development of ULC in manufacturing – a sector characterized by extremely strong productivity growth in recent years, which is why the rapid wage growth in Ireland resulting from tight labor market conditions was not reflected adequately in ULC dynamics.<sup>18</sup> ULC developments were determined pri-

marily by the chemicals and information technology sectors. As the services sector lacks this dampening effect, wage developments sharply boosted prices in this sector in recent years. Consequently, Irish service prices are currently more than 20% above the EU-15 average (Cassidy and O'Brien, 2007). This is not insignificant for competitiveness, as more and more services become tradable (tourism, but also finance and information technology services) and as many nontradable services are important input factors for production processes in manufacturing. Moreover, recently (i.e. post-2006), manufacturing has also inevitably undergone a normalization process, which is linked with a certain loss in competitiveness.

Developments in recent years have thus shown that domestic effects, such as ULC movements, crucially determined diverging trends in competitiveness indicators (see also European Commission, 2007a; ECB, 2007c). According to the European Commission (2007a), countries suffering losses in competitiveness within the euro area also tend to perform less well outside the monetary union – so, there is a strong correlation between a country's intra- and extra-euro area export growth.

Chart 6 provides additional information, plotting the PPI-deflated REER for nine euro area countries. As discussed in subsection 2.1, most of the goods included in the PPI are tradable and exposed to international

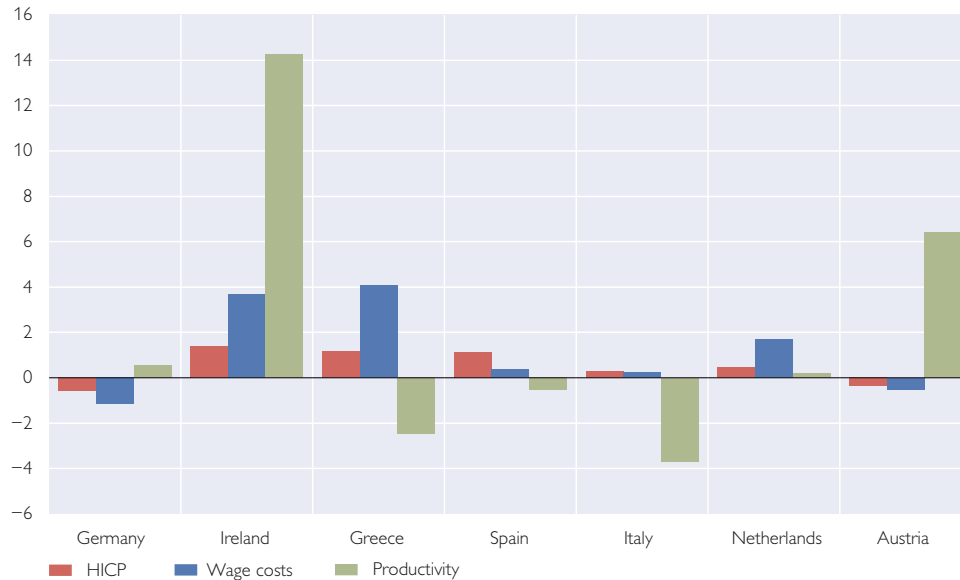
<sup>17</sup> Based on ULC developments, Dullien and Fritsche (2007) show that since the beginning of the 1980s Portugal's and Greece's competitiveness has never been less favorable than at the moment. Spain's competitiveness has likewise dropped to a level last seen prior to the exchange rate adjustment of 1992. As to Italy, the country still holds a better competitive position than between 1988 and 1992. This cannot really be explained by the Balassa-Samuelson effect.

<sup>18</sup> Between 1999 and 2006, wages in Ireland rose on average 5.9%, while they increased by only 3% in the EU-15 (Cassidy and O'Brien, 2007).

Chart 5

**Growth Differentials of Key Indicators against the Euro Area**

1999 to 2006 average



Source: Eurostat, ECB.

competition, which enables us to draw conclusions about the role of pricing for the development of competitiveness.

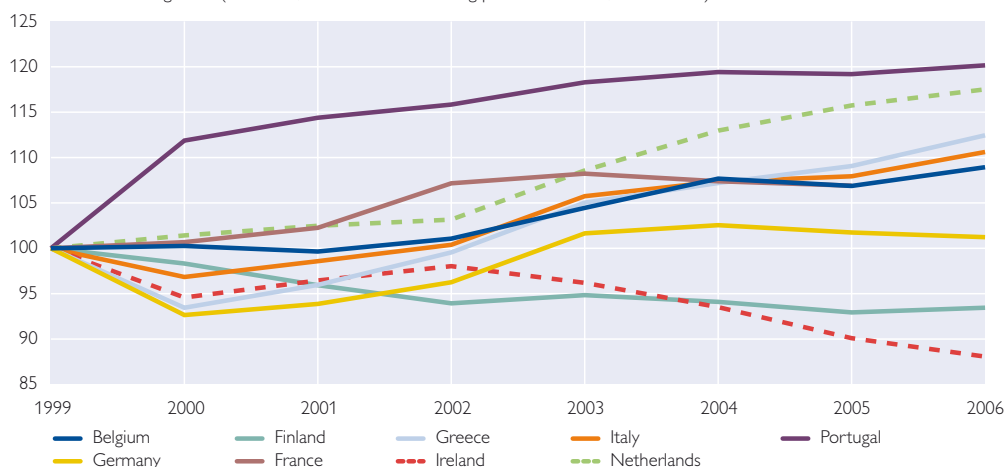
As is evident from chart 6, in Ireland, just like in Finland, the REER steadily declined from 2002 to 2006, reaching a level well below that of the other countries. Prices of tradable goods are determined primarily by world market prices and by nominal exchange rate developments. Under a pricing-to-market strategy, cost increases are thus partly mitigated through cuts in profit margins (for more information on Ireland, see also Cassidy and O'Brien, 2007). Especially Finland, but lately also Ireland, is very active in the area of new technologies – a sector characterized by falling prices. According to this measure, Greece would be the biggest loser, followed by the Netherlands, where PPI-based data do not (yet) reflect recent changes in wage costs.

When interpreting these REER charts, we have to bear in mind that the trend movements are also connected to a country's level of competitiveness at the start of the single monetary policy. The level of competitiveness largely depended on the exchange rate that was irrevocably fixed prior to the adoption of the single currency and that reflected the level accepted by the market in the run-up to monetary union. If a country joined with an overvalued exchange rate, it might have had to undergo a time-consuming adjustment process based on wage moderation so as to regain a certain degree of its competitiveness. Most notably in the case of Germany, it has often been argued that an overvalued exchange rate – resulting from the real appreciation of the Deutsche mark following German unification – initially led to competitive disadvantages, which Germany managed to overcome only very

Chart 6

### Competitiveness of Euro Area Countries in the Tradable Sector

Real effective exchange rate (PPI-based, broad index: 52 trading partner countries; 1999 = 100)



Source: BIS.

recently (see e.g. Alberola et al., 1999, or Fritsche et al., 2005). By contrast, countries like Spain or Italy benefited from comparatively low exchange rate levels owing to the depreciation of their currencies during the EMS crisis.

For those CESEE EU Member States which are to join the euro area in the years ahead, some of which have already anticipated the loss of exchange rate autonomy by pegging their currencies to the euro, wage policy remains one of the main challenges for the future. In some Central, Eastern and particularly South-eastern European countries ULC have increased markedly in recent years (on average more than in the euro area), which can be explained to a certain extent by the actual catching-up process. Nevertheless, the region has performed well in international competition, thus bearing testimony to the fact that other factors (like geographical and sectoral specialization or FDI) have a decisive impact on a country's competitive posi-

tion and may also compensate for losses in price and cost competitiveness (see subsection 3.3).

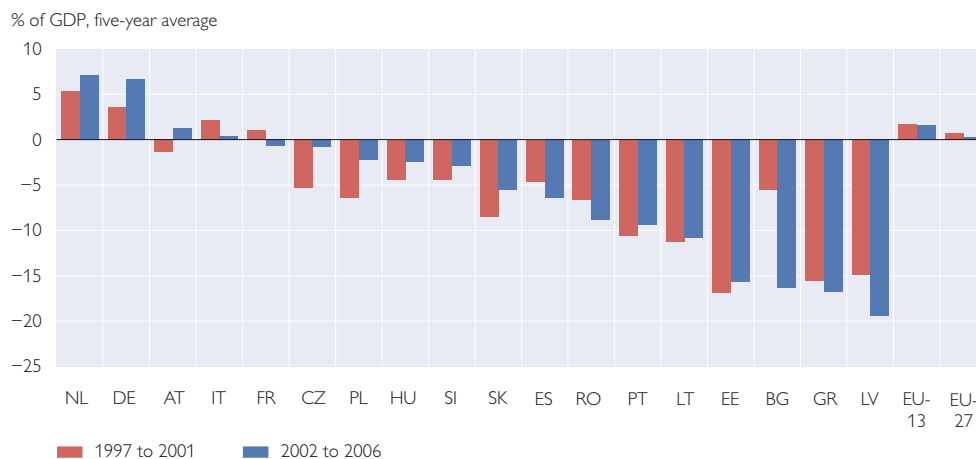
### 3.3 Macroeconomic Indicators and the Impact of Sectoral and Regional Specialization

Per capita income developments show that euro area countries whose competitiveness declined in recent years also recorded low income growth (Italy, France and Portugal). Portugal's GDP per capita (in terms of purchasing power parity), has, for instance, already dropped below the level of the Czech Republic. The CESEE EU Member States developed in line with the convergence hypothesis, according to which the region, where income levels are lower than in the euro area, grows much faster than the latter. Yet, this development also signals their improved competitiveness, as can be deduced from the trends in trade balances or market shares.

Another macroeconomic indicator for assessing competitiveness is the foreign trade position of a country

Chart 7

**Balance of Trade in CESEE EU Member States  
and Selected Euro Area Countries**



Source: European Commission.

which can be analyzed on the basis of its *balance of trade*. The aggregated trade balances of the EU-27 and the euro area are almost balanced, but there are significant differences among individual countries. Improvements or deteriorations of trade balances go to a certain extent hand in hand with the competitiveness trends already discussed. In Germany, for example, ULC improved and at the same time the country posted a surplus in its trade balance. In Greece, the deterioration of ULC was accompanied by a more pronounced trade balance deficit. Some Central and Eastern European EU Member States, such as Poland, Slovakia and the Czech Republic, reduced their trade balance deficits in recent years despite currency appreciations, which might signal their improved competitiveness. Other CESEE countries (such as Bulgaria, Romania and the Baltic states), however, posted very

high trade balance deficits, which may be ascribable largely to robust wage rises and strong credit growth. In some CESEE EU Member States, negative trade balances can still be attributed partly to the economic catching-up process as demand for consumer goods, intermediate products and capital goods remains strong. Trade balances may thus turn negative despite robust export growth (which is significantly higher than in the euro area). The development of trade balances is also influenced by other factors; it makes, for example, a difference whether exporters act as price takers or as price setters.

Trade balance movements partly reflect *market share* developments.<sup>19</sup> Since the early 1990s, basically all major economies have been losing ground in global competition in the face of catching-up transition economies and the accession of countries like China to the World Trade Orga-

<sup>19</sup> There are different methods to calculate market shares. For an in-depth discussion, see ECB (2005).

nization (WTO). Yet, compared with the U.S.A. or Japan, the euro area's loss in global market share was, by and large, considerably less pronounced. CESEE countries have, by contrast, steadily expanded their market share in world exports.

In terms of *geographical specialization*, about one half of all exports from the EU-27 is on average destined for the euro area. Therefore an EU Member State's share of euro area imports plays a key role when it comes to assessing its competitive position. Although the euro area countries lost market share in manufacturing between 1999 and 2005, there are significant differences among individual countries. Whereas Germany and Austria managed to slightly expand their share in euro area imports, especially France and Italy lost ground. The CESEE EU Member States raised their profile as trading partners for the euro area despite the appreciation of their currencies, relatively weak demand and increased competition from China and other Asian countries. This exemplifies that, apart from price and cost competitiveness, other factors, such as sectoral specialization patterns as well as inflows and outflows of direct investment, are critical to succeeding in international competition in the medium and long term.

Furthermore, it becomes clear from the euro area's export performance that the dynamically expanding CESEE economies<sup>20</sup> account for a large share of the foreign trade of countries like Germany or Austria,<sup>21</sup>

which benefited from the opening up of eastern Europe and EU enlargement (for Austria, see e.g. Breuss, 2006). For this reason, these countries managed to expand or at least maintain their shares in euro area exports. Countries with more traditional and less dynamic trading partners, by contrast, tended to lose market shares (e.g. France and Italy). Given its strong trade links with the U.S.A., Ireland, in turn, has been particularly affected by the euro's appreciation in recent years.

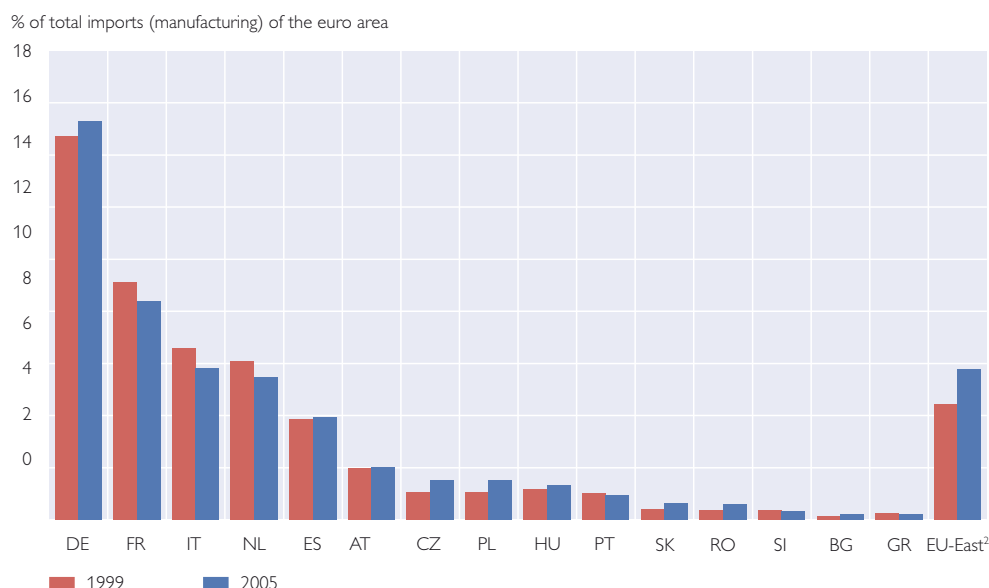
*Sectoral specialization* is another important driver of a country's export performance. The euro area still mainly exports medium-tech goods, while exports worldwide are more and more dominated by high-tech products. On the whole, the specialization in the medium-tech sector has underpinned the euro area's export growth as global demand has remained relatively stable in this sector; demand for high-tech products has been more dynamic but also more volatile. High-tech goods account for one fifth of euro area exports and one third of world exports (ECB, 2005). Among the euro area countries, there are significant differences in terms of export specialization. The exports of Italy, Greece and Portugal are concentrated in low-tech industries (such as the manufacture of textiles), which is why these countries are exposed to increasing competitive pressure from Asian countries (ECB, 2007b). In terms of sectoral specialization, the Member States which joined the EU in 2004 have been moving away from

<sup>20</sup> In 2006, year-on-year real GDP growth averaged 6% in CESEE, whereas the euro area grew only by 2.9%.

<sup>21</sup> In 2006, almost 14% (1999: almost 10%) of Austrian exports went to the countries which joined the EU in 2004; Germany's respective export share reached around 9% (1999: almost 5%). The other euro area countries posted markedly smaller export shares (except for Finland given its geographical proximity to the Baltic states).

Chart 8

**Shares in Euro Area Imports of CESEE EU Member States<sup>1</sup>  
and Selected Euro Area Countries**



Source: UNO.

<sup>1</sup> As the Baltic states only hold a small market share, they are not displayed in this chart.

<sup>2</sup> CESEE EU Member States.

labor-intensive to capital-intensive medium- and high-tech industries (automotive and transportation, other machinery and equipment). This trend is pushed further as in particular western European companies are outsourcing production units to CESEE. Strengthening currencies notwithstanding, especially Poland, the Czech Republic and Hungary have experienced a significant shift towards higher quality and technology exports that entailed dynamic export growth and gains in market shares (Fabrizio et al., 2007; Landesmann and Wörz, 2006).

As to *foreign direct investment (FDI)*, countries such as Germany, the Netherlands and Austria have been particularly active in CESEE in recent years, what with this region's ongoing privatization projects, (prospective) EU membership and low wage levels.

By outsourcing parts of the production to these countries and by importing intermediate products, companies were able to reduce costs, improve production efficiency and in turn enhance their competitiveness. Greece and Italy, in contrast, have not built up substantial FDI stocks, which might have had unfavorable effects on their competitiveness (see also ECB, 2005). In relation to their GDP, the CESEE Member States record markedly higher stocks of direct investment than any of the old EU Member States. Privatization projects are undoubtedly the main reason for these high FDI stocks, yet they also highlight the region's advanced integration into the globalized economy. Most CESEE countries managed to improve product quality and implement technology-intensive production methods at a relatively fast pace,

mainly thanks to privatization and restructuring combined with high FDI inflows. In the future, it might, however, become more difficult for CESEE countries to gain market shares on the back of improved quality and more sophisticated technologies as there is less potential for increasing the range of products and technologies (see also Fabrizio et al., 2007).

#### 4 Summary

This study sheds light on the development of EU Member States' competitiveness from different perspectives: from the angle of price and cost competitiveness indicators, under the aspect of sectoral and regional specialization of trade patterns as well as against the backdrop of the macroeconomic environment (exchange rate policies, catching-up processes). We will now briefly summarize our findings.

In the case of the *euro area*, losses in competitiveness can largely be attributed to country-specific factors (e.g. higher ULC). Therefore, only those countries benefited which were able to counterbalance such disadvantages through pricing-to-market strategies. Given the loss of exchange rate autonomy, the preservation of competitiveness represents a major challenge for national economic policymakers, and the euro area countries have developed different strategies to cope with this challenge.

*Germany and Austria*, for example, have been able to improve their competitiveness in recent years. Thanks to their moderate wage policies, their geographical location and their historic ties with the CESEE, Austria and to a lesser degree also Germany have greatly benefited from EU enlargement. According to the European Commission's economic outlook

(2007b), Germany is likely to again catch up with the more dynamic Austrian growth rates in 2008. A favorable regional and sectoral setup supported export developments in these countries. *France* has also been able to improve its competitiveness in recent years, albeit to a lesser degree than Germany, given its unfavorable geographical specialization of exports. *Finland's* competitiveness has risen since its exports are concentrated in the telecommunications sector, which in recent years has been characterized by plummeting prices. The *Netherlands*, in turn, are the only country that – by turning around its wage policy – has been able to compensate for high losses in competitiveness it had initially incurred in light of the stronger euro.

Although the euro area countries in southern Europe, i.e. *Greece, Portugal, Spain and Italy*, had started from a favorable level after the EMS crisis, they have gradually lost this competitive advantage as a consequence of relatively high inflation rates and strong ULC growth. The unfavorable sectoral specialization in low-tech sectors, i.e. in sectors where they are faced with stiff competition from Asian and eastern European countries, has amplified their losses in competitiveness. *Ireland* has suffered disproportionately from the strengthening of the euro in recent years, given its strong trade links with the U.S.A. and the United Kingdom. This negative effect and the dynamic wage developments were partly absorbed by high productivity gains in manufacturing and targeted pricing-to-market strategies.

Changes in competitiveness cannot be assessed in isolation, but should rather be viewed against the background of the development level of an

economy. Here, the *CESEE EU Member States* are a case in point. Long-term catching-up processes and equilibrium price adjustments have a major impact on the indicators of price competitiveness. The CESEE countries generally recorded high income growth and gained market shares even though some of them were burdened with increased ULC and currency appreciations. This bears testimony to the fact that the region has

successfully tapped its potential for catching up, especially by improving product quality and by increasing the technological intensity of production, and that it has been able to withstand international competition. In the future, it might, however, become more difficult for them to gain market shares by means of quality or technology improvements, as they might have already fully exploited their potential for privatization and restructuring.

## References

- Alberola, E., S. G. Cervero, H. Lopez and A. Ubide. 1999.** Global Equilibrium Exchange Rates: Euro, Dollar, "Ins," "Outs," and Other Major Currencies in a Panel Cointegration Framework. IMF Working Paper 99/175. December.
- Angeloni, I. and M. Ehrmann. 2004.** Euro Area Inflation Differentials. ECB Working Paper 388. September.
- Arpaia, A. and K. Pichelmann. 2007.** Nominal and Real Wage Flexibility in EMU. European Economy. Economic Papers 281. June.
- Belovič, P. 2005.** Real Effective Exchange Rate (REER) on the Basis of Unit Labour Costs in ESA 95 Methodology and on the Basis of Selected Price Deflators. National Bank of Slovakia Banking Journal BIATEC 1/2005. Volume XIII.
- Breuss, F. 2006.** Ostöffnung, EU-Mitgliedschaft, Euro-Teilnahme und EU-Erweiterung: Wirtschaftliche Auswirkungen auf Österreich. WIFO Working Paper 270.
- Buldorini, L., St. Makrydakis and Ch. Thimann. 2002.** The Effective Exchange Rates of the Euro. ECB Occasional Paper Series 2.
- Burgess, R., St. Fabrizio and Y. Xiao. 2004.** The Baltics: Competitiveness on the Eve of EU Accession. IMF.
- Cassidy, M. and D. O'Brien. 2007.** Ireland's Competitive Performance. In: Central Bank & Financial Services Authority of Ireland. Quarterly Bulletin 2. 93–127.
- Ca'Zorzi, M. and B. Schnatz. 2007.** Explaining and Forecasting Euro Area Exports: Which Competitiveness Indicator Performs Best? ECB Working Paper 833.
- Deutsche Bundesbank. 2007.** Current Account Balances and Price Competitiveness in the Euro Area. Deutsche Bundesbank. Monthly Report June. 33–53.
- Dullien, S. and U. Fritsche. 2007.** Anhaltende Divergenz der Lohnstückkostenentwicklung im Euroraum problematisch. Weekly Report of the German Institute for Economic Research. Berlin 22/2007. 349–356.
- ECB. 2003.** Developments in the Euro Area's International Cost and Price Competitiveness. ECB Monthly Bulletin August. 67–74.
- ECB. 2005.** Competitiveness and the Export Performance of the Euro Area. ECB Occasional Paper Series 30.

- ECB. 2006.** Competitiveness and the Export Performance of the Euro Area. ECB Monthly Bulletin July. 69–79.
- ECB. 2007a.** The Introduction of Harmonised Competitiveness Indicators for Euro Area Countries. ECB Monthly Bulletin February. Box 6. 53–55.
- ECB. 2007b.** Globalisation and Euro Area Trade: Interactions and Challenges. ECB Occasional Paper Series 55.
- ECB. 2007c.** Inflation and Competitiveness Divergence in the Euro Area Countries: Causes, Consequences and Policy Responses. Speech by Lucas Papademos: The ECB and its Watchers IX. Frankfurt. 7 September.
- European Commission. 2005.** The EU Economy: 2005 Review. Rising International Economic Integration – Opportunities and Challenges. In: European Economy 6.
- European Commission. 2007a.** The Impact of the Euro Appreciation on Domestic Prices and the Export Performance. In: Quarterly Report on the Euro Area 6(2). 14–22.
- European Commission. 2007b.** Economic Forecast Spring 2007. European Commission.
- Fabrizio, S., D. Igan and A. Mody. 2007.** The Dynamics of Product Quality and International Competitiveness. IMF Working Paper 07/97. IMF. Washington, D.C.
- Fischer, C. 2007.** An Assessment of the Trends in International Price Competitiveness among EMU Countries. Deutsche Bundesbank Discussion Paper. Series 1: Economic Studies 08.
- Frankel, J. A. and D. Romer. 1999.** Does Trade Cause Growth? In: The American Economic Review 89. 379–399.
- Fritsche, U., C. Logeay, K. Lommatzsch, K. Rietzler, S. Stephan and R. Zwiener. 2005.** Auswirkungen von länderspezifischen Differenzen in der Lohn-, Preisniveau- und Produktivitätsentwicklung auf Wachstum und Beschäftigung in den Ländern des Euro-raums. DIW Berlin: Politikberatung kompakt. Endbericht. Forschungsprojekt im Auftrag des Bundesministeriums für Wirtschaft und Arbeit. April.
- Gundel, S. and U. van Suntum. 2007.** Ist die Kritik an internationalen Standortrankings berechtigt? In: Wirtschaftsdienst 8. 473–479.
- Heilemann, U., H. Lehmann and J. Ragnitz. 2006.** Länder-Rankings und internationale Wettbewerbsfähigkeit – eine kritische Analyse. Schriften des Instituts für Wirtschaftsforschung Halle. Volume 24. Nomos: Baden-Baden.
- IMF. 2005.** Republic of Slovenia. Staff Report for the 2005 Article IV Consultation. IMF Country Report 05/253.
- IMF. 2006.** Romania: Selected Issues. IMF Country Report 06/169.
- Köhler-Töglhofer, W., C. Magerl and P. Mooslechner. 2006.** Revised and New Competitiveness Factors for Austria Reflect Improvement Trend since EMU Accession. In: Monetary Policy & the Economy Q4/06. OeNB. 70–97.
- Krugman, P. 1994.** Competitiveness: A Dangerous Obsession. Foreign Affairs 73(2).
- Landesmann, M. and J. Wörz. 2006.** Competitiveness – The CEECs versus the Rest of the World. Study commissioned by Bank Austria Creditanstalt. wiiw.