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# The Economic and Monetary Union vs. shifts in competitiveness of Member States

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**JEL Classification System:** F40-F43

## Abstract

The paper deals with changes in the competitiveness of 12 countries forming the euro area in 1999-2000. These changes are analyzed using various macroeconomic indicators (real exchange rate, trade ratios, labor market and economic output performance). Due to the different levels of development of the countries forming the zone, changes in competitiveness do not extend uniformly. The paper ends with conclusions.

The aim of this paper is to assess changes in the relative competitiveness of 12 countries forming the Economic and Monetary Union (EMU) between 1999-2009. Greece was the only EU country which had not yet been accepted in the Union in 1999 and later joined the Eurozone in 2001. Despite the time difference, it was assumed that by including this economy in the analyzed EMU 12 group it would allow for better comprehension of the influence of

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monetary solutions and general economic policy within this integration grouping on the relative competitiveness of its particular members.

Section 1 is devoted to a brief presentation of assumptions and expectations regarding the EMU. Section 2 examines real effective exchange rates (REERs). Along with the standard literature, it is assumed that REERs are important summary measures of shifts in competitiveness. Section 3 is devoted to trade developments; they are linked to the REERs. We present and analyze gross measures such as exports to the gross domestic product (GDP) ratio, external exports, export/import ratio, the share of EMU country exports in world exports and the role of high-tech trade. Section 4 deals with the shifts in labor force performance and section 5 is devoted to the most comprehensive measures which are GDP and gross national income (GNI) developments. The paper closes with conclusions.

## **1. Introduction**

The 1980s, which preceded the formation of the EMU, were characterized by accelerated globalization previously hindered by post-war political and economic world divisions. Acceleration of globalization was founded both on technological progress and political revaluations occurring in the USA (Ronald Reagan's election) and Great Britain (the Thatcherite era), supported as well by the revival of neoclassical economics (Kowalski 2001; Wojtyna 2008; Gorynia, Kowalski 2009). It is emphasized that the area of theory and practice of international economic relations was greatly influenced by the publications of the National Bureau of Economic Research (NBER) and of the Organization of Economic Cooperation and Development (OECD) which, on the one hand questioned ideas on the currency and trade policy of that time, and on the other postulated the liberalization of the circulation of goods and capital, as well as the shift from fixed to floating exchange rates (Lindley and O'Rourke 2007; Rodrik 1996; Wojtyna 2008). The process was enhanced by the IMF policy supporting

countries emerging from economic crises, as far as they were willing to accept the liberal course of domestic and foreign economic policy (Kowalik 2002, p. 277ff).

In general, these processes served as a background to European economic integration. Following a period of stagnation, economic integration was strengthened thanks to the French incentive of the mid-1980s (expressed through the Internal Market), and also the strengthening of institutional and decision-making foundations of the EU (finalized in the Single European Act), (Dyson, Featherstone 1999; Pelkmans 2006). It was moreover, France that suggested the return to the concept of a monetary union and the establishment of the European Central Bank (ECB). The work of the Delors Committee, begun in 1988, was greatly intensified following Eastern-European events and the unique opportunity of German unification<sup>1</sup>. This policy was topped by the Maastricht Treaty, foreseeing the formation of the EMU (Ungerer 1997; De Grauwe 2000; Issing et al. 2001; Skrobisz 2005). Simultaneously, integration processes in Europe were both a challenge and an inspiration for other regions and groupings in the world (Gilpin 2000; di Mauro, Findley, O'Rourke 2007; Dees and McKibbin 2008).

Adjustments preceding the introduction of the euro and the first years of zone functioning may be described both in terms of growth theory, (Campos & Coricelli 2002), and competitiveness, (Schwab 2010). EU countries, due to over fifty years of integration<sup>2</sup> and implementation of *acquis communautaire*, show a deep similarity in terms of systemic solutions. At the same time, however, due to varying traditions, experiences, corporate cultures, degree of respect for law, and law enforcement, they display diversified environments of business, entrepreneurship, or the ability to create and absorb innovation. Therefore, the environment of growth and variation of the competitiveness of national economies may be perceived as influenced by factors such as human capital, production capital, natural resources, institutional solutions and business sector adaptability.

Efficiency potential and adaptive capabilities of companies have universal importance in the current phase of globalization. However, in the presence of a common currency this aspect becomes crucial. From the micro-economic point of view, the EMU reduces transaction costs of businesses and within that currency area removes currency risk from the economic calculation. Greater monetary stability and predictability, as well as the growth of macroeconomic credibility resulted in lower market interest rates, especially in countries such as Italy, Greece, Portugal and Spain<sup>3</sup>. On the other hand, however, the lack of national instruments of monetary policy, the regime of irrevocable exchange rates, and the limitations imposed on national fiscal policies demonstrate the diminishing impact of the EMU states on the course of economic events. Thus the importance of the aforementioned adaptive capability on the level of businesses and sectors, product and process innovation capacity of businesses, including the area of cost control and even cost reduction. The latter was certainly a differentiating influence on the current functioning and growth of the EMU countries. Such a view may be noted in the works of M. Porter, who many years before the emergence of the EMU transferred the approach developed for the study of corporate competitiveness onto the macroeconomic plane (Porter 1990). Consequently, in this current approach, the competitive advantage of a given economy stems from the advantages achieved on the level of businesses and sectors (GCR 2010).

Porter's approach points to four potential groups of economy competitiveness indicators: supply of resources, factors characterizing the demand side of a given economy, network of co-dependent sectors, and factors and conditions present in the business environment. The transformation of potential factors into an actual set of competitive advantages of a given country requires advantageous conditions, of which key importance is played by adequate micro- and macro-economic policy. In this context one should note the already emphasized relative uniformization of systemic solutions, uniform monetary policy, and limitations

imposed on national fiscal policies. In these conditions, taking into account Common Trade Policy, the Single European Market, as well as Competitiveness Policy, what becomes particularly important are economy-specific qualitative aspects and much-emphasized adaptive ability of businesses.

In general, the analysis and assessment of competitiveness of a given economy may be based on two approaches. The first consists in an assessment using econometric models of the scale and variations of deviation of the real effective exchange rate from the equilibrium exchange rate (Egert 2004; Van Marrewijk 2004; Rubaszek, Serwa 2009). The other approach, applied both parallelly, and separately to model-based methods, is based on the comparative analysis of composite and uniform performance measures. The former are composed on the basis of primary statistical data characterizing given economies and subjective measures of perception of the business environment quality of selected economies and integration groupings (e.g. GCR 2010).

In this paper, taking into account (and conforming to reality) a far-reaching unification of the EMU macroeconomic policy framework, we assume that differentiations mainly concern mezo and micro, often subjective elements of the business environment. In the empirical sections that follow we assume that their impact reflects and accumulates in major, performance measures, such as real effective exchange rates, exports development, labor productivity and finally gross output rates and volumes. It must be noted that these general performance measures signal, on the one hand, economy competitiveness level and shifts, and on the other – for particular companies – they are exogenous constraints, threats and also opportunities.

## 2. Real effective exchange rate as a simple indicator of relative competitiveness

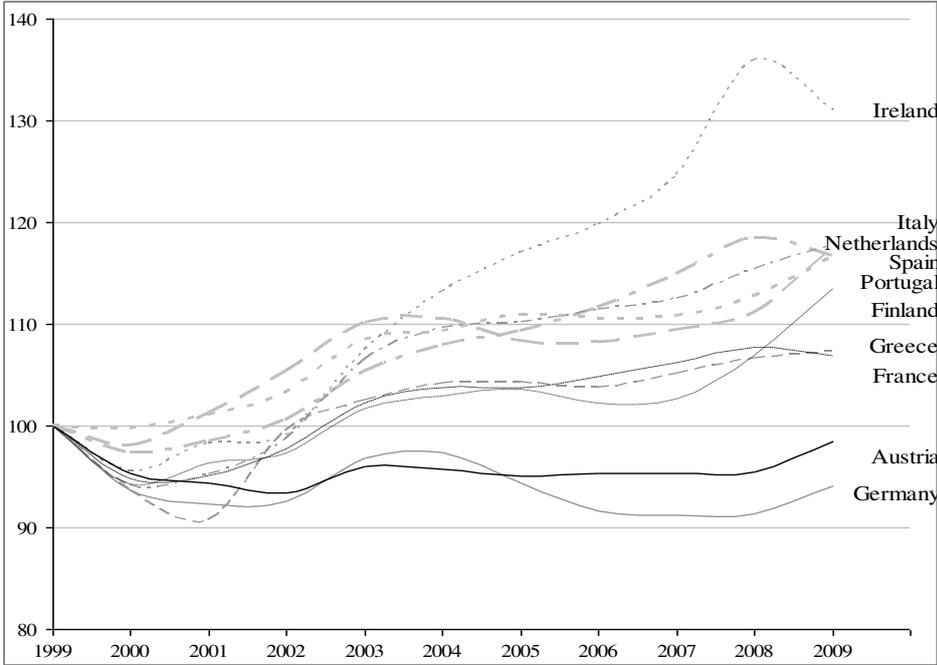
As emphasized in Section 1, real effective exchange rate (REER) is a commonly recognized basic price-based measure of the position and variations of international competitiveness (Egert 2004; Van Marrewijk 2004). The importance of this measure is clearly visible within the EMU which made price convergence one of the basic conditions and indicators of the relevance and capability of a given economy to participate in this integration grouping.

The issue of inflation rate convergence is important to the EMU as well because member states do not have autonomic, national monetary policies which constitute standard sets of instruments and tools aimed at inflation control<sup>4</sup>. The problem of potential and real divergence of inflation rates, and lack of national tools of monetary policy has been particularly complex. This is because the EMU included certain countries - the so-called *convergence four* (Greece, Ireland, Portugal and Spain) - which differed in the level of development and prices from the core European countries and other countries which had developed negative mechanisms in the area of costs and prices (e.g. Italy). Within *the convergence four* the probability of the occurrence of the Balassa-Samuelson (B-S) effect (Egert 2002; de Grauwe, Schnable 2005; Egert 2007; de Grauwe 2007; Kowalski, Kowalski, Wihlborg 2007) was high. As a result, in single currency conditions, this could lead to the relative deterioration of price and cost competitiveness of products and services traded in the internal European market, as well as in exports to third parties.

In the present paper, for the purpose of measuring and analysis of the evolution of this dimension of competitiveness between 1999-2009 we use a REER time series for particular countries deflated by the consumer price index (CPI) and published by the ECB (Figure 1), Bank of International Settlements (BIS) (Figure 2), as well as deflated by unit labor costs (ULC) and published by Eurostat (Figure 3). As seen in the data given in Figure 1, in 2000 in

all EMU countries<sup>5</sup> and Greece, the REER was reduced, meaning that the relative price competitiveness of the countries in this grouping was improving.

**Figure 1.** Real effective exchange rate deflated by CPI in the EMU countries in 1999-2009 (1999=100)



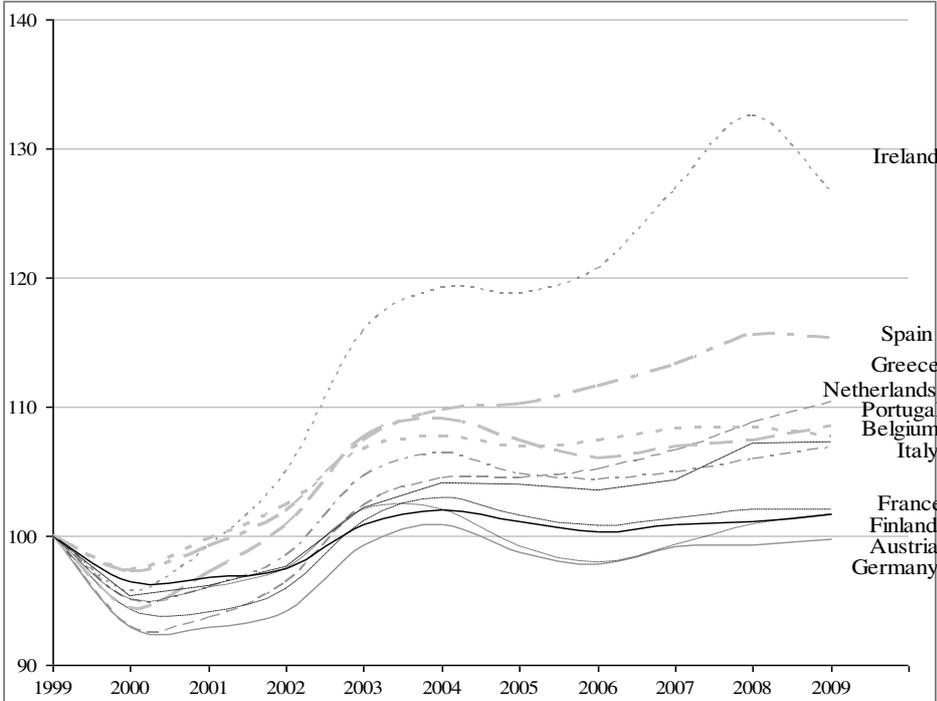
Source: EBC 2010.

Starting from 2001 in the Netherlands and Portugal, and subsequently in most of the remaining countries, the REER began to grow, reflecting the downward shifts of competitiveness both in relation to third parties, and within the EMU (Figure 1). Throughout the period under study only Germany and Austria reported systematic improvement in competitiveness expressed in REER<sub>CPI</sub>, and in 2009 this indicator was 94.15% compared to 98.45% in 1999. Relatively good results in this area (see Figure 1) were also obtained by France (106.9% in 2009) and, curiously, Greece (107.32%). In 2009, in comparison to 1999, in such countries as Finland, Portugal, Spain, the Netherlands, and Italy, the REER<sub>CPI</sub> was between 113.47% - 117.65%. The worst downfall of competitiveness was reported in Ireland, with its 2009 REER<sub>CPI</sub> being 31.01% higher than in 1999 (Figure 1). The presented trends in the evolution of the REER<sub>CPI</sub> differ from the standard predictions of the B-S model. Data

shown in Figure 1 indicate that the situation of the convergence four was unequal; Greece achieved the best result in this field of competitiveness, whereas Ireland trailed. The decade of EMU confirmed the earlier predictions that German and Austrian economies would show the best adaptive abilities, which allowed Germany in particular to achieve and maintain for many years the position of the greatest exporter in the world<sup>6</sup>.

Similar trends regarding the REER<sub>CPI</sub> may be observed in data compiled by the BIS (Figure 2). The BIS also reveals the evolution of this measure of international competitiveness with respect to Belgium. BIS data also confirm the convergence, especially in the initial period, and high relative competitiveness of Germany and Austria. In general, on the basis of BIS data for the period under study, two clusters of countries and the separate case of Ireland may be distinguished (Figure 2). The first cluster includes Germany, Austria, Finland and France, and the other Italy, Belgium, Portugal, the Netherlands, Greece and Spain (Figure 2).

**Figure 2.** BIS real effective exchange rate in EMU countries in 1999-2009 (1999=100)

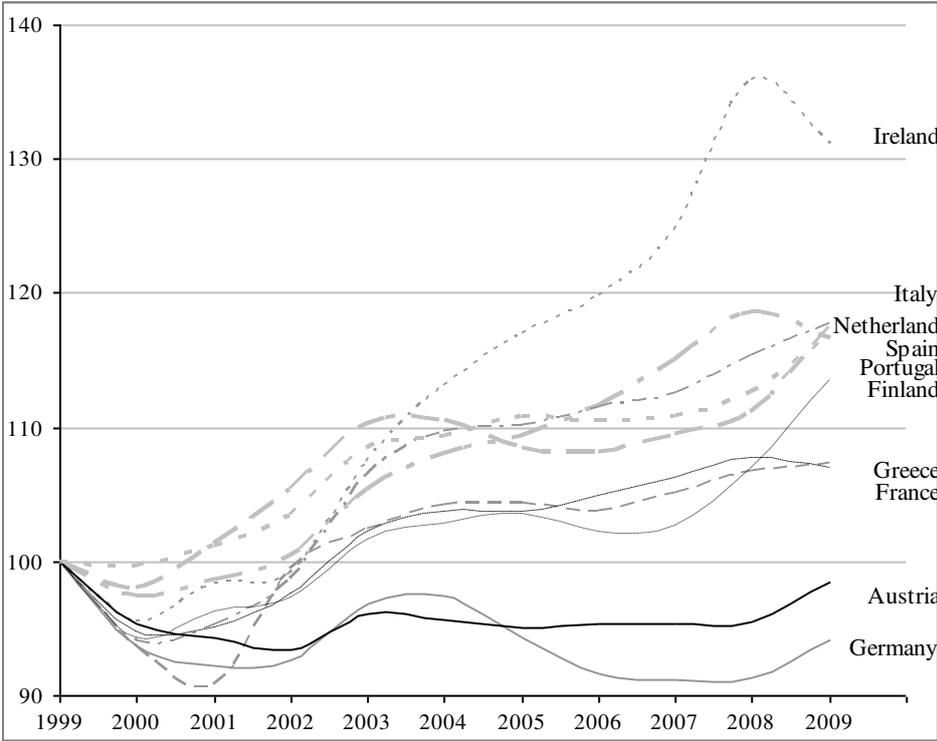


Source: Own calculation based on BIS data.

The BIS REER<sub>CPI</sub> indicator confirms the expected pattern within the convergence four (apart from Greece) and points to a narrower scope of the indicator with respect to data and method applied by the EMU and ECB.

Interesting observations of price variation and cost competitiveness are provided by the analysis of the real effective exchange rate deflated by nominal unit labor costs (ULC) and calculated against a panel of 36 countries<sup>7</sup>. As in the case of the REER<sub>CPI</sub>, a rise in the REER<sub>ULC</sub> index means a loss of competitiveness. Also, this measure of competitiveness confirms the highest relative adaptability of German and Austrian companies and ultimately their economies. This feature is expressed by the ability of both countries to maintain throughout 2000-2009 lower unit costs of labor than in 1999 (Figure 3).

**Figure 3.** Real effective exchange rate deflated by nominal unit labor costs index (ULC) in EMU countries, 1999-2009 (1999=100)



Source: Eurostat 2010

Another fact worth noting is that until 2002 all the countries under study (apart from Portugal, Spain, and the Netherlands) were able to reduce their ULC, i.e. to improve this important

measure of competitiveness. In the following years one could notice highly convergent and moderate growing trends with regard to ULC in France and Greece, as well as development of a cluster composed of Finland, Portugal, Spain, the Netherlands, and Italy. As in the case of both  $REER_{CPI}$ , the Irish  $REER_{ULC}$  also grew the most, exceeding the 1999 level in 2008 by 35.9% (Figure 3).

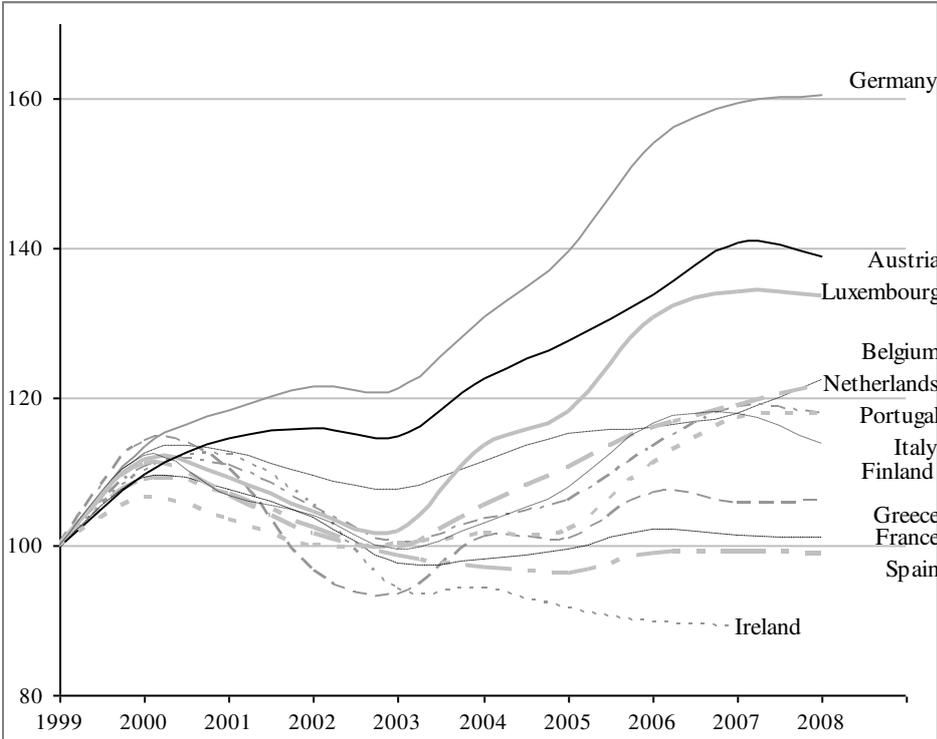
The given data (Figures 1, 2 and 3) referring to price competitiveness ( $REER_{CPI}$ ) and price-cost competitiveness ( $REER_{ULC}$ ) clearly point to the relatively highest competitiveness of the German and Austrian economies. Other economies displaying relatively high adaptability included France, Finland, and – again surprisingly – Greece. Other economies significantly diverged from the German model, with the Irish economy showing the highest appreciation of real exchange rates, i.e. deterioration of competitiveness. The given data do not fully confirm the course of price-cost processes postulated in the B-S model. The recent course of the phenomena was seriously disturbed by the economic crisis which began in the USA in August 2007. However, the evaluation of the effect of the crisis on price-cost competitiveness of EMU countries requires separate attention and research.

### **3. Open economy and export competitiveness**

According to the standard trade model, the trends in the evolution of the REER shown in Section 2 should have a differentiating effect on the dynamics of sales and thus lead to relative shifts in trade positions<sup>8</sup>. In order to verify such causality, the following competitiveness measures were analyzed<sup>9</sup>: variations in the share of exports of goods and services in gross domestic products of the EMU countries (Figure 4), external trade dynamics (Figure 5), ratio of exports to imports (Figure 6), high technology exports as per cent of manufactured exports (Figure 7) and finally EMU country share in the world trade (Figure 8).

In 1999, the highest ratio of the value of goods and services exports – GDP was achieved by the small open economies of Luxembourg (134,2%), Ireland (89,2%), Belgium (75,3%) and the Netherlands (63%). The big open economies of Germany (29,4%), France (26,1%) and Italy (24,5%) had much smaller trade exposure. Figure 4 presents the relative variations in trade exposure in comparison to 1999.

**Figure 4.** Exports of goods and services of EMU countries in 1999–2008 as percent of GDP (1999=100)

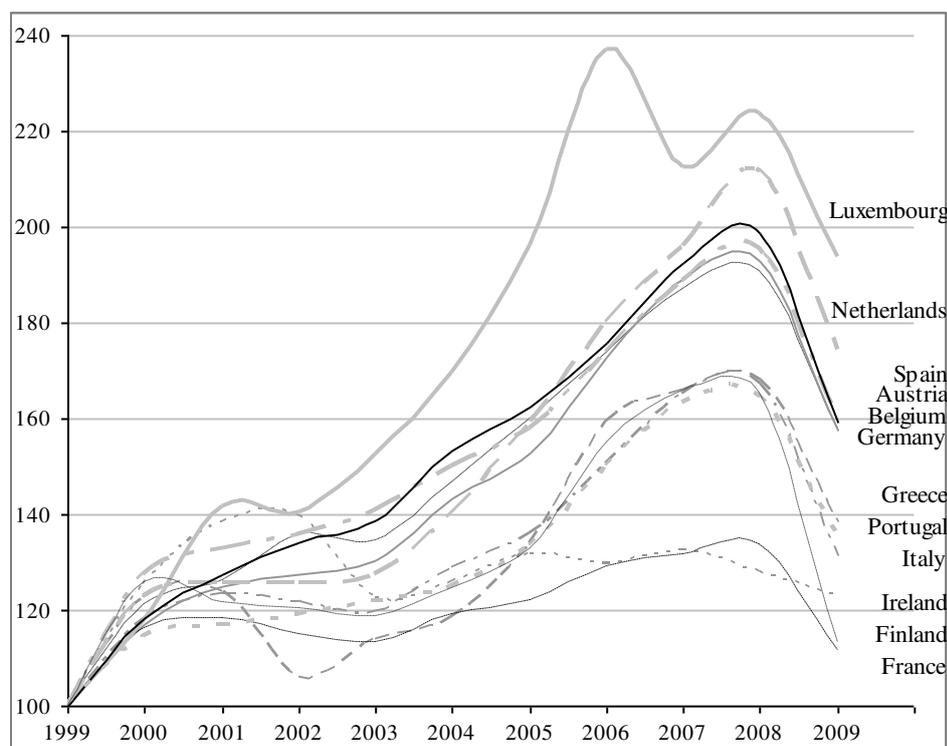


Source: World Development Indicators database.

As the data in Figure 4 indicate, only Spain recorded stagnation, and Ireland – a ratio decrease. The situation of Spain reflects the effect of REER appreciation on the one hand, and indicates growth of internal demand absorbing part of potential export sales on the other. The remaining countries displayed the capacity for export growth, with the greatest increases in comparison to 1999 being shown by Germany and Austria (which agrees with their growth in price-cost competitiveness; see Section 2), as well as Luxembourg, Belgium, and the Netherlands (Figure 4).

As shown in Figure 5, all EMU countries increased their exports to EMU-external countries and all recorded a relative drop in this export area after 2008.

**Figure 5.** External exports of goods and services of EMU countries in 1999-2009 (1999=100)



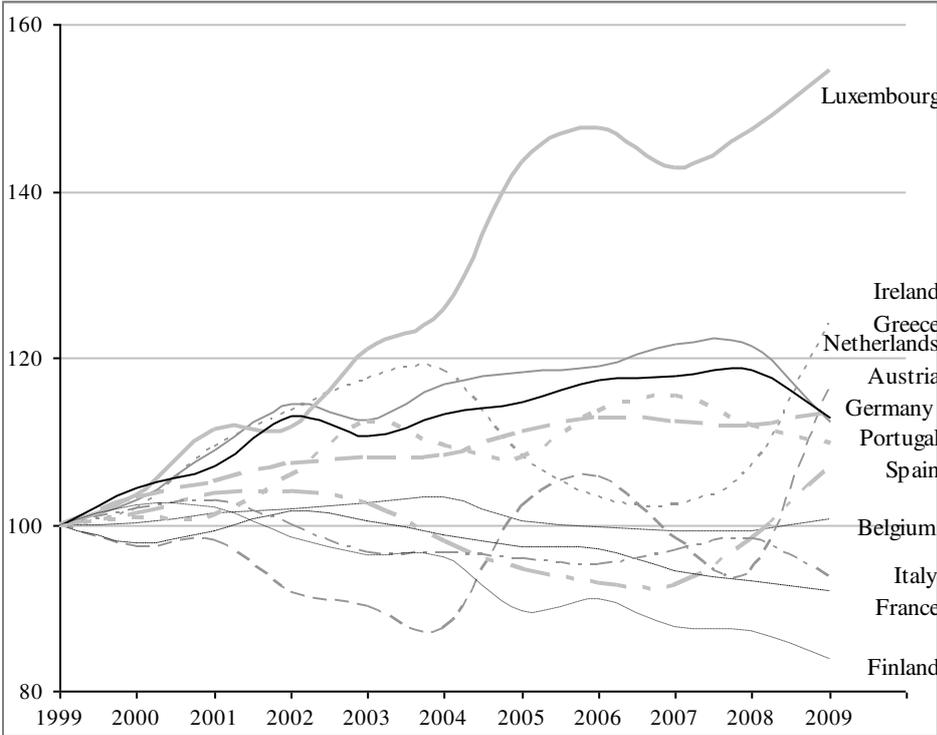
Source: Eurostat 2010.

The best results were achieved by Luxembourg (in peak year 2007 – 236%, compared to 1999), the Netherlands, Spain, Austria, Belgium and Germany. The second cluster of countries consists of Greece, Portugal, Italy, Ireland, France and Finland (Figure 5), with the latter two recording the highest drop in exports to third parties in 2009.

The ratio of exports to imports illustrates the competitive ability of a given economy and its companies to compete at home and in international markets, and might also be interpreted as an indicator of REER (dis)equilibrium. Assuming the level of the export-import ratio of 1999 for 100 it may be noted (Figure 6) in the case of external trade, Luxembourg was exceptional due to its location and re-exporter role. Disregarding the exceptional situation in

2009, it is clear that in accordance with trends described in Section 2, high ratios in all years were displayed by the highly competitive economies of Germany and Austria.

**Figure 6.** Ratio of exports/imports of EMU countries, in 1999-2009 (1999=100)



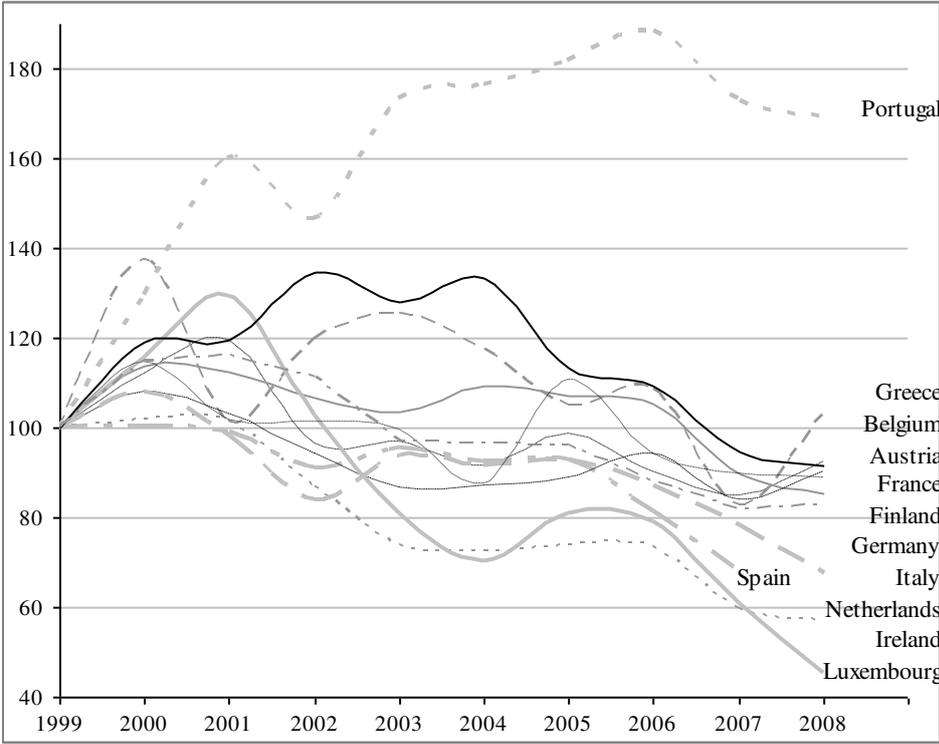
Source: Eurostat 2010

Positive and consistent results in this respect (Figure 6) have to be recorded in the cases of the Netherlands, Ireland<sup>10</sup> and also Portugal<sup>11</sup>. The remaining countries, particularly Finland, as well as Greece (in 2004-2007), France, Spain, and Italy, displayed a tendency for a falling exports/imports ratio.

An important indicator of competitive status is represented by the high technology export<sup>12</sup> share in total manufactured exports (Figure 7). In the initial year, 1999, the highest share in this type of export in manufactured export was recorded by Ireland (46.7%), the Netherlands (32.9%), Finland (23.9%), France (22.5%), and Germany (15.8%). The least technologically advanced structure was displayed by the southern EMU countries, namely

Portugal (4.9%), Spain (7.6%), Italy (8.1%) and Greece (9.7%). It was these countries which had the greatest natural potential for growth in the share of high-tech exports.

**Figure 7.** High technology exports of EMU economies as per cent of their manufactured exports (1999=100)



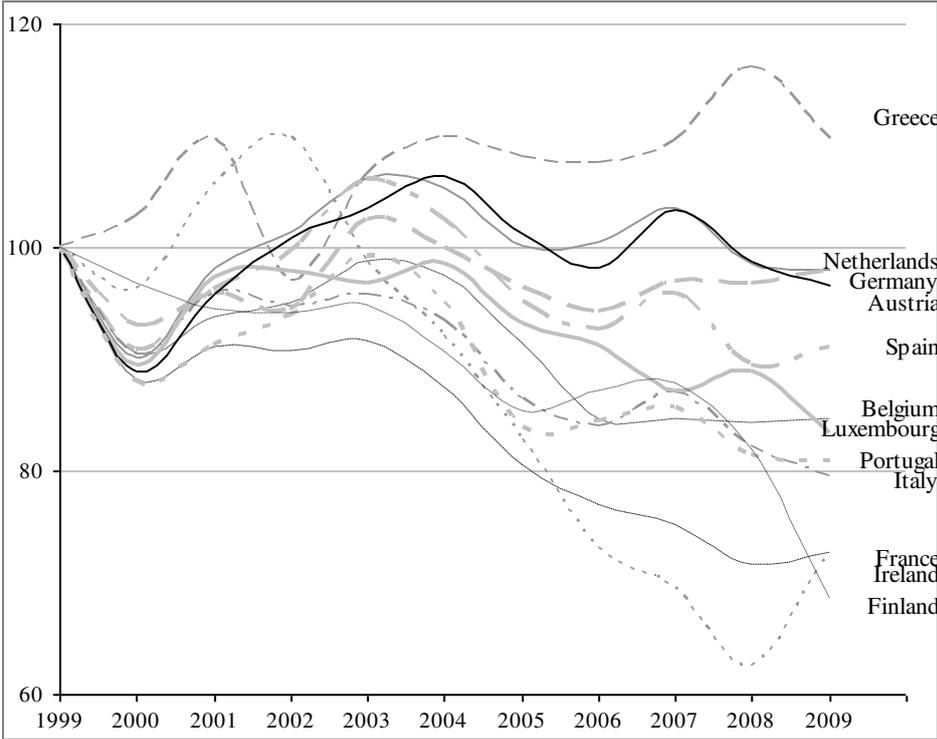
Source: own calculation based on the WDI and United Nations Comtrade database.

As it is shown in Figure 7, the highest growth of this share was recorded by Portugal. Other countries originally representing a similar level (e.g. Greece), after initial moderate growth, recorded a decreasing share in this type of export in manufactured exports. In the remaining countries the initial level proved unsustainable (particularly in Ireland and the Netherlands). One might note a relatively stable share of high-tech exports in the cases of Germany, France, and Belgium. Shifts of high-tech shares visible in Figure 7 reflect the growing importance of Far Eastern countries, namely the PRCh in this sector of manufacturing and trade.

The aggregate measure of variations in the global competitiveness of EMU economies between 1999-2009 may also be expressed through the evolution of the share of their export

in global exports (Figure 8). In 1999, the total share of the EMU in global exports was approx. 31.1%, decreasing to 30.5% in 2004 and to 27.2% in 2009. Such a trend illustrates the gradual erosion of the importance of this grouping in world trade, and the aforementioned growth of the PRCh and other exporters from emerging market economies mainly from the Far East.

**Figure 8.** Exports of EMU countries as per cent of world merchandise exports (1999=100)



Source: National data and Comtrade database.

Data concerning particular EMU countries indicate the strong differentiation of both the initial importance of particular countries in global trade, and the trends present throughout the decade of EMU history.

Between 1998-1999, the greatest EMU exporter was Germany, with its share in global exports of approximately 9.7%, with France (5.5%), Italy (4.4%), and the Netherlands (3.5%) coming next. After ten years the order of the leading exporters among EMU countries remained unchanged with Germany (9.4%), France (3.9%), Italy (3.4%), and the Netherlands (3.4%), with the share of France and Italy interestingly being reduced by 1.6 and 1 percentage points, respectively.

As shown in the data provided in Figure 8, in comparison to 1999, only Greece increased its share in world exports (from about 0.15% to 0.18%), whereas the Netherlands, Germany, Austria and Spain recorded a slight drop in their shares. The other cluster is composed of Belgium, Luxemburg, Portugal and Italy - their share in the world exports decreased compared to the 1999 level by less than 20 percentage points. At the end of the 2010 decade the third cluster (France, Ireland and Finland) recorded drops exceeding 20 percentage points compared to the 1999 level.

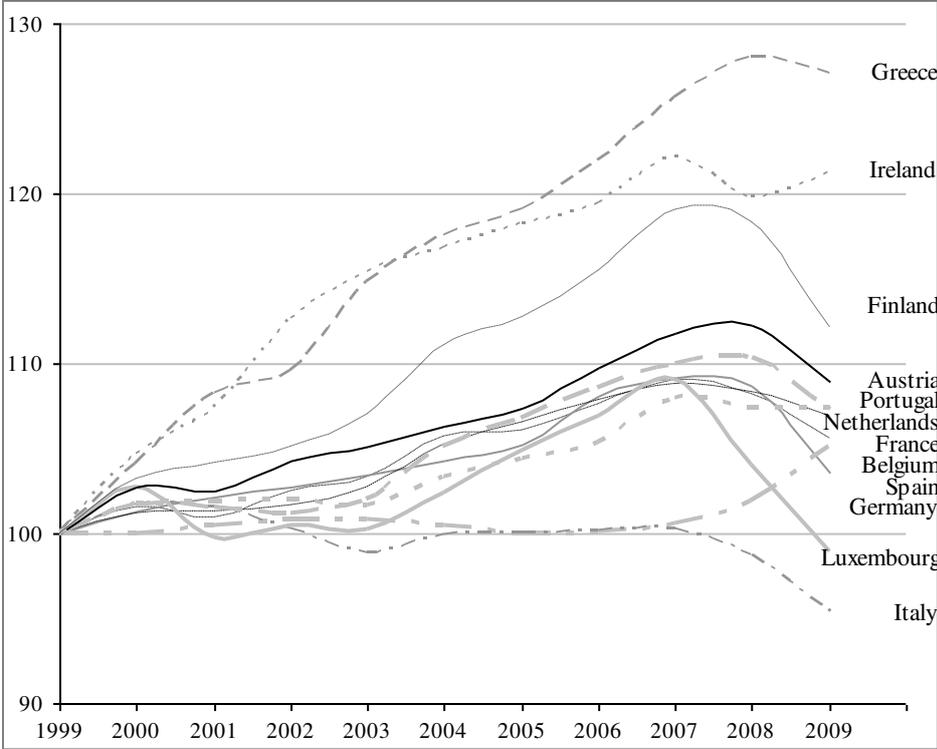
The given data on major trends in foreign trade of the EMU create a complex picture. On the one hand, the observed tendencies (especially the case of German and Austrian economies) agree with the standard predictions arising from the evolution of REERs (Section 2). On the other hand, they illustrate the gradual erosion of positions achieved previously (especially with regard to Ireland, France, and Italy), and a differentiating dependence of national economies on trade. In the area of trade 1999-2009 was characterized by a gradual fall in the importance of EMU countries in global exports, with a simultaneous growth of emerging market economies.

#### **4. Labor Productivity and Employment Rate**

Descriptive statistics regarding labor market performance are given in Figures 9 and 10. The EU and obviously EMU unemployment problems along with employment rates have both been goals of national economic policies as well as concerns at the supranational level. This should be seen from both the short and medium term perspectives and also as the major goal of long-term considerations, including the Lisbon Strategy *targetry*. The most obvious time series to start an analysis of labor performance is real labor productivity (Figure 9). Actual

productivity immediately before the launch of the euro was highly diversified with levels in the four convergence countries being far lower than in the core EMU countries.

**Figure 9.** Real labor productivity in EMU countries, in 1999-2009 (1999=100)



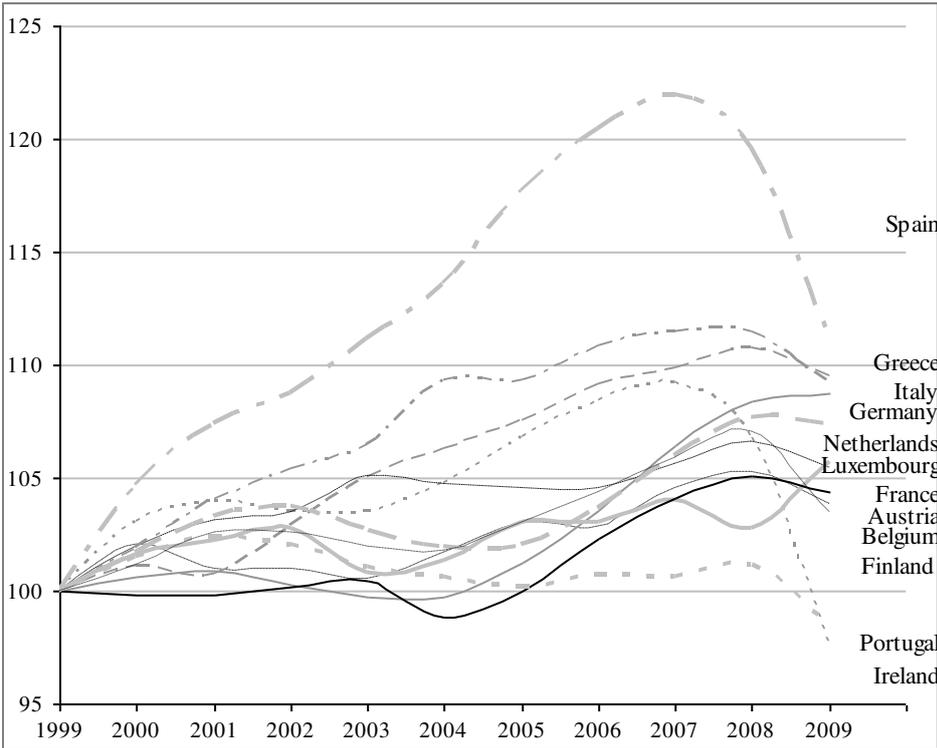
Source: Own calculation based on Eurostat database 2010.

Thus its dynamics (Figure 9) reflected a number of factors including starting levels, capital investment from foreign and domestic sources and composition and quality changes regarding production portfolio. The data in Figure 9 clearly indicates that, in relation to the 1999 level, for a number of EMU countries (e.g. Austria, Greece, the Netherlands), the highest levels of labor productivity were attained in 2008, with the majority of economies recording the first signs of decline as early as 2007. Clearly, up to 2007/2008, the best performers were Greece, Ireland and Finland - these economies were able to increase their labor productivity in relation to the 1999 level by 27,0% (2008), 21.2% (2009) and 19.1% (2007), respectively (Figure 9). Sizable variations in the labor productivity levels in the crisis years of 2008-2009 are a

combination of decline in demand, and consequently output, and also of the specific labor market institutions and reactions of employers in particular countries to the crisis<sup>13</sup>.

Data on the employment rate is given in Figure 10. As already indicated, for economic, social and demographic reasons, the employment rate became one of the main indicators of development, as well as one of the general goals of national and supranational economic policies (European Commission 2009). In 1999, amongst EMU countries only the Netherlands (71.7%) had an employment rate above the ‘Lisbon Agenda’ level of 70%, and only three countries Austria (68.7%), Portugal (67.4%) and Finland (66.4%) were relatively close to the then Dutch level<sup>14</sup>.

**Figure 10.** Employment rate in EMU countries in 1999-2009 (1999=100)



Source: Own calculation based on Eurostat database 2010.

As seen in Figure 10 the most spectacular improvement in terms of employment rate was achieved (to 2007) in Spain where the rate increased by 21.9% in comparison to 1999 (and

thus the employment rate improved from 53.8% in 1999 to 65.6% in 2007. After 2007, as a result of structural difficulties and the crisis, the employment rate in Spain dropped significantly, and in 2009 it was 59.8%, reaching its 2003 level. Apart from Spain, the Greek and Italian employment rates also drew attention: their levels improved in 2007-2008 versus 1999 by over 10% and 11%, respectively (Figure 10)<sup>15</sup>.

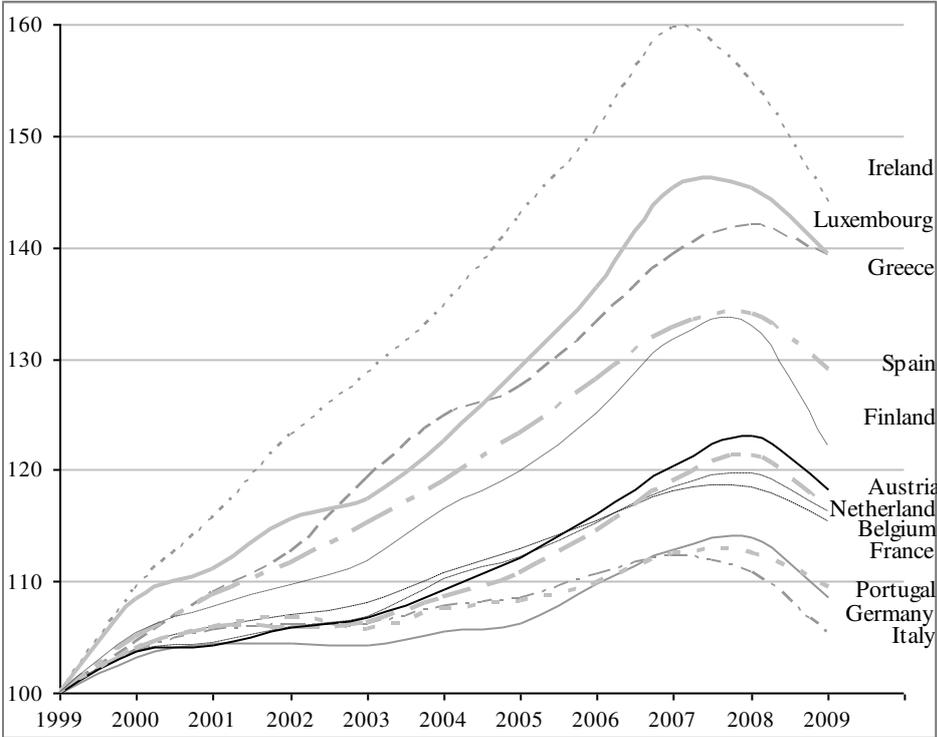
The EMU country with the highest employment rate was still the Netherlands (1999 – 71.7%, 2009 - 77.0%). In 2008-2009, apart from the Netherlands, only Germany, Austria, and Finland<sup>16</sup> exceeded the 70% level imposed by the Lisbon agenda. Relatively high employment rates were also recorded in Luxembourg and France. Data given in Figure 10 indicate the convergence of this measure, and the fact that apart from the crisis of 2008-2009, all EMU countries were capable of increasing their employment rates.

## **5. GDP and Per Capita Income between 1999-2009**

In terms of changes in competitiveness of the member states the first years of EMU may be evaluated in an economic context, apart from the uniform performance measures already applied, by analyzing GDP dynamics (Figure 11) and Gross National Income (GNI) per head (Figure 12). When analyzing the data in Figure 11, one can note that the clear leader in GDP growth was Ireland, whose GDP in peak year 2007 was almost 60% higher than the 1999 level. Two quite different economies - Luxembourg and Greece – also recorded very high growth. Spain and Finland recorded high GDP growth compared to 1999, with the latter country having the relatively worst correction due to the crisis; the Finnish GDP (Figure 11) dropped by approx. 10 percentage points (from 132.9% in 2008 to 122.3% in 2009). High convergence of GDP dynamics may be noticed in the structurally homogeneous group composed of Austria, the Netherlands, Belgium, and France (Figure 11). The smallest growth

in GDP volume occurred (for various reasons) in Portugal (in 2009 it was only 9.5% higher than in 1999), in Germany (8.7% higher than in 1999) and in Italy (+5.3%).

**Figure 11.** GDP in EMU countries in 1999-2009 (1999=100)



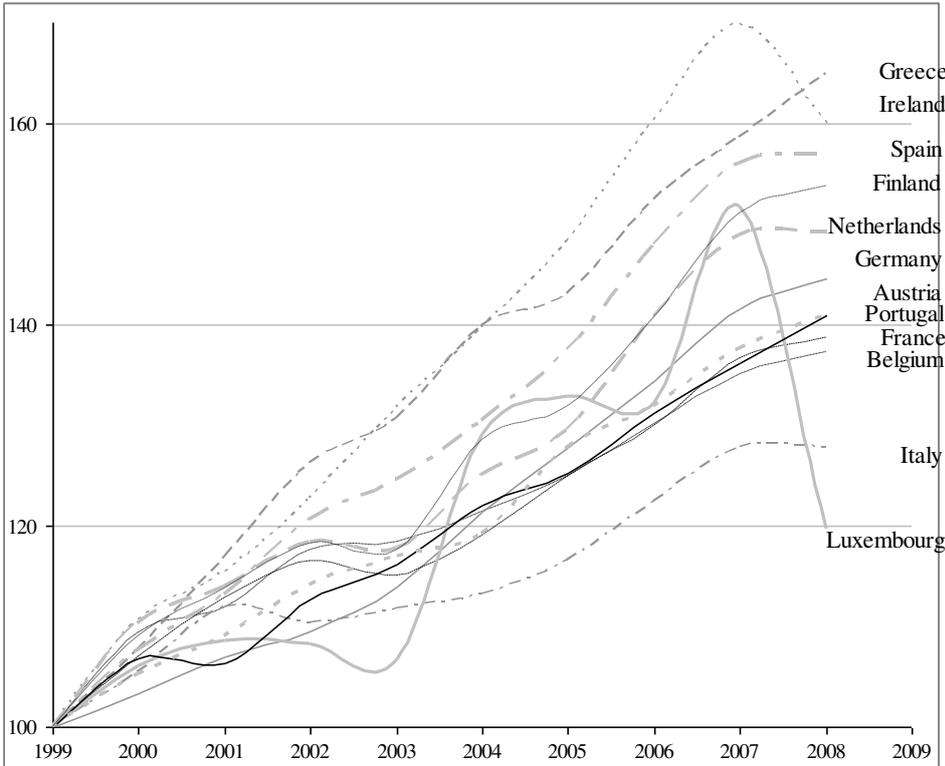
Source: Eurostat 2010.

According to Eurostat data the global economic crisis affected all EMU countries, with the greatest recession being recorded in Ireland; its product (yoy) fell by 3% as early as 2008 and by 7.1% in 2009 (in relation to 2007). Also, in Italy the negative trend of GDP changes already appeared in 2008 (-1.3%). The deepest GDP drops (yoy) occurred in 2009 in Finland (-8.0%), followed by Ireland (-7.1) and Italy (-5.0%). In-depth analysis of the underlying causes of such a great recession requires time and more data; however, the available figures and assessments are sufficient to determine that in Finland’s case the situation stemmed largely from recession in Russia and the eastern countries. The GDP drop being mainly the result of reduced exports to these markets. A similar mechanism, though with a different geographical structure of trade and reduced home expenses operated in Italy. The Irish case is

different – arising from the accumulation of internal imbalances (including overheating), and the related high foreign exposure of the financial sector of this economy.

Figure 12 shows comparative data on the evolution of Gross National Income (GNI) per capita according to the purchasing power parity (PPP). This measure combines in itself the results of general economic efficiency, differences in price levels in particular countries, and variations in the number of citizens, as well as employment rates (Section 4).

**Figure 12. GNI per capita at the purchasing parity (1999=100)**



Source: Own calculation based on WDI database.

According to WDI data, the highest GNI per capita in PPP in 1999 was recorded by Luxembourg (44,090 USD). The Netherlands ranked second (27,230 USD), followed by Austria with a GNI (PPP) per capita of 26,500 USD. Consecutive positions were occupied by Belgium (25,780 USD), Germany (24,870 USD), Italy (24,090 USD), and France (24,000 USD). Thus, in 1999, seven countries recorded a GNI of or exceeding 24,000 USD per capita. Ranks 8 to 12, in terms of this aggregate performance measure went to Finland (23,370 USD),

Ireland (22,320 USD), Spain (19,640 USD), Greece (17,160 USD), and Portugal (15,840 USD). In 1999 the Netherlands (which came second) had a GNI 1.72 times higher than Portugal (rank 12)<sup>17</sup>.

In order to compare the relative variations throughout the first 9 years of the EMU, similar to the performance measures selected earlier, GNI in particular years is expressed as the percentage of the 1999 level (Figure 12). According to data shown in Figure 12, growth of GNI over 50% between 1999-2007 were recorded by five economies: Finland (51.2%), Luxembourg (51.8%), Spain (56.0%), Greece (58.6%), and Ireland (69.9%). The lowest growths were recorded in 2007 (compared to 1999) by the following economies: Austria (36.2%), Belgium (35.1%), and Italy (27.8%). In the first year of the global economic crisis the GNI per capita in all countries, except Ireland and Luxembourg, continued to grow, but growth was much lower than in the previous years (Figure 12).

Despite the clearly varied GNI growth rate between 1999-2008, the shifts in wealth measured in GNI per capita were insignificant. This fact stemmed from strong differences in the initial levels of GNI per capita. Therefore, the order of the first three countries (Luxembourg, the Netherlands and Austria), and the last two (Greece and Portugal) did not change. The following countries improved their relative ranks: Germany moved to 4, Finland to 5, Ireland to 6, and Spain to 9. The remaining economies recorded drops in their relative positions in 2008 compared to 1999: Belgium moved from 4 to 7, France from 7 to 8, and Italy from 6 to 10. An important characteristic of the first years of the EMU was the distinct convergence of GNI per capita in PPP. However, there were exceptions to this rule, marked by Portugal and - to a lesser extent - Greece.

## **Conclusions**

Ten years of EMU existence is too short a period to make a straightforward assessment of the influence of the single currency and a uniform monetary policy on the international competitiveness of the whole grouping, as well as on shifts in the competitive positions of particular member countries. As said the assessment is not only difficult because the period under study is too short for the full emergence of structural changes caused by the introduction of a single currency and monetary policy, and limitations imposed on national fiscal policies. It is also problematic because the EMU was the culmination of the process of deepening the economic integration of Europe, initiated in the mid 1980s. These European processes on the one hand might be treated as a reaction to globalization trends, and on the other they were an inspiration and a challenge for other areas in the world, providing an impulse for regionalization.

Important events directly surrounding the EMU included the economic and political reintegration of Central and Eastern Europe with the core of Europe, which resulted in EU expansion in 2004 and 2007. Globally, the most important event was the acceptance of the PRCh to the WTO in 2001 and the unprecedented economic expansion of this country based on the undervalued renminbi. The Chinese expansion and the resultant global economic and financial imbalance contributed to the financial crisis at the end of the first decade of this century. The recession also affected EMU countries and cast light on the effects of the first years of its existence. The EMU's capacity for quick and coordinated anti-crisis actions has proved that this grouping is based on firm economic and institutional foundations.

In this paper, uniform and straightforward measures of the competitiveness of EMU member states were applied. The analysis conducted on the basis of these measures confirmed the important differentiation of price and cost conditions. The best results in this area were recorded by Germany and Austria. Germany has paid a particular price for both unification

and maintaining and improving its international competitiveness. It meant lower dynamics in consumption and thus a lower pace of GNI per head than in other, also highly developed EMU countries. This causative link also reflects the burden which stems from the globalization forces that threaten the historical construction of the welfare state. EMU countries from Southern Europe, because of their hysteresis of cost and price behavior and also the impact of the B-S effect, have deteriorated in their relative competitive positions. In single currency conditions, trends in costs and prices were reflected in results in foreign trade, with the case of Ireland (high relative appreciation and prominent growth of export) divergent from the standard relations in this respect.

Interesting processes of convergence and divergence also occurred in productivity and the labor market. The most synthetic measure of economic results of the first years of EMU existence might be the GNI per capita in PPP. According to theoretical predicates, countries characterized by the greatest dynamics in comparison to the initial period were those less wealthy, with the exception of Portugal. In general in EMU countries there was convergence of income.

The crisis which began in the USA in 2007, had practically contaminated the whole global economy. In EMU countries it was not only reflected in recessions in all member states. It also unveiled financial and macroeconomic vulnerabilities in the so far fastest-growing economies, such as Ireland or Spain, and also showed the scale and scope of Greece's structural, financial and political challenges. The course of the recession itself and its effect on EMU stability and primarily on the changes in Member State competitiveness requires separate attention and study.

## Endnotes

- <sup>1</sup> German consent to initiate the monetary union was a specific continuation of the pro-European and pro-integration policy of Germany in view of unification (assimilation of the GDR).
- <sup>2</sup> This period concerns the first six: France, Germany, Italy, Belgium, the Netherlands, and Luxembourg. Other members of the EMU 12 had had much shorter times for adjustment.
- <sup>3</sup> Recently this general positive picture was damaged by the case of Greece's systematic cheating regarding macroeconomic data recording and reporting. One of the negative outcomes originally underestimated was the phenomenon of overheating. Comp. Gwen 1998; von Hagen and Traistaru-Siedschlag 2006.
- <sup>4</sup> Unified monetary policy within the EMU is defined for the entire zone by the Governing Council of the ECB.
- <sup>5</sup> EBC does not specify this indicator for Belgium and Luxembourg.
- <sup>6</sup> In 2009 Germany lost their leader position to the People's Republic of China (PRCh).
- <sup>7</sup> EU27 plus Australia, Canada, United States, Japan, Norway, New Zealand, Mexico, Switzerland, and Turkey. Eurostat uses double export weights in order to calculate the  $REER_{ULC}$ , reflecting not only competition at home and EU markets, but also competition in external export markets. Source: Eurostat.
- <sup>8</sup> The assumed relationship – appreciation of the REER – deterioration of export dynamics and the resultant fall in the competitive status could be disturbed if one takes into account qualitative and technological factors which might significantly compensate the functioning of simple price-cost mechanisms expressed by real rates.
- <sup>9</sup> All data are compared with the 1999 levels (1999=100).
- <sup>10</sup> The case of Ireland requires additional explanation. Despite deterioration of its REERs, enterprises, due to earlier investments in high-tech sectors of production and services, were able to retain a sizable part of their competitive advantages gained in the 1980s and 1990s.

- <sup>11</sup> In the case of Portugal it was mainly linked to the slowdown of its domestic demand.
- <sup>12</sup> This category encompasses products with high R&D intensity, such as aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery and is recorded in the United Nations, Comtrade database.
- <sup>13</sup> Figure 9 indicates a sizable relative deterioration in labor productivity in Italy, Luxembourg and Germany. According to Eurostat data, despite the crisis in these economies, unemployment rates remained low in 2009 – in Italy it increased from 6.1% (2007) to 6.7% (2008) and 7.8% (2009), in Luxembourg it was up from 4.2% (2007) to 5.2% (2009) and in Germany it decreased from 8.4% (2007) to 7.3% (2008) and 7.5 (2009).
- <sup>14</sup> Source: Eurostat database.
- <sup>15</sup> While appreciating the relative achievements of both countries, one must remember that they joined the EMU in 1999 with employment rates of 55.9% (Greece) and 52.7% (Italy). The relatively high dynamics allowed these countries to achieve 2009 rates of 61.2% and 57.5%, respectively, however, after ten years they were still among those with the lowest employment rates (together with Belgium, Ireland, and Spain).
- <sup>16</sup> In 2007 and 2008 Finland recorded employment rates of 70.3% and 71.1%, respectively, but in the 2009 crisis year, this performance measure declined to 68.7%, reflecting the negative impact of the global financial crisis.
- <sup>17</sup> Luxembourg's GNI is exceptionally high and also changeable due to its tax policy which attracts headquarters of international companies and the fact that this country hosts a large number of international and European institutions. Thus it is more informative to use for comparative purposes such countries as the Netherlands which have a more balanced structure of income generation.

## References

- Campos N.F., Coricelli F. (2002), *Growth in Transition: What we Know, What we Don't, and What we Should*, „Journal of Economic Literature”, vol. 40, no. 3.

- De Grauwe P. (2000), *Economics of Monetary Union, fourth edition*, Oxford University Press.
- De Grauwe P., Schnable G. (2005), *Nominal Versus Real Convergence – EMU Entry Scenarios for the New Member States*, *Kyklos*, vol. 58, no. 4, pp. 537-555.
- De Grauwe P. (2007), *The Challenge of Enlargement of the Eurozone*, SUERF Annual Lecture 2007, the Austrian National Bank, 22 June.
- Di Mauro F., Dees S., and McKibbin W.J. (eds.), (2008), *Globalization and Economic Interdependence*, Cambridge University Press, Cambridge.
- Dyson K., Featherstone K. (1999), *The Road to Maastricht. Negotiating Economic and Monetary Union*, Oxford University Press, Oxford.
- Egert B. (2002), *Investigating the Balassa-Samuelson Hypothesis in the Transition: Do We Understand what We See*, BOFIT Working Paper no. 6, p. 42.
- Egert B. (2004), *Assessing equilibrium exchange rates in CEE acceding countries: can we have DEER with BEER without FEER?* The William Davidson Institute Working Paper no. 664, February, The William Davidson Institute at the University of Michigan Business School, pp. 99.
- Egert B. (2007), *Real Convergence, Price Level Convergence and Inflation Differentials in Europe*, OeNB, Working Paper, July, p.54.
- Eudey G. (1998), *Why Is Europe Forming A Monetary Union?*, *Business Review*, November/December, FED, Philadelphia, pp. 13-21.
- European Commission (2009), *EU Policy Challenges 2009-2019. A report to the President*, Brussels: Director-General for Internal Policies.
- Findley R., O'Rourke K.H. (2007), *Power and Plenty. Trade, War, and the World Economy in the Second Millennium*, Princeton University Press, Princeton.
- Gilpin R. (2000), *The Challenge of Global Capitalism. The World Economy in the 21<sup>st</sup> Century*, Princeton University Press.
- Global Competitiveness Report* (2010), World Economic Forum.

- Gorynia M, Kowalski T. (2009), *Nauki ekonomiczne a kryzys gospodarczy*, Studia Ekonomiczne, nr 3-4 (LXII-LXIII), pp. 213-238.
- Issing O., Gaspar V., Angeloni I. and Tristani O. (2001), *Monetary Policy in the Euro Area. Strategy and Decision Making and the Central Bank*, Cambridge University Press, Cambridge.
- Kowalik T. (2002), *Kapitał globalny a tendencje egalitarne i antyegalitarne*, in: B. Liberska (ed.), *Globalizacja. Mechanizmy i wyzwania*, PWE, Warszawa.
- Kowalski T. (2001), *Proces formułowania oczekiwań a teoria cyklu wyborczego. Implikacje dla polityki gospodarczej*, Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań.
- Kowalski P., Kowalski T., Wihlborg C. (2007), *Poland. The EMU entry strategy vs. the monetary issues*, Poznan University of Economics Review, vol. 7, no. 2, pp. 59-88.
- Pelkmans J. (2006), *European Integration. Methods and Economic Analysis*, third edition, Pearson Education Ltd.-Prentice Hall, Harlow.
- Porter M. (1990), *The Competitive Advantage of Nations*, The Free Press, New York.
- Rodrik D. (1996), *Understanding economic policy reform*, „Journal of Economic Literature”, vol. 34, pp. 9-41.
- Rubaszek M., Serwa D. (2009), *Analiza kursu walutowego*, in: W. Marcinkowska-Lewandowska (ed.), Wydawnictwo C.H. Beck, Warszawa.
- Skrobisz M. (2005), *European monetary integration – from the beginnings to the EMS crisis of 1992–93*, Poznan University of Economics Review, vol. 5, no. 1, pp. 37-60.
- Schwab K. (2010), *Global Competitiveness Report 2010-2011*, World Economic Forum, Geneva.
- Ungerer H. (1997), *A Concise History of European Monetary Integration. From EPU to EMU*, Quorum Books, Westport.
- Van Marrewijk Ch. (2004), *An introduction to international money and foreign exchange markets*, The University of Adelaide School of Economics Working Paper 2004-02, pp. 114.

Von Hagen J., and Traistaru-Siedschlag I. (2006), *Macroeconomic adjustment in the new EU member states*, SUERF – The European Money and Finance Forum Vienna, pp. 80.

Wojtyna A. (ed.), (2008), *Instytucje a polityka ekonomiczna w krajach na średnim poziomie rozwoju*, PWE Warszawa.

Wojtyna A. (2008), *Współczesna ekonomia – kontynuacja czy poszukiwanie nowego paradygmatu*, *Ekonomista* 2008, nr 1.