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Kowalski, Tadeusz

Poznan University of Economics

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Tadeusz Kowalski

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Poznań, February 14, 2012

# The economic and monetary union countries vs. the global crisis

Tadeusz Kowalski\*

**Keywords:** financial crisis, competitiveness, Economic and Monetary Union

JEL Codes: E32, F14, F33, F40-F43

## **Abstract**

The global financial and economic crisis revealed institutional weaknesses and structural problems of particular Economic and Monetary Union (EMU) countries. The crisis and slowdown that followed had an impact on their relative competitiveness. Financial and economic turbulences of recent years shed new light on the scale and scope of interdependences in the world economy. They uncovered economic and institutional flaws of the very EMU itself. The paper focuses on EMU countries real sector reactions to the financial disturbances. Both comparative static and dynamic approaches are used in order to assess the scope and pace of adjustments triggered by the global crisis.

## **Introduction**

The aim of this paper is to assess reactions of the 12 economies of the Economic and Monetary Union (EMU) to the financial and economic crisis of 2008-2009. The pace of developments triggered by the crisis uncovered structural problems of particular EMU countries and thus has had an impact on their relative competitiveness. Furthermore, the crisis shed new light on the scale and scope of interdependences in the world economy and unveiled economic and institutional flaws of the very EMU itself, as well as the European Union. The

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paper draws on the methodology of Kowalski and Pietrzykowski [2010] and focuses on the EMU countries' real sector reactions to the financial disturbances. Both comparative static and dynamic approaches are used in order to assess the scope and pace of adjustments triggered by the global crisis.

Section 1 is devoted to a brief discussion of the political and economic context of EMU creation. Section 2 addresses the major mechanisms of the 2008-2009 crisis and the global slowdown that followed. It also covers the ways it was spread into EMU economies. The empirical part concerns the period of 2007-2010 and begins with section 3 covering the fiscal performance of EMU countries. The next section examines real effective exchange rates' (REERs) reactions to the crisis. Section 5 is devoted to trade developments generated by both REERs' adjustments and the crisis. Section 6 deals with the shifts in industrial production and labor markets. Section 7 is devoted to a discussion of the ways the crisis was reflected in such comprehensive measures as gross domestic product (GDP) and gross national income (GNI). Finally, shifts in composite summary competitiveness indices are also discussed. The paper then closes with conclusions.

## **1. The EMU in the global context**

The acceleration of globalization in the 1980s and 1990s stemmed both from political developments as well as from technological progress. In academic and applied economics it was supported by the revival of neoclassical economics [Wojtyna 2008; Blanchard 2010; Kowalski 2011]. Since the 1980s the practice of international economic relations was strongly influenced by the publications of the National Bureau of Economic Research (NBER) and 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 [Rodrik 1996; Lindley and O'Rourke 2007; Wojtyna 2008; Kowalski and Pietrzykowski 2010, p. 12; Kowalski 2011]. The process was enhanced by the IMF policy of conditionality towards emerging market economies [Kowalik 2002, p. 277] and by the growing popularity of the Washington Consensus [Williamson 2004].

In general, these processes influenced the European economic integration of the 1980s. In this period the idea of finalizing the construction of the Internal Market, and the strengthening of the institutional and decision-making framework (the Single European Act), were seen by third countries both as an inspirational example, as well as a challenge [Dyson

and Featherstone 1999; Gilpin 2000; Pelkmans 2006; di Mauro, Findley and O'Rourke 2007; Dees and McKibbin 2008].

At the French initiative the Commission returned to the concept of a monetary union. The work of the Delors Committee began in 1988. It was then greatly intensified following Eastern-European events and the unique opportunity of German unification. This policy was sealed by the Maastricht Treaty, foreseeing the formation of the EMU [Ungerer 1997; De Grauwe 2000; Issing et al. 2001; Skrobisz 2005; Kowalski and Pietrzykowski 2010, pp. 12-13]. The EMU project was intellectually based on the optimum currency area (OCA) concept [Mundell 1961; Mundell 2011; Kenen 1969]. Interestingly, conceptual work on the economic and institutional EMU foundation was mostly done by politicians and monetary matters were tackled by a subcommittee representing central banks.

The monetary and fiscal criteria stipulated in the Treaty of Maastricht were not a simple reflection of the OCA criteria and are not easily justifiable along theory lines [De Grauwe 2000]. They rather reflected some arbitrariness of political decisions that led to the establishment of the monetary union [Kowalski, Kowalski and Wihlborg 2007, p. 60]. EMU convergence criteria stemmed both from accrued experience and from a political bargaining process that had started as early as 1987, and was concluded during the Intergovernmental Conference (IGC) that paved the way to the Maastricht Summit [Dyson and Featherstone 1999; Arestis et al. 1999; Skrobisz 2005].

During the time of the IGC, the emphasis on the ex-ante criteria and the lack of ex-post disciplinary measures was not very much debated. Instead, the arbitrariness of the actual levels of the fiscal Maastricht criteria came under criticism right after their draft (see Pasinetti 1998). Some economists, e.g. Laufer (1997), noted that the Maastricht criteria were tailored according to the historical economic performance of Germany. In fact, the fiscal criteria could be derived from the formula determining the budget deficit needed to stabilize government debt [De Grauwe 2000, p. 134, cf. Bini-Smaghi et al. 1993]<sup>1</sup>.

During the time of rather smooth preparations for EMU introduction, Germany requested an institutional correction and proposed the *ex-post* disciplinary measures. The correction took the form of the Stability and Growth Pact (SGP) that was finally added in

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<sup>1</sup>  $d=gb$ , where  $d$  is the budget deficit (in percent of GDP; 0.03),  $g$  is the growth rate of nominal GDP; assumed to be 5%; 0.05) and  $b$  the steady state level of public debt to be stabilized; 60%; 0.6). This formula indicates the required combination of these three parameters in order to stabilize the public debt level (here at 60% of GDP – at the time it was the average debt-to GDP ratio in the UE) and assuming the growth rate nominal GDP to be 5%.

1997. The rationale behind the SGP was that the EMU member countries, without the ex-post SGP rules, would have little incentive to stand for the provisions of the Maastricht treaty after the successful examination and the official introduction of the common currency. It was rightly argued that the successful entrants, in the absence of the SGP, could pursue excessively loose fiscal policies and thus exploit the credibility of the common currency area as a whole. Finally such a selfish national policy could dent or even destroy the credibility of the whole EMU affecting the economies of other prudent EMU members. To prevent this 'free riding' all the member countries had to commit to maintaining budgetary discipline. Formally the SGP 'mark 1' consisted of three elements [European Commission (EC) 2004]:

- a political commitment by all parties involved in the SGP to the full and timely implementation of the surveillance process,
- a regular monitoring of budget deficits done on the basis of stability and convergence programs, and a requirement of corrective actions and, if necessary,
- imposition of sanctions according to the Excessive Deficit Procedure (EDP).

Despite the appeal of robustness and impartiality, the influence of the SGP on short-term fiscal policies in practice was mitigated by political considerations. The Commission had merely been given a monitoring and initiatory role if a member country did not comply with the Maastricht provisions [EC 2004]. The actual sanctions' enforcement decisions were to be taken by the Council. In consequence, the members of the Council were effectively judges in their own case. As time showed, for a certain period of time even Germany and France did not meet the ex-post criteria. The EMU countries had had little incentive to enforce sanctions since they were potential, future violators of the budget deficit rule. The arbitrariness of the Maastricht criteria and the very decision making procedure made it easy to justify occasional or even prolonged breach of the budget deficit rule in the time of adverse economic developments. For these reasons the dissuasive power of the SGP proved to be weaker than initially foreseen, as could be observed from the Economic and Financial Affairs Council (ECOFIN) rulings on German and French deficits.

In March 2005 ECOFIN, and finally the European Council, in order not to accept the erosion of EU law, decided to soften the SGP [Council Regulation (1055/2005)]. In the SGP 'mark 2', the fiscal thresholds (namely 3% deficit and 60% public debt) had remained unchanged. However the EDP procedure had, to a certain degree, been relaxed (e.g. no EDP should be launched against a member state with a negative or prolonged period of low growth). Moreover, the modified SGP listed relevant factors letting a country off an EDP. This decision was welcomed by the French and German governments, but was criticized by

the [European Central Bank (ECB) 2005a and 2005b] and the Deutsche Bundesbank. Interestingly, due to the then weak US dollar, the financial markets did not react negatively to the modified SGP.

Analysis of the Maastricht criteria fulfillment on the ‘examination date’ of January 1, 1997 indicates the role played by political considerations in the establishment of EMU. Based on the European Commission (1998) synopsis of data, Greece was the only country of the group of 12 candidates that could not meet both the fiscal and monetary criteria in January 1997. Interestingly, the inflation criterion (the reference value of 2.7%) and the long term market interest rate (the reference value of 5.0%) were met by all aspiring economies (except Greece). This clearly signaled the scope of nominal convergence achieved. The Exchange Rate Mechanism (ERM II) criterion proved not to be difficult even for Greece. However, Finland and Italy were qualified for the third stage of EMU creation without the full two-year membership in the ERM II, staying respectively for 15 and 14 months [Council Decision 98/317/ EC of 3 May 1998].

On the ‘examination date’ of January 1, 1997 the budget deficit along with Greece (-4.6%) was not met by Spain (-3.2%). The most problematic convergence area proved to be the public debt criterion (60% of GDP). It was violated, to a various extent, by 9 out of 12 aspiring economies (Austria 63.9%, Belgium 123%, Finland 61.3%, Germany 60.9%, Greece 108.5%, Ireland 65.3%, Italy 119.8%, the Netherlands 70.3%, Portugal 60.3% and Spain 66.7%). Thus it is seen that the Commission and the Council had used both political rationale and the built-in flexibility in the criteria formulation to qualify all applicants, except Greece, for the third stage of the EMU<sup>2</sup>. Both Belgium and Italy were positively judged on their debt reducing efforts and could join at the early date, whereas Spain was admitted, despite having exceeded the budget deficit and public debt thresholds.

## **2. Major mechanisms of the 2008-2009 crisis and its proliferation**

Real sector EMU economies’ reactions that followed the global crisis may be analyzed in the aggregate demand (AD) context focused on changes in consumption expenditure, investment demand, government expenditure and exports and imports. For the sake of simplicity both consumption and investment may be treated as domestic private sector demand and net exports as a general indication of the intensity of external links of a particular country. The impact of the crisis may also be studied in terms of growth models in order to

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<sup>2</sup> It meant that technically only France and Luxemburg had met all Maastricht convergence criteria.

better understand the transitional slowdown that follows major recessions. Both short term real sector reactions and long-term consequences of the crisis influence international competitiveness.

Following section 1 it needs to be stressed that EMU countries, due to the prolonged processes of integration have developed substantial institutional and systemic similarity. The EMU countries retained their national control only of fiscal policy instruments, restricted however by the SGP and other specific EU fiscal rules. 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 their domestic economic events [Kowalski 2011].

Simultaneously, these economies still differ in terms of human, social and production capital, natural resources and micro-level institutional solutions. Consequently due to these features and also varying traditions, experiences, corporate cultures, degree of respect for law, and law enforcement, EMU countries display diversified environments of business, entrepreneurship or the ability to create and absorb innovation [Kowalski and Pietrzykowski 2010, pp. 12-13]. In the context of economic and monetary union, these aspects of mezzo and micro-level efficiency became crucial [Schwab 2010]. Thus, adaptive capability on the level of businesses and sectors, their product and process innovation capacity, including cost control and even cost reduction have become a necessary condition for maintaining competitiveness at the national level [Porter 1990; WEF 2011].

Porter's approach points to four potential groups of economy competitiveness factors: resources, the demand side of a given economy, network of sectors, and the business environment. The transformation of these potential factors into an actual set of competitive advantages requires beneficial conditions, including adequate micro- and macro-economic policy. In the context of the EMU and 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 the much-emphasized adaptive ability of businesses (Kowalski and Pietrzykowski 2010, pp. 13-14).

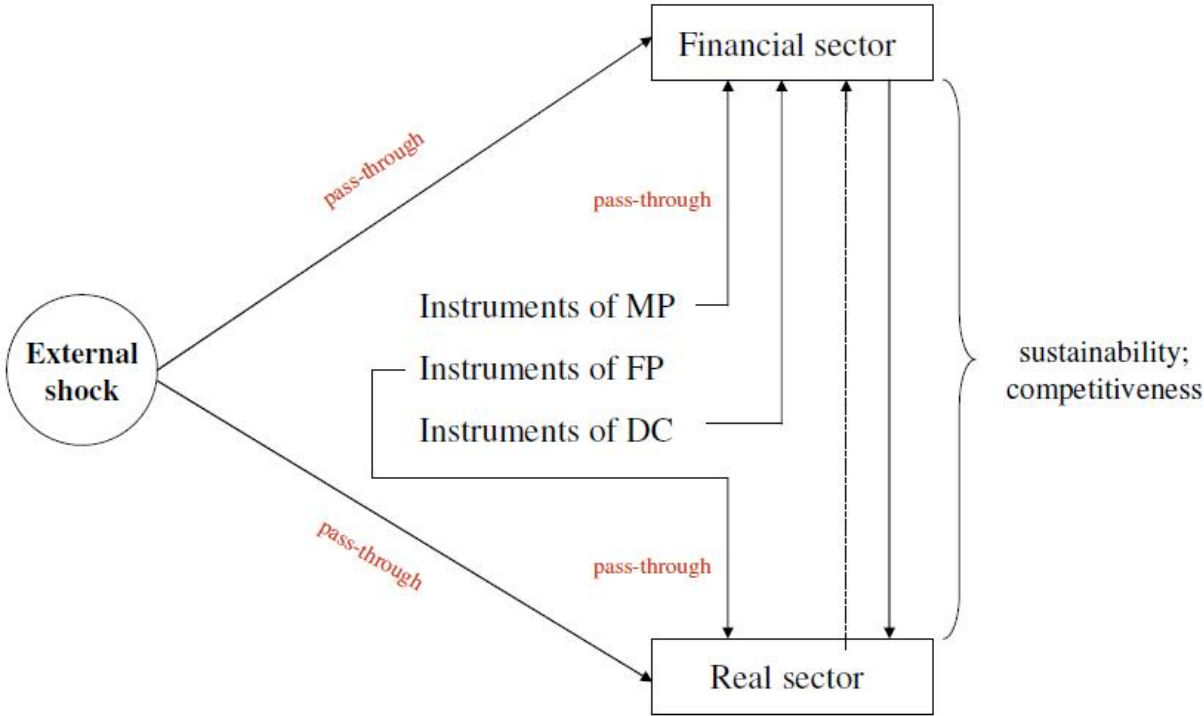
In general, the competitiveness of a given economy may be assessed using econometric models of real effective exchange rates [Egert 2004; Marrewijk 2004; Rubaszek and Serwa 2009] or by applying uniform and composite performance measures. The latter are composed on the basis of primary statistical data and subjective measures of perception of the business environment quality of selected economies and integration groupings [e.g. WEF 2011].



In summary, the ways particular EMU economies reacted to the global financial crisis that originated in the USA depended on the following broad groups of factors:

- macroeconomic conditions, especially fiscal ones, at the onset of the global turbulences;
- size and role of the financial intermediation sector in national economies and its scope and scale of international linkages;
- qualitative aspects of the EMU economies and their adaptive ability at the micro and mezzo-levels.

A more detailed framework of the impact of an external shock may be presented such as in Figure 1. The external shock simultaneously hit both the financial and real sectors. Its impact



**Figure 1.** Analytical framework of an external shock

Notes: MP – monetary policy; FP – fiscal policy; DC – direct control instruments.

was felt with some diversified time lag (Figure 1). However, due to swift expectation formation mechanisms its influence on the European banking sector and stock exchanges was very strong. Within the EMU context the monetary policy instruments set at the European System of Central Banks (ESCB) Governing Council level could not reflect different needs of particular national economies. Thus, the most adaptive stabilization work had to be performed by fiscal policy instruments, supported by some regulatory measures belonging to the direct

control instruments category (Figure 1). Thus the scale of discretionary and autonomous budgetary reactions was also functionally tied with the broad groups of factors indicated above.

In this paper, focusing attention on real economy performance and following the approach by Kowalski and Pietrzykowski 2010, it is assumed in the empirical sections that the crisis impact indirectly accumulates in major, performance measures, such as real effective exchange rates, export development, labor productivity and finally gross output rates and volumes. These general performance measures signal, on the one hand, particular EMU economies' shifts in reaction to the global turbulences and then for the induced EMU-wide and domestic shocks, and on the other – for particular companies and sectors – they are exogenous constraints, threats and also opportunities.

### **3. The crisis background**

Financial sector shocks and crises were occurring in the 20th century in virtually every decade. The most recent one, initiated in the USA in 2007, is consequently part of a more general tendency. Its root causes are complex. The antecedent causes had been accumulating for many years.

The recent crisis may be differentiated from other 20<sup>th</sup> century crises by its global scale and the fact that, apart from the 1929-1933 one, it constitutes the gravest hindrance in world economy functioning and growth. The current crisis is the result of the interplay of:

- mistakes in economic policy,
- shifts in global real sphere, as well as
- technological advancements.

These three broad groups combined had first led to sectoral disruptions and imbalances, including first of all the financial intermediation sector, later on they contaminated particular countries, and finally hit cross-national integration groupings (such as EMU) to cover the whole world economy in the end.

The common feature of major financial sector shocks is that they lead to the necessity of public intervention, virtually in all cases consisting of financial institution system recapitalization. In the past thirty years, the Scandinavian countries, Japan, East Asian states, Eastern and Central Europe and the USA have been the breeding grounds of such occurrences. The ultimate aim of various intervention forms has been to restore the stability of the sector, as well as the trust in banks and the stock market. An ever controversial side effect has been using taxpayers' money to rescue the endangered financial institutions and indirectly

their shareholders. This moral ambiguity, in a non-involved observer's point of view, has always provoked intense emotions and disputes. It has also incurred a significant political cost. The sole manner of providing public assistance for the sector has depended on the scale of the risk, resource allocation method, i.e. the fact that if a particular system has been based on bank intermediation (the 'European model') or if the stock market has been its heart (the 'Anglo-Saxon' model). The sector concentration scale, as well as the *too big to fail* dilemma [Wihlborg 2010], have also been of considerable importance.

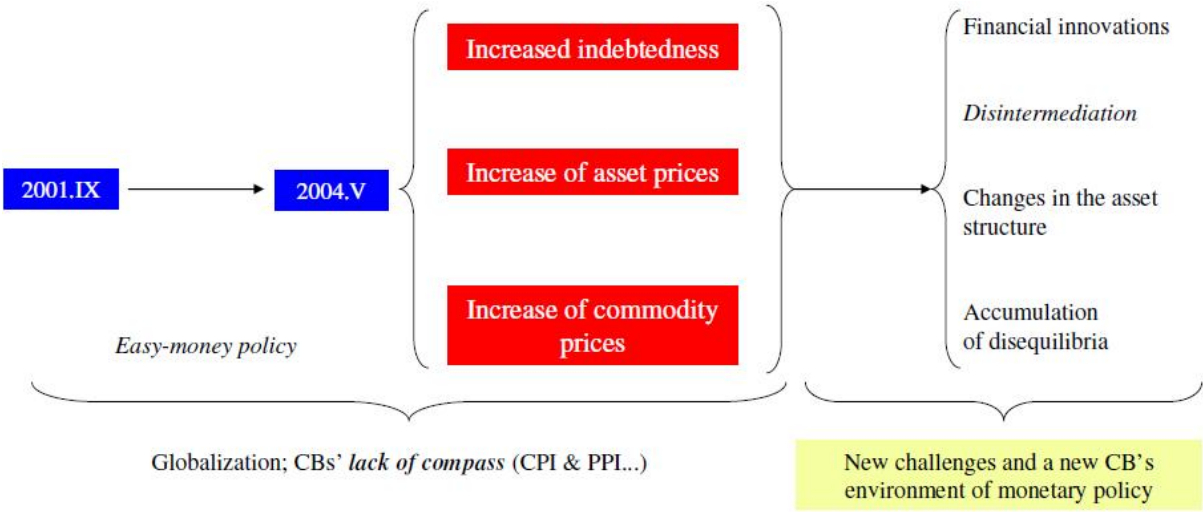
Another significant feature of the major financial disruptions and above all the natural follow-up to the controversy resulting from the scale of public aid is... searching for the guilty. This ritual element is understandable; as in the case of aircraft or construction site accidents, the slumps and crises alike are caused by human error; at the end of the day, it is a person or a group of people who turn out to have been at fault. The quest for the guilty is conducted both in political debates, in mass media, as well as within the corporate and academic economics' realm. Such debates are by definition infested with ideology and emotions, comp. the Krugman vs. Lucas debate [the Economist 2009, June 11]. The disputes are thus centered around the level of responsibility on the part of the politicians, the president, prime minister and Secretary of Treasury included, as well as the presidents of central banks and financial supervision authorities, not excluding the responsibility on the part of the supervisory boards' and private financial institutions Board of Directors' chairmen or the shareholders and academic economists. The latter group's responsibility concerns the intellectual background for corporate level decision taking, the choice of directions and the selection of macroeconomic policy tools.

The third universal trait of financial crises has been the attempt to find systemic corrective action and regulatory solutions of a preventive nature. In the case of the crisis initiated in the USA in mid 2007, the debate and dispute have concerned the possibility of introducing global systemic prudential solutions in the banking sector, or the role of the rating agencies themselves, and their operational framework. What also remains the main focus of the debate is the action to be taken to reduce the scale and intensity of ultra-short and short capital flows through the possible introduction of Tobin's tax.

While analyzing the final dimension of the financial crisis consequences, it is well worth noticing that there exists a specific technological race, between different regulatory and prudential institutions on one hand, in some part including also rating agencies, and private financial sector institutions on the other. The latter, often as the reaction to conditions created by the central bank or government administration policies (as will be discussed further), have

become the source of financial innovations. Product and process innovations, virtually always preceding both the regulations' introduction and the rating agencies' capability of conducting up-to-date and adequate risk assessment connected with them (I decided to put aside the issue of corporate governance as related to modern rating agencies, due to the limited space of the monograph).

In light of the above mentioned comments, as well as available literature, the 2007-2009 crisis can be analyzed in terms of both the market economy natural tendencies (i.e. its cyclicity) and its inherent origins [Gorynia and Kowalski 2008, 2009; Kowalski 2009; Kowalski and Shachmurove 2011; Płowiec 2009; Cline 2010; Shachmurove 2011; Taylor 2010; Catte et al. 2011]. In the latter, there is already an agreement as to the fact that among the major macroeconomic policy causes (see Figure 2) that there had been the American policy mix, including the Federal Reserve Board's (FED) monetary policy, that had preceded the crisis, especially in the period of September 2001 to May 2004, as well as the economic policy, with the PRCh's exchange rate policy at the forefront. [Eichengreen and Park 2006; Feng Lu 2006; Kowalski 2008; Cline 2010].



**Figure 2.** Background mechanism of the crisis

The subsequent American administration expansionist fiscal policy (expenses connected with two Gulf Wars, cost of the American presence in Afghanistan and post-9/11 counter-terrorist measures, policy assistance in residential housing, etc.) had led to high budget and current account deficits. These processes were accompanied by an overtly expansionist monetary policy of FED (Figure 2). Similar monetary conditions had been prevailing in the world economy in general [The great... 2005]. As a consequence, a multiannual overliquidity period followed in the world economy, the effect of which being a decrease in real interest rates,

increase in general rate of debt in both public and private sectors, a majorly speculation--based increase in raw material and financial asset prices. Given such macroeconomic circumstances (Figure 2), the private financial sector reacted by introducing large-scale financial innovations and a tendency for financial disintermediation appeared; banks changed their proffered asset structure towards a more liquid one. In this way, the financial stage was set for the crisis.

The lack of inflationary pressure (in terms of Consumer Price Index (CPI) or Producer Price Index (PPI)) stemmed from the People's Republic of China (PRCh) and other developing economies joining the global economy. Its apparent manifestation was a regular trade surplus of PRCh towards the USA. The PRCh's status, resulting from maintaining a visible undervaluation of reninmbi, was additionally strengthened by granting this country a membership in the WTO in 2001. The PRCh's trade surplus went from 2.9% GDP in 2000 to 9.3% and 8.3% in 2007 and 2008 respectively. According to WTO data the share of Chinese exports in total global exports in 1990 amounted to 1.5%, in 2000 - a year before accession to the WTO it was 3.9%, only to reach the level of over 9% in 2008. In 2011, the Chinese year of record-high exports, the share reached 10.5%, i.e. it increased seven times in the period between 1990-2011. Within that time, the world trade share of all the major market economies (Japan, Germany and the USA) decreased by 3.9, 3.7 and 3.0 percentage points respectively [WTO database].

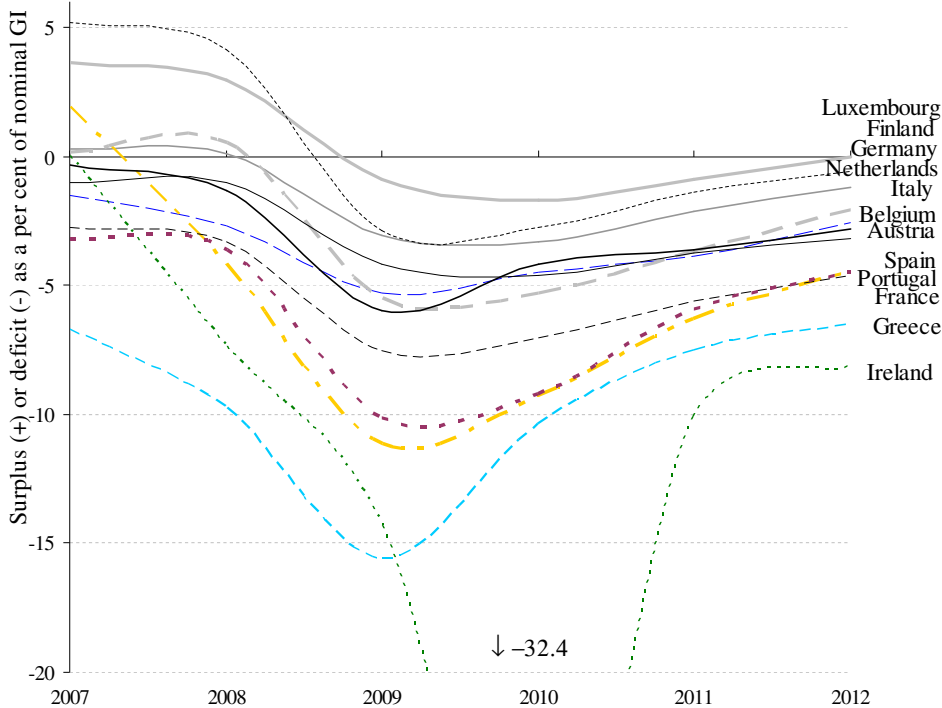
China, thanks to its macroeconomic policy of being able to take advantage of its significant yearly trade surplus, has become the major buyer of American treasury bonds and other financial assets, thus contributing immensely to the increase in overliquidity in the American money and credit market. China has developed into an economy of two surpluses - due to the FDI inflow, it has registered a capital account surplus. The international trade and financial flow tendencies, outlined in the shortest possible way, have led to the deepening of global disequilibria. Their most spectacular manifestation is 30% of total world foreign-exchange reserve owned by a single country - PRCh. In 2011, this country, alongside Hong-Kong, Taiwan and Singapore, was in control of 40% of world foreign-exchange reserve. Another consequence of overliquidity is the scale of daily FOREX transactions. In 2010, according to BIS data, it reached USD 3 981 bn; that is 6.3% of the global GDP!

Foreign reserves controlled by the PRCh and other emerging countries are currently being readjusted to the developed economy financial system rules. Global financial flows have been conducted within a small group of large complex financial institutions (LCFI), and as a result of this, LCFI have had overliquidity resources to be used at will. Thus their

expansion has not been deposit-based; quite to the contrary, it has been market-based. No wonder then that LCFI became one of the major culprits and also a major receiver of public aid when the crisis erupted.

**4. Fiscal performance of EMU countries**

The mechanisms outlined in section 2 have had an immense impact on public finance and generally fiscal performance in most industrial countries, including all EMU economies. Public finance sector deficit, commonly referred to as budget deficit, as well as public debt level, are two convergence criteria that retained their binding effect after the EMU had been created (see section 1). From the perspective of public debate and general economic governance assessment, these two variables focus attention also due to the fact that they are an accurate reflection of a modern state’s involvement in the economy. In the case of the EMU, another sort of this significance is demonstrated. In terms of quantitative economic policy the member states have only fiscal policy instruments at their disposal. Discretionary application of fiscal policy instruments, however, is limited by specific rules and regulations adopted by the EU as well as the SGP requirements (compare section 1). In 2007, the criterion of public finance sector deficit was met by as many as 10 out of 12 EMU countries, whereby 6 out of 10 registered budget surplus (the highest being the share of Finland and Luxembourg, 5.2% and 3.7% of GDP respectively) (Figure 3). In 2007, only Greece and Portugal



**Figure 3.** General government financial balances as % of GDP in 2007-2012\*

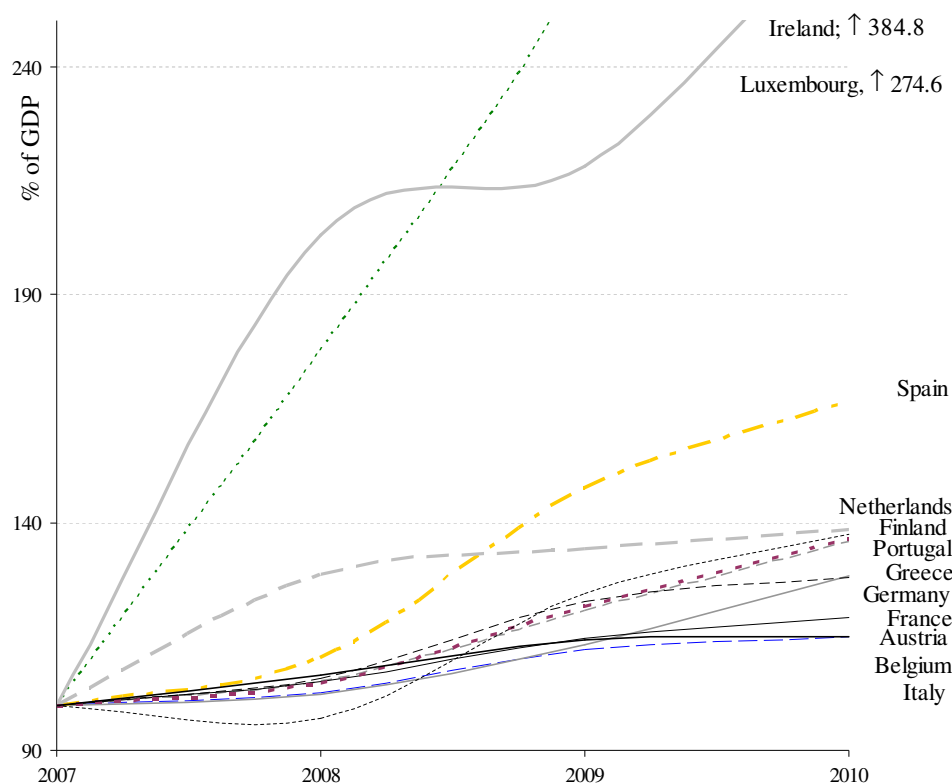
\* estimate.

Source: OECD Economic Outlook Database.

exceeded the level of 3%, 6.7% and 3.2% of GDP. The financial and economic crisis of 2008-2009 affected the general government financial balances (GGFB) of the EMU countries in different ways. In the period of 2009-2010, it was at its peak, a situation that became apparent as all EMU members registered a deficit, with only Finland and Luxembourg not exceeding the 3% level (Figure 3). The gravest GGFB downturn took place in Ireland (32.4%), Greece (15.6%), Spain (11.1%), Portugal (10.9%) and France (7.5%) (Figure 3). In the subsequent years (2010-2011), all the countries were sorting out their public finance condition, owing not only to the consolidation measures applied, but also the improving economic situation (see section 7). Greece, however, does not fall into the latter category, having found itself on the verge of bankruptcy after the revised data became public and the investors' reaction came to light.

Closer and objective analysis of the GGFB levels in the period of 2007-2011 allows us to identify the fact that financial markets overreacted to the transitional financial problems that had hit the weakest parts of the EMU. Part of the induced eurozone crisis was the result of an EMU-specific decision-making process, and the fact that the infection spread through the most important part of the modern economy – the financial intermediation sector. In view of this, the case of Ireland demands attention as it is a country that branded its banking sector as the economy flagship. The sector's expansion, significantly exceeding the economy's actual needs, as well as its involvement in international markets and the gradually increasing acceptance of mounting risk, transformed a model EU member as of 2008 into a country experiencing the most severe structural problems. Simultaneously, the government's and society's reactions to crisis and the necessity for sacrifice might be considered a model example of the possibility of making relevant adjustments in conditions of lacking national monetary and exchange rate instruments.

Another key issue emphasized in Section 1, and one interconnected with budget deficit, was the initial, pre-crisis public deficit to GDP ratio (Figure 4). The ratio was the result of previous political class determination and the general quality of economic



**Figure 4.** General government gross debt as % of EMU countries. 2007 level=100

Source: own elaboration based on Eurostat data.

governance alike. It was what determined fiscal policy freedom of action in light of the crisis, and signaled the possible reactions on the part of T-bills and T-bonds markets, including the long-term view of the euro exchange rate. According to Eurostat data, in 2007 there were only 5 EMU countries (Luxembourg - 6.7%, the Republic of Ireland - 25%, Finland - 35.2%, Spain - 36.1%, and the Netherlands - 45.3%) that maintained the deficit to GDP ratio on a level lower than the required 60%. Other countries demonstrated higher deficit levels, to a greater or lesser extent (Austria, with its 60.7%, displayed the lowest deviation, while Belgium, Italy and Greece produced the highest ones, i.e. 84.2%, 103.6% and 105.4% respectively). As the data in Figure 4 show, in the first crisis-ridden year, all EMU countries, except Finland, increased the deficit to GDP ratio in comparison with the level as of 2007. In the two years that followed, as a reaction to crisis and as a consequence of the increased public finance sector deficits, the countries augmented the levels of their debt. The lowest level of debt increase in 2010 as compared to 2007 was the share of Italy, Belgium and Austria, which amounted to 114.9%, 115%, 119% for those countries respectively (Figure 4).

It is well worth mentioning that in the period between 2007 and 2010, Austria was the country of the most balanced fiscal and debt management policy. Excluding the very specific



case of Luxembourg, the highest public debt increase in the 2007-2010 period was the share of Ireland (385%), Spain (166%), the Netherlands and Finland – about 138%, as well as Portugal and Greece, stated as 136% and 137% for those countries respectively. It is also worth mentioning that the finance market participants did not limit their activity to studying public data on deficit and debt. They were continuously evaluating the inflowing information on the quality of macroeconomic data made available (the case of Greece) and reducing the number of treasury securities investment involving all the southern EMU countries, the debt and recession of which posed a threat to their current credit rating. As more and more data attesting to Greek macroeconomic accounting fraud were released, and due to the delayed ECOFIN and ECB reactions, a negative sentiment towards most ECU countries' debt began to prevail. As a result, the banking sectors, especially the French and Italian, the most involved in the treasury securities of the EMU countries registering highest debt/GDP ratios, were hit. It consequently translated into the actual and potential need to offer public aid to the contaminated banks (see section 2).

## **5. Real effective exchange rate**

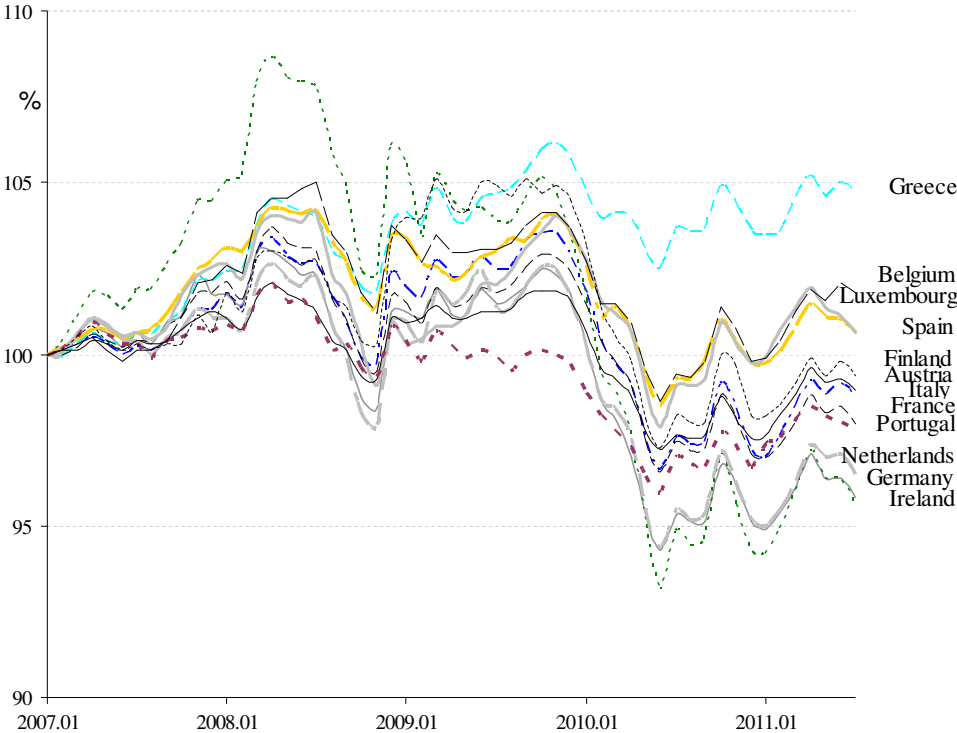
Real effective exchange rate (REER) serves as a basic price-based measure of international competitiveness [Egert 2004; Marrewijk 2004; Kowalski and Pietrzykowski 2010]. In the EMU context of irrevocable exchange rates, the ability to maintain both price and cost downward flexibility, and thus competitiveness, is of utmost importance. It proved to be particularly true when these economies faced the necessity to cope with the global crisis along with the economic slowdown that followed.

The issue of inflation rate convergence is important to the EMU as well because member states do not have national discretionary monetary instruments, which constitute standard sets of tools aimed at inflation control. Indeed, the problems of potential and real inflation rate divergence and the lack of national monetary policy tools have been particularly complex [Egert 2002; de Grauwe and Schnable 2005; Egert 2007; de Grauwe 2007; Kowalski, Kowalski and Wihlborg 2007]. They had also been at the center of academic debates prior to the very formation of the EMU. The main discussion threads had been centered around the consequences of accepting countries differing from the core European ones in terms of price and cost developments.

In 1999-2007, Germany and Austria improved their relative competitiveness expressed in  $REER_{CPI}$ . Surprisingly, Greece achieved relatively good results as far as the starting period is concerned (Kowalski and Pietrzykowski, 2010, p. 15). In 2007, in comparison to 1999, in

countries such as Finland, Portugal, Spain, the Netherlands, and Italy, the REER<sub>CPI</sub> appreciated sizeable. The most severe slump in competitiveness however, was reported in Ireland. So the EMU countries began 2007 with a varying relative competitiveness pattern. In order to picture the pace of REER<sub>CPI</sub> reaction to the crisis better, the level of this exchange rate was set at the level of 100 as of January 2007 (Figure 5).

The data in Figure 5 indicate that in the period researched, a considerable REER<sub>CPI</sub> changeability was marked, within which two relatively significant downward adjustments of this competitiveness measure were found (May 2008 – Nov. 2009, as well as the subperiod of Feb. 2010 – summer months of 2010). In the former subperiod, it was the Netherlands that marked the highest real exchange rate depreciation in comparison with January 2007 (REER = 98%), whilst it was Ireland that marked the lowest. In the latter stage of downward real exchange rate adjustments (June 2010), the most significant changes were demonstrated in Ireland (92.3%), the Netherlands and Germany (ca. 94%).



**Figure 5.** Real effective exchange rate deflated by CPI in EMU countries in 2007-2011 (Jan. 2007= 100)

Source: Own calculation based on the ECB data.

In this subperiod, Greece was the only country that, due to a relatively higher inflation level, recorded the appreciation of its REER<sub>CPI</sub> and thus lowered its position in international

competitiveness (Figure 5). The whole period of Jan. 2007-Jan. 2011 saw high relative changeability of real effective exchange rates. Comparing the REERs in Jan. 2011 with the Jan. 2007 level (Figure 5), the following four economies deteriorated as far as their relative price and cost position is concerned (Greece – 104.7%, Belgium 101.8%, and Luxembourg and Spain 100.6%). The remaining eight countries were able to reduce their price levels in reaction to the financial crisis. In this respect, the best three performers were: Ireland 95.6%, Germany 95.9% and the Netherlands 96.6% (see Figure 5). Thus, in the course of four years, the gap between the worst and best performers in EMU in terms of price and cost competitiveness reached over 9 percentage points, reflecting both structural differences and different abilities of the service and manufacturing sectors to react to the demand shock caused by the financial crisis.

Cost competitiveness is well reflected by the real effective exchange rate deflated by nominal unit labor costs (ULC). As in the case of the  $REER_{CPI}$ , a rise in the  $REER_{ULC}$  index means a loss of competitiveness. In the years of 1999-2008 on average, this measure of competitiveness confirmed the highest relative adaptability of German and Austrian companies, and ultimately their economies. Other economies displaying a relatively high adaptability included France, Finland, and – again surprisingly – Greece. The rest of the EMU economies significantly diverged from the German model, with the Irish economy showing the highest appreciation of real exchange rates, i.e. deterioration of competitiveness [Kowalski and Pietrzykowski 2010, pp. 17-18].

The trends of  $REER_{ULC}$  in the first years of EMU did not fully confirm the standard predictions of the Balassa-Samuelson model [Kowalski, Kowalski, Wihlborg 2007, pp. 80-81]. The recent crisis further distorted the picture (Table 1). In 2007-2010, the  $REER_{ULC}$  of particular countries displayed some regularities. Only three economies, namely German, Irish and Portuguese, reduced their real effective rates deflated by unit labor

**Table 1.** Unit labor costs in EMU countries. 2006=100

|                 | 2007   | 2008   | 2009   | 2010   | AChI*  |
|-----------------|--------|--------|--------|--------|--------|
| Austria         | 98.53  | 97.99  | 100.81 | 100.90 | 100.22 |
| Belgium-Luxemb. | 100.17 | 102.61 | 104.97 | 103.87 | 100.95 |
| Finland         | 97.95  | 101.32 | 108.25 | 105.45 | 101.33 |
| France          | 99.40  | 100.62 | 102.15 | 102.28 | 100.57 |
| Germany         | 97.01  | 96.84  | 101.39 | 99.02  | 99.75  |
| Greece          | 100.74 | 103.83 | 107.00 | 105.08 | 101.25 |
| Ireland         | 101.36 | 107.41 | 105.49 | 98.98  | 99.74  |
| Italy           | 99.46  | 101.92 | 104.80 | 104.05 | 101.00 |
| The Netherlands | 99.76  | 100.86 | 104.31 | 102.20 | 100.54 |
| Portugal        | 98.82  | 99.81  | 101.20 | 99.59  | 99.90  |
| Spain           | 102.07 | 104.98 | 103.84 | 101.56 | 100.39 |

\* Average chain index:  $\bar{i}_{t/t-1} = \sqrt[t-1]{i_{2/1} \cdot i_{3/2} \cdot \dots \cdot i_{t/t-1}}$

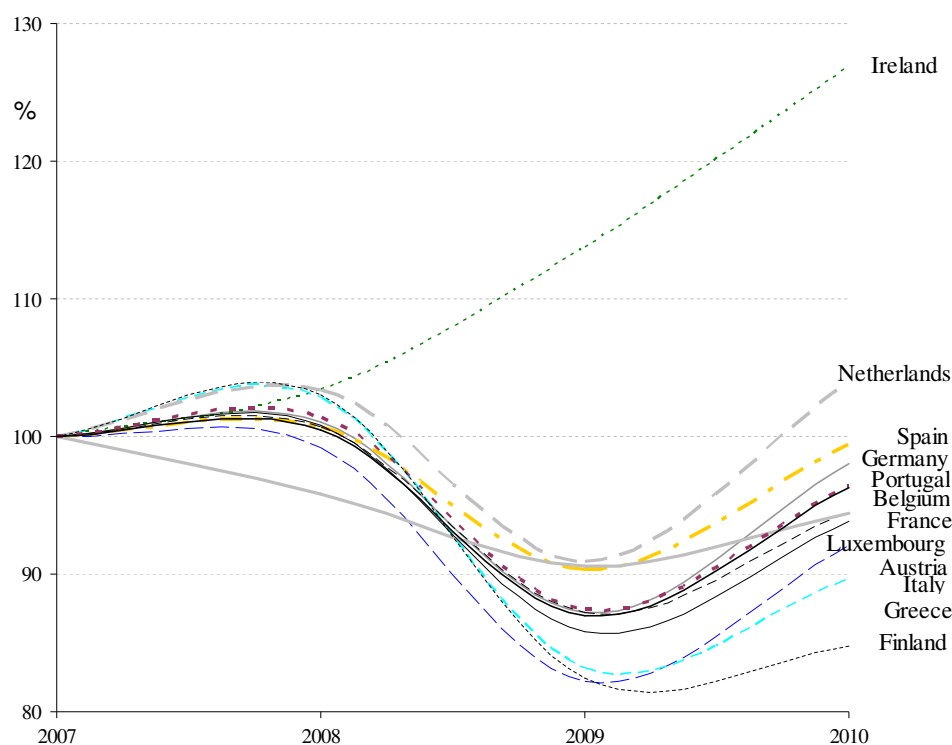
Source: Own calculation based on Eurostat data based on a panel of 36 industrial countries.

(Table 1). In 2010, assuming the 2006 level = 100, other countries recorded a deterioration of their relative labor cost competitiveness with Finland, Greece and Italy being the worst performers in this respect (Table 1).

The use of the average chain index offers more interesting insights regarding year by year ULC dynamics in particular countries. Between 2007 and 2010, only three EMU economies, i.e. Germany, Ireland and Portugal, observed a ULC decline, on average by 0.25%, 0.26% and 0.10% a year respectively. The rest of EMU boasted a year-by-year increase. Thus, between 2007 and 2010, the worst three performers (with the highest ULC average annual rise) were Greece (1.5%), Finland (1.34%) and Italy (1.0%). In the world of high competitive pressure, and in the EMU context in particular, this purportedly small discrepancy between the best and the worst performers meant a rising cost competitiveness gap affecting the production and export results, and thus leading to an accumulation of structural imbalances among the EMU economies.

## 6. The crisis and trade

Some interesting results of the global economic crisis might be seen in the EMU countries' exports (Figure 6). The share of goods and services export in GDP is a holistic measure of foreign trade's significance for the economy. As far as world economies are concerned, it demonstrates the level of openness and the ability to compete in world markets. From another angle, especially in conditions of disruptions such as a financial crisis, it reveals how demand simultaneously affects the goods and services exported, as well as the GDP decline. As it is, the measure is a mirror of the EMU countries' dependency on foreign demand.



**Figure 6.** Exports of goods and services as % of GDP, 2007-2010. 2007 level=100

Source: Own estimation based on WTO (exports of goods and services) and World Bank (GDP)

In the base year 2007, the most open economies were: the Benelux, Luxembourg, Belgium and the Netherlands, 169%, 110% and 84% of product and service export share in GDP respectively. The less open economies were those of Italy, Spain and Greece, 29%, 26% and 21% respectively.

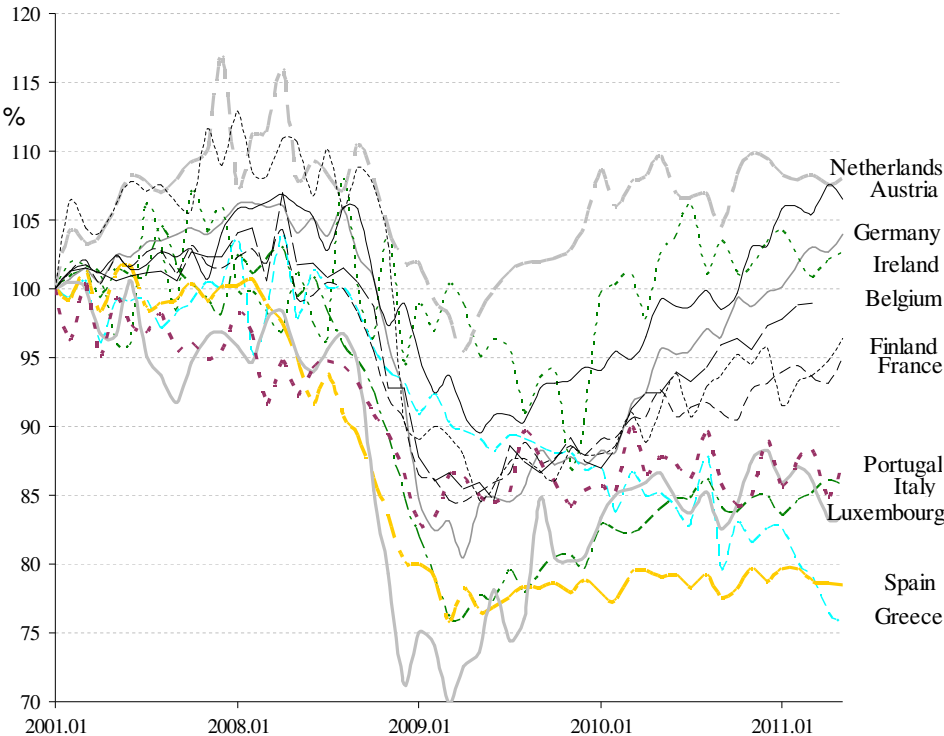
Within the EMU countries, the influence of crisis was most visible in 2009, when all the countries, apart from Ireland, registered a decline in the export of goods and services as the share of GDP, mainly as a result of lowered foreign demand (Figure 6). The biggest decline of export share in GDP was registered by Italy, Finland and Greece. The case of Ireland (an increase in export share in GDP in the whole period of 2007-2010) stems mainly from a sharp decline in GDP and demonstrates the mechanism of a small open economy dependency on foreign demand upon an extensive reduction of domestic absorption and finally GDP.

While comparing the level reached by respective countries in 2010 with the pre-crisis 2007 (Figure 6), it is easily noticeable that the share of goods and services exports in GDP was visibly elevated only in Ireland. A 3-percentge-point growth was registered in the Netherlands. The rest of the EMU countries registered a lowered share of goods and services exports in GDP in 2010 as compared with 2007. The biggest declines were seen in Greece and

Finland (Figure 3). As a result of these shifts, 2010 marked the highest export share in GDP in Luxembourg, Ireland and Belgium. The lowest share, pointing to difficulties in the area of export competitiveness, was registered in Spain, Italy, France and Greece.

**7. Industrial production and unemployment**

Industrial production nowadays constitutes approximately over one fifth of a modern economy’s GDP. Despite a relative decrease of the manufacturing importance as compared with the service industry, it is precisely manufacturing that ought to be given credit for the production of tradables in the highly-developed EMU economies, thus laying the foundation of export competitiveness. Figure 7 shows data on production of total industry shown on a monthly basis and comprising the period from January 2007-January 2011. In order to show the timing and scope of adjustments triggered in particular EMU countries by the external shock, the data is set at 100 in the pre-crisis level in January 2007 (Figure 7).



**Figure 7.** Production of total industry. January 2007 = 100.

Source: own calculation based on OECD database.

In 2007, the production of total industry continued to increase, however in some countries, such as Ireland, Portugal, Greece and Luxemburg, its dynamics were stagnant or declining (Figure 7). In January 2008, the following three EMU economies’ industrial sectors were hit the most: the Irish (99.7%), Portuguese (98.2%), and Luxembourgian (95.8%). The difference

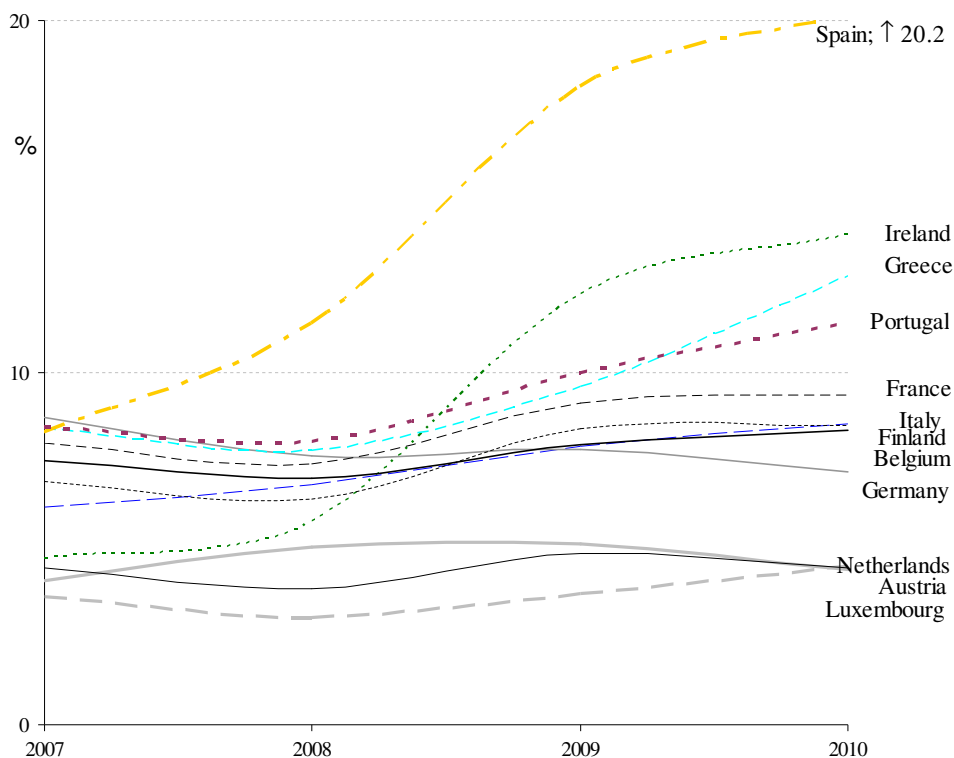
between the best performer (the Netherlands 111.1%) and the worst (Luxembourg)<sup>3</sup> was 16.5 percentage points. In the latter part of 2008, most of the EMU countries registered production decline, whereby their timing and size differed. In December 2008, only the Netherlands recorded growth in industrial production (Figure 7). The same was true for January 2009. The gap between the Netherlands' production of total industry level and the worst performer's one (Luxembourg (75.06%)) extended to 26.8 percentage points.

In 2010, most EMU economies recorded a gradual increase in industrial production. In January that year, as compared with January 2007, the best results were still the share of the Netherlands (108.6%). The difference between this country and Portugal (77.8%), the latter most affected by the slowdown, amounted to as much as 30.8 percentage points. It gives us some information on what yet another year of increasing divergence in the adjustment ability of the EMU industrial sectors was like. In January 2011, i.e. after four years, only four EMU economies witnessed a production growth: the Netherlands (108.3%), Austria (105.8%), Ireland (104.2%) and Germany (100.1%). The rest of the countries were not able to retrieve the level as of January 2007 (Figure 7). The most difficult industrial sector situation was visible in Portugal (production at the level of 85.6% as compared with the level of January 2007), Luxembourg (85.9%), Italy (83.5%), Greece (82.6%), and Spain (79.6%). The gap between the best and the worst performer amounted to 28.7 percentage points in January. As demonstrated in Figure 7, the scale and time arrangement of the EMU countries' industrial sector reaction to the external shock makes us aware of how extensive the recession-related phenomena might be. It also sheds light on the varying adjustment capabilities of respective economies as well as their structural deficiencies, especially in view of the lack of exchange rate adjustment instrument.

The size of the external shock that hit the EMU had its diversified impact on the unemployment rate in particular economies (Figure 8). In 2007, the following countries had the lowest unemployment rates: the Netherlands (3.6%), Luxemburg (4.1%) and Austria (4.5%). The highest were recorded in: Greece (8.4%), Portugal (8.5%) and Germany (8.7%). The pre-crisis year of 2007 was, in most EMU economies, preceded by a declining trend of unemployment. This was reflected in the unemployment rates recorded in the EMU in 2008 (Figure 8). With the exception of Ireland, Italy, Spain and Luxemburg, other countries continued their downward tendency regarding the unemployment rate.

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<sup>3</sup> The Luxembourgian industrial sector is dominated by the steel industry, which was particularly vulnerable in the recent financial and economic crisis.



**Figure 8.** Unemployment rate in EMU countries as % of labor force

**Source:** Labor market statistics: Labor force statistics by sex and age: indicators, OECD Employment and Labor Market Statistics (database)

Starting with 2008, the unemployment rate in most EMU countries increased substantially (Figure 8). An especially high increase rate was marked by Spain (an increase of 8.8 percentage points as compared with a record-high level of 20.2% in 2010), Ireland (an increase of 8.1 percentage points) and Greece (an increase by 4.9 percentage points).

The most favorable job market situation in 2010 was observed in Luxembourg, Austria and Germany (Figure 8). In the latter country, the unemployment rate as of 2010 was 7.2% and in comparison with 2007, it was lower by 1.5 percentage points. As the data demonstrated in Figure 8 reveal, the macroeconomic performance measure reflects also the varying adjustment capabilities of the EMU economies. Despite remarkably higher labor costs in core European countries, their high productivity and quality of products, let them to maintain, and in some cases, even increase their competitiveness. A relatively balanced labor market reaction in countries such as Germany, Austria or the Netherlands not only attests to their competitive capability. One of the key factors of such an unexaggerated labor market reaction is the shortage of workforce resulting from demographic trends and the European welfare state mechanisms, among others.

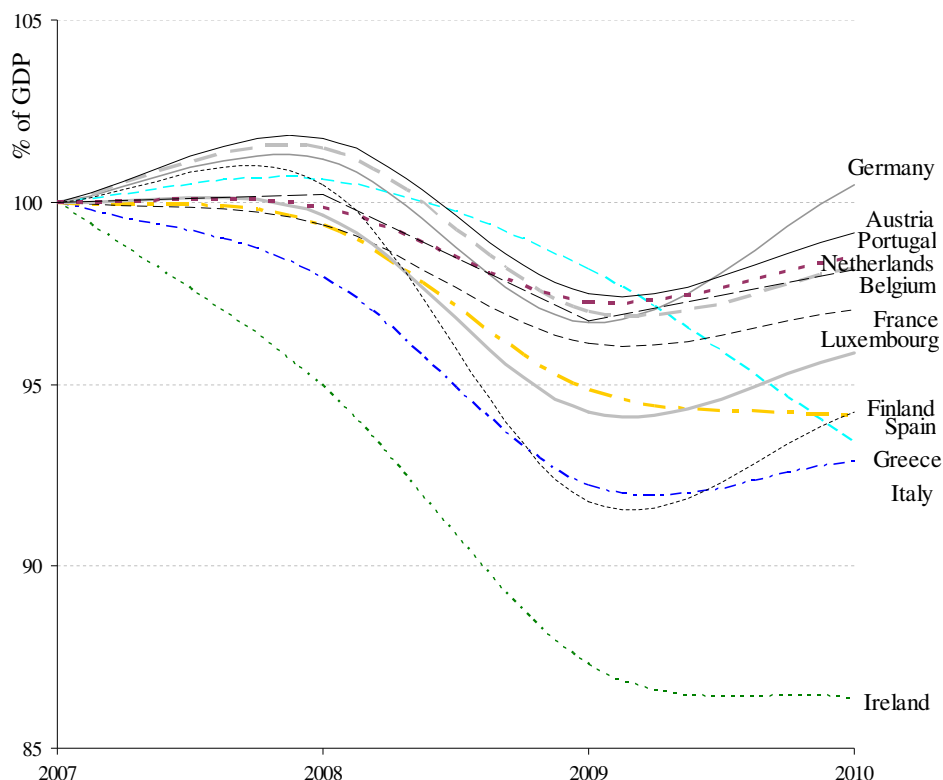


## 8. GDP and other performance measures

GDP per capita according to Purchasing Power Parity (PPP) (Figure 9) is one of the most commonly utilized synthetic measures of economic performance. A variation of this measure, used in the paper, i.e. PPP, at constant 2005 international dollars (Int.\$), taking into account the varying price levels still existing in respective EMU countries, allows us to fully grasp the real GDP volume and price level differences triggered by the global financial crisis.

According to [WDI Database], in the pre-crisis year of 2007, the top three in the EMU were: Luxembourg (74,144 Int.\$), Ireland (41,025 Int.\$) and the Netherlands (37,577 Int.\$). The least wealthy were the following countries: Spain (28,522 Int.\$), Greece (26,733 Int.\$) as well as Portugal (21,993 Int.\$). Consequently, the difference between the wealthiest, Luxembourg and the least wealthy, Portugal amounted to 3.4x. in 2007.

As the data presented in Figure 9 indicate, in 2008, Ireland and Italy, and to a lesser degree France, Luxembourg, Portugal and Spain, were the countries to register the first negative effects of the global financial crisis. 2009 witnessed the highest real GDP per capita adjustment concerning all the countries with the exception of Ireland, Greece and Spain, which also demonstrated a continuous decline of this performance measure in 2010.

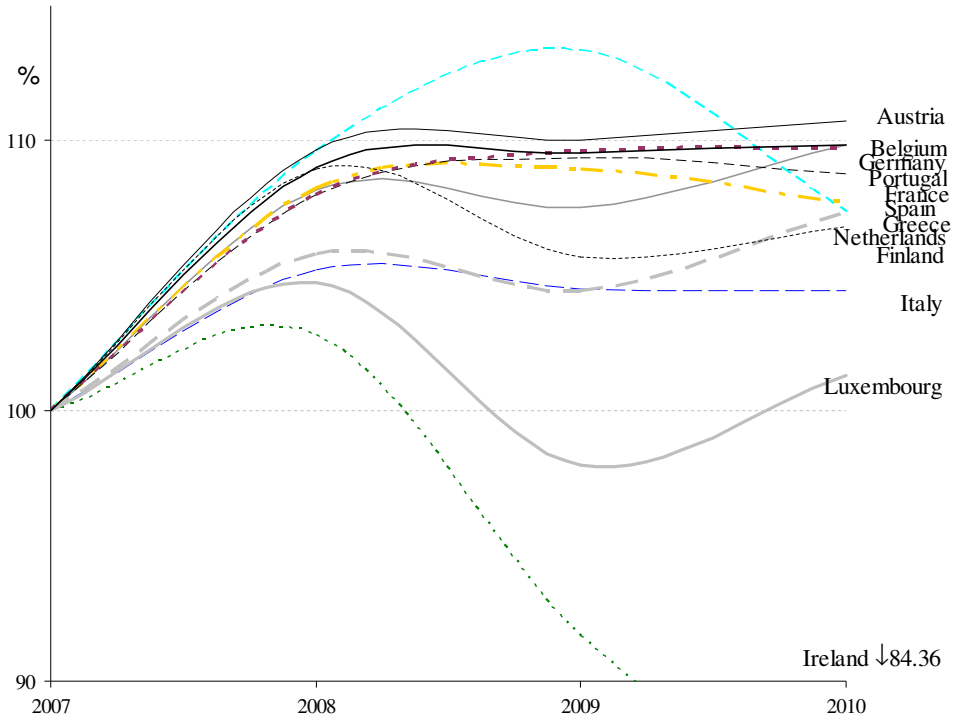


**Figure 9.** GDP per capita, at PPP (constant 2005 Int.\$). 2007=100  
Source: WDI.

In order to compare the GDP level as of 2010 to the one of the pre-crisis 2007 [WDI database], it is well worth noticing that the top three remained unchanged, the only difference being that Ireland dropped to third position (behind Luxembourg and the Netherlands). Due to the crisis and the decline in real GDP, Italy dropped to tenth position, remaining ahead of Greece (11) and Portugal (12) only.

In the analyzed period of 2007-2010, the base difference in real GDP per capita between Luxembourg and the least wealthy, Portugal did not change much and amounted to 3.3x. Data analysis (Figure 9) allows us to remark that in 2010, as compared with 2007, the base GDP per capita level remained unchanged in Germany. A relatively good level was also visible in Austria and Portugal, Belgium and the Netherlands. The most acute results of the crisis, demonstrated by GDP per capita at PPP, were the share of Ireland, as its GDP in 2010 amounted to slightly over 86% of the 2007 level, Italy and Greece (approx. 93%).

Figure 10 shows comparative data on Gross National Income (GNI) per capita. This measure is a combination of general economic efficiency, differences in inflation rates in particular countries, and variations in the number of citizens, as well as employment rates.



**Figure 10.** GNI per capita. (2007=100)

Source: Own calculation based on WDI Database.

According to WDI data, the highest GNI per capita in 2007 was recorded by Luxembourg (78 4700 USD). Ireland ranked second (48 590 USD), followed by the Netherlands with a GNI per capita of 46 310 USD. Consecutive positions were occupied by Finland (44 160 USD), Austria (42 180 USD), and Belgium (41 350). Thus, in the pre-crisis 2007, six countries recorded a GNI exceeding 40 000 USD per capita. In 2007 Ireland (which came second) had a GNI 2.44 times higher than Portugal (rank 12).

In order to compare the relative variations throughout the recent years of EMU, similar to the performance measures selected earlier, GNI in particular years is expressed as the percentage of the 2007 level (Figure 10). According to data shown in Figure 10, an increase of GNI over 9% between 2007-2010 was recorded by four economies: Austria (10.74%), Belgium and Germany (9.84%), and surprisingly Portugal (9.74%). The lowest increases were recorded in 2010 (compared to 2007) by the following economies: Finland (6.82%), Italy (4.43%), and Luxemburg (1.33%). Ireland's GNI per capita contracted and its 2010 level was only 84.36% of that of 2007 (Figure 10).

Despite the clearly varied GNI growth rate between 2007-2010, the shifts in wealth measured in GNI per capita, except Ireland, were minor. This stemmed from relatively large differences in the initial levels of GNI per capita in 2007. Due to the huge Irish cost of rescuing its banking sector and the recession that followed, this economy lost its high rank position; drop from number 2 in 2007 to 8<sup>th</sup> position. Therefore, the order of the top three countries (Luxembourg, the Netherlands and Finland) changed in 2010. The bottom three (Spain, Greece and the last Portugal) did not change. Due to the Irish recession, the following countries improved their relative ranks by one notch: the Netherlands moved to 2, Finland to 3, Austria to 4, Belgium to 5, Germany to 6, France to 7. Five economies maintained their pre-crisis relative ranks (Luxemburg as number one, Italy as 9<sup>th</sup>, Spain as 10<sup>th</sup>, Greece as 11<sup>th</sup> and Portugal as the 12<sup>th</sup>). An important characteristic of the crisis years was the continuation of convergence of GNI per capita in the EMU.

Closer examination of competitiveness positions of EMU economies in the Global Competitiveness Reports (GCR) may shed some more summarizing light on their relative shifts triggered by the global crisis. During the years 2007-2011, the top three EMU performers in the GCR were the same, namely: Finland, Germany and the Netherlands (Table 2). In 2007-2011 Finland was three times the most competitive EMU economy, while Germany twice. These three countries also belonged to the top 10 the most competitive economies in the world in 2007-2011. In the same period the bottom four economies were

also the same, namely: Spain, Portugal, and Italy with Greece being steadily the worst performer in the GCR.

**Table 2.** Relative positions of EMU countries according to the GCR in 2006-2011\*

| 2006                 | 2007                 | 2008 (2008-2009)    | 2009 (2009-2010)     | 2010 (2010-2011)    | 2011 (2011-2012)    |
|----------------------|----------------------|---------------------|----------------------|---------------------|---------------------|
| Finland (6)          | Germany (5)          | Finland (6)         | Finland (6)          | Germany (5)         | Finland (4)         |
| Germany (7)          | Finland (6)          | Germany (7)         | Germany (7)          | Finland (7)         | Germany (6)         |
| The Netherlands (11) | The Netherlands (10) | The Netherlands (8) | The Netherlands (10) | The Netherlands (8) | The Netherlands (7) |
| France (15)          | Austria (15)         | Austria (14)        | France (16)          | France (15)         | Belgium (15)        |
| Austria (18)         | France (18)          | France (16)         | Austria (17)         | Austria (18)        | France (18)         |
| Ireland (22)         | Belgium (20)         | Belgium (19)        | Belgium (18)         | Belgium (19)        | Austria (19)        |
| Belgium (24)         | Ireland (22)         | Ireland (22)        | Luxemburg (21)       | Luxemburg (20)      | Luxemburg (23)      |
| Luxembourg (25)      | Luxembourg (25)      | Luxembourg (25)     | Ireland (25)         | Ireland (29)        | Ireland (29)        |
| Spain (29)           | Spain (29)           | Spain (29)          | Spain (33)           | Spain (42)          | Spain (36)          |
| Portugal (43)        | Portugal (43)        | Portugal (43)       | Portugal (43)        | Portugal (46)       | Italy (43)          |
| Italy (47)           | Italy (46)           | Italy (49)          | Italy (48)           | Italy (48)          | Portugal (45)       |
| Greece (61)          | Greece (65)          | Greece (67)         | Greece (71)          | Greece (83)         | Greece (90)         |

\*Note: Numbers in parentheses reflect countries' total GCR ranks.

*Source:* Author's own compilation based on Global Competitiveness Reports.

As shown in Table 2 Ireland, so far, in terms of GDP and GNI per capita, the most hit economy in CGR rankings lost 7 notches (from 22 to 29), but within the EMU ranks it went down only from 7<sup>th</sup> to the 8<sup>th</sup> position. The most punished EMU economy was however Greece: its GCR position deteriorated from 65<sup>th</sup> in 2007 to 90<sup>th</sup> in 2011. The crisis showed strong discrepancies between the best Northern EMU members and the Southern flank. The distance between the average CGR positions of the top three and the average position of the bottom four economies increased from 39 notches (2007), 40 and 41 notches in 2008 and 2009 respectively to as many as 48 in 2010 and 2011 (Table 2).

Competitiveness ratings such as GCR might be criticized for their subjectivity and simplification. However, the assessments offered by GCR, are consistent with the general picture of the reaction of EMU countries to the crisis that emerges in this paper.

## Conclusions

The global crisis began in 2007 in the USA and fully developed worldwide in 2008-2009. It sent shockwaves to Europe and thus hit EMU countries as well. Its main propagation pathways were capital and trade flows and expectation channel. The EU and EMU countries found themselves in recession. The crisis, although technically called off in 2009, was followed by slow growth and increased uncertainty. It unveiled both fiscal vulnerabilities and structural rigidities in most developed countries.

Global crisis repercussions were particularly difficult for EMU economies. In this relatively new institutional framework of independent states with a single currency and uniform monetary policy defined at a supranational level by the ESBC/EBC, deficiencies in

decision making proved to aggravate the negative shock felt by national economies. The ECB 2008 speedy anti-crisis actions were well received by financial markets. However, the pace of events, and in particular the case of Greece showed, that EMU economic governance was not adequately prepared to handle the global-crisis-induced challenges for individual countries. The crisis also proved that in the EMU context individual economies' threats soon became Pan-European problems.

In this paper, with the use of simple performance measures of international competitiveness of EMU states it was confirmed that these economies differ in terms of price and cost flexibility and have different actual ability to react to the external shocks. The best overall results were recorded by Germany, the Netherlands, Finland and Austria. These Northern countries did much better in 2007-2010 than the rest of the EMU. EMU countries from Southern Europe, due to their structural barriers and hysteresis of cost and price behavior had suffered the most. With this general background the case of Ireland calls for special attention. As was the case with other Convergence Four countries it suffered from overheating in the real estate sector. But the main factors behind its painful recession were economic and fiscal repercussions of the overexpansion of the Irish banking sector. The actual fiscal costs of the implementation of the *too-big-to-fail* rule sent its budget deficit in 2010 to an unprecedented level of over 32 per cent of GDP and forced the government to implement harsh expenditure cuts and rescue plans designed to overhaul the banking sector. This case along with the cases of Greece, Spain, Portugal and Italy show that the main roots of the crisis development and causation scheme have had their origins in national economies and national policy mistakes. The domestic economy problems were further magnified by globalization forces. They in turn threatened the historical construction of the very European welfare state.

The European welfare state developed step by step after WWII and lead to an upward secular trend in general government expenditure and consequently needed high taxation. Its social security dimension, in most countries, had been reflected in job protection regulations leading towards labor market rigidities. These features of the contemporary welfare state were particularly dangerous for the less innovative and less productive economies of Southern Europe that became the EU and consequently EMU members.

These objective tendencies were enhanced by the crisis itself and the economic and institutional features of Economic and Monetary Union. The Southern EMU economies that were accepted on political grounds proved their limited downward cost flexibility in reaction to the crisis. It had automatic negative impact on general government financial position. In some countries, Greece being a particularly bad example, governments tried to stabilize their

national economies by using debt-financed aggregate demand policies. The combination of cyclical budget deficits and discretionary expansionary fiscal policies led to growing deficits and further accumulation of public debt.

Strained government finances had a negative impact on financial markets' perception of current and future macroeconomic stability. Bounded public finance and the specific single European market context reduced national fiscal policy efficiency. The growing sovereign default risk raised funding costs in both public and private sectors, even in the loose monetary policy framework. This in turn fueled negative expectations regarding sustainability of macroeconomic stability and further increased the default risk not only at the government debt level but also in the financial and real sector domains. In order to break this vicious circle the current fiscal consolidation in EMU countries should be accompanied by transitory ECB's more active and unconventional policy. The policy mix, together with the fiscal consolidation would require more coordination of national fiscal policies at the EMU level. In the longer term perspective the EMU requires bold decisions regarding the scope and shape of *common fiscal policy*, including its stabilization function. This means that the Fiscal Pact discussed in 2011 and approved by 25 EU member states in January 2012 failed to address the *common fiscal policy* dimension. Apparently it proved to be politically unfeasible at the moment.

The overhaul of EMU decision making and fiscal coordination will be insufficient if it is not accompanied by national effective efforts to increase innovation readiness and cost flexibility at the micro level. The recent crisis showed how important these micro-level features are. Furthermore, the stiff global competitive pressure requires reforms of the European welfare state model. Its fiscal costs have become not only a burden in the context of the required fiscal consolidation, but are becoming unsustainable. They endanger the very economic foundation of the European welfare state.

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